Permit Renewal Application

Hazardous Waste Permit No. HW-50141
Solid Waste Registration No. 30140

McWane, Inc. (Tyler Pipe Company)
Tyler, Texas

June 2020

PART A APPLICATION

Section I: General Information

Section II: Facility Background Information

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VOLUME 1

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PART A APPLICATION

VOLUME 1

Texas Commission on Environmental Quality
Permit Application for a Hazardous Waste Storage/Processing/Disposal Facility
Part A - Facility Background Information

I. General Information

A. Facility Name: McWane, Inc. (Tyler Pipe Company)
(Individual, Corporation, or Other Legal Entity Name)

TCEQ Solid Waste Registration No: 30140 EPA I.D. No.: TXD066349770

Street Address (If Available): 11910 County Road 492

City: Tyler, State: Texas Zip Code: 75706

County: Smith

Telephone Number: (903) 882-5511 Charter Number: 7116506

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.

B. Facility Contact

1. List those persons or firms who will act as primary contact for the applicant during the processing of the permit application. Also indicate the capacity in which each person may represent the applicant (engineering, legal, etc.). The person listed first will be the primary recipient of correspondence regarding this application. Include the complete mailing addresses and phone numbers.

   Scott Harris
   Environmental Manager
   McWane, Inc. (Tyler Pipe Company)
   11910 County Road 492
   Tyler, Texas 75706
   (903) 882-2687

2. If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.

   C.T. Corporation Systems
   350 North St. Paul Street
   Dallas, TX 75201

C. Operator[1]: Identify the entity who will conduct facility operations.

Operator Name: McWane, Inc. (Tyler Pipe Company)

Address: 11910 County Road 492

City: Tyler, State: Texas Zip Code: 75706

Telephone Number: (903) 882-5511 Charter Number: 7116506

[1] The operator has the duty to submit an application if the facility is owned by one person and operated by another [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on this application [Section 361.087 Texas Health and Safety Code].

D. Owner

1. Indicate the ownership status of the facility:

   a. Private _____X_____

      (1) ____X_____Corporation
      (2) _____Partnership
      (3) _____Proprietorship
      (4) _____Non-profit organization

   b. Public _____

      (1) _____Federal
      (2) _____Military
      (3) _____State
      (4) _____Regional
      (5) _____County
      (6) _____Municipal
      (7) _____Other (specify)

2. Does the operator own the facility units and facility property?

   ☒ Yes ☐ No

   If you checked "no",

   a. Submit as "Attachment A" a copy of the lease for use of or the option to buy said facility units and/or facility property, as appropriate; and

   b. Identify the facility units' owner(s) and/or facility property owner(s). Please note that the owner(s) is/are required to sign the application on page 5.

Owner Name: ____McWane, Inc. (Tyler Pipe Company)_____

Address: _____11910 County Road 492_____

City: _____Tyler_____, State: ___Texas_____ Zip Code: _75706_____

Telephone Number: ____(903) 882-5511_____

Owner Name: _____

Address: _____

City: _____, State: _____ Zip Code: _____

Telephone Number: _____

E. Type of Application Submittal:

Initial _____ or Revision ____X____

F. Registration and Permit Information

Indicate (by listing the permit number(s) in the right-hand column below) all existing or pending State and/or Federal permits or construction approvals which pertain to pollution control or industrial solid waste management activities conducted by your plant or at your location. Complete each blank by entering the *permit number*, or the *date of application*, or *"none"*.

	Relevant Program and/or Law	Permit No.	Agency*
1.	Texas Solid Waste Disposal Act	30140	TCEQ
2.	Wastewater disposal under the Texas Water Code	WQ0001793	TCEQ
3.	Underground injection under the Texas Water Code	None	
4.	Texas Clean Air Act	70403, 4246, 55428 O-1407, 03519	TCEQ TCEQ
5.	Texas Uranium Surface Mining & Reclamation Act	None	
6.	Texas Surface Coal Mining & Reclamation Act	None	
7.	Hazardous Waste Management program under the Resource Conservation and Recovery Act	50141	TCEQ
8.	UIC program under the Safe Drinking Water Act	None	
9.	TPDES program under the Clean Water Act	WQ0001793	TCEQ
10.	PSD program under the Clean Air Act	NPSD-TX-1046	TCEQ
11.	Nonattainment program under the Clean Air Act	None	
12.	National Emission Standards for Hazardous Pollutants (NESHAP) Pre-construction approval under the Clean Air Act	None	
13.	Ocean dumping permits under the Marine Protection Research and Sanctuaries Act	None	
14.	Dredge or fill permits under section 404 of the Clean Water Act	None	
15.	Other relevant environmental permits	None	

*Use the following acronyms for each agency as shown below:

TCEQ	= Texas Commission on Environmental Quality
TRC	= Texas Railroad Commission
TDH	= Texas Department of Health
TDA	= Texas Department of Agriculture
EPA	= U.S. Environmental Protection Agency
CORPS	= U.S. Army Corps of Engineers

G. Give a brief description of the nature of your business.

The Tyler Pipe facility is a gray iron foundry that manufactures gray iron pipe and fittings.

H. TCEQ Core Data Form

The TCEQ requires that a Core Data Form (Form 10400) be submitted on all incoming applications. For more information regarding the Core Data Form, call (512) 239-1575 or go to the TCEQ website at http://www.tceq.texas.gov/permitting/central_registry/guidance.html.

TCEQ Core Data Form is attached.

Signature Page

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Operator Signature: Greg Simmons Date: 5-18-20

Name and Official Title (type or print): Greg Simmons, General Manager

Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

Owner Signature: _____ Date: _____

Name and Official Title (type or print): _____

To be completed by the operator if the application is signed by an authorized representative for the operator

I, _____ hereby designate _____
(operator) (authorized representative)
as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

(Note: Application Must Bear Signature & Seal of Notary Public)

Subscribed and sworn to before me by the said Greg Simmons on this 18th day of May, 2020.

My commission expires of the 27th day of May, 2023

Sandra C Smith
Notary Public in and for Smith County, Texas

NOTARY PUBLIC STATE OF TEXAS
SANDRA CAROL SMITH
Notary ID #11373159
My Commission Expires
May 27, 2023

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☐ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application.)*

☒ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 602243313		RN 102679867

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* *If new Customer, enter previous Customer below:*

McWane Inc.

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
	16301390007	63-13900	

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☒ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☐ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☒ Other: Tyler Pipe Company

15. Mailing Address: 11910 County Road 492

City	State	ZIP	ZIP + 4
Tyler	TX	75706	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	Scott.Harris@tylerpipe.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(903) 882-2687		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Tyler Pipe Company

23. Street Address of the Regulated Entity: *(No PO Boxes)*	11721 US Hwy 69 North							
	City	Tyler	State	TX	ZIP	75706	ZIP + 4	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:					
26. Nearest City			State	Nearest ZIP Code	
27. Latitude (N) In Decimal:		28. Longitude (W) In Decimal:			
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
	3315		331511

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Iron Foundry

34. Mailing Address:	11910 CR 492							
	City	Tyler	State	TX	ZIP	75706	ZIP + 4	
35. E-Mail Address:								

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
( ) -		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☒ Industrial Hazardous Waste 30140 & HWP # 50141
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	James Scott Harris	41. Title:	Environmental Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(903) 882-2687		( ) -	scott.harris@tylerpipe.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Tyler Pipe Company	Job Title:	VP/GM
Name *(In Print)*:	Greg Simmons	Phone:	(903) 882-2687
Signature:	Greg Simmons	Date:	6-1-20

II. Facility Background Information

A. Location of Facility for which the application is submitted

1. Give a description of the location of the facility site with respect to known or easily identifiable landmarks.

Facility site is located in Swan, Smith County, Texas approximately four miles north of Loop 323 on U.S. Highway 69.

2. Detail the access routes from the nearest U.S. or State Highway to the facility.

Facility site is located 0.5 miles east of U.S. Highway 69 on Swan Lake Road (Smith County Road 468).

3. Enter the geographical coordinates of the facility:

Latitude: ____32____ deg ____25____ min ____52____ sec

Longitude: ____95____ deg ____22____ min ____30____ sec

4. Is the facility located on Indian lands?

☐ Yes ☒ No

B. Legal Description of Facility

Submit as "Attachment B" a legal description(s) of the tract or tracts of land upon which the waste management operations referred to in this permit application occur or will occur. Although a legal description is required, a metes and bounds description is not necessary for urban sites with appropriate "lot" description(s). A survey plat or facility plan drawing which shows the specific points referenced in the survey should also be included in Attachment B. **(see Attachment B)**

C. SIC Codes

List, in descending order of significance, the four digit standard industrial classification (SIC) codes which best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words. These classifications may differ from the SIC codes describing the operation generating the hazardous wastes.

4-digit SIC Code	Description
3 3 2 1	Gray and Ductile Iron Foundries

SIC code numbers are descriptions which may be found in the Standard Industrial Classification Manual prepared by the Executive Officer of the President, Office of Management and Budget, which is available from the Government Printing Office, Washington, D.C. Use the current edition of the manual.

Attachment B

Site Legal Description

Attachment B
Site Legal Description

The specific tracts of land upon which waste management operations (*i.e.,* post-closure care) referred to in this permit application occur are identified as the "Closed Landfill (NOR Unit No. 001)" and the "Closed Sludge Disposal Area (NOR Unit No. 082)". Metes and bounds legal descriptions of these two identified tracts of land are provided herein.

Closed Landfill (NOR Unit No. 001)

FIELD NOTES FOR 173.9158 ACRES 85-074
A. Watkins Survey, A-1055
Francis Gilkison Survey, A-407
Francis Gilkison Survey, A-406
Smith County, Texas

(LANDFILL VICINITY)

ALL that certain tract or parcel of land, part of the A. Watkins Survey, A-1055, part of the Francis Gilkison Survey, A-407 and part of the Francis Gilkison Survey, A-406, Smith County, Texas, also being part of that certain called 22.949 acre tract described in a deed from Thomas E. Johnston et ux to Tyler Pipe Industries, Inc., dated April 12, 1976, and recorded in Volume 1572, Page 301 of the Deed Records of Smith County, Texas, also being all of that certain called 151.876 acre tract described in a deed from William H. Marsh to Tyler Pipe Industries, Inc., recorded in the Deed Records of Smith County, Texas, and being more completely described as follows, to-wit:

BEGINNING at the Southwest corner of the above mentioned 22.949 acre tract, also being the Northwest corner of a certain called 14.582 acre tract;

THENCE North 00° 25' East, with the west line of said 22.949 acre tract, a distance of 647.16 feet to the Southerly Northwest corner of same;

THENCE East, with the most southerly north line of said 22.949 acre tract, at 38.89 feet pass an interior corner of same, also being the most Southwest corner of a certain called 0.9092 acre tract described in a deed from Tyler Pipe Industries, Inc. to Glover C. Tunnell, continue East, a total distance of 91.89 feet to the Southeast corner of said 0.9092 acre tract, also being in the center of a County Road;

THENCE in a Northeasterly direction, with the east line of the above mentioned 0.9092 acre tract and with the above mentioned County Road as follows:
North 10° 17' 22" East, 178.87 feet and
North 25° 00' 14" East, 157.51 feet
to the Northeast corner of same, also being an interior corner of said 22.949 acre tract;

THENCE in a Northeasterly direction, with the north line of said 22.949 acre tract and with said County Road as follows:
North 44° 00' East, 303.04 feet and
North 83° 45' East, 481.66 feet
to the Northeast corner of same, also being the Northwest corner of the above mentioned 151.876 acre tract, and being in the East line of the above mentioned A. Watkins Survey and the West line of the Francis Gilkison Survey A-407;

THENCE in an Easterly direction, with the north line of said 151.876 acre tract and with said County Road, a distance of 1655.18 feet to the most Northerly Northeast corner of same;

THENCE in a Southeasterly direction, continuing with the north line of said 151.876 acre tract, a distance of 381.68 feet to an interior corner of same;

THENCE in an Easterly direction, continuing with the north line of said 151.876 acre tract, a distance of 607.67 feet to the middle Northeast corner of same, also being in the center of Old Tyler and Hubbard Road;

THENCE in a Southeasterly direction, continuing with the north line of said 151.876 acre tract and with the above mentioned Old Tyler and Hubbard road, a distance of 411.96 feet to an interior corner of same, also being in the south line of said Francis Gilkison Survey, A-407 and being in the north line of the above mentioned Francis Gilkison Survey, A-406;

THENCE in an Easterly direction, continuing with the north line of said 151.876 acre tract and with the division line of the Gilkison Survey A-407 and Gilkison Survey A-406, a distance of 392.84 feet to the most Easterly Northeast corner of said 151.876 acre tract, also being the Northwest corner of a tract owned by Texas Power and Light Company;

THENCE in a Southerly direction, with the east line of said 151.876 acre tract and with the west line of the above mentioned Texas Power and Light Company tract, a distance of 240.00 feet to the Southwest corner of said Texas Power and Light Company tract;

THENCE in a Southerly direction, continuing with the east line of said 151.876 acre tract, a distance of 561.69 feet to the most easterly Southeast corner of same;

THENCE in a Westerly direction, with the most easterly south line of said 151.876 acre tract, a distance of 1119.01 feet to an interior corner of same;

THENCE in a Southerly direction, with the most southerly east line of said 151.876 acre tract, a distance of 1485.50 feet to the most southerly Southeast corner of same;

THENCE in a Westerly direction, with the most southerly south line of said 151.876 acre tract, a distance of 1869.10 feet to the Southwest corner of same, also being in the west line of said Gilkison Survey A-406 and being in the east line of said Watkins Survey;

THENCE in a Northerly direction, with the west line of said 151.876 acre tract and with the division line of the Gilkison Survey A-406 and Watkins Survey, a distance of 1665.10 feet to the Southeast corner of said 22.949 acre tract;

THENCE West, with the south line of said 22.949 acre tract, a distance of 900.65 feet to the place of beginning, containing 173.9158 acres of land.

I, Gary M. Adams, Registered Public Surveyor No. 2333, do hereby certify that the above field notes were prepared from deed information furnished to me by Tyler Pipe Industries, Inc.

GIVEN UNDER MY HAND & SEAL, this the 11th day of July, 1985.

Gary M Adams

Closed Sludge Disposal Area (NOR Unit No. 082)

SSC ***STANGER SURVEYING COMPANY***
6381 NEW COPELAND ROAD
TYLER, TEXAS 75703
PH: 903-534-0174 FAX: 903-534-0176

EXHIBIT "A"
FRANCIS GILKERSON SURVEY, ABSTRACT NO. 406
SMITH COUNTY, TEXAS

METES AND BOUNDS DESCRIPTION FOR 0.597 ACRES OF LAND

BEING 0.597 of an acre of land situated in the Francis Gilkerson Survey, Abstract No. 406, Smith County, Texas, and being part of that certain Tract Seven (called 85.75 acres) as described in deed from Tyler Pipe Industries, Inc. to Union Acquisition Corporation, dated December 1, 1995 and recorded in Volume 3734, Page 535, of the Deed Records of Smith County, Texas, said 0.597 of an acre tract to be more particularly described by metes and bounds as follows:

COMMENCING at a fence corner post located at an ell corner of the above referenced 85.75 acre tract, from said post, a ½" iron rod (found) for the southeast corner of Tract Eight (called 35 1/3 acres) as recorded in Volume 3734, Page 535, bears South 02° 02' 38" West, 1482.09 feet;

THENCE South 25° 22' 23" West, for a distance of 505.03 feet, to a ½" iron rod (set with cap marked "STANGER") for the **POINT OF BEGINNING,** and being the northeast corner of the herein described tract;

THENCE South 02° 02' 34" West, for a distance of 160.19 feet, to a ½" iron rod (set with cap marked "STANGER") for the southeast corner of the herein described tract;

THENCE West, for a distance of 151.60 feet, to a ½" iron rod (set with cap marked "STANGER") for the southwest corner of the herein described tract;

THENCE North, for a distance of 176.52 feet, to a ½" iron rod (set with cap marked "STANGER") for the Northwest corner of the herein described tract;

THENCE South 84° 02' 15" East, for a distance of 158.17 feet, back to the point of beginning, and **containing 0.597 of an acre of land.**

All bearings, distances, coordinates and surveyed areas are based on the existing site grid coordinates of the Tyler Pipe Landfill monument system.

See Plat of Survey prepared even date.

I, R. L. McCrary, Registered Professional Land Surveyor, do hereby certify that the above description was prepared from an actual survey made on the ground under my supervision, during the month of July 2003.

GIVEN UNDER MY HAND AND SEAL, this the 18th day of July, 2003.

R. L. McCrary
Registered Professional Land Surveyor
State of Texas No. 5384

STATE OF TEXAS
REGISTERED
R.L. McCRARY
5384
PROFESSIONAL
LAND SURVEYOR

III. Wastes and Waste Management

A. Waste Generation and Management Activities

Is any hazardous waste [see Title 40, Code of Federal Regulations (CFR), Part 261] presently or proposed to be generated or received at your facility?

☒ Yes ☐ No

If no, skip to question Number 2 below.

If yes, answer the following question.

1. Are you presently registered with TCEQ as a solid waste generator?

   ☒ Yes ☐ No ☐ Pending

   If no, contact the Industrial and Hazardous Waste Division of TCEQ in Austin, Texas to obtain registration information. Also, continue with the application form (go to Number 2 below).

   If yes, go to Section I of your TCEQ Notice of Registration, determine which of your wastes are hazardous, and list these wastes (and mixtures) in Table III-1 (see Number 2 below).

2. Complete Table III-1, Hazardous Wastes and Management Activities, below, listing all hazardous wastes, all mixtures containing any hazardous wastes, and hazardous debris which were, are presently, or are proposed to be handled at your facility in interim status or permitted units. See 40 CFR 261 and 268.2, attaching additional copies as necessary.

   Guidelines for the Classification & Coding of Industrial Wastes and Hazardous Wastes, TCEQ publication RG-22, contains guidance on how to properly classify and code industrial waste and hazardous waste in accordance with 30 TAC 335.501-335.515 (Subchapter R).

   If you are not registered with TCEQ, enter "NA" for TCEQ Waste Code Number.

   For the EPA Hazardous Waste Numbers, see 40 CFR 261.20-33. For annual quantity, provide the amount in units of pounds (as generated and/or received) for each waste and/or waste mixture. **(see Table III-1)**

B. Waste Management Units Summary

1. For each waste and waste mixture listed in Table III-1 that is stored, processed, and/or disposed on-site (except where such storage and/or processing is excluded from permit requirements in accordance with Texas Administrative Code (TAC) Section 335), complete Table III-2, Hazardous Waste Management Unit Checklist, and enter the name of each hazardous waste management unit (Note: Please make copies of Table III-2 if necessary).

Give the design capacity of each hazardous waste management unit in any of the units of measure shown. In the case of inactive or closed units for which design details are unavailable, an estimate of the design capacity is sufficient.

Please provide a description for each waste management unit described in your own words on the line provided for "Waste Management Unit." **(see Table III-2)**

2. Has the applicant at any time conducted the on-site disposal of industrial solid waste now identified or listed as hazardous waste?

   ☒ Yes ☐ No

   If yes, complete Table III-2 indicating the hazardous waste management units which were once utilized at your plant site but are no longer in service (i.e., inactive or closed facility units).

   If no, and if no hazardous waste is presently or proposed to be stored [for longer than 90 days (see 30 TAC Section 335.69)], processed, or disposed of at your facility, then you need not file this permit application. Otherwise proceed with the application form.

3. Provide an estimate of the total weight (lbs) of hazardous waste material that has been disposed of and/or stored within your site boundaries and not removed to another site.

   Approximately 270,000,000 lbs have been placed into facility landfills.

C. Location of Waste Management Units

1. Submit as "Attachment C" a drawn-to-scale topographic map (or other map if a topographic map is unavailable) extending one mile beyond the facility boundaries, depicting the following: **(see Attachment C)**

   a. The approximate boundaries of the facility (described in Section II.B) and within these boundaries, the location and boundaries of the areas occupied by each active, inactive, and proposed hazardous waste management unit (see Table III-2). Each depicted area should be labeled to identify the unit(s), unit status (i.e., active, inactive, or proposed), and areal size in acres.

   b. The overall facility and all surface intake and discharge structures;

   c. All on-site injection wells where liquids are injected underground;

   d. All known monitor wells and boreholes within the property boundaries of the facility; and

   e. All wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within the map area and the purpose for which each water well is used (e.g., domestic, livestock, agricultural, industrial, etc.).

2. Submit as "Attachment D" photographs which clearly delineate all hazardous waste management storage, processing, and disposal units, as well as sites of future storage, processing and disposal units. **(see Attachment D)**

D. Flow Diagram/Description

Show as "Attachment E" process flow diagrams and step-by-step word descriptions of the process flow, depicting the handling, collection, storage, processing, and/or disposal of each of the hazardous wastes previously listed in this application. **(see Attachment E)**

The flow diagrams or descriptions should include the following information:

1. Originating point of each waste and waste classification code;

2. Means of conveyance utilized in every step of the process flow;

3. Name and function of each facility component through which the waste passes;

4. The ultimate disposition of all wastes (if off-site, specify "off-site") and waste residues.

TABLE III-1 Hazardous Wastes and Management Activities

Verbal Description of Waste	TCEQ Waste Form Code and Classification Code	EPA Hazardous Waste Number	Waste Management Activities						Annual Quantity Generated and/or Received, tons
			Wastes Received From Off-Site			Wastes Generated On-Site			
			Storage[1]	Processing[2]	Disposal	Storage[1]	Processing[2]	Disposal	
Waste paint related material	0002604H	D001				X		off-site	0 (NLG)
Mercuric sulfate	0003103H	D002, D009, D010				X		off-site	0 (NLG)
Still bottoms from solvent recovery/solvent distillation operations	0005602H	F003, F005				X		off-site	0 (NLG)
Spent acid solution from Isocure scrubber	0009104H	D002				X	X	off-site	0 (NLG)
Waste paint related material	0010211H	F003, F005				X		off-site	0 (NLG)
Laboratory waste with potassium ferricyanide	0011101H	D003				X		off-site	0 (NLG)
Wastewater from coating process	0012101H	D011				X		off-site	0 (NLG)
Waste photographic fixer	0013219H	D010, D011				X		off-site	0 (NLG)
Spent Safety Kleen solvent	0501203H	D001, D006, D008, D018, D027, D035, D039, D040				X		off-site	0 (NLG)
Mason-Dixon plant solids	0512319H	D006, D008				X	X	on-site off-site	0 (NLG)
Used Mason-Dixon dual filter media	0518310H	D006, D008				X	X	off-site	0 (NLG)
Waste solvents	0519211H	D001				X		off-site	0 (NLG)
Mason-Dixon plant wastewater	0520115H	D006, D008				X	X	off-site	0 (NLG)
Miscellaneous heavy metal containing solids	0521319H	D006, D008				X	X	off-site	69
Used lacquer thinner	0536211H	F003, F005				X		off-site	0 (NLG)
Waste coating resins	0537210H	D001, F002				X	X	off-site	0 (NLG)
Waste methyl ethyl ketone	0538203H	F005				X	X	off-site	0 (NLG)
Safety Kleen carburetor cleaner	0566203H	D006, D007, D008, D018, D021, D027, D039, D040				X		off-site	0 (NLG)

TABLE III-1 Hazardous Wastes and Management Activities (continued)

Verbal Description of Waste	TCEQ Waste Form Code and Classification Code	EPA Hazardous Waste Number	Waste Management Activities						Annual Quantity Generated and/or Received, tons
			Wastes Received From Off-Site			Wastes Generated On-Site			
			Storage[1]	Processing[2]	Disposal	Storage[1]	Processing[2]	Disposal	
Pure Solve: industrial solvent degreaser	0569203H	D001				X		off-site	0 (NLG)
Potassium ferrocyanide	0570119H	D003				X		off-site	0 (NLG)
Spray gun cleanup water	0571101H	F005				X		off-site	0 (NLG)
Waste epoxy paint	0572210H	F002, F003				X		off-site	0 (NLG)
Nonusuable gasoline/diesel mixture	0573219H	D001				X		off-site	0 (NLG)
Spray gun cleanup and stencil ink	0579209H	F005				X		off-site	0 (NLG)
Waste magnesium shavings from Pattern Shop	4018307H	D001, D003				X		off-site	0 (NLG)
Mixed lab pack waste	4020003H	D001, D002, D009, D022				X		off-site	0 (NLG)
NP combustion chamber solids	4028319H	D006, D008				X	X	off-site	0 (NLG)
South plant take-off (Cupola) solids	4030319H	D006, D008				X	X	off-site	0 (NLG)
North plant take-off (Cupola) solids	4032319H	D006, D008				X	X	off-site	0 (NLG)
SP separator solids	4034319H	D006, D008				X		off-site	0 (NLG)
SP Cupola scrubber pit solids	4037319H	D006, D008				X		off-site	0 (NLG)
Flashmixer solids	4039319H	D006, D008				X		off-site	0 (NLG)
Aerosol cans from maintenance	4056308H	D001, D035, F001, F003, F005				X	X	off-site	0
North plant Cupola bag house solids	4062319H	D006, D008				X		off-site	0 (NLG)
NP Escher cooler cleanout solids	4066319H	D006, D008				X	X	off-site	0
South plant 65-ton electric furnace baghouse solids	4072319H	D006, D008				X		off-site	0 (NLG)
North plant 40-ton electric furnace baghouse solids	4073319H	D006, D008				X	X	off-site	2.4
Refractory material	4074319H	D006, D008				X		off-site	0 (NLG)
South plant Cupola baghouse dust	4078319H	D006, D008				X		off-site	0 (NLG)
Baghouse filter bags	4084319H	D006, D008				X		off-site	2
Broken fluorescent and HID bulbs	4087319H	D009				X		off-site	< 1
Lab pack of old chemicals	0581001H	D001, D002, D003				X		off-site	0 (NLG)

TABLE III-1 Hazardous Wastes and Management Activities (continued)

Verbal Description of Waste	TCEQ Waste Form Code and Classification Code	EPA Hazardous Waste Number	Waste Management Activities						Annual Quantity Generated and/or Received, tons
			Wastes Received From Off-Site			Wastes Generated On-Site			
			Storage[1]	Processing[2]	Disposal	Storage[1]	Processing[2]	Disposal	
IPA/Heptane/Polymer resin, two-phase sludge resin	4004606H	D001				X		off-site	0 (NLG)
Tank clean-out of waste isocure	4005219H	D018				X		off-site	0 (NLG)
Waste, solid isocure, acetone, and PPE	4006203H	D001				X		off-site	0 (NLG)
Waste sulfuric acid scrubber	4009104H	D002				X		off-site	0 (NLG)
Sulfuric acid cleaning solution from Hydraulic oil cleaning	4016104H	D002				X		off-site	0 (NLG)
Waste hexamethylenetetramine	4023393H	D001				X		off-site	0 (NLG)
Solid debris from equipment – mercury	4024319H	D009				X		off-site	0 (NLG)
Mercury removed from equipment, controls	4025117H	D009				X		off-site	0 (NLG)
North plant separator solids	4036319H	D006, D008				X	X	off-site	0 (NLG)
North plant scrubber pit solids	4038319H	D006, D008				X	X	off-site	0 (NLG)
Waste refined tar	4041606H	D018				X		off-site	0 (NLG)
Waste solvent surfactant	4043207H	D001				X		off-site	0 (NLG)
SP South Baghouse Shutdown Waste	4095304H	D006, D008				X		off-site	0 (NLG)
SP Cupola Scrubber Debris	4109319H	D006, D008				X		off-site	0 (NLG)
Nitrocellulose – UP	4099319H	D001				X		off-site	0 (NLG)
Soil Samples – Solid	4097302H	D008				X		off-site	0 (NLG)
Soil Samples – Sludges	4098119H	D006				X		off-site	0 (NLG)
Flammable Epoxies & Resins	4103219H	D001, U055, U165, U188, U239, U404				X		off-site	0 (NLG)
Out of Date Epoxies & Resins w/Isocyanates	4104210H	D001, D003, U055				X		off-site	0 (NLG)
Out of Date Flammable Solvents	4107203H	D001, D035, F003, F005				X		off-site	0 (NLG)
Inorganic Foundry Products – Liquid	4110119H	D002				X		off-site	0 (NLG)
Aerosol Residual Liquid	4093202H	D001, D035, F001, F005				X		off-site	<1
Waste Liquid Mercury	4112117H	D009				X		off-site	0

[1] "Storage" means the holding of solid waste for a temporary period, at the end of which the waste is processed, disposed of, or stored elsewhere.

[2] "Processing" means the extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal, including the treatment or neutralization of hazardous waste, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material from the waste or so as to render such waste non-hazardous or less hazardous; safer for transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. The "transfer" of solid waste for reuse or disposal as used above, does not include the actions of a transporter in conveying or transporting solid waste by truck, ship, pipeline, or other means. Unless the Executive Director determines that regulation of such activity is necessary to protect human health or the environment, the definition of "processing" does not include activities relating to those materials exempted by the Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq., as amended.

TABLE III-2 Hazardous Waste Management Unit Checklist

Waste Management Unit	TCEQ N.O.R. Unit #	Status[1]	Design Capacity[2]	Number of Years Utilized	Date in Service
Landfill	001	Closed	720,000 cubic yards	9	1976
Sludge Disposal Area	082	Closed	1,500 cubic yards	24	1979

[1] Indicate only one of the following: Active, Inactive, Closed, or Proposed
[2] Cubic yards, gallons, pounds, gallons/minute, pounds/hour, BTUs/hour, etc.

Attachment C

Facility Boundaries and Adjacent Waters Map

Attachment C
Facility Boundaries and Adjacent Waters Map

Maps and descriptions that present provide information regarding the boundaries, topography, and proximal surface waters for the waste management area identified in this application, the locations and boundaries of the hazardous waste management (HWM) units addressed in this application ("Closed Landfill - NOR Unit No. 001" and "Closed Sludge Disposal Area - NOR Unit No. 082"), monitoring wells established for these HWM units, and known water wells in the vicinity are provided herein.

P:\NRM\2004\4100401001\70_Enviro\SPCC_Revisions\Figures\Landfill SPCC 8.dwg on Apr 29, 2008 - 11:42am

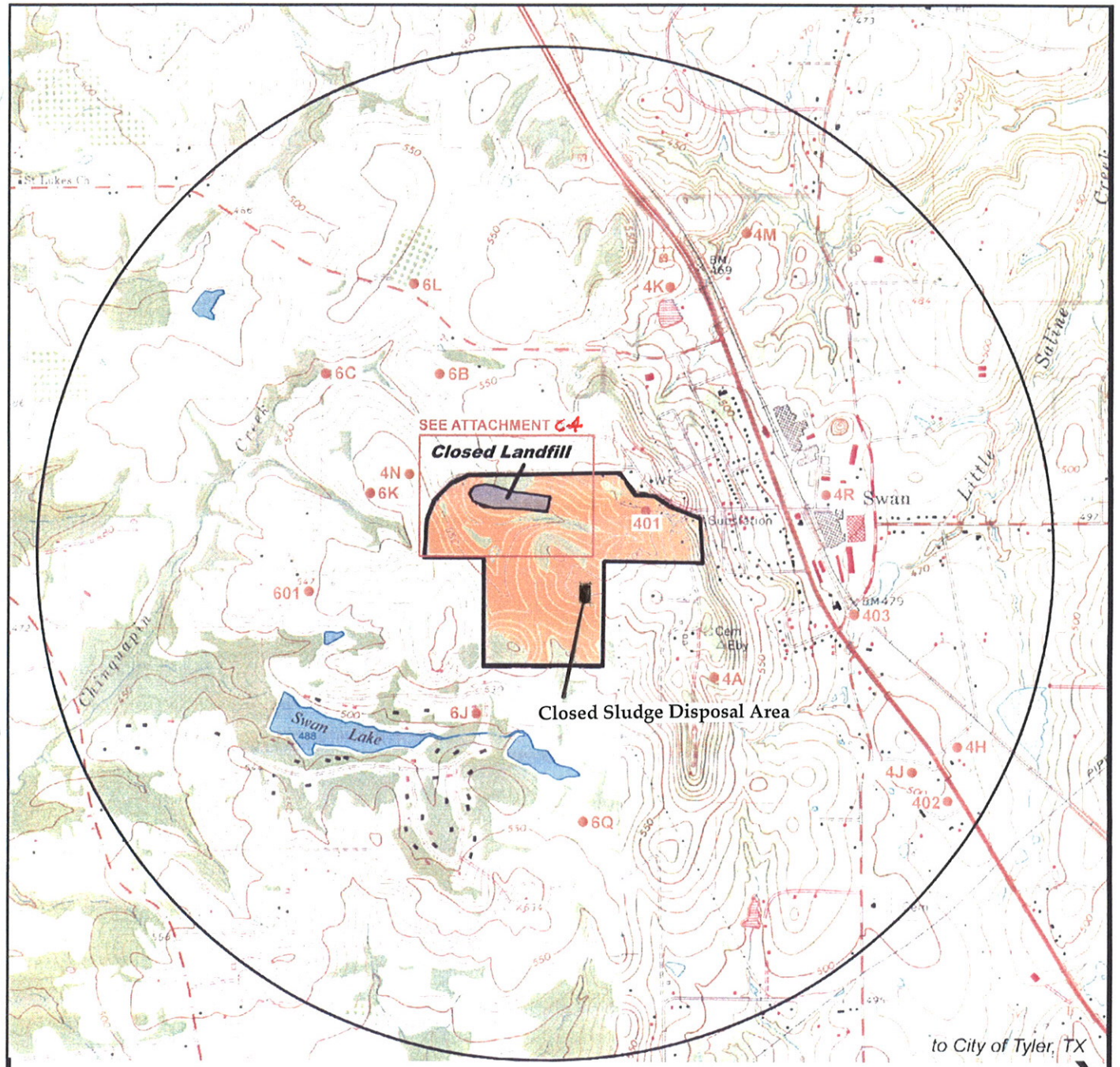
BENHAM
an SAIC company

The Benham Companies, LLC
infrastructure & environment
3700 W. Robinson, Suite 200
Norman, Oklahoma 73072
(405) 321-3895
www.benham.com

FIGURE TITLE	Facility Boundary Map
DOCUMENT TITLE	
CLIENT	TYLER PIPE COMPANY
LOCATION	SMITH COUNTY, TEXAS

DATE	4/29/2008
SCALE	NONE
DESIGNED BY	WLT
APPROVED BY	WLT
DRAWN BY	WLT

PROJECT NUMBER
4100401001
FIGURE NUMBER
Attachment C



USGS quadrangles Mount Sylvan + Tyler North, TX. - 1973

See Attachment C-2 for additional water wells installed prior to April 2020

Facility Boundary

6x Water Well

0 1/2 1

MILE

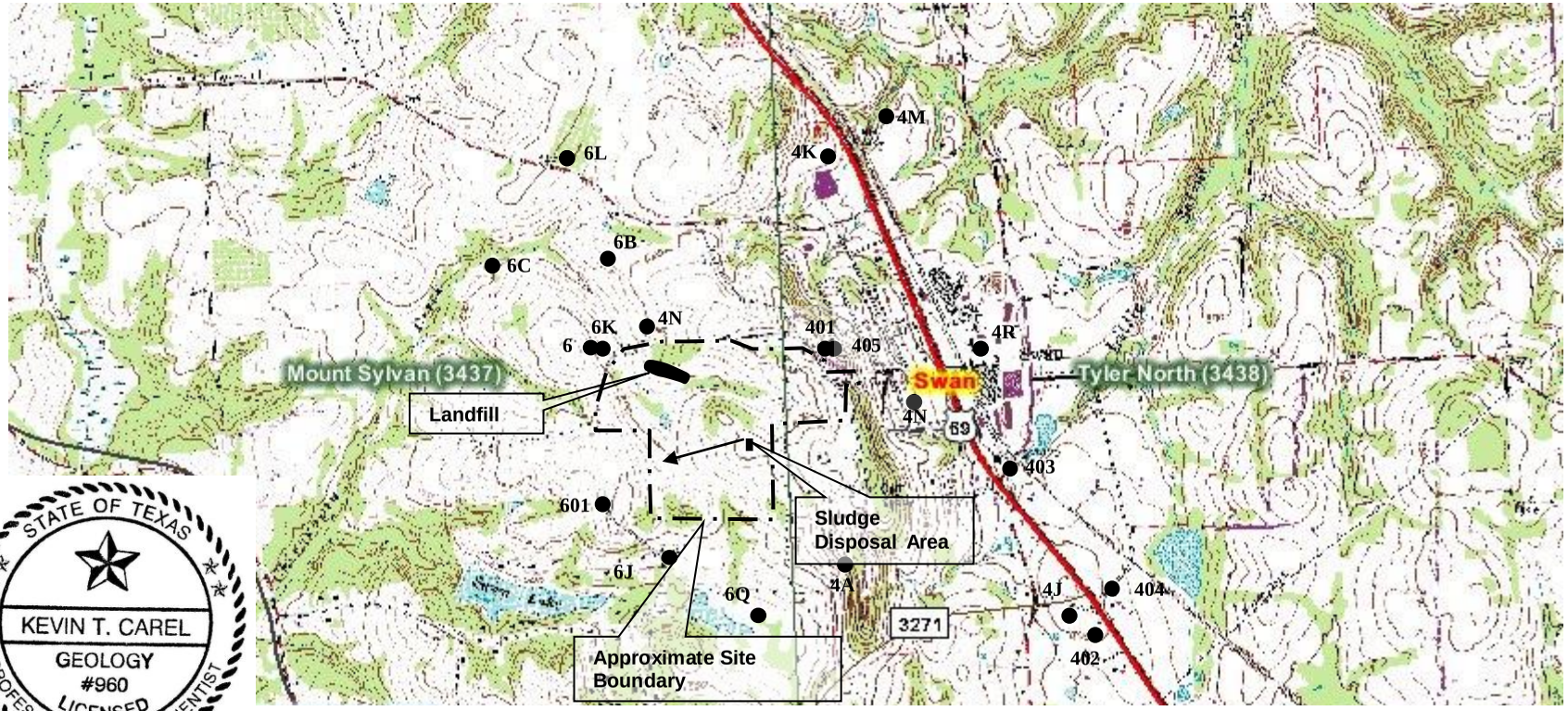
N W E S

120_0004

Attachment **C-1**

Facility Boundary,
Monitor Wells, Boreholes
& Surface Water

PARSONS ENGINEERING SCIENCE, INC.



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

→ Predominant groundwater flow direction in sludge disposal area saturated soils.

0 0.91 miles

Water well locations obtained from records of the Texas Water Development Board and Texas Commission on Environmental Quality.
Map Revised by The Carel Corporation June 2020.

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

(817) 337-0112

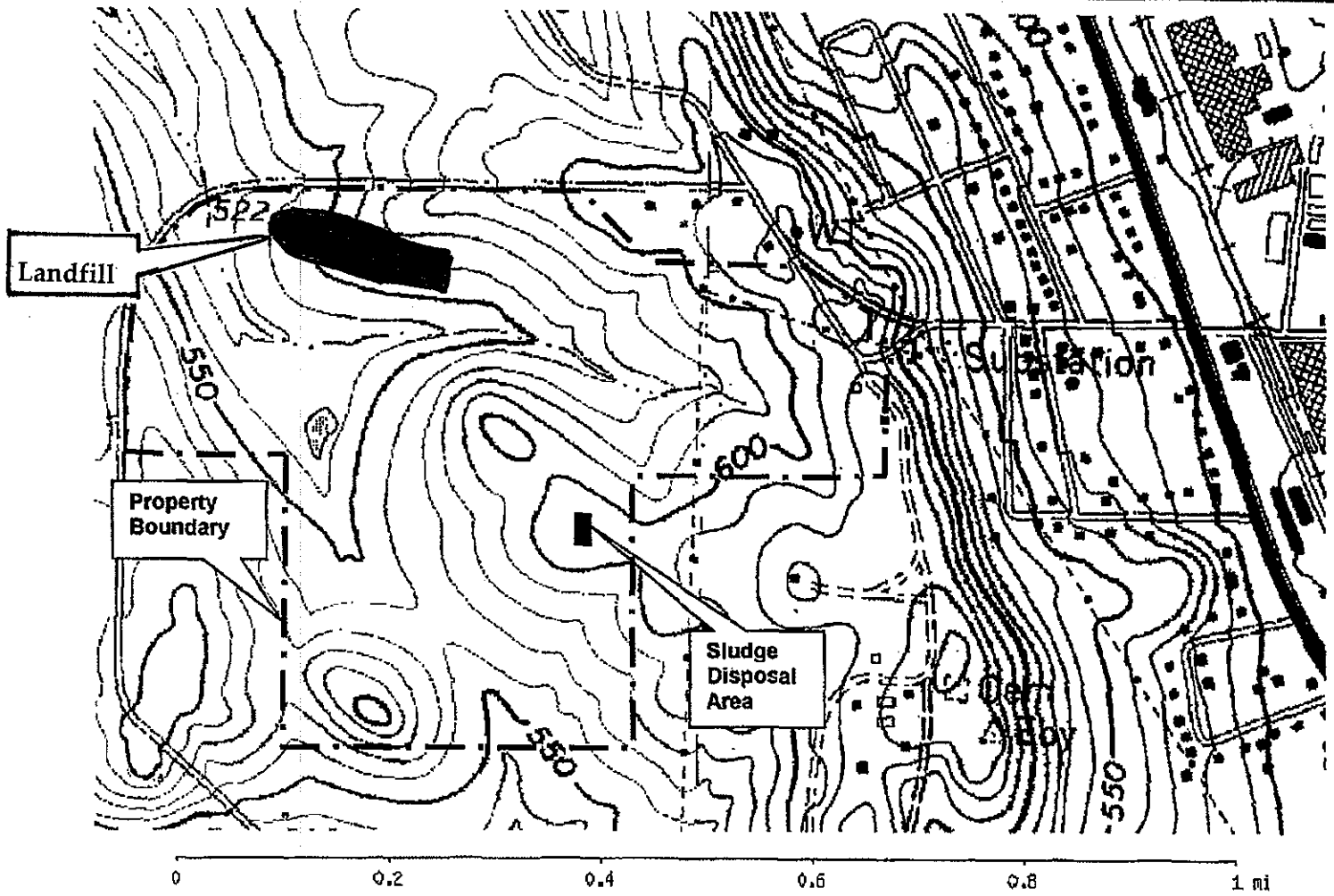
McWane Inc. (Tyler Pipe Company)

Facility Boundary Map and Water Well Locations

USGS Quadrangles Tyler North and Mount Sylvan, TX

FIGURE

C-2



The Carel Corporation
Providing Environmental, Ground-Water and Waste Management Service

136 Pecan Street, Keller, TX 76248

(817) 337-0112

Tyler Pipe Facility

7.5 Minute USGS Quadrangle Topographic Map
USGS Quadrangles Tyler North and Mount Sylvan, TX

Attachment

C-3

N

GRAPHIC SCALE

0 50 100 150 200 250 FEET

MW 33-A
MW 5U-A
MW 5U-C
MW 5U-B
MW 30-D
MW 4
MW 4U-B
MW 4U-A
MW 4U-D
MW 4U-C

MW 20
MW 21
MW-3D-C
MW 3D-B
MW 3D-A
MW 31-D
MW 3
MW 2D-B
MW 2D-A
MW 1D
MW 2
MW 1
MW 32-D

TBM 1 ELEVATION=548.23
TBM 2 ELEVATION=572.76
TBM 3 ELEVATION=570.05
TBM 4 ELEVATION=565.43
TBM 5 ELEVATION=490.74
TBM 6 ELEVATION=536.87
TBM 7 ELEVATION=549.81
TBM 8 ELEVATION=552.74
TBM 9 ELEVATION=558.42
TBM 10 ELEVATION=567.07
TBM 11 ELEVATION=574.17
TBM 12 ELEVATION=583.86

3+00 5+00 7+00 9+00 11+00

MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.56
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

* INDICATES EXISTING MONITOR WELLS ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

• MW xx Monitoring Well Location

○ TBM xx Benchmark Location

⊕ MW xx Abandoned Monitoring Well

○ ALUMINUM DISC SET IN STEEL PIPE W/PROTECTIVE POST BARRIERS

TYLER PIPE INDUSTRIES, INC.

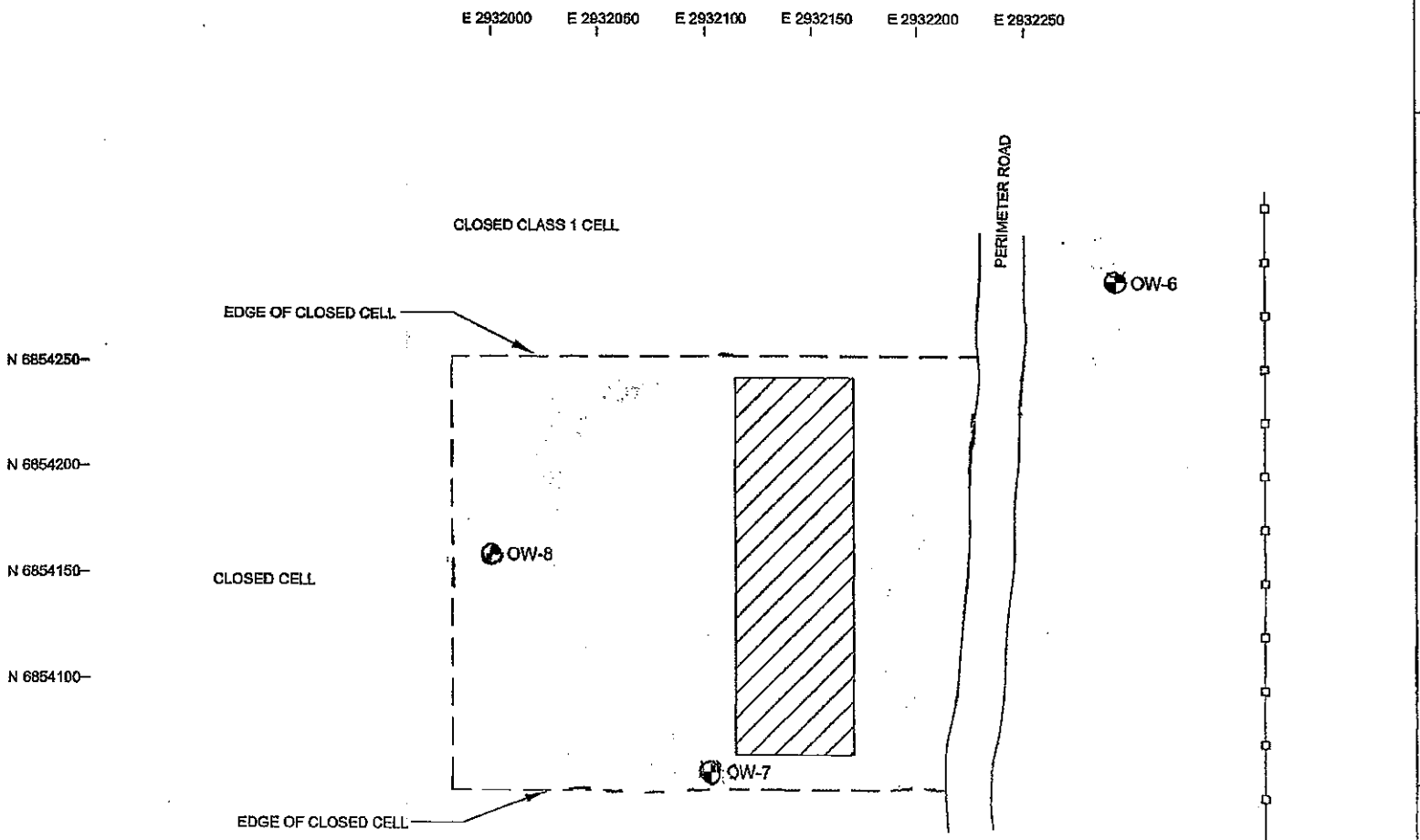
CLASS I HAZARDOUS WASTE LANDFILL

Attachment C-4

Monitor Well Locations - Landfill

PARSONS ENGINEERING SCIENCE, INC.

120_0021



Notes: 1. Sources include: Whitehead & Mueller, Inc. 2003 & ETTL Engineers Correspondence.
2. Water levels measured September 23, 2008.

CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- GROUNDWATER MONITOR WELL
- FENCE
- LIMITS OF SLUDGE

SCALE

30 20 10 0 25 50
FEET

Monitor Well Locations

SLUDGE DISPOSAL AREA

MCWANE INC. FACILITY
SWAN, TEXAS

DATE: May 11, 2009	REV. NO.: 0
FILENAME: L:\TX\TylerPipe\APAR\Fig 5A-1.dwg	
DESIGNED BY: SJW	Attachment C-5
DRAFTED BY: TDW	
CHECKED BY: KTC	
APPROVED BY:	

Attachment C-6
Water Well Records

Water Well Inventory
Within One Mile of Tyler Pipe Plant
(based on data in TWDB files, April 1, 2020)

State Well Number	Owner	Date Drilled	Total Depth (feet)	Diameter of Hole (inches)	Screen Setting (feet)	Aquifer Unit	Use*	Yield (gpm)	Elevation (ft above MSL)
34-37-6Q	Jack Woldert	08/02/79	48	36	-	Sparta	D	-	-
34-37-6L	Darcie Widemore	10/06/76	53	36	-	Sparta	D	-	-
34-37-6K	Jerry Jenkins	06/22/76	400	400	315-400	Queen City	-	-	-
34-37-6J	Earnest Halleck	10/18/75	69	6 1/4	-	Sparta	D	-	-
34-37-6C	J.H. Carpenter	07/12/72	23	36	-	Sparta	D	-	-
34-37-6B	Ray Bostick	07/13/71	65	36	-	Sparta	D	-	-
34-37-601	Jerry Jenkins	09/25/75	48	36	-	Sparta	D	-	-
34-38-4R	Roland Chambee	01/06/78	37	36	-	Sparta	D	-	-
34-38-4K	Herlon Ross	08/12/71	34	36	-	Sparta	D	-	-
34-38-4N	Meredith Slaughter	12/02/74	412	6 1/8	340-361	Queen City?	D	12	-
34-38-4M	Phil Barron	08/07/73	27	36	-	Sparta	D	-	-
34-38-4J	Lindale Water Supply Corp	Jul 1968	1004	12 3/4	936-994	Carrizo-Wilcox	M	111	-
34-38-4H	Hopewell Church	05/18/68	100	8 5/8	85-100	Sparta?	D	-	-
34-38-4A	Tyler Pipe & Foundry	06/06/63	902	18	720-850	Carrizo	I	500-900	-
34-38-401	Tyler Pipe & Foundry	May1955	1019	18	940-991	Carrizo-Wilcox	I	650	610
34-38-402	Leon Miller	Oct 1955	300	4	279-299	Queen City	D	-	495
34-38-403	-	-	-	-	-	-	I	--	-
34-38-405	Tyler Pipe Co.	09/01/2005	1005	12 1/4	850-990	Carrizo-Wilcox	M	700	617
34-37-6	Maria Gonzalez	08/13/2012	145	7 7/8	120-140	Sparta?	D	10	-

Uses: D = Domestic
I = Industrial
M = Municipal

Atlas E.R. Water Well Search

Sludge Disposal Area
McWane Inc. (Tyler Pipe Company)
Smith County, Texas
Atlas Job #09-04-027

Atlas Environmental Research has located **7** water wells in the area of review.

Located Water Wells – 1
34-38-401

Plotted Water Wells – 4
34-37-6J
34-37-6K
34-37-6Q
34-38-4N

Partially Numbered Water Wells – 1
34-37-6(1)

Unnumbered Water Wells – 1
UN(1)

These wells have been labeled on the attached map with the final portion of the state well number. This portion of the state well number has also been highlighted on the corresponding drillers log. The information for each USGS quadrangle utilized for the well location map is listed below.

Quadrangle	Date	Contour Interval
Mount Sylvan, Texas	1966 (Photorevised 1973)	10 Feet
Tyler North, Texas	1966 (Photorevised 1973)	10 Feet

Quadrangle Scale: 1:24000; 1" = 2000'

Form GW-1

TEXAS BOARD OF WATER ENGINEERS

GROUND-WATER DIVISION

34-38-401

WELL SCHEDULE

Date Jan. 21, 1960 Field No. CH-34-38-401

Record by Joe W. Dillard Office No.

Source of data Mr. Tom Harvin Box 2007 Tyler, Texas

1. Location: County Smith

Map Highway Planning - 1956

Survey

2. Owner: Tyler Pipe & Foundry Address Sutton, Texas

Tenant Address

Driller Layne-Texas Address Dallas

3. Topography: Hilly -

4. Elevation: 610 ft. (above) below Sea Level

5. Type: Dug (drilled) driven, bored, jetted May 19 55

6. Depth: Rept. 1019 ft. Meas. ft.

7. Casing: Diam. 18 in., to 16 in., Type Steel 0 - 854, 860 - 925

Depth 0 - 1019 ft., Finish Screen 740 - 791

8. Chief Aquifer: Carrizo-Wilcox From ft. to ft.

Others

9. Water level: 310 ft. (rept.) meas. Jan. 21 1960 above (below) land surface which is ft. above surface below

10. Pump: Type Layne-Turbine Capacity 800 gpm

Power: Kind Electric Horsepower 100

11. Yield: Flow gpm, Pump 650 gpm, Meas. (Rept.) Est.

Drawdown 50 ft. after 16 hours pumping 650 gpm

12. Use: Dom., Stock, PS., RR., (Ind.), Obs. Irr.

Adequacy, permanence Very good

13. Quality: Chem. Tests Analysis 5-19-55

Temp. 74 °F Sample Yes No

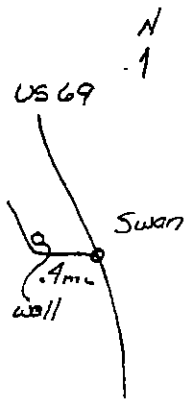
14. Log: Yes No On file in office of Tyler Pipe

15. Remarks: LL-3226 10-95226 from Skeet tape.

Airline - 400'

9] Had just stopped pump when visited well. to measure, No place to run a tape. 11 stage pump

(over)



9) S.L. 4-29-55 = 309'
24 hr at 800gpm P.L. = 361'
DD. 52' Sp.C. = 15.4 gpf.

9) 9-25-61
6x gpm P.L. = 363'
10 min static = 344'
2 hr static = 330.5'
3 hr " = 330.0'

9) 3-12-62
323' - S.L. Pump off 15 min.

GW-10

Well No. XH 34-38401

Company Tyler Pipe & Well Foundry

Location: W. of Plant, Swan, Texas

Type of log E. log

Elevation: DF
KB
GL 610

Location of log used: Layne-Texas, Dallas

Information by: JOE W. DILLARD

Formation Sparta
Depth to base 830 Elev. of base +390'
Depth to top ± 20-30' Elev. of top +590'
Thickness ±810
Net sand

Calc. dissolved solids PPM, Depth
Calc. dissolved solids PPM, Depth
Calc. dissolved solids PPM, Depth
Remarks: Tyler Greensand - 0-20' appx.
Ew (Weches) 230' - ±315'

Formation Queen City
Depth to base 770 Elev. of base -140
Depth to top ±315 Elev. of top +295
Thickness 455'
Net sand

Calc. dissolved solids PPM, Depth
Calc. dissolved solids PPM, Depth
Calc. dissolved solids PPM, Depth
Remarks:
Ew (Reklaw) 770 - 850'.

Formation Carrizo
Depth to base 990 Elev. of base -380
Depth to top 850 Elev. of top -240
Thickness 140
Net sand 130

Calc. dissolved solids PPM, Depth
Calc. dissolved solids PPM, Depth
Calc. dissolved solids PPM, Depth
Remarks:

Formation Wilcox
Depth to base — Elev. of base —
Depth to top 990 Elev. of top -380
Thickness —
Net sand —

Calc. dissolved solids PPM, Depth
Calc. dissolved solids PPM, Depth

ANALYTICAL STATEMENT COUNTY Smith

Well No. XH3438401

Location West of Swan & plant

Source (type of well) Drilled

Owner Tyler Pipe & Foundry Co.

Date drld 1955 Depth 1019 ft

WBF Carrizo - Wilcox

Producing intervals 860 - 990

Water level 309 ft Pi. = 360

Sampled after pumping 24 hrs

Yield 800 GPM

Pt of coll. Disch.

Appearance Clear

Temp (°F) 74 Use Ind.

Collector Layne - Texas

Chemist Curtis

Date completed 1-21-55

* See back

GW-9

Date of collection 4-20-55

Ignition Loss

Dissolved Solids:

Calculated (sum) 220

Residue at 180°C 200

Tons per acre foot

Hardness as $CaCO_3$ 28

N.C. hardness

% Na SAR RSC

Specific conductance (micromhos at 25°C)

pH 7.4 Color Clear

KEY PUNCHED

	epm	ppm
SiO_2		8
Fe		
Fe (total)		0.1
Ca		8
Mg		2
Na		
K		
Na + K		42
HCO_3		110
CO_3		0
SO_4		17
Cl		8
F		
NO_3		

Test hole - a sample taken from 600-620
which is Queen City: 1955

Ca	4.0	HCO_3	44
Mg	1.	SO_4	8
Na	20	Cl	10
Fe	7		

Total solids = 134
pH = 5.9

XH 34-3B-40.1

#1

Send original copy by certified mail to the Texas Water Development Board P. O. Box 13087 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 34-37-601
Located on map
Received:

1) OWNER:
Person having well drilled Earnest Hollack (Name) Address Swan Lake Rd (Street or RFD) Tyler (City) Texas (State)

Landowner (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Smith, 5W miles in NW (N.E., S.W., etc.) direction from Tyler (Town)

Locate by sketch map showing landmarks, roads, creeks, hiway number, etc.*

Map
34-31-4H

North

(Use reverse side if necessary)

or

Give legal location with distances and directions from adjacent sections or survey lines.

Labor League

Block Survey

Abstract No.

(NW¼ NE¼ SW¼ SE¼) of Section

3) TYPE OF WORK (Check):
New Well, Deepening, Reconditioning, Plugging

4) PROPOSED USE (Check):
Domestic, Industrial, Municipal, Irrigation, Test Well, Other

5) TYPE OF WELL (Check):
Rotary, Driven, Dug, Cable, Jetted, Bored

6) WELL LOG:
Diameter of hole 36 in. Depth drilled 69 ft. Depth of completed well 69 ft. Date drilled 10-18-75

All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	26	Red Clay & Iron Ore
26	27	Water Strata
27	41	Blue Shale
41	43	Water Strata
43	63	Blue Shale
63	69	Water Sand

9) Casing:
Type: Old New Steel Plastic Other
Cemented from ft. to Circ ft.

Diameter (inches)	Setting From (ft.)	To (ft.)	Gage

10) SCREEN:
Type
Perforated Slotted

Diameter (inches)	Setting From (ft.)	To (ft.)	Slot Size

(Use reverse side if necessary)

7) COMPLETION (Check):
Straight wall, Gravel packed, Other
Under reamed, Open Hole

8) WATER LEVEL:
Static level ft. below land surface Date
Artesian pressure lbs. per square inch Date
Depth to pump bowls, cylinder, jet, etc., ft. below land surface.

11) WELL TESTS:
Was a pump test made? Yes No If yes, by whom?
Yield: gpm with ft. drawdown after hrs.
Bailer test gpm with ft. drawdown after hrs.
Artesian flow gpm
Temperature of water

12) WATER QUALITY:
Was a chemical analysis made? Yes No
Did any strata contain undesirable water? Yes No
Type of water? depth of strata

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME Reagon Dwight Palmer (Type or Print) Water Well Drillers Registration No. 1355

ADDRESS 1818 Chadeth (Street or RFD) Tyler (City) Texas (State)

(Signed) R D Palmer (Water Well Driller) Palmer Drilling Co. (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

*Additional instructions on reverse side.

TWDB-WD-6

Send original copy by certified mail to the Texas Water Development Board
P. O. Box 13087
Austin, Texas 78711

State of Texas

WATER WELL REPORT

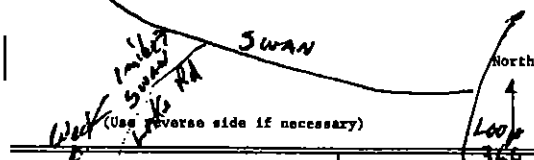
For TWDB use only
Well No. 34-37-6K5
Located on map 1 E5
Received: 5-26-76

1) OWNER:
Person having well drilled Jerry Jenkins (Name) Address Rt. 6, Box 124 J (Street or RFD) Tyler (City) Texas (State) 75701

Landowner (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Smith, 5 1/2 miles in NW (N.E., S.W., etc.) direction from Tyler (Town)

Locate on sketch map showing landmarks, roads, creeks, hiway number, etc.



or Give legal location with distances and directions from adjacent sections or survey lines.

Labor League
Block Survey
Abstract No.
(NW¼ NE¼ SW¼ SE¼) of Section

3) TYPE OF WORK (Check): New Well ✓ Deepening; Reconditioning; Plugging

4) PROPOSED USE (Check): Domestic; Industrial; Municipal; Irrigation; Test Well; Other

5) TYPE OF WELL (Check): Rotary; Driven; Dug; Cable; Jetted; Bored

6) WELL LOG:
Diameter of hole 6 1/4 in. Depth drilled 400 ft. Depth of completed well ft. Date drilled 5/22/76

All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	22	Sand
22	100	~~Sand~~ Green shale
100	116	Sand
114	139	Green shale
139	156	Sand
156	163	Shale
163	183	Sand & Shale
183	250	Green shale & Sand Streaks
250	320	Shale
320	365	Sand
365	400	Broken sand & shale

(Use reverse side if necessary)

9) Casing:
Type: Old New X Steel X Plastic Other
Cemented from 315 ft. to ground level ft.

Diameter (inches)	Setting From (ft.)	To (ft.)	Gage
4 1/2"	315	1' above	

10) SCREEN:
Type
Perforated Slotted

Diameter (inches)	Setting From (ft.)	To (ft.)	Slot Size
20'	2" screem		
84'	2" pipe		

7) COMPLETION (Check): Straight wall; Gravel packed; Other; Under reamed; Open Hole

8) WATER LEVEL:
Static level 200 ft. below land surface Date
Artesian pressure lbs. per square inch Date
Depth to pump bowls, cylinder, jet, etc., 270 ft. below land surface.
1 1/2 HP ~~KMS~~ FBM

11) WELL TESTS:
Was a pump test made? Yes No ✓ If yes, by whom?
Yield: gpm with ft. drawdown after hrs.
Bailer test gpm with ft. drawdown after hrs.
Artesian flow gpm
Temperature of water

12) WATER QUALITY:
Was a chemical analysis made? Yes No X
Did any strata contain undesirable water? Yes No ✓
Type of water? depth of strata

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME Alfred T. Watts (Type or Print) Water Well Drillers Registration No. 268

ADDRESS Rt. 5, Box 265 W (Street or RFD) Ft. Worth (City) Texas (State) 76126

(Signed) Alfred T. Watts (Water Well Driller) Watts Drilling Co. (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

*Additional instructions on reverse side.

rwdb1-wd-8

Send original copy by certified mail to the Texas Department of Water Resources P. O. Box 13087 Austin, Texas 78711

State of Texas
WATER WELL REPORT

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

For TDWR use only
Well No. 34-37-602
Located on map YES
Received: TH

1) OWNER Jack Woldert (Name) Address P.O. Box 4050, Tyler Tex 75701 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Smith 4 miles in N W (N.E., S.W., etc.) direction from Tyler (Town)

Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ Legal description:
Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____
☑ See attached map.

3) TYPE OF WORK (Check):
☑ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):
☑ Domestic ☐ Industrial ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Other _____

5) DRILLING METHOD (Check):
☐ Mud Rotary ☐ Air Hammer ☐ Driven ☑ Bored ☐ Air Rotary ☐ Cable Tool ☐ Jetted ☐ Other _____

6) WELL LOG:
Date drilled 8-2-79

DIAMETER OF HOLE Dia. (in.)	From (ft.)	To (ft.)
36	Surface	48

7) BOREHOLE COMPLETION:
☑ Open Hole ☑ Straight Wall ☐ Underreamed
☑ Gravel Packed ☐ Other _____
If Gravel Packed give interval . . . from 22 ft. to 48 ft.

From (ft.)	To (ft.)	Description and color of formation material
0	15	iron ore + red clay
15	32	brown + white sand
32	48	grey shale

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mgf., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
28	new	cement	0	48	

CEMENTING DATA
Cemented from _____ ft. to _____ ft.
Method used _____
Cemented by _____ (Company or Individual)

9) WATER LEVEL:
Static level 32 ft. below land surface Date 8-2-79
Artesian flow _____ gpm. Date _____

10) PACKERS: Type Depth

11) TYPE PUMP:
☐ Turbine ☐ Jet ☑ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

(Use reverse side if necessary)

13) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☑ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☑ No

12) WELL TESTS:
☐ Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME J. M. Allen (Type or Print) Water Well Drillers Registration No. 662

ADDRESS Drawer D. Arp, Texas 75750 (Street or RFD) (City) (State) (Zip)

(Signed) J. M. Allen (Water Well Driller) Allen Lumber Co. (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TDWR-0392 (Rev. 1-12-79)

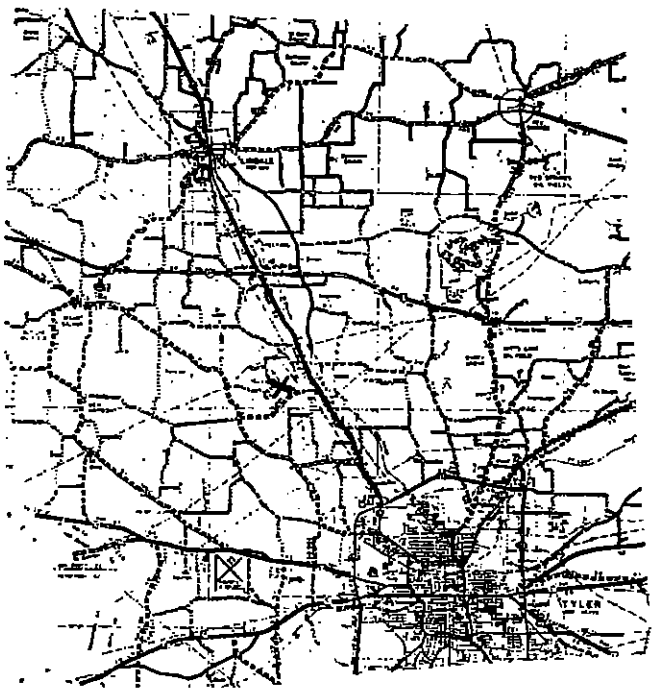
DEPARTMENT OF WATER RESOURCES COPY

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING PRIVILEGE OF CONFIDENTIALITY

The Water Well Drillers Board and the Department of Water Resources are concerned that some persons having water wells drilled may not be aware of the confidentiality privilege provision of Section 5 of the Water Well Drillers Act. Section 5, the Reporting of Well Logs, reads as follows:

> "Every registered water well driller drilling, deepening, or otherwise altering a water well within this State shall make and keep, or cause to be made and kept, a legible and accurate well log, and within sixty (60) days from the completion or cessation of drilling, deepening or otherwise altering such a water well, shall deliver or transmit by certified mail a copy of such well log to the Commission, and the owner thereof or the person having had such well drilled. The well log required herein shall at the request in writing to the Commission, by certified mail, by the owner or the person having such well drilled be held as confidential matter and not made of public record."

The last sentence specifies the means whereby you can, if you wish, assure that logs of your wells will be kept confidential. Please note that the term "Commission" in the above-quoted section and elsewhere in the Water Well Drillers Act now properly means the Texas Department of Water Resources (P. O. Box 13087; Austin, Texas 78711).



DUP

Send original copy by certified mail to the Texas Department of Water Resources P. O. Box 13087 Austin, Texas 78711

State of Texas
WATER WELL REPORT

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

For TDWR use only
Well No. 34-38-4N 6
Located on map YES
Received: 10/8

1) OWNER B.P. Barnes (Name) Address Rt 5, Box 158-D (Street or RFD) Tyler (City) Tex. (State) 75706 (Zip)

2) LOCATION OF WELL: County Smith 5 miles in N. W. (N.E., S.W., etc.) direction from Tyler (Town)

Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ Legal description:
Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____
☑ See attached map. 3 on 34-39-3F

3) TYPE OF WORK (Check): ☑ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☑ Domestic ☐ Industrial ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Other _____

5) DRILLING METHOD (Check): ☐ Mud Rotary ☐ Air Hammer ☐ Driven ☑ Bored ☐ Air Rotary ☐ Cable Tool ☐ Jetted ☐ Other _____

6) WELL LOG:

Date drilled 10-7-81

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
36	Surface	37

7) BOREHOLE COMPLETION: ☑ Open Hole ☑ Straight Wall ☐ Underreamed ☑ Gravel Packed ☐ Other _____
If Gravel Packed give interval ... from 17 ft. to 37 ft.

From (ft.)	To (ft.)	Description and color of formation material
0	1	top soil
1	4	Red Clay
4	11	red clay & sand
11	17	red, white sand
17	27	white & gray sand
27	37	gray white sand

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mgf., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
28	new	cement	0	37	

CEMENTING DATA
Cemented from _____ ft. to _____ ft.
Method used _____
Cemented by _____ (Company or Individual)

(Use reverse side if necessary)

9) WATER LEVEL:
Static level 37 ft. below land surface Date 10-7-81
Artesian flow _____ gpm. Date _____

10) PACKERS: Type Depth

11) TYPE PUMP:
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

12) WELL TESTS:
☐ Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

13) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☑ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☑ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME J.M. Allen, Jr. (Type or Print) Water Well Drillers Registration No. 2132

ADDRESS Drawer D (Street or RFD) Arp (City) Tx. (State) 75750 (Zip)

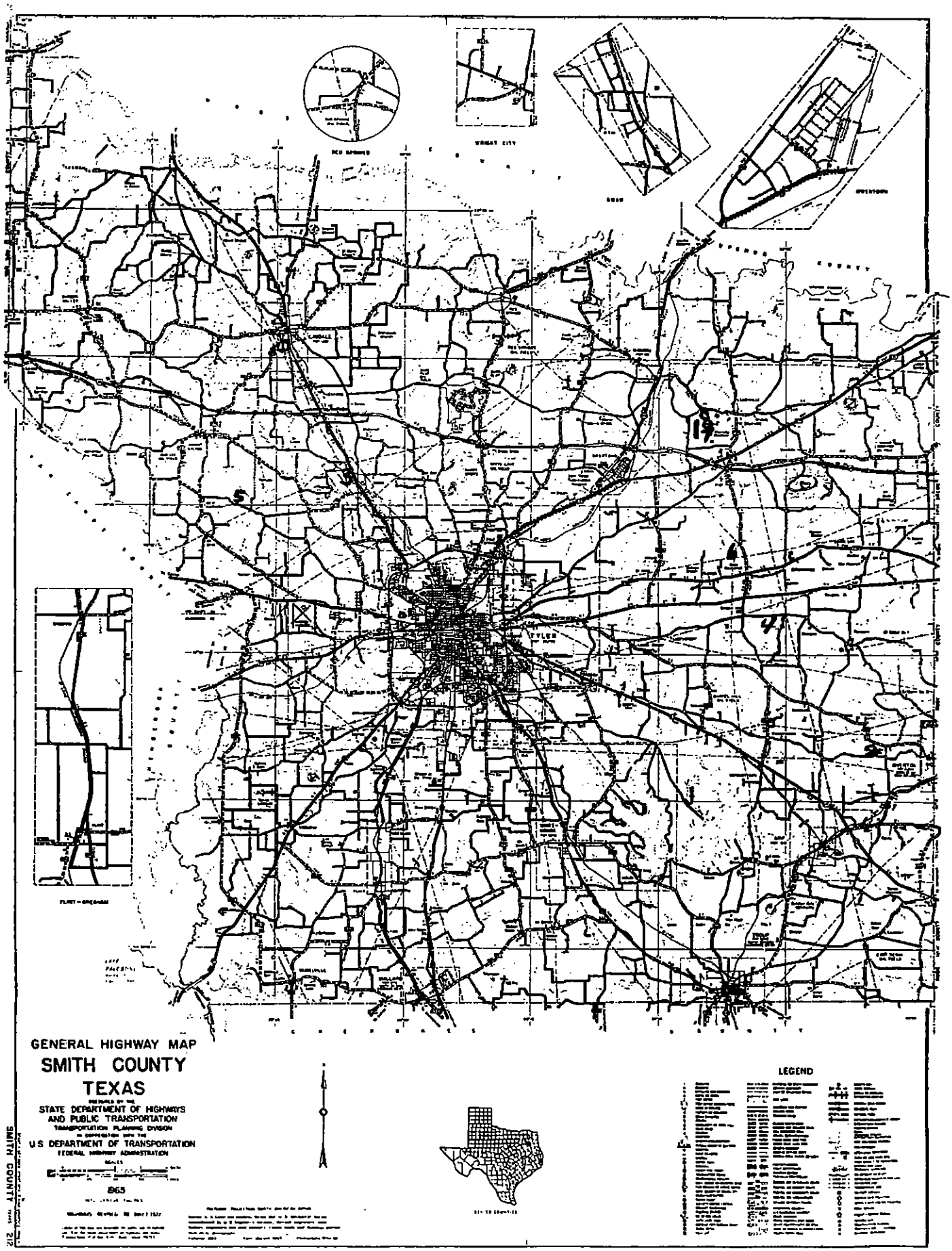
(Signed) John M. Allen Jr. (Water Well Driller) Allen Lumber Co. (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TDWR-0392 (Rev. 1-12-79)

DEPARTMENT OF WATER RESOURCES COPY

3F(map)


GENERAL HIGHWAY MAP
SMITH COUNTY
TEXAS
PREPARED BY THE
STATE DEPARTMENT OF HIGHWAYS
AND PUBLIC TRANSPORTATION
TRANSPORTATION PLANNING DIVISION
IN COOPERATION WITH THE
U.S DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
1965
LEGEND
TYLER
SMITH COUNTY

Send original copy by certified mail to: TNRCC, P.O. Box 13087, Austin, TX 78711-3087 — *Please use black ink.*

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Advisory Council
P.O. Box 13087
Austin, TX 78711-3087
512-239-0530

1) OWNER William Pierson (Name) ADDRESS 13035 CR 468 (Street or RFD) Tyler (City) Tx (State) 75704 (Zip)

2) ADDRESS OF WELL: County Smith — Same (Street, RFD or other) (City) (State) (Zip) GRID # 34-37-6

(1)

3) TYPE OF WORK (Check): ☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☐ Monitor ☐ Environmental Soil Boring ☒ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Test well
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5)

6) WELL LOG: Date Drilling: Started 6-27 19 96 Completed 6-28 19 96

DIAMETER OF HOLE		
Dia.. (in.)	From (ft.)	To (ft.)
7 7/8	Surface	200

7) DRILLING METHOD (Check): ☐ Driven ☐ Air Rotary ☒ Mud Rotary ☐ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

From (ft.)	To (ft.)	Description and color of formation material
0	30	clay
30	57	gray w/ thin sand streaks
57	85	gray clay
85	97	gray sand
97	115	gray clay
115	126	tight gray sand
126	135	gray clay
135	138	sand
138	158	clay
158	168	gray sand
168	179	clay
179	190	sand with clay streaks
190	200	gray clay

(Use reverse side if necessary)

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall ☐ Under reamed ☒ Gravel Packed ☐ Other
If Gravel Packed give interval ... from 60 ft. to 200 ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
4	n	pvc casing	0	80	sch 40
4	n	pvc screen	80	200	.020

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0 ft. to 15 ft. No. of sacks used 9
ft. to ft. No. of sacks used
Method used mixer
Cemented by Mark Jordan
Distance to septic system field lines or other concentrated contamination 150 ft.
Method of verification of above distance tape

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed (Rule 338.44(2)(A))
☒ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure Used [Rule 338.71]

13) TYPE PUMP: ☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other
Depth to pump bowls, cylinder, jet, etc., 190 ft.

14) WELL TESTS: Type Test: ☒ Pump ☐ Baller ☐ Jetted ☐ Estimated
Yield: 15 gpm with 60 ft. drawdown after 1 hrs.

11) WATER LEVEL
Static Level 110 ft. below land surface Date 6-28-96
Artesian flow gpm Date

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? Depth of strata
Was a chemical analysis made? ☐ Yes ☒ No

12) PACKERS: Type Depth
None

RECEIVED
JUN 1997
TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Jordan's Water Well Service (Type or print) WELL DRILLER'S LICENSE NO. 3155WPK

ADDRESS Rt. 1 Box 412-2 (Street or RFD) Hawkins (City) Texas (State) 75765 (Zip)

(Signed) Mark Jordan (Licensed Well Driller)

(Signed) (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

TNRCC-0199 (Rev. 11-1-94) TNRCC COPY

Send original copy by certified mail to: **Texas Water Commission, P.O. Box 13087, Austin, Texas 78711**

Please use black ink.

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) **OWNER** MRS. CAROL MANN (Name) **ADDRESS** Rt. 5, Box 329 (Street or RFD) Tyler (City) Tx (State) 75706 (Zip)

2) **LOCATION OF WELL:** County Smith, 4.8 miles in NW (NE, SW, etc.) direction from Tyler (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ **LEGAL DESCRIPTION:**

Section No. _____ Block No. _____ Township _____ Abstract No. _____ Survey Name _____

Distance and direction from two intersecting section or survey lines _____

☒ **SEE ATTACHED MAP**

3) **TYPE OF WORK (Check):**
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) **PROPOSED USE (Check):**
☒ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

5) **DRILLING METHOD (Check):**
☒ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☐ Air Rotary ☐ Cable Tool ☐ Other _____ ☐ Driven

6) **WELL LOG:**

Date Drilling: Started 8-17 19 91 Completed 8-17 19 91

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
8 3/4	Surface	303

7) **BOREHOLE COMPLETION:**
☐ Open Hole ☐ Straight Wall ☐ Underreamed
☒ Gravel Packed ☐ Other _____
If Gravel Packed give interval . . . from 120 ft. to 303 ft.
Hole plug @118-120'

From (ft.)	To (ft.)	Description and color of formation material
0	23	Red clay
23	28	Red & gray clay
28	40	Tan sand
40	43	Gray clay
43	77	Gray sandy clay
77	83	Fine gray clay
83	120	Gray clay & fine sand w/ lignite
120	170	100% fine gray sand fast cut

(Use reverse side if necessary)

8) **CASING, BLANK PIPE, AND WELL SCREEN DATA:**

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
4	N	PVC Blank	0	120	Sch40
4	N	PVC Screen	120	223	.020
4	N	PVC Blank	223	303	Sch40

9) **CEMENTING DATA** [Rule 287.44(1)]
Cemented from 0 ft. to 118 ft. No. of Sacks Used 38
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Hopper
Cemented by Driller

10) **SURFACE COMPLETION**
☒ Specified Surface Slab Installed [Rule 287.44(2)(A)]
☐ Pitless Adapter Used [Rule 287.44(3)(B)]
☐ Approved Alternative Procedure Used [Rule 287.71]

11) **WATER LEVEL:**
Static level 50 ft. below land surface Date 8-17-91
Artesian flow _____ gpm. Date _____

12) **PACKERS:** Type NONE Depth

13) **TYPE PUMP:**
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) **WELL TESTS:**
Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 75 gpm with 10 ft. drawdown after 1 hrs.

15) **WATER QUALITY:**
Did the drilling penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☐ No

RECEIVED
SEP 13 1991
TEXAS WATER WELL DRILLERS BOARD

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME FAS-LINE/HARDBAND (Type or print) WELL DRILLER'S LICENSE NO. 2846 W

ADDRESS P. O. Box 1439 (Street or RFD) Kilgore (City) Tx (State) 75662 (Zip)

(Signed) _____ (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only: Well No. _____ Located on map _____

WD-012 (Rev. 09/21/88)

TEXAS WATER COMMISSION COPY

UN(1)

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING PRIVILEGE OF CONFIDENTIALITY

The Water Well Drillers Board and the Texas Water Commission are concerned that some persons having wells drilled may not be aware of the confidentiality privilege provision of Section 5 of the Water Well Drillers Act. Section 5, the Reporting of Well Logs, reads as follows:

> "Every licensed water well driller drilling, deepening or otherwise altering a water well within this State shall make and keep, or cause to be made and kept, a legible and accurate well log, and within 60 days from the completion or cessation of drilling, deepening or otherwise altering such a water well, shall deliver or transmit by certified mail a copy of such well log to the Commission, and the owner thereof or the person having had such well drilled. Each copy of a well log, other than a Commission copy, shall include the name, mailing address, and telephone number of the Board and the Commission. The well log required herein shall at the request in writing to the Commission, by certified mail, by the owner or the person having such well drilled be held as confidential matter and not made of public record."

The last sentence specifies the means whereby you can, if you wish, assure that logs of your wells will be kept confidential.

From (ft.)	To (ft.)	Description and color of formation material
170	186	Gray sand clay w/sand strks 40% sand
186	188	Hard rock
188	223	Hard sandstone strks w/40% fast cut sand
223	303	Gray shale & 5% sand
303		TD

STATE OF TEXAS WELL REPORT for Tracking #298979

Owner:	**Maria Gonzalez**	Owner Well #:	**1**
Address:	**13004 CR 468 Tyler, TX 75704**	Grid #:	**34-37-6**
Well Location:	**13004 CR 468 Tyler, TX 75704**	Latitude:	**32° 25' 52" N**
		Longitude:	**095° 23' 12" W**
Well County:	**Smith**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **8/10/2012** Drilling End Date: **8/13/2012**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**145**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**100**	**140**	**Gravel**	**16-30**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**8 cement**

Seal Method: **mix&pour**

Sealed By: **Trey Shaid**

Distance to Property Line (ft.): **85**

Distance to Septic Field or other concentrated contamination (ft.): **150**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **81 ft.** below land surface on **2012-08-13** Measurement Method: **Unknown**

Packers: **poly 10**

Type of Pump: **Submersible** Pump Depth (ft.): **135**

Well Tests: **Pump** **Yield: 10 GPM with 30 ft. drawdown after 2 hours**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Ace Water well & Pump**

262 VZCR 4801
Brownsboro, TX 75756

Driller Name: **Richard C King** License Number: **54748**

Apprentice Name: **Trey Shaid** Apprentice Number: **58583**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**30**	**red sand**
30	**100**	**clay**
101	**143**	**sand**
144	**145**	**clay**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4	**new**	**plastic**	**0-119 sch 40**
4	**new**	**plastic**	**screen 120-140 .013**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 34-38-405

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	3438405
County	Smith
River Basin	Sabine
Groundwater Management Area	11
Regional Water Planning Area	D - North East Texas
Groundwater Conservation District	GCD Does Not Exist
Latitude (decimal degrees)	32.4366667
Latitude (degrees minutes seconds)	32° 26' 12" N
Longitude (decimal degrees)	-95.3738889
Longitude (degrees minutes seconds)	095° 22' 26" W
Coordinate Source	Global Positioning System - GPS
Aquifer Code	124CZWX - Carrizo Sand and Wilcox Group, Undifferentiated
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	617
Land Surface Elevation Method	Digital Elevation Model -DEM
Well Depth (feet below land surface)	1005
Well Depth Source	Driller's Log
Drilling Start Date	4/27/2004
Drilling End Date	9/1/2005
Drilling Method	Mud (Hydraulic) Rotary
Borehole Completion	Gravel Pack w/Screen

Well Type	Withdrawal of Water
Well Use	Public Supply
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Turbine
Pump Depth (feet below land surface)	680
Power Type	Electric Motor
Annular Seal Method	Braden Head
Surface Completion	Surface Slab Installed
Owner	Tyler Pipe Company New well #3
Driller	Layne-Texas
Other Data Available	Drillers Log; Specific Capacity
Well Report Tracking Number	149697
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	G2120023C
Groundwater Conservation District Well Number	
Owner Well Number	3
Other Well Number	
Previous State Well Number	
Reporting Agency	Texas Commission on Environmental Quality
Created Date	8/16/2011
Last Update Date	3/4/2020

Remarks	Replaces old well #2

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
26	Blank	Steel			0	42
18	Blank	Steel			0	842
12	Blank	Steel			740	850
12	Screen	Stainless Steel			850	990
12	Blank	Steel			990	1005

Well Tests

Test Date	Test Type	Yield (gallons per minute)	Drawdown (ft.)	Test Hours
2005-09-01	Pump	700	41.53	36

Lithology

Top Depth (ft.)	Bottom Depth (ft.)	Description
0	20	Sandstone and Shale
20	33	Shale and Sandstone

33	62	Clay
62	121	Shale
121	137	Sand
137	147	Clay
147	179	Clay, Lignite, Sand
179	210	Lignite and Sand
210	240	Lignite and Shale
240	270	Shale and Sand
270	300	Sand and Shale
300	330	Sand Shale Rock
330	366	Shale and Lignite
366	397	Shale and Lignite
397	428	Clay and Shale
428	460	Shale and Clay
460	492	Shale and Sand
492	522	Shale and Sand
522	554	Shale and Sand (Streaky)
554	564	Sand
564	585	Shale and Lignite
585	617	Sand and Lignite (Streaky)
617	647	Sand
647	666	Sand
666	679	Clay
679	710	Sand with Shale Streaks and Rock
710	741	Sand with Shale Streaks and Rock
741	771	Shale with Sand Streaks
771	801	Sand and Shale
801	832	Sand, Shale with Sand Streaks
832	843	Rock and Sand
843	863	Shale and Sand
863	895	Shale with Sandstone (Hard)
895	905	Sand
905	910	Sandy Shale with Lignite
910	926	Sand
926	948	Sand and Shale
948	958	Sand Sandstone (Hard)
958	990	Sand and Shale
990	1010	Clay Sandy Shale and Lignite
1010	1022	Sand and Shale
1022	1032	Sand
1032	1033	Rock
1033	1052	Shale, Sandstone, Sand
1052	1084	Shale, Lignite, Sand
1084	1095	Sand and Shale
1095	1105	Shale and Lignite

1105	1115	Shale and Sand
1115	1120	Rock
1120	1146	Shale
1146	1178	Sandy Shale
1178	1209	Sand and Shale
1209	1238	Shale and Lignite
1238	1248	Sand
1248	1268	Shale and Lignite
1268	1299	Shale
1299	1330	Shale
1330	1362	Shale and Sand
1362	1394	Shale and Sand
1394	1400	Shale
1400	1425	Fine Sand, Shale (Hard)
1425	1456	Sandy Shale with Lignite (Hard)
1456	1488	Sandy Shale (Hard)
1488	1500	Sand Shale (Hard)

Annular Seal Range

Annular Seal Material	Amount	Unit	Top Depth (ft.)	Bottom Depth (ft.)
Cement	751	Bags/Sacks	0	840

Borehole

Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
12.25	0	1500
24	0	840
30	840	1005

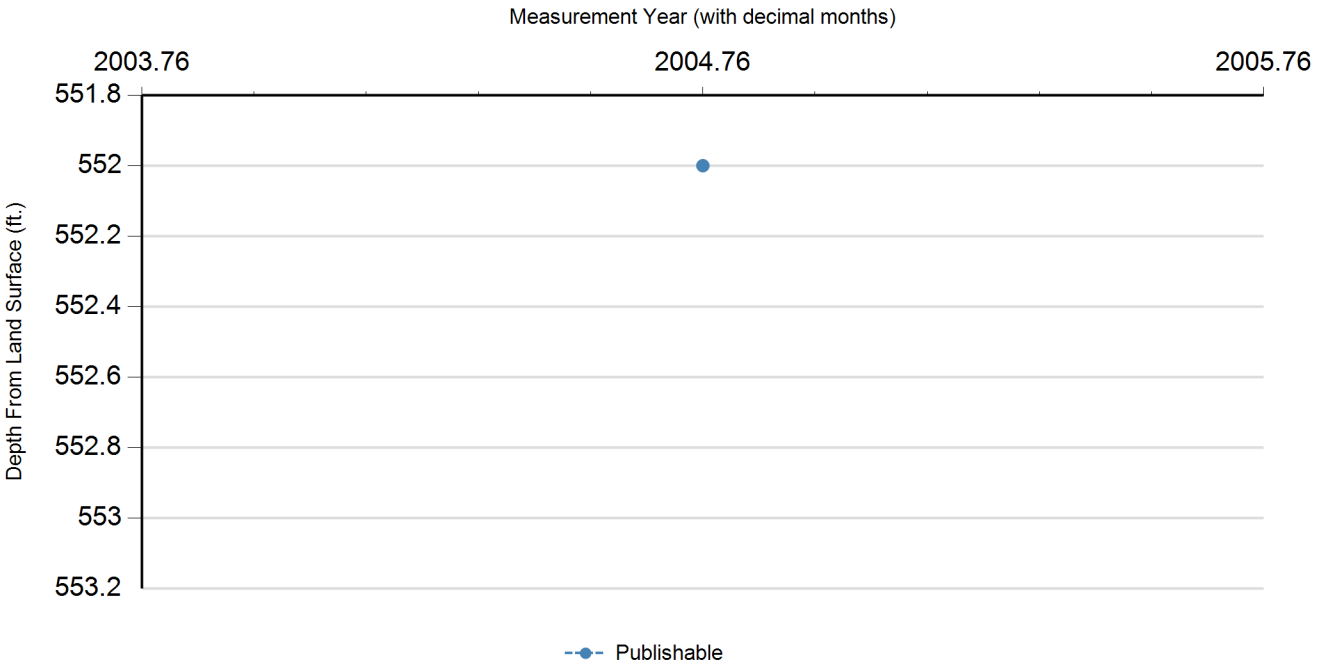
Plugged Back - No Data

Filter Pack

Filter Material	Top Depth (ft.)	Bottom Depth (ft.)	Size
Gravel	840	1005	30"

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	10/6/2004		552		65	1	Registered Water Well Driller	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 3/22/2006 **Sample Time:** **Sample Number:** 1 **Collection Entity:** Municipal Water Agency or Public Water Supply Corp

Sampled Aquifer: Carrizo Sand and Wilcox Group, Undifferentiated

Analyzed Lab: Laboratory Unknown **Reliability:** Reliability unknown or not available

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		102	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		124	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		7	mg/L	
00951	FLUORIDE, TOTAL (MG/L AS F)		0.1	mg/L	
00620	NITRATE NITROGEN, TOTAL (MG/L AS N)	<	0.01	mg/L	
00615	NITRITE NITROGEN, TOTAL (MG/L AS N)	<	0.01	mg/L	
00403	PH (STANDARD UNITS) LAB		7.6	SU	
00945	SULFATE, TOTAL (MG/L AS SO4)		18	mg/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		156	mg/L	

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*

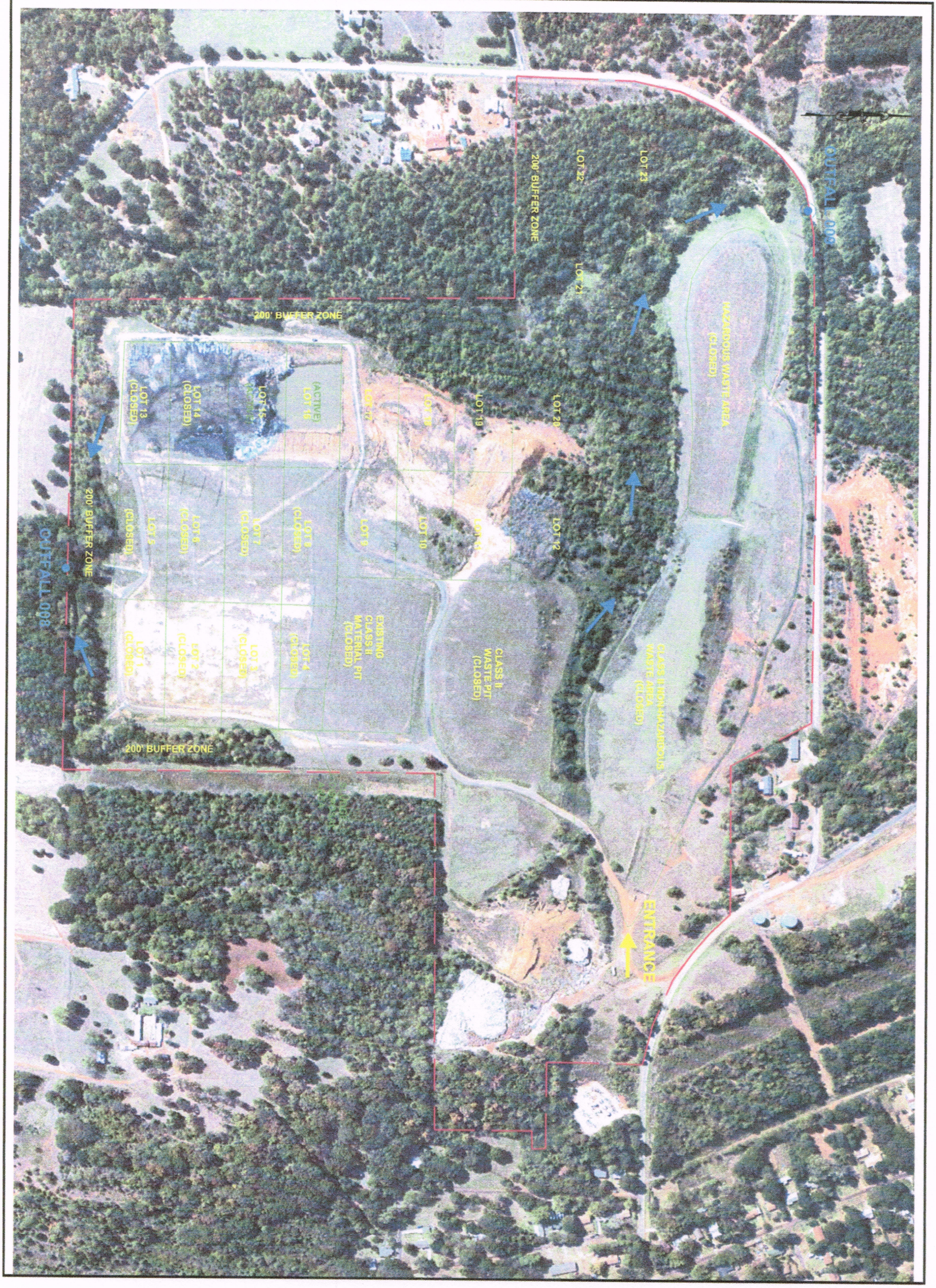
Attachment D

Photographs

Attachment D
Photographs

Photographs that clearly delineate the two hazardous waste management (HWM) units addressed in this application ("Closed Landfill - NOR Unit No. 001" and "Closed Sludge Disposal Area - NOR Unit No. 082") are provided herein.

P:\NRM\2004\4100401001\70_Enviro\SPCC_Revisions\Figures\Landfill SPCC 8.dwg on Apr 29, 2008–11:42am



Closed Landfill (NOR Unit No. 001) and

Closed Sludge Disposal Area (NOR Unit No. 082)

CLIENT	TYLER PIPE COMPANY
LOCATION	SMITH COUNTY, TEXAS

DATE	4/29/2008
SCALE	NONE
DESIGNED BY	WLT
APPROVED BY	WLT
DRAWN BY	WLT

PROJECT NUMBER
4100401001
FIGURE NUMBER
Attachment D

BENHAM
an SAIC company
The Benham Companies, LLC
infrastructure & environment
3700 W. Robinson, Suite 200
Norman, Oklahoma 73072
(405) 321-3695
www.benham.com

Attachment D: Tyler Pipe Company, Part A Application
Closed Landfill – NOR Unit No. 001

Photographer is facing west at entrance to Landfill Area. Security gate and warning signs are to deter public access.

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

(817) 337-0112

Tyler Pipe Company
Part A Application – June 2020

Closed Landfill – NOR Unit No. 001

Attachment

D

Photographer is facing south in the Sludge Disposal Area. Perimeter landfill road is located on the left side of the photo.

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

(817) 337-0112

Tyler Pipe Company
Part A Application – June 2020

Closed Sludge Disposal Area – NOR Unit No. 082

Attachment

D

Photographer is facing east of Sludge Disposal Area well OW-8. Sludge disposal area well OW-6 is visible in the background.

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

(817) 337-0112

Tyler Pipe Company
Part A Application – June 2020

Closed Sludge Disposal Area – NOR Unit No. 082

Attachment

D

Photographer is facing east/southeast across Sludge Disposal Area. Sludge Disposal Area well OW-7 is located in the background.

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

(817) 337-0112

Tyler Pipe Company
Part A Application – June 2020

Closed Sludge Disposal Area – NOR Unit No. 082

Attachment

D

Attachment E

Process Flow Diagram/Description

Attachment E
Process Flow Diagram/Descriptions

Flow diagrams and step-by-step word descriptions of the process flow, depicting the handling, collection, storage, processing, and/or disposal of each of the *currently generated* hazardous wastes listed in this application are provided herein. The flow diagrams/descriptions include the following information: originating point of each waste; waste classification code; means of conveyance utilized during the process flow; and the name and function of each facility component through which the waste passes. Since the ultimate disposition of each waste is "offsite disposal", this is not indicated on the process flow diagrams.

Air Pollution Control of Metal Melting Process
(Tyler Pipe Plant Cupolas & Electric Furnace Baghouses)

Cupolas

Scrap iron, coke, limestone, silicon, and fluorspar are charged in the cupolas where the scrap metal and additives are heated by combustion of the coke. Limestone and fluorspar are fluxes used to produce slag to facilitate removal of impurities (*i.e.*, aluminum) from the cupola. Fumes released from the melting process contain particulate metals that are removed in a fabric filter baghouse. Due to the nature of the scrap metal and the emissions generated during the melting process, the resulting dust contains concentrations of lead and cadmium above the maximum concentration of contaminants for the toxicity characteristic [40 CFR 261.4]. An in-process treatment is added to the stream to bind up the lead and cadmium and render the resulting dust non-hazardous. However, if the process is not working properly (*e.g.*, mechanical issues, wrong treatment mixture), the waste stream has the potential to be hazardous. The Texas waste codes for this waste stream is ***4062319H*** and ***4078319H*** and the applicable EPA waste codes are D006 and D008.

Electric Furnace

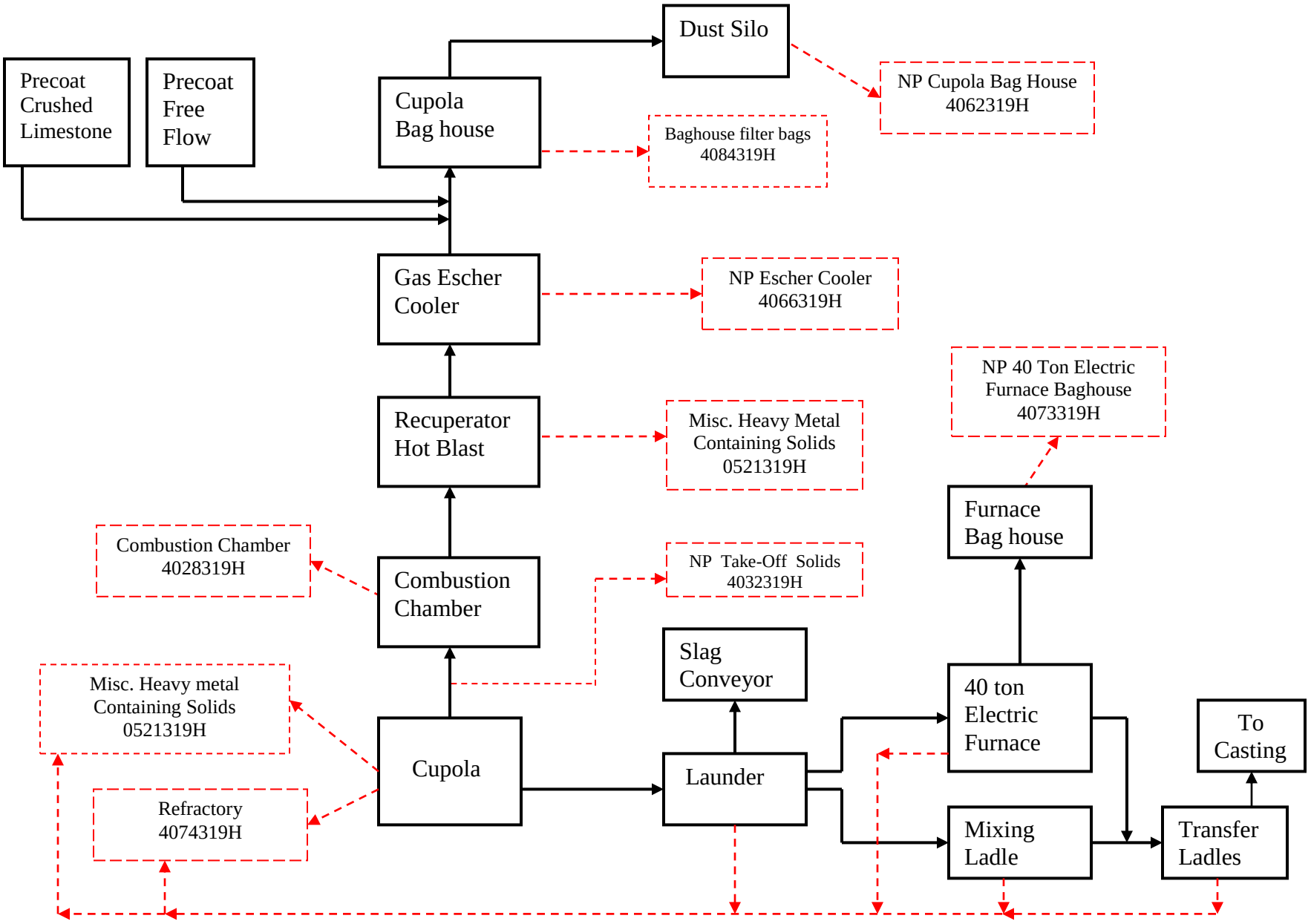
Once the iron has been produced, it is either transferred directly into the process by the use of ladles or placed into an electric furnace to be held prior to use. The Tyler Pipe Plant utilizes a 40-ton Electric Furnace for holding iron. Fumes from the electric furnace contain particulate metals and are vented to a baghouse for collection. Due to the nature of the scrap metal and the emissions generated during the holding process, the resulting dust has the potential to contain concentrations of lead and cadmium above the maximum concentration of contaminants. The Texas waste codes for these waste streams are ***4072319H*** and ***4073319H*** and the applicable EPA waste codes are D006 and D008.

Combustion Chamber

Scrap iron, coke, limestone, silicon, and fluorspar are charged in the cupolas where the scrap metal and additives are heated by combustion of the coke. Due to the nature of the scrap metal, the dropout from the combustion chamber has the potential to be hazardous for lead and cadmium. The Texas waste code for this stream is ***4028319H*** and the applicable EPA waste codes are D006 and D008.

Cleaning and Maintenance Activities
(Tyler Pipe Plant)

Solids are generated from various maintenance and cleanout activities throughout the plant, including cleanout wastewater and stormwater sumps cleanout of the cupola combustion chambers, and other activities. The solids recovered from these sources accumulate during the normal operation of the foundry. Some of these solids are managed as hazardous wastes due to the potential for high lead and cadmium concentrations. If the waste is determined to be hazardous using the Toxicity Characteristic Leaching Procedure (TCLP), the solids are processed in a stabilization system that renders them non-hazardous. The Texas waste code for this waste is ***0521319H*** and the applicable EPA waste codes are D006 and D008.



Attachment E
Process Flow Diagram – Tyler Pipe Plant Melt Operations

IV. Index Of Attachments

List and index below all attachments to this application and indicate if included or not included:

Item	Attachments	Attachment	Included	Not Included
I.D.2.a	Lease/Option to buy	A		X
II.B	Site legal description	B	X	
III.C.1	Facility boundaries and adjacent waters map	C	X	
III.C.2	Photographs	D	X	
III.D	Process flow diagram/description	E	X	

Permit Renewal Application

Hazardous Waste Permit No. HW-50141
Solid Waste Registration No. 30140

McWane, Inc. (Tyler Pipe Company)
Tyler, Texas

June 2020

PART B APPLICATION

Part B Checklist

Section I: General Information

Section II: Facility Siting Criteria

Section III: Facility Management

Section IV: Wastes and Waste Analysis

Section V: Engineering Reports

Section VI: Geology Report

Section VII: Closure and Post-Closure Plans

VOLUME 2

Permit Renewal Application

Hazardous Waste Permit No. HW-50141
Solid Waste Registration No. 30140

McWane, Inc. (Tyler Pipe Company)
Tyler, Texas

June 2020

PART B APPLICATION

PART B CHECKLIST

SECTION I: GENERAL INFORMATION
- **Instructions**
- **Table I – General Information**
- **Table I.1 – Description of Proposed Application Changes**
- **Authorization Signature Page**
- **Core Data Form**
- **Appendix I.G – Adjacent Landowners Map and List**

SECTION II: FACILITY SITING CRITERIA
- **Instructions**
- **Table II.A – Facility Siting Criteria Information**
- **Table II.E – Additional Requirements for Landfills**
- **Table II.F - Flooding**
- **Table II.G – Additional Information Requirements**
- **Appendix II.A – Site Selection Report**

VOLUME 2

VOLUME 2

Table VII.D – Unit Post-Closure Cost Estimate
Table VII.E.1 – Permitted Unit Closure Cost Summary
Table VII.E.2 – Permitted Unit Post-Closure Cost Summary
Appendix VII.C – Post-Closure
Appendix VII.D – Post-Closure Cost Estimate

VOLUME 2

Item No.	Section	Remove Filters Description (blue shaded items are part of Permit Administrative Review)	HW Regulations (305 & 335 are State & 260-270 are Federal)	Submitted?	Information Change Since Last Permit Action Submittal?	Location of Information (provide exact page no. and section)	Comments or Variance
1	I.	**General Information**					
2	I.A.	**Applicant: Facility Operator (or Facility Owner & Operator, if same)**	305.43; 305.45(a)(1); 270.10(a)(b)			Part B, pg. 1	
3	I.A.*1.*	Ensure legal name matches Secretary of State database		Yes	No	Part B, pg. 1	
4	I.A.*2.*	Provide facility's physical address, and business address if different from physical		Yes	No	Part B, pg. 1	
5	I.A.*3.*	Provide facility telephone number		Yes	No	Part B, pg. 1	
6	I.A.*4.*	Provide Solid Waste Registration Number and EPA I.D.		Yes	No	Part B, pg. 1	
7	I.A.*5.*	Provide Regulated Entity Name and Regulated Entity Number from Chief Clerk's database		Yes	No	Part B, pg. 1	
8	I.A.*6.*	Provide Customer Name and Customer Number from Chief Clerk's database		Yes	No	Part B, pg. 1	
9	I.A.*7.*	Provide Charter Number from Secretary of State database		Yes	No	Part B, pg. 1	
10	I.B.	**Provide Facility Owner if different than the Facility Operator, mailing address and telephone number**	305.43(b); 361.087 (TX Health & Safety Code)	N/A	No		
11	I.C.	**Facility Contact**	305.45(a)			Part B, pg. 2	
12	I.C.1.	Provide primary contact information (mailing address and telephone number)		Yes	Yes	Part B, pg. 2	
13	I.C.2.	If applicable, register with the Texas Secretary of State office and provide mailing address		N/A	N/A	n/a	
14	I.C.3.	Provide contact information (mailing address, telephone number, fax number, and e-mail address if available) for person responsible for public notice		Yes	Yes	Part B, pg. 2	
15	I.C.4.	Provide public place (name and physical address) in the county where application will be made available for review		Yes	No	Part B, pg, 3	
16	I.C.5.	If the applicant is proposing a new industrial or hazardous waste (HW) facility, they must hold a public meeting in the county in which the facility is proposed to be located and publish notice of the meeting				N/A	
17	I.D.	**Application Type and Facility Status**	305.42; 305 subchapter D				
18	I.D.1.	Select all applicable categories of application type and facility status		Yes	No	Part B, pg, 3	
19	I.D.2.	Indicate whether the application is part of a Consolidated Permit Processing request		Yes	No	Part B, pg, 3	
20	I.D.3.	Indicate if confidential information is included		Yes	No	Part B, pg, 3	
21	I.D.4.	Select all items that apply for either a proposed or existing hazardous waste management facility		Yes	No	Part B, pg, 3	
22	I.D.5.	Indicate whether the facility is within the Coastal Management Program boundary		Yes	No	Part B, pg, 3	
23	I.D.6.	Provide a description of all changes requested in the application		Yes	No	Part B, pg, 4	
24	I.D.7.	Provide total acreage of the facility being permitted		Yes	No	Part B, pg, 4	

25	I.D.8.	Provide name of drainage basin and segment where facility is located		Yes	No	Part B, pg, 4	
26	I.E.	**Facility Siting Summary**				Part B, pg, 4	
27	I.E.1.	Indicate whether the facility is located within a 100-yr floodplain	335.204(a)(1); 270.14(b)(11)(iii)	Yes	No	Part B, pg, 4	
28	I.E.2.	Indicate whether the facility is located in wetlands	335.204(a)(2)	Yes	No	Table II, 1st answer	
29	I.E.3.	Indicate whether the facility is located in the critical habitat of an endangered species of plant or animal	335.204(a)(8)	Yes	No	Part B, pg, 4	
30	I.E.4.	Indicate whether the facility is located on the recharge zone of a sole-source aquifer	335.204(a)(3)	Yes	No	Part B, pg, 4	
31	I.E.5.	Indicate whether the facility is located in an area overlying a regional aquifer	335.204(a)(4)	Yes	No	Part B, pg, 4	
33	I.E.7.	Indicate whether the facility is in an area in which governing body and municipality has prohibited the processing of municipal HW and individual solid waste	361.095; 361.096; 361.0961 (TX. Health & Safety Code)	Yes	No	Part B, pg, 4	
34	I.F.	**Wastewater and Stormwater Disposition: If yes, indicate existing or proposed discharge permit number**	30 TAC305(a)(7) WDW, TPDES, TCEQ	Yes	No	Part B, pg, 4	
35	I.F.1.	Indicate whether waste disposal is to be accomplished by a waste disposal well. If yes, list all of the WDW permit numbers		Yes	No	Part B, pg, 4	
36	I.F.2.	Indicate whether point source discharge of effluent or rainfall runoff occur as a result of the proposed activities		Yes	No	Part B, pg, 5	
37	I.F.3.	If discharge of effluent or rainfall runoff occurs and the discharge is regulated by a TPDES or TCEQ permit, provide the corresponding permit numbers		Yes	No	Part B, pg, 5	
38	I.F.4.	If discharge of effluent or rainfall runoff occurs and it is not regulated by a TPDES or TCEQ permit, provide the date on which those permit applications were filed		N/A	N/A	N/A	
39	I.G.	**Information required to provide notice:**				Part B, pg, 5	
40	I.G.*1.*	Provide state officials list	30 TAC 39.103(b)	Yes	Yes	Part B, pg, 5	
41	I.G.*2.*	Provide local officials list	30 TAC 39.103(c)	Yes	Yes	Part B, pg, 5	
42	I.G.*3.*	Provide adjacent landowners list: submit landowners map and mailing list in proper format (CD or Printed Labels, 30 addresses per/page in 3 columns of 10, USPS Machine Readable format)	305.45(a)(6)(A-D)	Yes	Yes	Appendix I.G	
43	I.G.*4.*	Indicate if Bilingual Notice is required		Yes	No	Part B, pg, 5	
44	I.H.	**Provide a current Core Data form**		Yes	No	Part A, after pg. 5	
45	I.I.	**Provide an original signature on application with proof of authorization and notary seal**	305.44; 270.11	Yes	No	Part A, pg, 5	
46	II.	**Facility Siting Criteria**				pg. 21	
47	II.A.	**Indicate whether the facility is located or proposed to be located in:**				Table II	
48	II.A.1.	Wetlands; Provide the source of information; If yes, the TCEQ shall not issue a permit for a new hazardous waste (HW) management facility or areal expansion per 335.205(a)(1)	335.204(a)(2), (b)(2), (c)(2), (d)(2), and/or (e)(2)	Yes	No	Table II	

49	II.A.2.	Critical habitat; Provide a letter from Texas Parks and Wildlife Department; If yes, Section V should include information to demonstrate the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas	335.204(a)(8), (b)(10), (c)(9), (d)(9), and/or (e)(11)	Yes	No	Table II	
50	II.A.3.	On the recharge zone of a sole-source aquifer; Provide the source of information; If yes, submit Section V information to demonstrate adequate secondary containment - hazardous waste units such as landfills, land treatment facilities, surface impoundments and waste piles cannot be located on the recharge zone of a sole-source aquifer	335.204(a)(3), (b)(3), (c)(3), (d)(3) , and/or (e)(3)	Yes	No	Table II	
51	II.A.4.	An area overlying a regional aquifer; Provide the source of information; If facility overlies a regional aquifer, information should be provided either in Section V, to address the requirements of 335.204(a-e)(4)(B), or in Section VI, to address the requirements of 335.204(a-e)(4)(A)	335.204(a)(4), (b)(4), (c)(4), (d)(4), and/or (e)(4)	Yes	No	Table II	
52	II.A.5.	Areas where soil unit(s) within 5 ft. of containment structure, or treatment zone that have unified soil classification of GW, GP, GM, GC, SW, SP, or SM, or hydraulic conductivity greater than 10-5 cm/sec; Provide the source of information; If the facility overlies soils meeting these characteristics, information should be provided either in Section V, to address the requirements of 335.204(5)(A) or Section VI, to address the requirements of 335.204(5)(B)	335.204(a)(5), (b)(5), (c)(5), (d)(5), and/or (e)(5)	Yes	No	Table II	
53	II.A.6.	Areas of direct drainage within one mile of a lake at its maximum conservation pool level; Provide verification of drainage information	335.204(a)(6), (b)(7), (c)(6), (d)(6), and/or (e)(8)	Yes	No	Table II	
54	II.A.7.	Areas of geologic process, including but not limited to erosion, submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cuttings, or earthquakes; Provide verification of geologic process information	335.204(a)(7), (b)(8), (c)(7), (d)(7), and/or (e)(9)	Yes	No	Table II	
55	II.A.8.	Within 30 feet of the upthrown side or 50 feet of the downtown side of the actual or conferred expression of a fault; Provide the source of information	335.204(a)(9), (b)(12), (c)(11), (d)(11), and/or (e)(13)	Yes	No	Table II	
69	II.E.	**Additional requirements of landfills (and surface impoundments closed as landfills with waste in place):**	335.204(e)			Table II.E.	
70	II.E.1.	Indicate whether the landfill is located or proposed to be located within 1000 ft. established residence, school, church, school, daycare center, etc.; If yes, permit will not be issued for a new HW landfill unit or an areal expansion of an existing landfill unit	335.204(e)(6)	Yes	No	Table II.E.	
71	II.E.2.	For the new commercial HW landfill, indicate whether it is proposed to be located in 100-yr floodplain; If yes, permit will not be issued for a new commercial HW landfill or an areal expansion of an existing landfill per 335.204(e)(7) and 335. 205(a)(1)	335.204(e)(7)	Yes	No	Table II.E.	
72	II.E.3.a.	Indicate whether the landfill is located or proposed to be located within 1000 ft. of an area subject to active shoreline erosion protected by barrier island or peninsula; If yes, Section V.G must include information to address the adverse effects	335.204(e)(10)	Yes	No	Table II.E.	

73	II.E.3.b.	Indicate whether the landfill is located or proposed to be located within 5000 ft. of an area subject to active coastal shoreline unprotected by barrier island or peninsula; If yes, Section V.G must include information to address the adverse effects	335.204(e)(10)	Yes	No	Table II.E.	
74	II.E.4.	Indicate whether the landfill is located or proposed to be located on a barrier island or peninsula; If yes, permit will not be issued for a new HW landfill unit or an areal expansion of an existing landfill unit	335.204(e)(12); 335.205(a)(1)	Yes	No	Table II.E.	
75	II.F.	**Flooding: Include FIA maps and source of data in the application**	270.14(b)(11)(iii); 305.50(a)(11)	Yes	No	Table II.E.	
76	II.F.1.	Indicate whether the facility is located or proposed to be located within 100-yr Floodplain; If yes, complete II.F.2-4, providing supporting documentation; Note: For an application for a proposed HW management facility, aside from the flood plain maps prepared by FEMA, additional information may be necessary for a flood plain determination; If no, do not complete II.F.2-4	270.14(b)(11)(iii)	Yes	No	Table II.E.	
77	II.F.2.	Provide information defining the 100-year Flood levels	270.14(b)(11)(iii)	N/A	N/A	N/A	
78	II.F.3.	Indicate whether Flood Protection devices or structures are provided or proposed at the facility:	270.14(b)(11)(iv)	N/A	N/A	N/A	
79	II.F.3.a.	If yes, submit Section V an engineering analysis to indicate the hydrodynamic and hydrostatic per 270.14(b)(11)(iv)(A), and	270.14(b)(11)(iv)	N/A	N/A	N/A	
80	II.F.3.b.	Provide in Section V a plan and schedule for constructing flood protection devises per 270.14(b)(11)(iv)(B)	270.14(b)(11)(iv)	N/A	N/A	N/A	
81	II.F.3.*c.*	NOTE: Any landfill, storage/treatment facility, surface impoundment, waste pile, or land treatment unit within the 100-year floodplain must be designed, constructed, operated, and maintained to prevent physical transport of any HW by a 100-year flood event.	335.204(a)(1), (b)(1), (c)(1), (d)(1), and/or (e)(1)			N/A	
82	II.F.4.	If the answer to Question II.F.3 is No, provide a description of the procedures to remove wastes to safety before flooding occurs:	270.14(b)(11)(iv)(C)	N/A	N/A	N/A	
83	II.F.4.a.	Timing of movement of wastes relative to flood levels	270.14(b)(11)(iv)(C)(1)	N/A	N/A	N/A	
84	II.F.4.b.	Location to which wastes will be moved and a demonstration that these facilities will be eligible to receive HW	270.14(b)(11)(iv)(C)(2)	N/A	N/A	N/A	
85	II.F.4.c.	Procedures and availability of equipment and personnel to be used	270.14(b)(11)(iv)(C)(3)	N/A	N/A	N/A	
86	II.F.4.d.	Potential and prevention for accidental discharges of waste	270.14(b)(11)(iv)(C)(4)	N/A	N/A	N/A	
87	II.G.	**Additional information requirements**					
88	II.G.1.	For a new HW management facility, provide a legible map of local land-use plans and major routes of travel covering at least 5 miles from the facility	305.50(a)(10)(A) & (D)	N/A	N/A	N/A	
89	II.G.2.	For a new commercial HW management facility or the subsequent areal expansion of the facility or facility unit, provide a map showing the nearest established residence, schools, church, day care center, surface water body used for a public drinking water supply, and dedicated park	305.45(a)(6), 335.202, 335.204(a)(6), (b)(6) and (7), (c)(6), (d)(6), &/or (e)(6 and 8)	N/A	N/A	N/A	FALSE
94	II.G.4.	Provide the name and location of other HW facilities within 0.5 miles of the new on-site HW management facility and the quantity of HW generated or received annually at those facilities	305.50(a)(10)(B-C)	N/A	N/A	N/A	

95	II.G.5.	Provide the name and location of HW facilities within 1.0 mile of the new commercial HW management facility and the quantity of HW generated or received annually at those facilities	305.50(a)(10)(B-C)	N/A	N/A	N/A	
96	II.G.6.	For existing/proposed HW disposal units, provide documentation of deed recordation	335.5; 270.14(b)(14)	Yes	No	Appendix II.G.6.	
97	II.G.7.	If a surface impoundment or landfill (including post-closure) is permitted, provide exposure information; This information will be considered separately from TCEQ application completeness determination	305.50(a)(8) 270.10(j)	Yes	No	Appendix II.G.7.	
98	II.G.8.	For a new HW management facility or a capacity expansion of an existing HW management facility, provide Section VI.A.1.a	305.50(a)(4)(D) 305.50(a)(10)(E)	N/A	N/A	N/A	
99	III.	**Facility Management**				Section II	
100	III.A.	**Compliance History and Applicant Experience:**				Appendix III.A.	
101	III.A.1.	Provide listings of all solid waste management sites in Texas owned, operated, or controlled by the applicant	305.50(a)(2)	Yes	No	Appendix III.A.	
102	III.A.2.	For a new commercial hazardous waste (HW) management facility, provide a summary of the applicant's experience in HW management	305.50(a)(12)(F)	N/A	N/A	N/A	
109	III.C.	**Security:**				Appendix III.C.	
110	III.C.*1.*	Provide a description of how the facility complies with security requirements:	264.14	Yes	No	Appendix III.C.	
111	III.C.*1.a.*	24-hr surveillance system	264.14(b)(1)	Yes	No	Appendix III.C.	
112	III.C.*1.b.*	Artificial or natural barrier	264.14(b)(2)(i)	Yes	No	Appendix III.C.	
113	III.C.*1.c.*	Means to control entry	264.14(b)(2)(ii)	Yes	No	Appendix III.C.	
114	III.C.*1.d.*	Warning signs	264.14(c)	Yes	No	Appendix III.C.	
115	III.C.*1.e.*	Demonstration that the previous security items are not needed to prevent contact or disturbance of waste	264.14(a)	Yes	No	Appendix III.C.	
116	III.D.	**Inspection Schedule**	264.15; 264.33			Appendix III.D.	
117	III.D.*1.*	Complete and submit Table III.D. - Inspection Schedule in hard copy and editable electronic format; Table must show:		Yes	No	Appendix III.D.	
118	III.D.*1.a.*	Inspection of monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment, etc.	264.15(b)(1)	Yes	No	Table III.D. & Appendix III.D.	
119	III.D.*1.b.*	Types of problems expressed as deficiencies indicating a need for corrections and/or repairs	264.15(b)(3)	Yes	No	Table III.D. & Appendix III.D.	
120	III.D.*1.c.*	Frequency of inspections	264.15(b)(4)	Yes	No	Table III.D. & Appendix III.D.	
121	III.D.*1.d.*	Areas subject to spills (i.e., loading and unloading areas) must be inspected daily when in use	264.15(b)(4)	Yes	No	Table III.D. & Appendix III.D.	
122	III.D.*1.e.*	Specific process inspection requirements & remedies	264.15(c)	Yes	No	Table III.D. & Appendix III.D.	
123	III.D.*1.f.*	Testing and maintenance of equipment; & Sample of inspection log form	264.15(d); 264.33	Yes	No	Table III.D. & Appendix III.D.	
162	III.D.*1.l.*	LANDFILL INSPECTION: (weekly and after storms)	264.303(b)	Yes	No	Table III.D. & Appendix III.D.	
163	III.D.*1.l.1.*	Deterioration, malfunctions, or improper operation of run-on and run-off control systems	264.303(b)(1)	Yes	No	Table III.D. & Appendix III.D.	

164	III.D.*1.l.2.*	Wind dispersal control system	264.303(b)(2)	Yes	No	Table III.D. & Appendix III.D.	
165	III.D.*1.l.3.*	Leachate collection and removal system inspected for presence of leachate and proper function	264.303(b)(3)	Yes	No	Table III.D. & Appendix III.D.	
166	III.D.*1.l.4.*	Amount of liquids removed from each leak detection system sump recorded and pump operating levels meet permit specified values	264.303(c)	Yes	No	Table III.D. & Appendix III.D.	
235	IV.	**Wastes and Waste Analysis**				Section IV	
238	IV.B.	**Complete and submit Table IV.B. - Waste Managed In Permitted Units in hard copy and editable electronic format**	335.501-335.515; 261.21-261.24; 261.30-261.33	Yes	No	Table IV.B.	
280	V.	**Engineering Reports**				Section V	
296	V.A.	**A. General Engineering Reports**				Section V	
297	V.A.1.	General Information:				Section V	
298	V.A.1.*a.*	Complete and submit Table V.A - Facility Waste Management Handling Units in hard copy and editable electronic format		Yes	No	Table V.A.	
299	V.A.1.*b.*	Submit an overall plan view at an appropriate scale to show the location of all HW management units on 8 1/2" x 14" sheets in hard copy and editable electronic format, including the following:	305.45(a)(6)	Yes	No	Figure V.A-1, Figure V.A-2 & Figure V.A-5	
300	V.A.1.*b.1.*	Each body of water in the state within map area	305.45(a)(6)(A)	Yes	No	Figure V.A-1 &Figure V.A-5	
301	V.A.1.*b.2.*	General character of areas adjacent to facility	305.45(a)(6)(B)	Yes	No	Figure V.A-1 &Figure V.A-5	
302	V.A.1.*b.3.*	Location of waste disposal activities conducted on tract but not included in application	305.45(a)(6)(C)	Yes	No	Figure V.A-2	
303	V.A.1.*b.4.*	Ownership of tracts of land adjacent to facility and within reasonable distance from proposed or existing place of disposal or activity	305.45(a)(6)(D)	Yes	No	Appendix G, Fig. 1	
304	V.A.1.*b.5.*	Other information that may be requested by the executive director	305.45(a)(6)(E)	N/A	N/A	N/A	
305	V.A.1.*c.*	Submit topographic map(s) showing the facility boundary and a distance of 1,000 ft. around it, having a scale of 1 inch equal to not more than 200 feet; The map must clearly show:	270.14(b)(19)	Yes	No	Figure V.A-5	
306	V.A.1.*c.1.*	scale and date	270.14(b)(19)(i)	Yes	No	Figure V.A-5	
307	V.A.1.*c.2.*	100-yr flood plain area	270.14(b)(19)(ii)	Yes	No	Figure V.A-5	
308	V.A.1.*c.3.*	surface waters (including intermittent streams and drainage ditches)	270.14(b)(19)(iii)	Yes	No	Figure V.A-5	
309	V.A.1.*c.4.*	surrounding land uses	270.14(b)(19)(iv)	Yes	No	Figure V.A-5	
310	V.A.1.*c.5.*	wind rose (may be submitted in a separate sheet)	270.14(b)(19)(v)	Yes	No	Figure V.A-5	
311	V.A.1.*c.6.*	orientation of the map (north arrow)	270.14(b)(19)(vi)	Yes	No	Figure V.A-5	
312	V.A.1.*c.7.*	legal boundaries of the HWM facility	270.14(b)(19)(vii)	Yes	No	Figure V.A-5	
313	V.A.1.*c.8.*	access control or surveillance equipment	270.14(b)(19)(viii)	Yes	No	Figure V.A-5	
314	V.A.1.*c.9.*	injection and withdraw wells both on-site and off-site	270.14(b)(19)(ix)	Yes	No	Figure V.A-5	
315	V.A.1.*c.10.*	buildings	270.14(b)(19)(x)	N/A	N/A	Figure V.A-5	No buildings on site
316	V.A.1.*c.11.*	treatment, storage or disposal operations	270.14(b)(19)(x)	Yes	No	Appendix G pg. 3 & 4	
317	V.A.1.*c.12.*	recreation areas	270.14(b)(19)(x)	Yes	No	Figure V.A-5	
318	V.A.1.*c.13.*	run-off control system	270.14(b)(19)(x)	Yes	No	Appendix G pg. 4	Facilities are closed
319	V.A.1.*c.14.*	access and internal roads	270.14(b)(19)(x)	Yes	No	Figure V.A-2	
320	V.A.1.*c.15.*	storm, sanitary, and process sewerage system	270.14(b)(19)(x)	N/A	N/A	Figure V.A-5	none on site

321	V.A.1.*c.16.*	loading and unloading areas	270.14(b)(19)(x)	N/A	N/A	Figure V.A-5	Facilities are closed
322	V.A.1.*c.17.*	fire control facilities	270.14(b)(19)(x)	N/A	N/A	Figure V.A-5	Facilities are closed
323	V.A.1.*c.18.*	barriers for drainage or flood control	270.14(b)(19)(xi)	N/A	N/A	Figure V.A-5	Not in flood prone area
324	V.A.1.*c.19.*	location and outline of operational units	270.14(b)(19)(xii)	Yes	No	Figure V.A-5	
325	V.A.1.*c.20.*	Additional information requirements found on topographic maps: (If any of the following information has been submitted as part of the GW Monitoring Report in Section VI, provide a reference to it here)		Yes	No	Figure V.A-5	
326	V.A.1.*c.20.a.*	identification of the uppermost aquifer	270.14(c)(2)	Yes	No	Appendix VI.B. pg. 2	
327	V.A.1.*c.20.b.*	delineation of the waste management units	270.14(c)(3)	Yes	No	Figure V.A-5	
328	V.A.1.*c.20.c.*	property boundary	270.14(c)(3)	Yes	No	Figure V.A-5	
329	V.A.1.*c.20.d.*	proposed “Point of Compliance” as defined under 264.95	270.14(c)(3)	Yes	No	Appendix VI.B. pg. 4	
330	V.A.1.*c.20.e.*	proposed location of GW monitoring wells as required under 264.97	270.14(c)(3)	Yes	No	Figure VI.B-2	
331	V.A.1.c.*21.*	Information requirements for SWM units: (If any of the following information has been submitted as part of the Preliminary Review Checklist, provide a reference to it here)	270.14(d)(1)	Yes	No	Figure V.A-5	
332	V.A.1.*c.21.a.*	location of the unit on a topographic map	270.14(d)(1)(i)	Yes	No	Figure V.A-5	
333	V.A.1.*c.21.b.*	designation of type of unit	270.14(d)(1)(ii)	Yes	No	Figure V.A-5	
334	V.A.1.*c.21.c.*	general dimensions and structural description	270.14(d)(1)(iii)	Yes	No	Appendix V G pg. 1	
335	V.A.1.*c.21.d.*	when unit was operated	270.14(d)(1)(iv)	Yes	No	Appendix V G pg. 1	
336	V.A.1.*c.21.e.*	specification of wastes that have been managed at the unit, to the extent available	270.14(d)(1)(v)	Yes	No	Appendix V G pg. 3 & 4	
337	V.A.2.	Provide design, construction, and operational information of features to mitigate unsuitable site characteristics where applicable (information covered under Sections I.E & II.F) as specified in the rules	335.204(a)(1, 3-9); 335.204(b)(1, 4-5, 7-10, 12); 335.204(c)(1, 4-9, 11); 335.204(d)(1, 4-9, 11); 335.204(e)(1, 4-5, 8-11, 13)	Yes	No	Appendix V.G pg. 1-3	
341	V.A.4.	Provide detailed plans and specifications individually sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm’s name and Registration Number; Note: For applications subject to post-closure only, submittal of as-built plans and specifications for the final cover system, individually for the unit and sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm’s name and Registration Number would satisfy this requirement; Other as-built plans and specifications for the unit may be submitted upon request	270.14; 305.50(a)(7)	N/A	N/A	N/A	Not applicable, units have already been constructed
654	V.G.	**Landfills**	335.152(a)(12); 264 subpart N			Appendix V.G.	
655	V.G.~.	Submit a Landfill Engineering Report, including at a minimum:	305.50(a)(5); 270.21	Yes	No	Appendix V.G.	
663	V.G.1.	Complete and submit Table V.G.1. - Landfills in hard copy and editable electronic format		Yes	No	Table V.G.1.	

669	V.G.6.a.	Complete and submit Tables V.G.3 - Landfill Liner System and V.G.4 - Landfill Leachate Collection System in hard copy and editable electronic format		Yes	No	Table V.G.3.	There is no leachate collection
1175	VI.	**Geology Report**					
1176	VI.~.	Submit all geoscience work signed and dated by a licensed professional geoscientist with current Texas registration along with the Registered Geoscience Firm's name and Registration Number	Texas Geoscience Practice Act and 22 TAC 851 Subchapter D; 305.50(a)(4)(D); 305.50(a)(6); 305.50(b)(6)	Yes	No	Appendix VI.A Certification Pages	
1177	VI.A.	**Geology and Topography**				Section VI	
1178	VI.A.1.	Provide description of active geologic processes:		Yes	No	Appendix VI.A. pg. 1	
1179	VI.A.1.a.~.	Submit or address Identification of faults, active potentially active or inactive:		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1180	VI.A.1.a.~*.a.*	Holocene sediments or man-made structures have been displaced		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1181	VI.A.1.a.~*.b.*	Describe techniques used to identify faults		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1182	VI.A.1.a.~*.c.*	Zones of significant surface deformation		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1183	VI.A.1.a.~*.d.*	Effects of active faults on potential for waste migration		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1184	VI.A.1.a.~*.e.*	Clearance from active fault to ensure liners will not be disrupted		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1185	VI.A.1.a.	For capacity expansion of an existing hazardous waste (HW) facility, submit or address:	305.50(a)(4)(D); 305.50(a)(10)(E)	N/A	N/A	N/A	Not a capacity expansion
1186	VI.A.1.a.1.	Geologic literature review (should include maps of surface faults, subsurface structure maps, field investigations, etc.)		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1187	VI.A.1.a.2.	Descriptions and maps of faulting, fracturing, and lineations in the area		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1188	VI.A.1.a.3.	Constructed maps and cross-sections of the area, using surface data i.e., surface faults, gas seeps, linerations, etc. A surface structure map should also be included		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1189	VI.A.1.a.4.	Minimum of 2 structural X-sections that show geologic units which show Holocene sediments underground sources of drinking water, and lithology, and on a scale to depict the local geology within 3000' of the location. Cross sections should cross at the unit location		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1190	VI.A.1.a.5.	Minimum of 2 structural subsurface maps; one should be made on the shallowest mapable subsurface marker, the other made on a deeper horizon		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1191	VI.A.1.a.6.	Field surveillance; to check for potential faults/lineations indicated by aerial photos, topographic maps, seismic/subsurface maps, etc.		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1192	VI.A.1.a.7.	Any additional information in defining the geology of the area, such as seismic data, isopachs, potentiometric surface maps, etc.		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1193	VI.A.1.a.8.	Demonstration that a fault within 3000 ft. of location has not had displacement with Holocene times. If such a fault exists, cannot pass within 200 feet of surface unit		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required
1194	VI.A.1.a.9.	If fault that has been active within Holocene and is located within 3000 ft., it must be demonstrated that: the fault is not transmissive and will not allow groundwater movement; and that there is no potential for subsidence that may endanger the stability of the surface unit		N/A	N/A	N/A	Not a capacity expansion, no detailed fault investigation required

1195	VI.A.1.b.	A discussion of the extent of land surface subsidence in the vicinity of the facility including total recorded subsidence and past and projected rates subsidence. For facilities at low elevations along the coast, address the rates of subsidence and potential for future submergence beneath Gulf water		N/A	N/A	N/A	Not a capacity expansion
1196	VI.A.1.c.	Provide a discussion to which the facility is subject to erosion such as over-land flow, channeling, gullying, other fluvial processes, and shoreline erosion		N/A	N/A	N/A	Not a capacity expansion
1197	VI.A.1.d.	Complete and submit Table VI.A.1 - Major Geologic Formations in hard copy and editable electronic format		Yes	No	Table V.A.1	
1198	VI.A.2.	Provide a description as applicable of Regional Physiography and Topography (applicable for land base units, except waste piles exempt from GW monitoring requirements, and tanks which require contingent post-closure plan):		Yes	No	Appendix VI.A. pg. 1	
1199	VI.A.2.a.	Distance and direction to nearest surface water body		Yes	No	Appendix VI.A. pg. 1	
1200	VI.A.2.b.	Slope of land surface		Yes	No	Appendix VI.A. pg. 1	
1201	VI.A.2.c.	Direction of slope		Yes	No	Appendix VI.A. pg. 1	
1202	VI.A.2.d.	Maximum elevation of facility		Yes	No	Appendix VI.A. pg. 2	
1203	VI.A.2.e.	Minimum elevation of facility		Yes	No	Appendix VI.A. pg. 2	
1204	VI.A.3.	Provide a description as applicable of Regional Geology (applicable for land base units, except waste piles exempt from GW monitoring requirements, and tanks which require contingent post-closure plan). Description of the regional geology of the area should include:		Yes	No	Appendix VI.A. pg. 2	
1205	VI.A.3.a.	A geologic map with text describing stratigraphic and lithologic properties		Yes	No	Figure VI.A-6	
1206	VI.A.3.b.	A description of generalized stratigraphic column from the base of lowermost groundwater to surface (at least 1,000 ft.) The description for each geologic unit should include:		Yes	No	Appendix VI.A. pg. 2-4	
1207	VI.A.3.b.*1.*	Geologic age		Yes	No	Appendix VI.A. pg. 2-4	
1208	VI.A.3.b.*2.*	Lithology		Yes	No	Appendix VI.A. pg. 2-4	
1209	VI.A.3.b.*3.*	Thickness		Yes	No	Appendix VI.A. pg. 2-4	
1210	VI.A.3.b.*4.*	Depth		Yes	No	Appendix VI.A. pg. 2-4	
1211	VI.A.3.b.*5.*	Geometry		Yes	No	Appendix VI.A. pg. 2-4	
1212	VI.A.3.b.*6.*	Hydraulic conductivity		Yes	No	Appendix VI.A. pg. 2-4	

1213	VI.A.3.b.*7.*	Depositional history		Yes	No	Appendix VI.A. pg. 2-4	
1214	VI.A.4.	Provide results of Subsurface Soils Investigation Report:		Yes	No	Appendix VI.A. pg. 4-7	
1215	VI.A.4.a.	Borings and boring logs:		Yes	No	Appendix VI.A-1	
1216	VI.A.4.a.*1.*	Completed using established exploration methods		Yes	No	Appendix VI.A. pg. 4-7	
1217	VI.A.4.a.*2.*	Investigative procedures discussed in report:		Yes	No	Appendix VI.A. pg. 4-7	
1218	VI.A.4.a.*2.a.*	Sufficient number of borings to establish stratigraphy and assess potential pathways of pollution migration		Yes	No	Appendix VI.A. pg. 4-7	
1219	VI.A.4.a.*2.b.*	Identify uppermost and underlying hydraulically interconnected aquifers		Yes	No	Appendix VI.A. pg. 4-7	
1220	VI.A.4.a.*2.c.*	Borings should penetrate through the uppermost aquifer and deep enough to identify lower aquiclude		Yes	No	Appendix VI.A. pg. 4-7	
1221	VI.A.4.a.*2.d.*	Borings must be completed to depth of at least 30 ft. below the deepest unit excavation		Yes	No	Appendix VI.A. pg. 4-7	
1222	VI.A.4.a.*2.e.*	Detailed description of stratigraphic complexities, i.e. slickensides, pinch outs, fractures, etc.		Yes	No	Appendix VI.A. pg. 4-7	
1223	VI.A.4.a.*2.f.*	Whenever possible, electric logs should run on each borehole		Yes	No	Appendix VI.A. pg. 4-7	
1224	VI.A.4.a.*2.g.*	Hollow stem auger test run where determination of initial water level is important		Yes	No	Appendix VI.A-1	
1225	VI.A.4.a.*2.h.*	Key on boring log giving description of soil type and its consistency and structure		Yes	No	Appendix VI.A-1	
1226	VI.A.4.b.	Provide minimum of two cross-sectional drawings prepared from the borings depicting the generalized soil strata at the site		Yes	No	Figure VI.A-10, Figure VI.A-12 & Figure VI.A-13	
1227	VI.A.4.c.	Provide a text which describes investigator's interpretations of subsurface stratigraphy based on field investigation		Yes	No	Appendix VI.A. pg. 4-7	
1228	VI.A.4.d.	Complete and submit Table VI.A.4 - Waste Management Area Subsurface Conditions in hard copy and editable electronic format. The report should address:		Yes	No	Table VI.A.4	
1229	VI.A.4.d.*1.*	Laboratory /field tests		Yes	No	Table VI.A.4	
1230	VI.A.4.d.*2.*	Test procedures		Yes	No	Table VI.A.4	
1231	VI.A.4.d.*3.*	Major strata encountered characterized by		Yes	No	Table VI.A.4	
1232	VI.A.4.d.*3.a.*	Unified soil classification		Yes	No	Table VI.A.4	
1233	VI.A.4.d.*3.b.*	Moisture content		Yes	No	Table VI.A.4	
1234	VI.A.4.d.*3.c.*	% less than #200 sieve		Yes	No	Table VI.A.4	
1235	VI.A.4.d.*3.d.*	Atterberg limits		Yes	No	Table VI.A.4	
1236	VI.A.4.d.*3.e.*	Coefficient of permeability		Yes	No	Table VI.A.4	
1237	VI.A.4.d.*4.*	Field permeability tests for sand and silt units to supplement laboratory tests		Yes	No	Table VI.A.4	
1238	VI.A.4.d.*5.*	Particle size distribution and relative density based on penetration resistance (for coarse-grained soils)		Yes	No	Table VI.A.4	

1239	VI.A.4.d.*6.*	For fine-grained soils: cohesive shear strength based on penetrometer of unconfined compression tests, dry unit weight, and degree of saturation		Yes	No	Table VI.A.4	
1240	VI.A.4.e.	For land treatment units, provide a description including the following:		Yes	No	Table VI.A.4	
1241	VI.A.4.e.1.	Name and description of soil series		Yes	No	Table VI.A.4	
1242	VI.A.4.e.2.	Physical properties of the series (i.e., depth, permeability, water capacity, soil ph, erosion factors)		Yes	No	Table VI.A.4	
1243	VI.A.4.e.3.	Engineering properties and classifications i.e., USDA Texture, Unified Soil classification , size gradation, Atterberg limits		Yes	No	Table VI.A.4	
1244	VI.A.4.e.4.	Cation exchange capacity (CEC) of soils in meq/100g		Yes	No	Table VI.A.4	
1245	VI.A.4.*f.*	Submit an aerial photograph of soil series on land treatment area; if not available, a soil series map		Yes	No	Figure VI.A-14	
1246	VI.B.	**Facility Ground-Water**				Appendix VI.B	
1247	VI.B.1.	Provide description of Regional Aquifers:		Yes	No	Appendix VI.B pg.1	
1248	VI.B.1.a.	Aquifers and associated geologic units as described in Sect. VI.A.3.b.		Yes	No	Appendix VI.B pg.1	
1249	VI.B.1.b.	Constituent materials of the aquifer(s)		Yes	No	Appendix VI.B pg.1	
1250	VI.B.1.c.	Water-bearing and transmitting properties		Yes	No	Appendix VI.B pg.1	
1251	VI.B.1.d.	Water table or artesian conditions		Yes	No	Appendix VI.B pg.2	
1252	VI.B.1.e.	If aquifers are hydraulically connected		Yes	No	Appendix VI.B pg.1	
1253	VI.B.1.f.	Regional water table contour map or potentiometric surface map		Yes	Yes	Appendix VI.B pg.1	
1254	VI.B.1.g.	Rate of groundwater flow, ft./yr. estimated		Yes	No	Appendix VI.B pg.2	
1255	VI.B.1.h.	Total Dissolved Solids (TDS) values		Yes	Yes	Appendix VI.B pg.2	
1256	VI.B.1.i.	Identification areas of recharge to the aquifers (for new land based units must include hydrogeologic report)		Yes	No	Appendix VI.B pg.1	
1257	VI.B.1.j.	Present use of groundwater		Yes	No	Appendix VI.B pg.1	
1258	VI.B.1.*k.*	Identification of aquifers for each well within 1 mile. Paragraph III.C.1.e of the Part A permit application should be updated.		Yes	No	Appendix VI.B pg.2	
1259	VI.B.2.	Provide groundwater conditions for each land based unit which requires post-closure care specified in 335. 156-167; including:		Yes	No	Appendix VI.B pg.2	
1260	VI.B.2.a.	Records of water level measurements in borings (noted on logs and X-Sections) should be taken at time of boring and after equilibration (at least 24-hrs.)		Yes	No	Appendix VI.B Attachment VI.A-1	
1261	VI.B.2.b.	Historic maximum and minimum static water level		Yes	No	Appendix VI.B pg.2	
1262	VI.B.2.c.	Upper and lower limits of the uppermost and hydraulically connected aquifers		Yes	No	Appendix VI.B pg.2	

1263	VI.B.2.d.	Site specific water table contour or potentiometric surface map for each aquifer encountered. Ground-water flow direction and rate should be calculated		Yes	No	Figure VI.B-2	
1264	VI.B.2.e.	Discussion of the variation of hydraulic gradient across site. Calculations of maximum, minimum, and average ground-water flow velocities, and pump test data (where appropriate)		Yes	No	Appendix VI.B pg.2	
1265	VI.B.2.f.	Analysis of likely pathways for pollutant migration		Yes	No	Appendix VI.B pg.2	
1266	VI.B.3.	Provide description of the detection monitoring program:	EPA Publications 530-SW-89-026, 625/6-90/016b and SW-846; RCRA Groundwater Monitoring 1992 OSWER Directive 9950.1	Yes	No	Appendix VI.B pg.4 &5	
1267	VI.B.3.a.	The groundwater monitoring system must have/address:		Yes	No	Appendix VI.B pg.4 &5	
1268	VI.B.3.a.*1.*	Sufficient number of wells at justified location and depths	335.163(1)	Yes	No	Appendix VI.B pg. 4	
1269	VI.B.3.a.*2.*	Background water not affected by leakage from regulated unit:	335.163(1)(A)	Yes	No	Appendix VI.B pg. 4	
1270	VI.B.3.a.*2.a.*	Determination of background quality	335.163(1)(A)(i)	Yes	No	Appendix VI.B pg. 4	
1271	VI.B.3.a.*2.b.*	Sampling at other wells	335.163(1)(A)(ii)	Yes	No	Appendix VI.B pg. 4	
1272	VI.B.3.a.*3.*	Represent the quality of background water passing the POC	335.163(1)(B)	Yes	No	Appendix VI.B pg. 4	
1273	VI.B.3.a.*4.*	Capability to resolve detection of contamination migrated from HWM unit	335.163(1)(C)	Yes	No	Appendix VI.B pg. 4	
1274	VI.B.3.a.*5.*	HWM area that contains more than one regulated unit, separate groundwater not required	335.163(2)	Yes	No	Appendix VI.B pg. 4	
1275	VI.B.3.a.*6.*	All wells cased to maintain integrity of borehole	335.163(3)	Yes	No	Appendix VI.A, Attachment VI.A-1	
1276	VI.B.3.a.*7.*	Sampling and analysis procedures must include at a minimum:	335.163(4)	Yes	No	Appendix VI.B-1	
1277	VI.B.3.a.*7.a.*	Sample collection procedures	335.163(4)(A)	Yes	No	Appendix VI.B-1 pg. 3-8	
1278	VI.B.3.a.*7.b.*	Sample preservation and shipment procedures	335.163(4)(B)	Yes	No	Appendix VI.B-1 pg. 9	
1279	VI.B.3.a.*7.c.*	Analytical procedures	335.163(4)(C)	Yes	No	Appendix VI.B-1 Table 2	
1280	VI.B.3.a.*7.d.*	Chain of custody control	335.163(4)(D)	Yes	No	Appendix VI.B-1 pg. 11	
1281	VI.B.3.a.*8.*	Appropriate and accurate sampling analytical methods	335.163(5)	Yes	No	Appendix VI.B-1 Table 2	

1282	VI.B.3.a.*9.*	Determination of groundwater surface elevation each time groundwater is sampled	335.163(6)	Yes	No	Appendix VI.B-1 pg. 2	
1283	VI.B.3.a.*10.*	Number and kind of samples collected:	335.163(7)	Yes	No	Appendix VI.B-1 Table 2	
1284	VI.B.3.a.*10.a.*	A sequence of at least 4 samples taken at an interval providing sample independence	335.163(7)(A)	Yes	No	Appendix VI.B-1 Attachment VI.B-1 pg. 8	
1285	VI.B.3.a.*10.b.*	A proposed alternate sample procedure	335.163(7)(B)	Yes	No	Appendix VI.B-1 Attachment VI.B-1 pg. 8	
1286	VI.B.3.a.*11.*	Statistical methods:	335.163(8)	Yes	No	Appendix VI.B-1 pg. 14	
1287	VI.B.3.a.*11.a.*	Parametric analysis of variance (ANOVA)	335.163(8)(A)	Yes	No	Appendix VI.B-1 pg. 14	
1288	VI.B.3.a.*11.b.*	Non-parametric ANOVA (based on ranks)	335.163(8)(B)	Yes	No	Appendix VI.B-1 pg. 14	
1289	VI.B.3.a.*11.c.*	Tolerance or prediction interval procedure	335.163(8)(C)	Yes	No	Appendix VI.B-1 pg. 14	
1290	VI.B.3.a.*11.d.*	Control chart approach	335.163(8)(D)	Yes	No	Appendix VI.B-1 pg. 14	
1291	VI.B.3.a.*12.e.*	Alternative approach approved by ED	335.163(8)(E)	Yes	No	Appendix VI.B-1 pg. 14	
1292	VI.B.3.a.*13.*	Any statistical method chosen under 335.163(8), must meet the performance standard as appropriate:	335.163(9)	Yes	No	Appendix VI.B-1 pg. 14	
1293	VI.B.3.a.*13.a.*	Be appropriate to the distribution of chemical parameters and hazardous constituents	335.163(9)(A)	Yes	No	Appendix VI.B-1 pg. 14	
1294	VI.B.3.a.*13.b.*	Test under Type 1 error level no less than 0.01 for each testing period	335.163(9)(B)	Yes	No	Appendix VI.B-1 pg. 14	
1295	VI.B.3.a.*13.c.*	Indicate whether a Control chart approach is to be used	335.163(9)(C)	Yes	No	Appendix VI.B-1 pg. 14	
1296	VI.B.3.a.*13.d.*	If tolerance interval or prediction interval is used: the report must include levels of confidence, tolerance intervals, and % population	335.163(9)(D)	Yes	No	Appendix VI.B-1 pg. 14	
1297	VI.B.3.a.*13.e.*	Expected or predicted Practical Quantitation Limit (PQL)	335.163(9)(E)	Yes	No	Appendix VI.B-1 pg. 14	
1298	VI.B.3.a.*13.f.*	Procedures to control or correct seasonal and spatial variability	335.163(9)(F)	Yes	No	Appendix VI.B-1 pg. 14	
1299	VI.B.3.a.*14.*	Groundwater monitoring data must be maintained at the facility operating record	335.163(10)	Yes	No	Appendix VI.B-1 pg. 15	
1300	VI.B.3.a.*15.*	Detection monitoring program must establish:	335.164	Yes	No	Appendix VI.B-1 pg. 4	
1301	VI.B.3.a.*15.a.*	Indicator parameters, waste constituents, reaction products to be monitored	335.164(1)	Yes	No	Appendix VI.B-1 pg. 4	
1302	VI.B.3.a.*15.b.*	Types, quantities, and concentrations of constituents	335.164(1)(A)	Yes	No	Appendix VI.B-1 pg. 4	

1303	VI.B.3.a.*15.c.*	Mobility, stability, and persistence of waste constituents or reaction products in the unsaturated zone	335.164(1)(B)	Yes	No	Appendix VI.B-1 pg. 4	
1304	VI.B.3.a.*15.d.*	Detection of indicator parameters	335.164(1)(C)	Yes	No	Appendix VI.B-1 pg. 4	
1305	VI.B.3.a.*15.e.*	Concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the background	335.164(1)(D)	Yes	No	Appendix VI.B-1 pg. 4	
1306	VI.B.3.a.*16.*	Groundwater monitoring system is at the compliance point specified under 335.161	335.164(2)	Yes	No	Appendix VI.B-1 pg. 4	
1307	VI.B.3.a.*17.*	Chemical parameter and hazardous constituents per 335.163(7)	335.164(3)	Yes	No	Appendix VI.B-1 pg. 4	
1308	VI.B.3.a.*18.*	Background groundwater concentration values for proposed parameters	335.164(3)(A-C)	Yes	No	Appendix VI.B-1 pg. 4	
1309	VI.B.3.a.*19.*	Frequencies for collecting samples and conducting statistical tests	335.164(4)	Yes	No	Appendix VI.B-1 pg. 4	
1310	VI.B.3.a.*20.*	Statistically significant increase in any constituent or parameter capable of being identified at any compliance point monitoring well	335.164(6-7)	Yes	No	Appendix VI.B-1 pg. 5	
1311	VI.B.3.b.	Submit a justification for the selection of proposed suite of waste specific parameters specified in Table VI.B.3.c		Yes	No	Appendix VI.B-1 pg. 4	
1312	VI.B.3.c.	Submit a proposed sampling and analysis plan, including:		Yes	No	Attachment VI.B-1 pg 8 & Table 2	
1313	VI.B.3.c.*1.*	Sampling and analytical methods		Yes	No	Attachment VI.B-1 pg 8 & Table 2	
1314	VI.B.3.c.*2.*	Statistical comparison procedures		Yes	No	Attachment VI.B-1 pg 14	
1315	VI.B.3.c.*3.*	Alternate methods demonstrated as appropriate for groundwater analysis	335.163(5)	Yes	No	Attachment VI.B-1 Table 2	
1316	VI.B.3.d.	Submit a specific statistical method and process for comparing constituent concentrations to background, including:	335.163	Yes	No	Attachment VI.B-1 pg 14	
1317	VI.B.3.d.*1.*	Sampling procedures must provide representative samples of the regulated activity in time and manner of sampling		Yes	No	Attachment VI.B-1 pg 8	
1318	VI.B.3.d.*2.*	All data submitted in a manner consistent with *TCEQ Quality Control and Assurance Project Plan for Monitoring and Measurements Activities Relating to RCRA and UIC (TCEQ QAPP)*		Yes	No	Attachment VI.B-1 pg 8	
1319	VI.B.3.e.	Complete and submit Table VI.B.3.b - Unit Groundwater Detection Monitoring System in hard copy and editable electronic format		Yes	No	Table VI.B.3.b	
1320	VI.B.3.f.	Complete and submit Table VI.B.3.c - Groundwater Detection Monitoring Parameters in hard copy and editable electronic format; specifying:		Yes	No	Table VI.B.3.c	
1321	VI.B.3.f.1.	The suite of waste specific parameters		Yes	No	Appendix VI.B-1 pg. 4	
1322	VI.B.3.f.2.	The sampling frequencies and calendar intervals		Yes	No	Appendix VI.B-1 pg. 4	
1323	VI.B.3.f.3.	The analytical method and laboratory predicted detection limit and predicted Practical Quantitation Limit of the analyses		Yes	No	Attachment VI.B-1 Table 2	
1324	VI.B.3.f.4.	The concentration limit which will be the basis for determining whether a release has occurred from the waste management unit/area		Yes	No	Attachment VI.b-1 pg 14	Release determined by statistical exceedance

1325	VI.B.3.g.	Submit drawings depicting the monitoring well design, current and proposed		Yes	No	Appendix B pg. 4-6 Attachment VI.B-1 Figure 3	
1326	VI.B.3.h.	Submit at least one map of the entire facility on one or more 8 1/2" X 11" sheets with a scale to show:		Yes	No	Attachment VI.B-1 Fig 1	
1327	VI.B.3.h.1.	Monitoring well location design, current and proposed		Yes	No	Attachment VI.B-1 Fig 1	
1328	VI.B.3.h.2.	Soil-pore liquid and core sampling points, current and proposed		N/A	N/A	N/A	
1329	VI.B.3.h.3.	Waste management unit(s) area		Yes	No	Attachment VI.B-1 Fig 2	
1330	VI.B.3.h.4.	Property boundary		Yes	No	Appendic V.A Fig 5	
1331	VI.B.3.h.5.	Point of compliance		Yes	No	Appendix VI-B Fig VI.B-2	
1332	VI.B.3.h.6.	Direction of groundwater		Yes	No	Appendix VI-B Fig VI.B-2	
1333	VI.B.3.h.7.	Extent of any known plume of contamination		N/A	N/A	N/A	
1334	VI.B.3.i.	Complete and submit the statement indicating:		Yes	No	Provide Location	
1335	VI.B.3.i.*1.*	Typical depth to groundwater in the uppermost aquifer		Yes	No	Appendix VI-B pg 2	
1336	VI.B.3.i.*2.*	The name of the geological formation the uppermost aquifer is located in		Yes	No	Appendix VI-B pg 2	
1337	VI.B.3.i.*3.*	The lithological description of the formation		Yes	No	Appendix VI-B pg 2	
1338	VI.B.3.i.*4.*	The formation thickness		Yes	No	Appendix VI-B pg 2	
1339	VI.B.3.i.*5.*	The general direction of groundwater flow		Yes	No	Appendix VI-B pg 2	
1340	VI.C.	**Exemption from Groundwater Monitoring**		No	N/A		
1341	VI.C.~.*a.*	If applicable, demonstrate potential for migration of liquid from waste management unit to the upper most aquifer during active life of unit	335.156(b)(4)	No	N/A		
1342	VI.C.~.*b.*	Provide demonstration certified by qualified geologist or geotechnical engineer	335.156(b)(4)	No	N/A		
1343	VI.C.~.*c.*	Address the following:		No	N/A		
1344	VI.C.1.	Thickness of soil between the base of the unit and saturated zone		No	N/A		
1345	VI.C.2.	Thickness of saturated zone		No	N/A		
1346	VI.C.3.	Head pressure of the liquids		No	N/A		
1347	VI.C.4.	Properties of the saturated and unsaturated zone (including permeability, effective porosity, and homogeneity)		No	N/A		
1348	VI.C.5.	Total life of facility		No	N/A		
1359	VII.	**Closure and Post-Closure Plans**					
1360	VII.~.	Submit a closure plan and/or post-closure plan, as applicable, including the following information:	270.14(b)(13); 264 Subpart G.; Chapter 350	No	No	N/A	Sites closed and undergoing post closure care
1361	VII.~.*1.*	Certification of deed recordation of waste disposal activities shall be provided for closure of facilities with wastes in place	335.5	N/A	N/A		Sites closed and undergoing post closure care

1362	VII.~.*2.*	Survey plat and notices for land disposal unit closed before application	264.116; 264.119	N/A	N/A		Sites closed and undergoing post closure care
1455	VII.C.	**Post-Closure**				Appendix VII.C & VII.D	
1456	VII.C.~.	Post-closure must continue for at least 30 years	264.117(a)(1)			Appendix VII.D pg 1	
1457	VII.C.1.	Provide the post-closure care plan for land treatment unit, landfill, surface impoundment, waste pile, miscellaneous unit, or tank system closed with wastes or waste constituents left in place or closed under contingent closure plan must identify the activities which will be performed and their frequencies; including the following:	264.118(b)	Yes	No	Appendix VII.C pg 6	
1458	VII.C.1.*a.*	Monitoring activities and frequency at which they will be performed during post-closure	264.118(b)(1); 335.172(c); 264.280(c); 335.174(b); 264.310(b); 335.169(b); 264.228(b); 264.258(b); 264.603	Yes	No	Appendix VII.C pg 6	
1459	VII.C.1.*b.*	Description of the planned maintenance activities and frequencies of performing to ensure:	264.118(b)(2)	Yes	No	Appendix VII.C pg 5 & 6	
1460	VII.C.1.*b.1.*	Integrity of the cap and final cover or containment system	264.118(b)(2)(i)	Yes	No	Appendix VII.C pg 5 & 6	
1461	VII.C.1.*b.2.*	Function of monitoring equipment	264.118(b)(2)(ii)	Yes	No	Appendix VII.C pg 5 & 6	
1462	VII.C.1.*c.*	Maintain final cover	335.174(b)(1); 264.310(b)(1)	Yes	No	Appendix VII.C pg 5 & 6	
1463	VII.C.1.*d.*	Continue to operate leachate collection system	335.174(b)(2); 264.310(b)(2)	No	No	N/A	No leachate collection
1464	VII.C.1.*e.*	Maintain and monitor the leak detection system	335.174(b)(3); 264.310(b)(3)	No	No	N/A	No leak detection
1465	VII.C.1.*f.*	Maintain and monitor groundwater/soil monitoring system	335.174(b)(4)	Yes	No	Appendix VII.C pg 3 and Appendix VII.D pg 1	
1466	VII.C.1.*g.*	Prevent run-on and run-off from eroding or damaging the cover	335.174(b)(5)	Yes	No	Appendix VII.C pg 5 & 6	
1467	VII.C.1.*h.*	Protect and maintain surveyed benchmarks (as applicable) used in complying 264.309	335.174(b)(6); 264.310(b)(6)	No	N/A	N/A	
1478	VII.C.1.*j.1.*	Must comply with 264.601 during the post-closure care period. The post-closure plan under 264.118 must specify the procedures to satisfy this requirement. (For wastes closed in place, the plan must identify 350.33 Remedy Standard B.)	264.603	Yes	No	Appendix VII.C pg 5	
1479	VII.C.2.	Provide name, address, and phone number of the person or office to contact during post-closure period	264.118(b)(3)	Yes	No	Appendix VII.C pg 1	
1480	VII.C.3.	Submit a discussion of the future use of land associated with each unit		No	No		
1481	VII.C.4.	For landfills, surface impoundments, waste piles and land treatment areas closed under interim status, submit the required documentation of the notices under 264.119	270.14(b)(14)	No	N/A		

1482	VII.C.5.	If equivalency determination has not been made for landfills, surface impoundments, waste piles and land treatment areas, submit a copy of the demonstration documentation. Complete Table VII.C.5. - Land-Based Units Closed Under Interim Status for all land based units closed under interim status	270.1(c)(5-6)	No	N/A		
1483	VII.D.	**Post-closure cost estimate (except state and federal facilities)**					
1484	VII.D.1.*a.*	Complete and submit Table VII.D. - Unit Post-Closure Cost Estimate in hard copy and editable electronic format		Yes	No	Table VII.D	
1485	VII.D.1.*b.*	Provide detailed cost estimate of the annual cost of monitoring and maintenance	TCEQ Technical Guidance No.10	Yes	No	Table VII.D	
1486	VII.D.2.	Provide post-closure cost estimate, including:		Yes	No	Table VII.D	
1487	VII.D.2.*a.*	Assume costs of hiring third parties for all operations	264.144(a)(1)	Yes	No	Table VII.D	
1488	VII.D.3.	Total annual cost of post-closure care and contingent post-closure care multiplied by 30 years	264.144(a)(2)	Yes	No	Table VII.D	
1489	VII.E.	**Closure and Post-closure Cost Summary**				Table VII.D	
1490	VII.E.*1.*	Complete and submit Table VII.E.1. - Permitted Unit Closure Cost Summary in hard copy and editable electronic format		Yes	No	Table VII.E.1	
1491	VII.E.*2.*	Complete and Submit Table VII.E.2. - Permitted Unit Post-Closure Cost Summary in hard copy and editable electronic format		Yes	No	Table VII.E.2	
1492	VIII.	**Financial Assurance**					
1493	VIII.~.*1.*	Submit copies of the Financial Assurance Information to the Revenue Operation Section, Financial Administration Division, and in the Part B permit application.		Yes	No	Appendix VIII.A	
1494	VIII.~.*2.*	Ensure an authorized signatory has signed the financial assurance documents and included the certification statement	305.44	Yes	No	Appendix VIII.A	
1495	VIII.A.	**Financial Assurance Information Requirements for all Applicants:**	335.179			Appendix VIII.A	
1507	VIII.A.2.	FINANCIAL ASSURANCE FOR POST-CLOSURE CARE	30 TAC Chapter 37 Subchapter P; 264.145			Appendix VIII.A	
1508	VIII.A.2.*a.*	Submit any of the following financial assurance mechanisms:		No	N/A		
1509	VIII.A.2.*a.1.*	Post-closure trust fund	37.6021(b)(1); 264.145(a)	No	N/A		
1510	VIII.A.2.a.2.	Surety bond guaranteeing payment into post-closure fund	37.6021(b)(2); 264.145(b)	No	N/A		
1511	VIII.A.2.*a.3.*	Surety bond guaranteeing performance of post-closure care	37.6021(b)(3); 264.145(c)	No	N/A		
1512	VIII.A.2.*a.4.*	Post-closure letter of credit	37.6021(b)(4); 264.145(d)	Yes	No	Appendix VIII.A	
1513	VIII.A.2.*a.5.*	Post-closure insurance	37.6021(b)(5); 264.145(e)	No	N/A		
1514	VIII.A.2.*a.6.*	Financial test and corporate guarantee for post-closure	37.6021(b)(6-7); 264.145(f)	No	N/A		
1515	VIII.A.2.*a.7.*	Use of multiple financial mechanisms	264.145(g)	No	N/A		
1516	VIII.A.2.*a.8.*	Use of financial mechanism for multiple facilities	37.51; 264.145(h)	No	N/A		
1537	VIII.B.	**Applicant Financial Disclosure Statements for a new permit, permit amendment, permit modification, or permit renewal**	305.50(a)(4)				
1538	VIII.B.~.	Refer to the "Supplemental Technical Information Applications Subject to Financial Capabilities Requirements" included in the Part B Application Section VIII.B.					
1539	VIII.B.1.	Provide the information required by 30 TAC 305.50(a)(4)		Yes	No	Table VIII.B	

1540	VIII.B.2.	Complete and submit Table VIII.B. - Estimated Capital Cost in hard copy and electronically (editable) as represented (Applicable only if facility is requesting capacity expansion, or new construction)		Yes	No	Table VIII.B	No Capital Costs anticipated
1542	VIII.B.4.	For renewal application with no capacity expansion, complete and submit the Financial Disclosure Letter		Yes	No	Last page of Section VIII	
1543	IX.	**Releases from Solid Waste Management Units and Corrective Action**				Section IX	
1544	IX.~.	Provide status of Corrective Action		N/A	N/A		No Corrective Action Required
1545	IX.A.	**Complete applicable sections of Preliminary Review Facility Checklist**	335.166-167	Yes	No	Appencix IX.A	
1546	IX.B.	**Provide Appendices to Preliminary Review:**		Yes	No	Appendix IX	
1547	IX.B.*1.*	Appendix I , Facility and SWMU location maps:		Yes	No	Appendix IX.B-I	
1548	IX.B.*1.a.*	Regional location map		No	No		
1549	IX.B.*1.b.*	Site location map		Yes	No	Appendix IX.B-I	
1550	IX.B.*2.*	Appendix II, Wastes Managed:		Yes	No	Appendix IX.B-II	
1551	IX.B.*2.a.*	List of wastes managed		Yes	No	Appendix IX.B-II	
1552	IX.B.*2.b.*	40 CFR 261, Appendix VIII hazardous constituents		Yes	No	Appendix IX.B-II	
1553	IX.B.*2.c.*	40 CFR 261, Appendix IX hazardous constituents		Yes	No	Appendix IX.B-II	
1554	IX.B.*3.*	Appendix III, Evidence of Release:		Yes	No	Appendix IX.B-III	
1555	IX.B.*3.a.*	Documentation of release		Yes	No	Appendix IX.B-III	
1556	IX.B.*3.b.*	Map of release locations, SWMU identification and paths traveled		Yes	No	Appendix IX.B-III Fig. 2A	
1557	IX.B.*4.*	Appendix IV, Pollutant Dispersal Pathways:		Yes	No	Appendix IX.B-IV	
1558	IX.B.*4.a.*	Facility, local and regional map identifying eventual pathways of release from unit		Yes	No	Appendix IX.B-IV Fig. 2A-1 and 2A-2	
1559	IX.B.*4.b.*	Facility cross-section, vertical pathways and lateral movements in groundwater		Yes	No	Appendix IX.B-IV Fig. AC-2 and 4C-3	
1560	IX.*C.*	**Preliminary review submittal format. Ensure Preliminary review is bound with a cover page and contains a Table of Contents, etc.**		Yes	No	Provide Location	
1591	XI.~.	If a compliance plan is required, follow the application instructions contained in Section XI-Compliance Plan of the Part B Application Form to complete and submit with the rest of the application. If possible, use a separate binder for Section XI materials. Your Section XI submittal will be forwarded to the Corrective Action Program, Remediation Division for review upon receipt.				Section XI	
1592	XII.	**Hazardous Waste Permit Application Fee**					
1593	XII.~.	Complete and submit Table XII.A. - Hazardous Waste Units (for application fee calculations) and Table XII.B. - Hazardous Waste Application Fee Worksheet in hard copy and editable electronic format		Yes	No	Table XII.A & Table XII-B	
1594	XII.A.	**Minimum permit application fee for new permit or renewal is $2,000. Calculate the maximum according to the following:**	305.53(a)(1)	Yes	No	Table XII.B	
1595	XII.A.1.	Process analysis fee: $1,000	305.53(a)(2)(B)	Yes	No	Table XII.B	
1596	XII.A.2.	Management/Facility Analysis: $500	305.53(a)(2)(D)	Yes	No	Table XII.B	
1597	XII.A.3.	Facility Unit Analysis: $500 per unit:	305.53(a)(2)(C)	Yes	No	Table XII.B	
1598	XII.A.3.a.	Each non-identical cell of landfill: $500	305.53(a)(3)	Yes	No	Table XII.B	

1599	XII.A.3.b.	Each non-identical CSA or tank: $500	305.53(a)(3)	Yes	No	Table XII.B	
1600	XII.A.3.c.	Identical is defined as: made of same material & design; capacity within + 10%; stores the same waste; and have same storage management characteristics	305.53(a)(3)	Yes	No	Table XII.B	
1601	XII.A.4.	Site evaluation fee of $100 per acre (maximum of 300 acres)	305.53(a)(2)(A)	Yes	No	Table XII.B	
1602	XII.A.5.*a.*	Initial application fee for notice: $50	305.53(b)	Yes	No	Table XII.B	
1603	XII.A.5.*b.*	Renewal notice fee: $15	305.53(b)	Yes	No	Table XII.B	
1604	XII.B.	**Calculate the application fee for major amendment, Class 2 or Class 3 permit modification for operation, closure, or post-closure, according to the following:**		N/A	N/A		
1605	XII.B.1.	Management fee: $500		N/A	N/A		
1606	XII.B.2.	Notice fee: $50		N/A	N/A		
1607	XII.B.3.	Unit added or unit area expanded: $100 per acre up to 300 acres		N/A	N/A		
1608	XII.B.4.	$1000 process analysis fee if one or more of the following are added or revised:		N/A	N/A		
1609	XII.B.4.a.	Waste analysis plan		N/A	N/A		
1610	XII.B.4.b.	Site-specific or regional geology report		N/A	N/A		
1611	XII.B.4.c.	Site-specific or regional hydrogeologic report		N/A	N/A		
1612	XII.B.4.d.	Groundwater/unsaturated zone monitoring report		N/A	N/A		
1613	XII.B.4.e.	Closure/Post-Closure Plan		N/A	N/A		
1614	XII.B.4.f.	RFI or corrective action reports		N/A	N/A		
1615	XII.B.5.	$500 unit analysis fee if any of the following are requested:		N/A	N/A		
1616	XII.B.5.a.	Unit is added		N/A	N/A		
1617	XII.B.5.b.	Design change to an existing unit		N/A	N/A		
1618	XII.B.5.c.	Unit status change from closure to post-closure care		N/A	N/A		
1619	XII.C.	**For a minor amendment, Class 1 or Class 1-1 permit modification, provide: $100 plus a $50 notice fee**		N/A	N/A		
1620	XIII.	**Confidential Materials**					
1621	XIII.*A.*	If any confidential information given in Sections I through X of the application, place information in a separate collective document labeled “CONFIDENTIAL”		N/A	N/A		
Items below are not applicable to your application.							
32	I.E.6.	For a new commercial HW management facility or an areal expansion of an existing commercial HW management facility, indicate whether the facility is within 1/2 mi. of an established residence, church, school, day care, etc.; If yes, TCEQ will not issue a permit for this facility	335.205(a)(2-5)				Please provide an answer in the Submitted column!
56	II.B.	**Additional requirements for land treatment facilities.**	335.204(b)				
57	II.B.1.	Indicate whether the land treatment facility located or proposed to be located is within 1000 ft. of an established residence, church, school, daycare center, etc.; If yes, TCEQ will not issue a permit for a new HW land treatment unit or areal expansion for an existing land treatment unit per 335.204(b)(6) and 335. 205(a)	335.204(b)(6)				Please provide an answer in the Submitted column!

58	II.B.2.a.	Indicate whether the land treatment facility located or proposed to be located is within 1000 ft. of an area subject to coastal shoreline erosion which is protected by a barrier island or peninsula; If yes, Section V.F must include information to address the adverse effects	335.204(b)(9)				Please provide an answer in the Submitted column!
59	II.B.2.b.	Indicate whether the land treatment facility located or proposed to be located is within 5000 ft. of an area subject to coastal shoreline erosion which is unprotected by a barrier island or peninsula; If yes, Section V.F must include information to address the adverse effects	335.204(b)(9)				Please provide an answer in the Submitted column!
60	II.B.3.	Indicate whether the land treatment facility located or proposed to be located is on a barrier island or peninsula; If yes, permit will not be issued for a new HW land treatment unit or an areal expansion of an existing land treatment unit per 335.204(b)(11) and 335. 205(a)(1)	335.204(b)(11)				Please provide an answer in the Submitted column!
61	II.C.	**Additional requirements for Waste Piles**	335.204(c)				
62	II.C.1.a.	Indicate whether the waste pile is located or proposed to be located within 1000 ft. of an area subject to active coastal shoreline erosion which is protected by a barrier island or peninsula; If yes, Section V.E must include information to address the adverse effects	335.204(c)(8)				Please provide an answer in the Submitted column!
63	II.C.1.b.	Indicate whether the waste pile is located or proposed to be located within 5000 ft. of an area subject to active coastal shoreline erosion which is unprotected by a barrier island or peninsula; If yes, Section V.E must include information to address the adverse effects	335.204(c)(8)				Please provide an answer in the Submitted column!
64	II.C.2.	Indicate whether the waste pile is located or proposed to be located on a barrier island or peninsula; If yes, permit will not be issued for a new HW pile or an areal expansion of an existing waste pile	335.204(c)(10)				Please provide an answer in the Submitted column!
65	II.D.	**Additional requirements for storage surface impoundments:**	335.204(d)				
66	II.D.1.a.	Indicate whether the storage surface impoundment is located or proposed to be located within 1000 ft. of an area subject to active coastal shoreline erosion which is protected by a barrier island or peninsula; If yes, Section V.D must include information to address the adverse effects	335.204(d)(8)				Please provide an answer in the Submitted column!
67	II.D.1.b.	Indicate whether the storage surface impoundment is located or proposed to be located within 5000 ft. of an area subject to active shoreline erosion unprotected by a barrier island or peninsula; If yes, Section V.D must include information to address the adverse effects	335.204(d)(8)				Please provide an answer in the Submitted column!
68	II.D.2.	Indicate whether the storage surface impoundment is located or proposed to be located on a barrier island or peninsula; If yes, permit will not be issued for a new HW storage surface impoundment or an areal expansion of an existing surface impoundment	335.204(d)(10)				Please provide an answer in the Submitted column!
90	II.G.3.	For a new commercial HW management facility provide:	305.50(a)(12)(A)				
91	II.G.3.a.	Average number, gross weight, type and size of vehicles used to transport HW	305.50(a)(12)(A)(i)				Please provide an answer in the Submitted column!
92	II.G.3.b.	Major highways nearest the facility irrespective of distance	305.50(a)(12)(A)(ii)				Please provide an answer in the Submitted column!
93	II.G.3.c.	Public roadways within 2.5 mile radius from facility	305.50(a)(12)(A)(iii)				Please provide an answer in the Submitted column!
103	III.B.	**Personnel Training Plan:**	264.16				
104	III.B.*1.*	Provide an outline of training program:	264.16(a)(1-3)				Please provide an answer in the Submitted column!

105	III.B.*1.a.*	Facility personnel must complete the program required training 6 months after the date of employment	264.16(b)				Please provide an answer in the Submitted column!
106	III.B.*1.b.*	Annual review	264.16(c)				Please provide an answer in the Submitted column!
107	III.B.*1.c.*	Job title/job description	264.16(d)(1-4)				Please provide an answer in the Submitted column!
108	III.B.*1.d.*	Training records	264.16(e)				Please provide an answer in the Submitted column!
124	III.D.*1.g.*	CONTAINER STORAGE AREA INSPECTION: (weekly)					Please provide an answer in the Submitted column!
125	III.D.*1.g.1.*	Leaks, spills, and deteriorations caused by corrosion or other factors (weekly)	264.174				Please provide an answer in the Submitted column!
126	III.D.*1.g.2.*	Containment system for Container Storage Areas:					Please provide an answer in the Submitted column!
127	III.D.*1.g.2.a.*	Free of cracks, gaps, leaks spills, precipitation					Please provide an answer in the Submitted column!
128	III.D.*1.g.2.b.*	Area must be sloped;					Please provide an answer in the Submitted column!
129	III.D.*1.g.2.c.*	Containment contain 10% vol. of containers or the vol. of the largest containers					Please provide an answer in the Submitted column!
130	III.D.*1.g.2.d.*	Containment run-on system					Please provide an answer in the Submitted column!
131	III.D.*1.g.2.e.*	Spills, leaks, accumulated precipitation					Please provide an answer in the Submitted column!
132	III.D.*1.g.3.*	Containers do not contain free liquids					Please provide an answer in the Submitted column!
133	III.D.*1.g.4.*	Loading and unloading areas for Container Storage Areas					Please provide an answer in the Submitted column!
134	III.D.*1.h.*	TANK SYSTEM INSPECTION:					Please provide an answer in the Submitted column!
135	III.D.*1.h.1.*	Tank overfilling control	264.195				Please provide an answer in the Submitted column!
136	III.D.*1.h.2.*	Above ground portions (daily)	264.195(c)(1)				Please provide an answer in the Submitted column!
137	III.D.*1.h.3.*	Tank monitoring data and leak detection equipment (daily)	264.195(b)				Please provide an answer in the Submitted column!
138	III.D.*1.h.4.*	Tank construction materials including secondary containment and surrounding area (daily)	264.195(c)(2)				Please provide an answer in the Submitted column!
139	III.D.*1.h.5.*	Ancillary Equipment without secondary containment must be inspected each operating day	264.195(f)				Please provide an answer in the Submitted column!
140	III.D.*1.h.6.*	Cathodic protection system:	264.195(g)				Please provide an answer in the Submitted column!
141	III.D.*1.h.6.a.*	Six months after installation and annually thereafter	264.195(g)(1)				Please provide an answer in the Submitted column!
142	III.D.*1.h.6.b.*	Source of impressed current (bi-monthly)	264.195(g)(2)				Please provide an answer in the Submitted column!
143	III.D.*1.h.7.*	Facilities requesting a variance from secondary containment must:	264.193(h)				Please provide an answer in the Submitted column!
144	III.D.*1.h.7.a.*	Perform a leak test for non-enterable underground tanks (annually)	264.193(i)(1)				Please provide an answer in the Submitted column!
145	III.D.*1.h.7.b.*	Perform a leak test for other than non-enterable underground tanks	264.193(i)(2)				Please provide an answer in the Submitted column!
146	III.D.*1.h.7.c.*	Ancillary equipment/leak test integrity assessment (annually)	264.193(i)(3)				Please provide an answer in the Submitted column!
147	III.D.*1.h.7.d.*	Maintain assessment records	264.193(i)(4)				Please provide an answer in the Submitted column!
148	III.D.*1.h.7.e.*	Response to leaks following 264.196	264.193(i)(5)				Please provide an answer in the Submitted column!
149	III.D.*1.i.*	SURFACE IMPOUNDMENT INSPECTIONS: (weekly and after storms):	264.226(b)				Please provide an answer in the Submitted column!
150	III.D.*1.i.1.*	Deterioration, malfunction, or improper overtopping control system	264.226(b)(1)				Please provide an answer in the Submitted column!
151	III.D.*1.i.2.*	Sudden drops in the level of impoundment contents	264.226(b)(2)				Please provide an answer in the Submitted column!
152	III.D.*1.i.3.*	Deterioration of containment devices	264.226(b)(3)				Please provide an answer in the Submitted column!
153	III.D.*1.i.4.*	Leak detection system inspected at least once each week during active life and closure period	264.226(d)(1)				Please provide an answer in the Submitted column!
154	III.D.*1.j.*	WASTE PILE INSPECTION: (weekly and after storms):	264.254(b)				Please provide an answer in the Submitted column!
155	III.D.*1.j.1.*	Run-on and run-off control system inspected for deterioration, malfunction, or improper operation of	264.254(b)(1)				Please provide an answer in the Submitted column!
156	III.D.*1.j.2.*	Wind dispersal system	264.254(b)(2)				Please provide an answer in the Submitted column!
157	III.D.*1.j.3.*	Leachate collection and removal systems	264.254(b)(3)				Please provide an answer in the Submitted column!

158	III.D.*1.j.4* .	Leak detection system	264.254(c)				Please provide an answer in the Submitted column!
159	III.D.*1.k.*	LAND TREATMENT UNIT INSPECTION: (weekly and after storms)	264.273(g)				Please provide an answer in the Submitted column!
160	III.D.*1.k.1.*	Deterioration, malfunctions, or improper operation of run-on and run-off control systems	264.273(g)(1)				Please provide an answer in the Submitted column!
161	III.D.*1.k.2.*	Wind dispersal control system	264.273(g)(2)				Please provide an answer in the Submitted column!
167	III.D.*1.m.*	INCINERATOR INSPECTION:	264.347				Please provide an answer in the Submitted column!
168	III.D.*1.m.1.*	Incinerator and associated equipment visual inspection (daily)	264.347(b)				Please provide an answer in the Submitted column!
169	III.D.*1.m.2.*	Incinerator waste feed cut-off system and associated alarms tested (weekly)	264.347(c)				Please provide an answer in the Submitted column!
170	III.D.*1.n.*	BOILER AND INDUSTRIAL FURNACES INSPECTION:	266.102(e)(8)				Please provide an answer in the Submitted column!
171	III.D.*1.n.1.*	BIF and associated equipment- visual inspection (daily)	266.102(e)(8)(iii)				Please provide an answer in the Submitted column!
172	III.D.*1.n.2.*	Feed cut-off system and associated alarms (weekly)	266.102(e)(8)(iv)				Please provide an answer in the Submitted column!
173	III.D.*1.o.*	DRIP PAD INSPECTION: (weekly and after storms):	264.574(b)				Please provide an answer in the Submitted column!
174	III.D.*1.o.1.*	Deterioration, malfunctions, or improper operation of run-on and run-off control systems	264.574(b)(1)				Please provide an answer in the Submitted column!
175	III.D.*1.o.2.*	Presence of leakage in the leak detection system	264.574(b)(2)				Please provide an answer in the Submitted column!
176	III.D.*1.o.3.*	Deterioration or cracking of the drip pad surface	264.574(b)(3)				Please provide an answer in the Submitted column!
177	III.D.*1.p.*	MISCELLANEOUS UNIT INSPECTION	264.602				Please provide an answer in the Submitted column!
178	III.D.*1.q.*	CONTAINMENT BUILDING INSPECTION	264.1101				Please provide an answer in the Submitted column!
179	III.E.	**Contingency Plan (Does not apply to post-closure application)**	335.152(a)(1)(C and D); 264 subparts C and D				
180	III.E.*~.a.*	Provide amendments to SPCC Plan as applicable	264.52(b)				Please provide an answer in the Submitted column!
181	III.E.*~.b.*	Provide general information including a facility drawing showing location of all emergency equipment, emergency coordinators, and statements that the emergency coordinator is authorized to commit the resources of the facility	264.52; 264.55				Please provide an answer in the Submitted column!
182	III.E.*~.c.*	Provide location of waste and demonstrate that facilities will be eligible to receive HW	270.14(b)(11)(iv)(C)(2)				Please provide an answer in the Submitted column!
183	III.E.*~.d.*	Provide the potential for accidental discharges of waste during movement	270.14(b)(11)(iv)(C)(4)				Please provide an answer in the Submitted column!
184	III.E.*~.e.*	Provide a copy of Contingency Plan to appropriate local authorities	264.53				Please provide an answer in the Submitted column!
185	III.E.*~.f.*	Amend the contingency plan as appropriate	264.54				Please provide an answer in the Submitted column!
186	III.E.*~.g.*	Describe emergency procedures, notification & post-incident written report	335.153; 264.56				Please provide an answer in the Submitted column!
187	III.E.1.	Complete and submit Table III.E.1. - Arrangements With Local Authorities in hard copy and editable electronic format:	264.37; 264.52(c)				Please provide an answer in the Submitted column!
188	III.E.1.*a.*	Provide arrangements to familiarize local authorities with:	264.37(a)(1)				Please provide an answer in the Submitted column!
189	III.E.1.*a.1.*	Facility layout	264.37(a)(1)				Please provide an answer in the Submitted column!
190	III.E.1.*a.2.*	Properties of HW handled	264.37(a)(1)				Please provide an answer in the Submitted column!
191	III.E.1.*a.3.*	Possible injuries form fires, explosions, or releases of HW at the facility	264.37(a)(4)				Please provide an answer in the Submitted column!
192	III.E.1.*a.4.*	Facility personnel work areas	264.37(a)(1)				Please provide an answer in the Submitted column!
193	III.E.1.*a.5.*	Facility entrances	264.37(a)(1)				Please provide an answer in the Submitted column!
194	III.E.1.*a.6.*	Evacuation routes	264.37(a)(1)				Please provide an answer in the Submitted column!
195	III.E.2.	Complete and submit Table III.E.2 - Emergency Coordinators (list of addresses and telephone numbers) in hard copy and editable electronic format; Must include alternate emergency coordinator(s)	264.52(d)				Please provide an answer in the Submitted column!

196	III.E.3.	Complete and submit Table II.E.3 - Emergency Equipment in hard copy and editable electronic format including:	264.32; 264.52(e)				Please provide an answer in the Submitted column!
197	III.E.3.*a.*	Fire-extinguishing system	264.32(c); 264.52(e)				Please provide an answer in the Submitted column!
198	III.E.3.*b.*	Spill-control equipment	264.32(c); 264.52(e)				Please provide an answer in the Submitted column!
199	III.E.3.*c.*	Communications and alarm systems (internal and external)	264.32(a) and (b); 264.52(e)				Please provide an answer in the Submitted column!
200	III.E.3.*d.*	Decontamination equipment	264.32(c); 264.52(e)				Please provide an answer in the Submitted column!
201	III.E.3.*e.*	Water at adequate volume & pressure, foam producing equipment, sprinklers, or water spray systems	264.32(d); 264.52(e)				Please provide an answer in the Submitted column!
202	III.E.3.*f.*	Testing and Maintenance of equipment (May include as Part of Inspection Schedule)	264.33; 264.15(b)(1)				Please provide an answer in the Submitted column!
203	III.E.3.*g.*	Access to communications or alarm system	264.34				Please provide an answer in the Submitted column!
204	III.E.3.*h.*	Evacuation plan and signal	254.52(f)				Please provide an answer in the Submitted column!
205	III.F.	**Emergency Response Plan (For new or renewal of commercial HW management facility only)**	305.50(a)(12)(C-D)				
206	III.F.1.	Provide practice drills:					Please provide an answer in the Submitted column!
207	III.F.1.*a.*	Timing of practice evacuation drills	305.50(a)(12)(C)(i)(I)				Please provide an answer in the Submitted column!
208	III.F.1.*b.*	Efficiency and safety of evacuation	335.183(d)(11)				Please provide an answer in the Submitted column!
209	III.F.2.	Provide contracts if applicable:					Please provide an answer in the Submitted column!
210	III.F.2.*a.*	Contracts with any private corporation, municipality, or county	305.50(a)(12)(C)(i)(I)				Please provide an answer in the Submitted column!
211	III.F.3.	Provide weather data:					Please provide an answer in the Submitted column!
212	III.F.3.*a.*	Historical weather data	305.50(a)(12)(C)(i)(III)				Please provide an answer in the Submitted column!
213	III.F.3.*b.*	Seasonally prevailing winds and weather	335.183(d)(3)				Please provide an answer in the Submitted column!
214	III.F.4.	Define worst-case emergencies for proposed facility	305.50(a)(12)(C)(i)(IV)				Please provide an answer in the Submitted column!
215	III.F.5.	Provide training program for emergency response personnel, including requirements described in regulations	305.50(a)(12)(C)(i)(V); 264.16 29; CFR 1910.120(e); EPA Fed Reg. 311; TX Haz. Comm. Act SARA 302, 304, 311, 312, and 313				Please provide an answer in the Submitted column!
216	III.F.6.	Describe and identify first responders:					Please provide an answer in the Submitted column!
217	III.F.6.*a.*	Identification of first responders	305.50(a)(12)(C)(i)(VI)				Please provide an answer in the Submitted column!
218	III.F.6.*b.*	Length of time for first response	335.183(d)(6)				Please provide an answer in the Submitted column!
219	III.F.6.*c.*	Equipment and trained personnel available on first response basis	335.183(d)(8)				Please provide an answer in the Submitted column!
220	III.F.7.	Identify local or regional emergency medical services:	305.50(a)(12)(C)(i)(VII)				Please provide an answer in the Submitted column!
221	III.F.7.*a.*	Availability of local emergency response resources	335.183(d)(4)				Please provide an answer in the Submitted column!
222	III.F.8.	Provide pre-disaster plan	305.50(a)(12)(C)(i)(VIII)				Please provide an answer in the Submitted column!
223	III.F.9.	Describe mechanism for notifying first respondent and all applicable government agencies (i.e. TCEQ, TPWD, TCEQ Office of Air Quality, GLO, TDH, & TRRC)	305.50(a)(12)(C)(i)(IX)				Please provide an answer in the Submitted column!
224	III.F.10.	Provide evidence of Local Emergency Planning Committee and compliance with SARA Title III	305.50(a)(12)(C)(i)(X)				Please provide an answer in the Submitted column!
225	III.F.11.	Provide details of medical response:					Please provide an answer in the Submitted column!
226	III.F.11.*a.*	Medical response capabilities	305.50(a)(12)(C)(i)(XI)				Please provide an answer in the Submitted column!
227	III.F.11.*b.*	Ability to deal with various types of injuries	335.183(d)(9)				Please provide an answer in the Submitted column!

228	III.F.11.*c.*	Other factors that will be reviewed and considered for permitting decisions on approvals of new commercial HW management facilities:	335.183(d)				
229	III.F.11.*c.1.*	Geology of the area	335.183(d)(1)				Please provide an answer in the Submitted column!
230	III.F.11.*c.2.*	Drainage patterns	335.183(d)(2)				Please provide an answer in the Submitted column!
231	III.F.11.*c.3.*	Proximity of human exposure and/or sensitive environmental receptors	335.183(d)(5)				Please provide an answer in the Submitted column!
232	III.F.11.*c.4.*	Trained response teams on-site	335.183(d)(7)				Please provide an answer in the Submitted column!
233	III.F.11.*c.5.*	Ability to respond to environmental contamination	335.183(d)(10)				Please provide an answer in the Submitted column!
234	III.F.11.*d.*	Provide justification of waiver or documentation of preparedness and prevention requirements of 264 subpart C	270.14(b)(6)				Please provide an answer in the Submitted column!
236	IV.A.~.	**Complete and submit Table IV.A. - Waste Management Information for new hazardous waste (HW) management facility or for a facility capacity expansion in hard copy and editable electronic format**	305.50(a)(9)				Please provide an answer in the Submitted column!
237	IV.A.~.*a.*	For on-site, list “on-site” for the waste source; For off-site, list the source of the waste; If unknown, identify potential sources					Please provide an answer in the Submitted column!
239	IV.C.	**Complete and submit Table IV.C. - Sampling and Analytical Methods in hard copy and editable electronic format**	264.13(a), (b)(1-4), and (c)(2); 261 Appendix I; 261 Appendix II; 261 Appendix III; or any sampling method approved by EPA; 264.13(b)(5-8)				Please provide an answer in the Submitted column!
240	IV.D.	**Provide Waste Analysis Plan:**					Please provide an answer in the Submitted column!
241	IV.D.~.*a.*	Quality Control/Quality Assurance (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, 1987, as revised;	SW-846; TCEQ QAPP; Part 261, Appendix I; 260.20; 260.21				
242	IV.D.~.*b.*	Latest version of the Quality Assurance Project Plan for the Texas Commission on Environmental Quality for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation and Recovery Act)					
243	IV.D.*1.*	For off-site facilities, specify procedures to inspect and analyze each movement of industrial waste received at the facility to ensure it matches the identity of the waste designated on the accompanying shipping ticket	264.13(c)(1)				Please provide an answer in the Submitted column!
244	IV.D.*2.*	Provide requirements pertaining to Land Disposal Restrictions	Part 268; 268.7(c); 264.13(a)				Please provide an answer in the Submitted column!
245	IV.D.*3.*	CONTAINERS: (The Applicant must address the following information and may provide it in the Container Engineering Report with cross reference here, or provide information here and reference it in the Container Engineering Report)	264 subpart I				
246	IV.D.*3.a.*	Demonstrate compatibility of waste with containers	264.172				Please provide an answer in the Submitted column!
247	IV.D.*3.b.*	For containers w/o secondary containment system, provide test procedures and results which show that wastes do not contain free liquid; suggested test for free liquid is the Paint Filter Liquid Test (Method 9095)	270.15(b)				Please provide an answer in the Submitted column!
248	IV.D.*3.c.*	Provide special requirements for ignitable or reactive wastes	264.176				Please provide an answer in the Submitted column!
249	IV.D.*3.d.*	Provide special requirements for incompatible wastes	264.177				Please provide an answer in the Submitted column!

250	IV.D.*4.*	TANKS: (The Applicant must address the following information and may provide it in the Tanks and Tank System Engineering Report with cross reference here, or provide information here and reference it in the Tank and Tank System Engineering Report)	264 subpart J				
251	IV.D.*4.a.*	Provide special requirements for ignitable or reactive wastes	264.198				Please provide an answer in the Submitted column!
252	IV.D.*4.b.*	Provide buffer zone requirements for tanks containing flammable and combustible liquids	264.198(b)				Please provide an answer in the Submitted column!
253	IV.D.*4.c.*	Provide special requirements for incompatible wastes	264.199				Please provide an answer in the Submitted column!
254	IV.D.*5.*	SURFACE IMPOUNDMENTS: (The Applicant must address the following information and may provide it in the Surface Impoundment Engineering Report with cross reference here, or provide information here and reference it in the Surface Impoundment Engineering Report)	264 subpart K				
255	IV.D.*5.a.*	Provide special requirements for ignitable or reactive wastes	264.229				Please provide an answer in the Submitted column!
256	IV.D.*5.b.*	Provide special requirements for incompatible wastes	264.23				Please provide an answer in the Submitted column!
257	IV.D.*5.c.*	Provide special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027, if applicable	264.231				Please provide an answer in the Submitted column!
258	IV.D.*6.*	WASTE PILES: (The Applicant must address the following information and may provide it in the Waste Pile Engineering Report with cross reference here, or provide information here and reference it in the Waste Pile Engineering Report)	264 subpart L				
259	IV.D.*6.a.*	For waste piles that are inside or under a structure, when an exemption from 264.251 is requested, provide test procedures and results, or other documentation or information which shows that the wastes do not contain free liquids when placed on the pile; Suggested test for free liquids, is the Paint Filter Liquid Test (Method 9095)	264.250(c)(1)				Please provide an answer in the Submitted column!
260	IV.D.*6.b.*	Demonstrate that the wastes will not generate leachate through decomposition or other reactions while being stored	264.250(c)(4)				Please provide an answer in the Submitted column!
261	IV.D.*6.c.*	Provide special requirements for ignitable or reactive wastes	264.256				Please provide an answer in the Submitted column!
262	IV.D.*6.d.*	Provide special requirements for incompatible wastes	264.257				Please provide an answer in the Submitted column!
263	IV.D.*6.e.*	Provide special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027, if applicable	264.259				Please provide an answer in the Submitted column!
264	IV.D.*7.*	LAND TREATMENT UNITS: (The Applicant must address the following information and may provide it in the LTU Engineering Report with cross reference here, or provide information here and reference it in the LTU Engineering Report)	264 subpart M				
265	IV.D.*7.a.*	Provide concentration and identification of hazardous constituents	264.271(b)				Please provide an answer in the Submitted column!
266	IV.D.*7.b.*	Provide special requirements for ignitable wastes	264.281				Please provide an answer in the Submitted column!
267	IV.D.*7.c.*	Provide special requirements for incompatible wastes	264.282				Please provide an answer in the Submitted column!
268	IV.D.*7.d.*	Provide special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027, if applicable	264.283				Please provide an answer in the Submitted column!
269	IV.D.*8.*	LANDFILLS: (The Applicant must address the following information and may provide it in the Landfill Engineering Report with cross reference here, or provide information here and reference it in the Landfill Engineering Report)	264 subpart N				
270	IV.D.*8.a.*	Provide special requirements for ignitable wastes	264.312				Please provide an answer in the Submitted column!

271	IV.D.*8.b.*	Provide special requirements for incompatible wastes	264.313				Please provide an answer in the Submitted column!
272	IV.D.*8.c.*	Provide special requirements for bulk and containerized liquids:	264.314				Please provide an answer in the Submitted column!
273	IV.D.*8.c.1.*	Bulk or non-containerized liquid	264.314(a)				Please provide an answer in the Submitted column!
274	IV.D.*8.c.2.*	Containers holding free liquids (Containers holding free liquids must not be placed in landfill)	264.314(b)				Please provide an answer in the Submitted column!
275	IV.D.*8.c.3.*	Test procedures and results or documentation to show that wastes do not contain free liquid. Test Method 9095 (Paint Filter Liquid Test)	264.314(c)				Please provide an answer in the Submitted column!
276	IV.D.*8.c.4.*	Containers holding free liquids must not be placed in landfill unless nonbiodegradable sorbents are used	264.314(d)(e)				Please provide an answer in the Submitted column!
277	IV.D.*8.d.*	Provide special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027, if applicable	264.317				Please provide an answer in the Submitted column!
278	IV.D.*9.*	INCINERATORS (covered under Section V.H)	335.152 (a)(13); 264 subpart O				Please provide an answer in the Submitted column!
279	IV.D.*10.*	BOILERS AND INDUSTRIAL FURNACES (covered under Section V.I)	335.221-225; 266 subpart H				Please provide an answer in the Submitted column!
281	V.~.	Provide required general information:					Please provide an answer in the Submitted column!
282	V.~.*1.*	Description of procedures, structures, or equipment used at the facility to:	270.14(b)(8)				Please provide an answer in the Submitted column!
283	V.~.*1.a.*	Prevent hazards in unloading operations	270.14(b)(8)(i)				Please provide an answer in the Submitted column!
284	V.~.*1.b.*	Prevent run-off from hazardous handling	270.14(b)(8)(ii)				Please provide an answer in the Submitted column!
285	V.~.*1.c.*	Prevent contamination of water supplies	270.14(b)(8)(iii)				Please provide an answer in the Submitted column!
286	V.~.*1.d.*	Mitigate effects of equipment failure	270.14(b)(8)(iv)				Please provide an answer in the Submitted column!
287	V.~.*1.e.*	Prevent undue exposure of personnel to hazardous waste (HW)	270.14(b)(8)(v)				Please provide an answer in the Submitted column!
288	V.~.*1.f.*	Prevent releases to atmosphere	270.14(b)(8)(vi)				Please provide an answer in the Submitted column!
289	V.~.*2.*	Traffic pattern, estimated volume (number and types of vehicles) and control; Description of access road surfacing and load bearing capacity; Traffic control sign should be shown	270.14(b)(10)				Please provide an answer in the Submitted column!
290	V.~.*3.*	Description of precautions to prevent accidental commingling of incompatible wastes in each of the units; Information should be provided to ensure that precautions are taken to avoid danger due to:	264.17(b)				Please provide an answer in the Submitted column!
291	V.~.*3.a.*	Generation of extreme heat or pressure, fire, explosion, or violent reaction	264.17(b)(1)				Please provide an answer in the Submitted column!
292	V.~.*3.b.*	Production of uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health	264.17(b)(2)				Please provide an answer in the Submitted column!
293	V.~.*3.c.*	Production of uncontrolled flammable fumes or gases in sufficient quantities to pose risk of fire or explosion	264.17(b)(3)				Please provide an answer in the Submitted column!
294	V.~.*3.d.*	Damaging the structural integrity of the device or facility containing the waste	264.17(b)(4)				Please provide an answer in the Submitted column!
295	V.~.*3.e.*	Threatening human health or the environmental by any other means	264.17(b)(5)				Please provide an answer in the Submitted column!
338	V.A.3.	Construction Schedules					
339	V.A.3.a.	Provide schedule of compliance for retrofitting (if applicable)	270.33(a)(2); 270.33(b)				Please provide an answer in the Submitted column!
340	V.A.3.b.	Provide construction schedule of commercial HW management units in the application for commercial HW management facilities, permit applications (new, renewal, or interim status applications, major amendments, or Class 3 modifications submitted after 11/23/94), adhering to the time limitation	305.149				Please provide an answer in the Submitted column!
342	V.B.	**Container Storage Areas**	335.152(a)(7); 264 subpart I				

343	V.B.1.	Provide an Engineering Report with information specified in: 264.170-173, 264.175-264.177, and 270.15	264.170-173; 264.175-177; 270.15				Please provide an answer in the Submitted column!
344	V.B.1.*a.*	Complete and submit Table V.B - Container Storage Areas in hard copy and editable electronic format					Please provide an answer in the Submitted column!
345	V.B.1.*b.*	Provide required additional information:					Please provide an answer in the Submitted column!
346	V.B.1.*b.1.*	Aisle space requirements					Please provide an answer in the Submitted column!
347	V.B.1.*b.2.*	Condition of containers					Please provide an answer in the Submitted column!
348	V.B.1.*b.3.*	Compatibility of waste with containers					Please provide an answer in the Submitted column!
349	V.B.1.*b.4.*	Container management practices					Please provide an answer in the Submitted column!
350	V.B.1.*b.5.*	Air Emission Standards (Part 264 Subpart AA, BB, and CC Requirements)					Please provide an answer in the Submitted column!
351	V.B.2.	Provide the design and operation for containment system including diagrams and engineering drawings (plans):	270.15				Please provide an answer in the Submitted column!
352	V.B.2.~*.1.*	A base which is free of cracks or gaps must underlay the containers; the base must be sloped, or the containment system must be designed and operated to drain and remove liquids resulting from leaks, spills or precipitation	264.175(b)(1-2)				Please provide an answer in the Submitted column!
353	V.B.2.~*.2.*	Overflow prevention	264.175(b)(5); 270.15(a)(5)				Please provide an answer in the Submitted column!
354	V.B.2.~*.3.*	Basic design parameters, dimensions, and materials of construction	270.15(a)(1)				Please provide an answer in the Submitted column!
355	V.B.2.~*.4.*	Drainage design:	270.15(a)(2)				Please provide an answer in the Submitted column!
356	V.B.2.a.	Containment system must have sufficient capacity to contain 10% volume of containers or volume of largest container (TCEQ recommends 25-yr, 24-hr rainfall event for extra capacity of uncovered areas)	264.175(b)(3), 270.15(a)(3)				Please provide an answer in the Submitted column!
357	V.B.2.b.	Run-on prevention (TCEQ recommends 25-yr, 24-hr rainfall event to calculate the excess capacity)	264.175(b)(4); 270.15(a)(4)				Please provide an answer in the Submitted column!
358	V.B.3.	Wastes Containing No Free Liquids	264.175(c)				
359	V.B.3.~	Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system, provided that:					
360	V.B.3.~*.1.*	Storage area is sloped or designed and operated to drain and remove liquid resulting from precipitation; Submit a demonstration	264.175(c)(1)				Please provide an answer in the Submitted column!
361	V.B.3.~*.2.*	Containers are elevated or otherwise protected from contact with accumulated liquid the following info; Submit a demonstration that includes:	264.175(c)(2)				Please provide an answer in the Submitted column!
362	V.B.3.a.	Test procedures and results that wastes do not contain free liquid	270.15(b)(1)				Please provide an answer in the Submitted column!
363	V.B.3.b.	Design and operation of storage to remove and drain liquids	270.15(b)(2)				Please provide an answer in the Submitted column!
364	V.B.3.~*.3.*	Provide the design and operation (264.175(b)) for containers holding Dioxin wastes (FO20, FO21, FO22, FO23, FO26 and FO27) that do not contain free liquids	264.175(d)				Please provide an answer in the Submitted column!
365	V.B.4.	Provide engineering report drawings with buffer zone requirements if container storage area manages ignitable or reactive wastes	264.17; 264.176				Please provide an answer in the Submitted column!
366	V.B.5.	Provide information here about special requirements of incompatible wastes, or reference information provided in Section IV	264.177				Please provide an answer in the Submitted column!
367	V.B.6.	Management of nonhazardous waste in CSA: If facilities are managing nonhazardous wastes, the types, quantities, and other information on the nonhazardous waste may need to be included as part of CSA Engineering Report and Table V.B. if applicable					Please provide an answer in the Submitted column!

368	V.B.7.	Provide detailed plans and specifications individually sealed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	270.14; 305.50(a)(7)				Please provide an answer in the Submitted column!
369	V.C.	**Tanks and Tank Systems**	335.152(a)(8); 264 subpart J				
370	V.C.~.	Provide an Engineering Report with information specified in: 264.190-194, 264.196, 264.198-199, and 270.16.	264.190-194; 264.196; 264.198-199; 270.16				Please provide an answer in the Submitted column!
371	V.C.1.	Complete and submit Table V.C. - Tanks and Tank System in hard copy and editable electronic format					Please provide an answer in the Submitted column!
372	V.C.2.	If tank will manage ignitable or reactive waste, describe and provide drawings demonstrating the buffer zone requirements in the engineering report	264.17; 264.198				Please provide an answer in the Submitted column!
373	V.C.3.	If tank will manage incompatible waste, describe special requirements and procedures	264.17; 264.199				Please provide an answer in the Submitted column!
374	V.C.4.	Submit written assessments and certification and reviewed by a licensed PE for existing tank system(s) without adequate secondary containment	264.191; 264.193; 270.11(d)				Please provide an answer in the Submitted column!
375	V.C.5.	Specify if tank has been derated or if the permitted capacity is different from the design capacity					Please provide an answer in the Submitted column!
376	V.C.*6.*	Provide in the report for Tanks and Tank Systems all applicable aspects listed below, with supporting drawings, calculations, and certifications provided as attachments:					Please provide an answer in the Submitted column!
377	V.C.*6.a.*	40 CFR 264.193 Exemption from Secondary Containment Requirements: a) Based on management of No Free Liquids in Tanks within a building with an impermeable flooring; OR, b) Based on tanks systems and sumps that serve as secondary containment to collect or contain releases of hazardous materials	264.190(a); 264.190(b)				Please provide an answer in the Submitted column!
378	V.C.*6.b.*	Address response to leaks, spills and/or the disposition of leaking or unfit for-use tank systems, including:	264.196				Please provide an answer in the Submitted column!
379	V.C.*6.b.1.*	Cessation of use; prevent flow or addition of wastes	264.196(a)				Please provide an answer in the Submitted column!
380	V.C.*6.b.2.*	Removal of waste from tank system or secondary containment system	264.196(b)				Please provide an answer in the Submitted column!
381	V.C.*6.b.3.*	Containment of visible releases to environment	264.196(c)				Please provide an answer in the Submitted column!
382	V.C.*6.b.4.*	Notification, reports	264.196(d)				Please provide an answer in the Submitted column!
383	V.C.*6.b.5.*	Notification of secondary containment repair	264.196(e)				Please provide an answer in the Submitted column!
384	V.C.*6.b.6.*	Certification of major repairs	264.196(f)				Please provide an answer in the Submitted column!
385	V.C.*6.c.*	Provide assessment of existing tank system, including:	264.191				Please provide an answer in the Submitted column!
386	V.C.*6.c.1.*	Assessment of existing system's integrity certified by a licensed PE	264.191(a)				Please provide an answer in the Submitted column!
387	V.C.*6.c.2.*	Design standards	264.191(b)(1)				Please provide an answer in the Submitted column!
388	V.C.*6.c.3.*	Hazardous characteristics of wastes in tanks	264.191(b)(2)				Please provide an answer in the Submitted column!
389	V.C.*6.c.4.*	Existing corrosion protection	264.191(b)(3)				Please provide an answer in the Submitted column!
390	V.C.*6.c.5.*	Age of tank(s)	264.191(b)(4)				Please provide an answer in the Submitted column!
391	V.C.*6.c.6.*	For non-enterable tanks - Leak test/integrity examination	264.191(b)(5)				Please provide an answer in the Submitted column!
392	V.C.*6.d.*	Provide assessment of new tank systems or components, including:	264.192				Please provide an answer in the Submitted column!
393	V.C.*6.d.1.*	Assessment of new tank system's integrity certified by a licensed PE	264.192(a); 270.11(d); 270.16(a)				Please provide an answer in the Submitted column!
394	V.C.*6.d.2.*	Design standards	264.192(a)(1)				Please provide an answer in the Submitted column!

395	V.C.*6.d.3.*	Hazardous characteristics of wastes	264.192(a)(2)				Please provide an answer in the Submitted column!
396	V.C.*6.d.4.*	Existing corrosion protection	264.192(a)(3)(i-ii)				Please provide an answer in the Submitted column!
397	V.C.*6.e.*	Provide tank system(s) plans and specifications, including:					Please provide an answer in the Submitted column!
398	V.C.*6.e.1.*	Dimensions and capacity	270.16(b)				Please provide an answer in the Submitted column!
399	V.C.*6.e.2.*	Feed systems	270.16(c)				Please provide an answer in the Submitted column!
400	V.C.*6.e.3.*	Piping, instrumentation, process flow	270.16(d)				Please provide an answer in the Submitted column!
401	V.C.*6.e.4.*	External corrosion protection	270.16(e)				Please provide an answer in the Submitted column!
402	V.C.*6.e.5.*	Description of tank system installation and testing plans and procedures	270.16(f)				Please provide an answer in the Submitted column!
403	V.C.*6.e.6.*	Plans and description of the design, construction and operation of the secondary containment system for each tank system	270.16(g)				Please provide an answer in the Submitted column!
404	V.C.*6.e.7.*	Description of overfill and spill control as required under 264.194(b):	270.16(i)				Please provide an answer in the Submitted column!
405	V.C.*6.e.7.a.*	Spill prevention controls	264.194(b)(1)				Please provide an answer in the Submitted column!
406	V.C.*6.e.7.b.*	Overfill prevention controls	264.194(b)(2)				Please provide an answer in the Submitted column!
407	V.C.*6.e.7.c.*	Maintenance of sufficient freeboard for uncovered tanks if no other controls to prevent overfilling	264.194(b)(3)				Please provide an answer in the Submitted column!
408	V.C.*6.e.8.*	Special requirements for ignitable or reactive wastes	264.198; 270.16(j)				Please provide an answer in the Submitted column!
409	V.C.*6.e.9.*	Special requirements for incompatible wastes.	264.199; 270.16(j)				Please provide an answer in the Submitted column!
410	V.C.*6.e.10.*	Information on air emission control equipment as required in 270.27	270.16(k)				Please provide an answer in the Submitted column!
411	V.C.*6.f.*	Secondary containment system: Should be capable of detecting and accumulating releases until collected material is removed	264.193(b)(1); 264.193(b)(2)				
412	V.C.*6.f.1.*	Provide minimum requirements, including:	264.193(c)				Please provide an answer in the Submitted column!
413	V.C.*6.f.1.a.*	Compatibility, strength	264.193(c)(1)				Please provide an answer in the Submitted column!
414	V.C.*6.f.1.b.*	Foundation strength	264.193(c)(2)				Please provide an answer in the Submitted column!
415	V.C.*6.f.1.c.*	Detect leak within 24 hours	264.193(c)(3)				Please provide an answer in the Submitted column!
416	V.C.*6.f.1.d.*	Drain/remove liquid within 24 hours	264.193(c)(4)				Please provide an answer in the Submitted column!
417	V.C.*6.f.2.*	Include one or more of the following devices for secondary containment:	264.193(d)				Please provide an answer in the Submitted column!
418	V.C.*6.f.2.a.*	Liner external to the tank	264.193(d)(1)				Please provide an answer in the Submitted column!
419	V.C.*6.f.2.b.*	Vault	264.193(d)(2)				Please provide an answer in the Submitted column!
420	V.C.*6.f.2.c.*	Double-walled tank	264.193(d)(3)				Please provide an answer in the Submitted column!
421	V.C.*6.f.2.d.*	Justification for equivalent device submitted	264.193(d)(4)				Please provide an answer in the Submitted column!
422	V.C.*6.g.*	Provide documentation of containment requirements, including:	264.193(e)				Please provide an answer in the Submitted column!
423	V.C.*6.g.1.*	Tanks using External Liners and/or Vault Systems must contain 100% of the capacity of the largest tank plus 25-yr, 24-hr infiltration or run-on	264.193(e)(1)(i); 264.193(e)(2)(i); 264.193(e)(1)(ii); 264.193(e)(2)(ii)				Please provide an answer in the Submitted column!
424	V.C.*6.g.2.*	External liner must be free of cracks or gaps, and must be designed and installed to surround the tank	264.193(e)(1)(iii); 264.193(e)(1)(iv)				Please provide an answer in the Submitted column!
425	V.C.*6.g.3.*	Vault must be constructed with chemical resistant water stops in all joints and provided with an impermeable interior coating, means to protect against formation of ignitable vapors, and an exterior moisture barrier or an alternate means to protect against moisture incursion	264.193(e)(2)(iii); 264.193(e)(2)(iv); 264.193(e)(2)(v); 264.193(e)(2)(vi)				Please provide an answer in the Submitted column!
426	V.C.*6.h.1.*	A double-walled tank must completely envelope inner tank as an integral structure;	264.193(e)(3)(i)				Please provide an answer in the Submitted column!
427	V.C.*6.h.2.*	Protected from corrosion of both the interior and exterior tank shells.	264.193(e)(3)(ii)				Please provide an answer in the Submitted column!
428	V.C.*6.h.3.*	Provided with built-in continuous leak protection system	264.193(e)(3)(iii)				Please provide an answer in the Submitted column!

429	V.C.*6.i.*	Secondary containment for ancillary equipment.	264.193(f)				Please provide an answer in the Submitted column!
430	V.C.*6.j.1.*	Variance from secondary containment from the requirements of 264.193 & 264.193(g):	270.16(h)				Please provide an answer in the Submitted column!
431	V.C.*6.j.2.*	Variance based on demonstration of equivalent protection of groundwater and surface.	264.193(g)(1)(i-iv)				Please provide an answer in the Submitted column!
432	V.C.*6.j.3.*	Variance on demonstration if no substantial present or potential hazard.	264.193(g)(2)(i-iv)				Please provide an answer in the Submitted column!
433	V.C.*7.*	Provide Inspection Requirements (may provide information either in the tank report with a complete Table III-D, or in Section III) and submit in hard copy and editable electronic format	264.195				Please provide an answer in the Submitted column!
434	V.C.*8.*	Provide detailed plans and specifications individually sealed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	270.14(a); 305.50(a)(7)				Please provide an answer in the Submitted column!
435	V.D.	**Surface Impoundments (SI)**	335.152(a)(9); 264 subpart K				
436	V.D.~.	Submit a surface impoundment report including at a minimum:	270.17				Please provide an answer in the Submitted column!
437	V.D.~*.a.*	Costs associated with above-grade construction and the potential adverse effects	305.50(a)(5)				Please provide an answer in the Submitted column!
438	V.D.~*.b.*	For new SI located in recharge zone must include a hydrogeologic report prepared by a licensed professional geoscientist or PE along with the Registered Engineering Firm's name and Registration Number	305.50(a)(6)				Please provide an answer in the Submitted column!
439	V.D.~*.c.*	Construction quality assurance program.	264.19; EPA Publications 530-SW-85-014 and EPA/600/R-93/182, as applicable				Please provide an answer in the Submitted column!
440	V.D.~*.d.*	Action leakage rate.	264.222; 270.17(b)(5)				Please provide an answer in the Submitted column!
441	V.D.~*.e.*	Response action plan.	264.223; 270.17(b)(5)				Please provide an answer in the Submitted column!
442	V.D.~*.f.*	Liner system exemption requests.	335.168(b); 264.221(b)				Please provide an answer in the Submitted column!
443	V.D.~*.g.*	Monitoring and inspection during construction.	264.226(a)				Please provide an answer in the Submitted column!
444	V.D.~*.h.*	Emergency repairs contingency plans.	264.227				Please provide an answer in the Submitted column!
445	V.D.1.	Complete and submit Table V.D.1. - Surface Impoundments in hard copy and editable electronic format	270.17(a)				Please provide an answer in the Submitted column!
446	V.D.2.	If SI will manage ignitable or reactive wastes as indicated in Table V.D.1., include 264.17 & 264.229 requirements in the engineering report	264.17(g); 264.229				Please provide an answer in the Submitted column!
447	V.D.3.	If SI will manage incompatible wastes as indicated in Table V.D.1., include 264.17 and 264.230 requirements in the engineering report	264.17(h); 264.230				Please provide an answer in the Submitted column!
448	V.D.4.	If SI will manage FO20, FO21, FO22, FO23, FO26, & FO27 as indicated in Table V.D.1., include 264.231 requirement in the engineering report	264.231				Please provide an answer in the Submitted column!
449	V.D.5.	Describe the SI; include a plan view and cross-section					Please provide an answer in the Submitted column!
450	V.D.6.	Freeboard: address Overtopping prevention resulting from:	335.168(g); 264.221(g); 270.17(b)(6)				Please provide an answer in the Submitted column!
451	V.D.6.*a.*	Overtopping prevention from 100-yr, 24-hr storm	335.168(g)				Please provide an answer in the Submitted column!
452	V.D.6.*b.*	Overfilling	335.168(g); 264.221(g)				Please provide an answer in the Submitted column!
453	V.D.6.*c.*	Wind	335.168(g); 264.221(g)				Please provide an answer in the Submitted column!
454	V.D.6.*d.*	Wave action	335.168(g); 264.221(g)				Please provide an answer in the Submitted column!
455	V.D.6.*e.*	Rainfall	335.168(g); 264.221(g)				Please provide an answer in the Submitted column!

456	V.D.6.*f.*	Run-off/Run-on	335.168(g); 264.221(g)				Please provide an answer in the Submitted column!
457	V.D.6.*g.*	Malfunctions of level controllers	335.168(g); 264.221(g)				Please provide an answer in the Submitted column!
458	V.D.7.*a.*	Waste Flow: If SI has inflow, describe overtopping prevention and provide appropriate detailed drawings	335.168(g); 264.221(g)				Please provide an answer in the Submitted column!
459	V.D.7.*b.*	If SI is of flow-through design, describe the flow of waste including hydraulic profile					Please provide an answer in the Submitted column!
460	V.D.8.	Provide dike construction engineering drawings, diagrams and plans, including:	264.221(h); 335.168(h)				Please provide an answer in the Submitted column!
461	V.D.8.a.	Dike engineering certification, certified by a licensed PE	264.226(c); 305.50(a)(7)				Please provide an answer in the Submitted column!
462	V.D.8.a.1.	Stress of pressure from wastes	264.226(c)(1)				Please provide an answer in the Submitted column!
463	V.D.8.a.2.	Will not fail due to scouring or piping	264.226(c)(2)				Please provide an answer in the Submitted column!
464	V.D.8.b.	Structural integrity certified by a licensed PE	264.226(c); 270.17(d)				Please provide an answer in the Submitted column!
465	V.D.8.c.	Report on dike design should include:	335.168(i)				Please provide an answer in the Submitted column!
466	V.D.8.c.1.	Slope stability analysis					Please provide an answer in the Submitted column!
467	V.D.8.c.2.	Hydrostatic and hydrodynamic					Please provide an answer in the Submitted column!
468	V.D.8.c.3.	Storm loading					Please provide an answer in the Submitted column!
469	V.D.8.c.4.	Rapid draw down					Please provide an answer in the Submitted column!
470	V.D.8.d.	Protective cover for earthen dikes (describe protective cover and installation and maintenance)					Please provide an answer in the Submitted column!
471	V.D.9.	Containment System	335.168(i)				Please provide an answer in the Submitted column!
472	V.D.9.a.	Complete and submit Table V.D.6 - Surface Impoundment Liner System in hard copy and editable electronic format	264.221				Please provide an answer in the Submitted column!
473	V.D.9.b.	Include analysis for the following in the Engineering Report:					Please provide an answer in the Submitted column!
474	V.D.9.b.~*.a.*	For artificial liners:	335.168(i); 264.221(a)				Please provide an answer in the Submitted column!
475	V.D.9.b.1.	Seaming method					Please provide an answer in the Submitted column!
476	V.D.9.b.2.	Surface preparation method					Please provide an answer in the Submitted column!
477	V.D.9.b.3.	Tensile strength					Please provide an answer in the Submitted column!
478	V.D.9.b.4.	Impact resistance					Please provide an answer in the Submitted column!
479	V.D.9.b.5.	Compatibility demonstration					Please provide an answer in the Submitted column!
480	V.D.9.b.6.	Foundation design (including settlement potential, bearing capacity and stability, and potential for bottom heave blow-out) for soil liners					Please provide an answer in the Submitted column!
481	V.D.9.b.~*.b.*	For Soil Liners:	335.168(i)				Please provide an answer in the Submitted column!
482	V.D.9.b.7.	Waste migration					Please provide an answer in the Submitted column!
483	V.D.9.b.8.	Atterberg Limits, % passing a # 200 sieve, and permeability					Please provide an answer in the Submitted column!
484	V.D.9.b.9.	Moisture Content					Please provide an answer in the Submitted column!
485	V.D.9.b.10.	Standard Proctor Density & compaction data					Please provide an answer in the Submitted column!
486	V.D.9.b.~*.c.*	For Leachate Collection Systems:	335.168(i); 264.221(c)(2)				Please provide an answer in the Submitted column!
487	V.D.9.b.11.	Pipe Material and Strength					Please provide an answer in the Submitted column!
488	V.D.9.b.12.	Pipe Network Spacing and Grading					Please provide an answer in the Submitted column!
489	V.D.9.b.13.	Collection Sump(s) Material and Strength					Please provide an answer in the Submitted column!
490	V.D.9.b.14.	Drainage Media Specifications and Performance					Please provide an answer in the Submitted column!
491	V.D.9.b.15.	Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe					Please provide an answer in the Submitted column!
492	V.D.9.b.16.	Compatibility Demonstration	264.221(c)(2)(iii)				Please provide an answer in the Submitted column!
493	V.D.9.b.17.	Capacity of System:	264.221(c)(2)(iv-v)				Please provide an answer in the Submitted column!

494	V.D.9.b.17.a.	rate of leachate removal					Please provide an answer in the Submitted column!
495	V.D.9.b.17.b.	capacity of sumps					Please provide an answer in the Submitted column!
496	V.D.9.b.17.c.	thickness of mounding and maximum hydraulic head					Please provide an answer in the Submitted column!
497	V.D.9.c.	Specify installation date and expected life of liner system					Please provide an answer in the Submitted column!
498	V.D.9.d.	Provide tests or documentation for whether the liner is chemically resistant to waste and how this resistance was determined	335.168(a)(1-2)				Please provide an answer in the Submitted column!
499	V.D.9.e.	Submit a QA/QC Plan for all components					Please provide an answer in the Submitted column!
500	V.D.9.f.	Submit Response Action Plan for exceedances of Action Leakage Rate	264.223(a)				Please provide an answer in the Submitted column!
501	V.D.10.	For new and existing impoundment(s), lateral expansion(s) or replacements of existing units, you must meet minimum technological requirements (MTR) unless an appropriate waiver is granted by the Commission. MTR must address:	335.168; 264.221				Please provide an answer in the Submitted column!
502	V.D.10.*a.*	Liner system requirements (must install 2 or more liners):					Please provide an answer in the Submitted column!
503	V.D.10.*a.1.*	Constructed with sufficient strength and thickness	335.168(a)(1); 264.221(a)(1)				Please provide an answer in the Submitted column!
504	V.D.10.*a.2.*	Placed upon foundation	335.168(a)(2); 264.221(a)(2)				Please provide an answer in the Submitted column!
505	V.D.10.*a.3.*	Installed to cover surrounding earth likely to be in contact with waste or leachate	335.168(a)(3); 264.221(a)(3)				Please provide an answer in the Submitted column!
506	V.D.10.*a.4.*	A top liner must be constructed with geomembrane to prevent migration of hazardous	264.221(c)(1)(i)(A) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
507	V.D.10.*a.5.*	A composite bottom liner consisting of at least 2 components constructed of at least 3 ft. or compacted soil	264.221(c)(1)(i)(B) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
508	V.D.10.*b.*	Leakage detection system must be designed constructed with at a minimum:	264.221(c)(2) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
509	V.D.10.*b.1.*	1% or more bottom slope	264.221(c)(2)(i) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
510	V.D.10.*b.2.*	1x 10-1cm/s hydraulic conductivity, 12 in. (30.5 cm) thickness, or synthetic drainage(geonet) with transmissivity of 3X10-4 m2sec or more	264.221(c)(2)(ii) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
511	V.D.10.*b.3.*	Chemical resistant to waste	264.221(c)(2)(iii) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
512	V.D.10.*b.4.*	Minimize clogging	264.221(c)(2)(iv) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
513	V.D.10.*b.5.*	Sumps and liquid removal methods	264.221(c)(2)(v) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
514	V.D.10.*c.*	Collect and remove pumpable liquids in the sumps	264.221(c)(3) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
515	V.D.10.*d.*	Liner system location relative to high water table	264.221(c)(4) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
516	V.D.11.	Run-on Diversion: Describe prevention of run-on to active portion from 100-yr storm	264.221(g); 335.168 (g)				Please provide an answer in the Submitted column!
517	V.D.12.	If submitting alternate design and operating practices for a SI, provide demonstration that alternative design and operating practices, with location characteristics, will:	264.221(d) [as referenced in 335.168(d)]				Please provide an answer in the Submitted column!

518	V.D.12.a.	Prevent migration into the groundwater or surface water at least as effectively as the standard system specified by 40 CFR 264.22(c)	264.221(d)(1) [as referenced in 335.168(d)]				Please provide an answer in the Submitted column!
519	V.D.12.b.	Allow detection of leaks of hazardous constituents through the top liner at least as effectively as the system specified in 40 CFR 264.221(c)	264.221(d)(2) [as referenced in 335.168(c)]				Please provide an answer in the Submitted column!
520	V.D.13.	If seeking an exemption from double liner requirements for monofills, provide detailed plans and specifications with descriptions demonstrating at least equivalent effectiveness of the planned unit compared to one with a double liner system	335.168(e); 264.221(e)				Please provide an answer in the Submitted column!
521	V.D.*14.*	Provide detailed plans and specifications, individually sealed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	305.50(a)(7)				Please provide an answer in the Submitted column!
522	V.E.	**Waste Piles (WP)**	335.152(a)(10); 264 subpart L				
523	V.E.~.	Submit a waste pile engineering report, including at the minimum:	270.18				Please provide an answer in the Submitted column!
524	V.E.~*.a.*	Liner description (design, operation, installation, construction and leachate collection system). For new waste pile unit or lateral expansion of existing unit, must comply with 264.251 (c)	335.170(a)(1-2); 264.251(a)				Please provide an answer in the Submitted column!
525	V.E.~*.b.*	Construction quality assurance program	264.19; EPA Publications 530-SW-85-014 and 600-R-93-182				Please provide an answer in the Submitted column!
526	V.E.~*.c.*	Waste piles that are under a structure and protected from precipitation are not subject to 264.251 so long as:	264.250(c) [as referenced in 335.170(c)]				Please provide an answer in the Submitted column!
527	V.E.~*.c.1.*	Free liquids are not placed in the waste pile	264.250(c)(1) [as referenced in 335.170(c)]				Please provide an answer in the Submitted column!
528	V.E.~*.c.2.*	Protected from precipitation run-on	264.250(c)(2) [as referenced in 335.170(c)]				Please provide an answer in the Submitted column!
529	V.E.~*.c.3.*	Wind dispersal is controlled	264.250(c)(3) [as referenced in 335.170(c)]				Please provide an answer in the Submitted column!
530	V.E.~*.c.4.*	Will not generate leachate	264.250(c)(4) [as referenced in 335.170(c)]				Please provide an answer in the Submitted column!
531	V.E.~*.d.*	Calculation of action leakage rate	264.252				Please provide an answer in the Submitted column!
532	V.E.~*.e.*	Response action plan	264.253				Please provide an answer in the Submitted column!
533	V.E.~*.f.*	Monitoring and inspection during construction	264.254(a)				Please provide an answer in the Submitted column!
534	V.E.1.	Complete and submit Table V.E.1 - Waste Piles in hard copy and editable electronic format	270.18(a)				Please provide an answer in the Submitted column!
535	V.E.2.	If WP will manage ignitable or reactive wastes as indicated in Table V.E.1, include 264.17 & 264.256 requirements in the engineering report	264.17; 264.256				Please provide an answer in the Submitted column!
536	V.E.3.	If WP will manage incompatible wastes as indicated in Table V.E.1, include 264.17 & 264.257 requirements in the engineering report	264.17; 264.257				Please provide an answer in the Submitted column!
537	V.E.4.	If WP will manage FO20, FO21, FO22, FO23, FO26, FO27 as indicated in Table V.D.1, include 264.231 requirement in the engineering report	264.259				Please provide an answer in the Submitted column!
538	V.E.5.	Describe WP design and construction	270.18(c)				Please provide an answer in the Submitted column!

539	V.E.6.	Containment System (applicable to new waste piles and new portions of existing waste piles): Provide containment system design and construction	335.170; Tech. Guidance No. 6; EPA Publications 530-SW-85-014 and 600-R-93-182				Please provide an answer in the Submitted column!
540	V.E.6.a.	Complete and submit liner description (Table V.E.3 - Waste Pile Liner System) in hard copy and editable electronic format					Please provide an answer in the Submitted column!
541	V.E.6.b.	Liner engineering report (design, installation, construction, and operation of the liner and leachate collection system.), include in the analyses:	264.251				Please provide an answer in the Submitted column!
542	V.E.6.b.~*a.*	For Artificial Liners:					Please provide an answer in the Submitted column!
543	V.E.6.b.1.	Seaming method					Please provide an answer in the Submitted column!
544	V.E.6.b.2.	Surface preparation method					Please provide an answer in the Submitted column!
545	V.E.6.b.3.	Tensile strength					Please provide an answer in the Submitted column!
546	V.E.6.b.4.	Impact resistance					Please provide an answer in the Submitted column!
547	V.E.6.b.5.	Compatibility demonstration					Please provide an answer in the Submitted column!
548	V.E.6.b.6.	Foundation design (including settlement potential, bearing capacity and stability, and potential for bottom heave blow-out)					Please provide an answer in the Submitted column!
549	V.E.6.b.~*b.*	For Soil liners:					Please provide an answer in the Submitted column!
550	V.E.6.b.7.	Waste migration analysis (based on head, porosity, and permeability)					Please provide an answer in the Submitted column!
551	V.E.6.b.8.	Atterberg limits, % passing a #200 sieve, and permeability					Please provide an answer in the Submitted column!
552	V.E.6.b.9.	Moisture content					Please provide an answer in the Submitted column!
553	V.E.6.b.10.	Standard proctor density, compaction data					Please provide an answer in the Submitted column!
554	V.E.6.b.~*c.*	For leachate detection, collection, and removal system: 264.251 requirements are for any new and/or lateral expansion of waste pile unit	264.251(a)(2); 264.251(c)(2) [as referenced in 335.170(d)]				Please provide an answer in the Submitted column!
555	V.E.6.b.11.	Capacity of system: rate of leachate removal; capacity of sumps; and thickness of mounding and maximum hydraulic head	264.251(a)(2); 264.251(c)(3)				Please provide an answer in the Submitted column!
556	V.E.6.b.12.	Pipe material strength	264.251(a)(2); 264.251(c)(3)				Please provide an answer in the Submitted column!
557	V.E.6.b.13.	Pipe network spacing and grading	264.251(a)(2); 264.251(c)(3)				Please provide an answer in the Submitted column!
558	V.E.6.b.14.	Collection sump(s) material and strength	264.251(a)(2); 264.251(c)(3)				Please provide an answer in the Submitted column!
559	V.E.6.b.15.	Drainage media specifications and performance	264.251(a)(2); 264.251(c)(3)				Please provide an answer in the Submitted column!
560	V.E.6.b.16.	Analysis showing that pipe and perforation size will prevent clogging and allow free liquid access to the pipe	335.170(a)(2)(B)				Please provide an answer in the Submitted column!
561	V.E.6.b.17.	Compatibility demonstration					Please provide an answer in the Submitted column!
562	V.E.6.c.	Installation date and expected life of liner system					Please provide an answer in the Submitted column!
563	V.E.6.d.	Tests or documentation that liner is chemically resistant to waste	335.170(a)(2)(A)(i)				Please provide an answer in the Submitted column!
564	V.E.6.e.	QA/QC plan					Please provide an answer in the Submitted column!
565	V.E.6.f.	Submit Response Action Plan for exceedances of Action Leakage Rate	264.253(a)				Please provide an answer in the Submitted column!
566	V.E.7.	Describe practices of wind dispersal system control	335.170(j); 264.251(j)				Please provide an answer in the Submitted column!
567	V.E.8.	Describe measures of Run-on Diversion control:	335.170(g); 264.251(g)				Please provide an answer in the Submitted column!
568	V.E.8.*a.*	System prevents flow onto active portion from peak discharge of at least a 100-yr, 24-hr storm	335.170(g); 264.251(g)				Please provide an answer in the Submitted column!

569	V.E.8.*b.*	Include analyses of rates of flow, run-on volume and depth, and backwater calculations					Please provide an answer in the Submitted column!
570	V.E.8.*c.*	Collection and holding facilities managed expeditiously after storm	335.170(i); 264.251(i)				Please provide an answer in the Submitted column!
571	V.E.9.	Describe measures of Run-off Control:	335.170(h); 264.251(h)				Please provide an answer in the Submitted column!
572	V.E.9.*a.*	System collects and controls run-off volume resulting from 100-yr, 24-hr storm	335.170(h); 264.251 (h)				Please provide an answer in the Submitted column!
573	V.E.9.*b.*	Collection and holding facilities managed expeditiously	335.170(i); 264.251(i)				Please provide an answer in the Submitted column!
574	V.E.9.*c.*	Include run-off volume calculations					Please provide an answer in the Submitted column!
575	V.E.10.	Design operating procedures: Must describe residuals (i.e. leachate) and the management process and the equipment used	335.170; 264.251; 264.254				Please provide an answer in the Submitted column!
576	V.E.11.	Description and list of equipment used: Must describe procedures used to place the waste in or on the pile and ensure that the containment system is protected from plant growth	264.251; 264.254; 305.45(a)(8)(C); 335.170(k)				Please provide an answer in the Submitted column!
577	V.E.12.	For an exemption from liner and leachate collection requirements, include:	335.170(b); 264.251(b); 264.251(d) [new WP]				Please provide an answer in the Submitted column!
578	V.E.12.a.	Prevention of waste migrating into ground or surface water at least as effectively as liners, etc.					Please provide an answer in the Submitted column!
579	V.E.12.b.	Will allow detection of leaks through liner at least as effectively					Please provide an answer in the Submitted column!
580	V.E.13.	Demonstrate WP exemption from ground-water monitoring by meeting the following standards:	264.250(c); 264.90(b)				Please provide an answer in the Submitted column!
581	V.E.13.a.	Waste pile location entirely above seasonal high water table					Please provide an answer in the Submitted column!
582	V.E.13.b.	Waste pile inside or under some sort of structure and:	264.250(c)				Please provide an answer in the Submitted column!
583	V.E.13.b.1.	Contains no liquid waste	264.250(c)(1); 264.90(b)(2)(ii)				Please provide an answer in the Submitted column!
584	V.E.13.b.2.	Protected from surface water run-on	264.250(c)(2); 264.90(b)(2)(iii)				Please provide an answer in the Submitted column!
585	V.E.13.b.3.	Has wind dispersal control without wetting waste	264.250(c)(3)				Please provide an answer in the Submitted column!
586	V.E.13.b.4.	Will not generate leachate	264.250(c)(4)				Please provide an answer in the Submitted column!
587	V.E.13.c.	Leachate collection and removal system must be above the top liner	264.90(b)(2)				Please provide an answer in the Submitted column!
588	V.E.13.d.	Liners must be of sufficient strength and thickness to prevent failure, cracking, etc. and:	264.90(b)(2)				Please provide an answer in the Submitted column!
589	V.E.13.d.1.a.	Waste pile must be underlain by 2 liners and a leak detection system to prevent migration	264.90(b)(2)(iv) and (v)				Please provide an answer in the Submitted column!
590	V.E.13.d.1.b.	Demonstration of low potential for migration to uppermost aquifer during life of waste pile including closure period	264.90(b)(2)(vi) and (vii)				Please provide an answer in the Submitted column!
591	V.E.13.d.2.a.	Waste pile must be underlain by a liner that is designed, constructed and installed to prevent migration; and	264.90(b)(2)				Please provide an answer in the Submitted column!
592	V.E.13.d.2.b.	Waste must be removed periodically to inspect liner for signs of deterioration, cracks, etc.	335.170(k)				Please provide an answer in the Submitted column!
593	V.E.*14.*	Provide detailed plans and specifications individually sealed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	305.50(a)(7)				Please provide an answer in the Submitted column!
594	V.F.	**Land Treatment Units (LTU)**	335.152(a)(11); 264 subpart M				

595	V.F.~.	Engineering Report: Submit a land treatment unit report, including at a minimum:	270.2				Please provide an answer in the Submitted column!
596	V.F.~.*a.*	Unsuitable site characteristics (covered under Section II.A & B)	335.204(c)				Please provide an answer in the Submitted column!
597	V.F.~.*b.*	For a new LTU to be located in recharge zone of a regional aquifer, submit a hydrogeologic report prepared by a licensed professional geoscientist or PE along with the Registered Engineering Firm's name and Registration Number	305.50(a)(6)				Please provide an answer in the Submitted column!
598	V.F.~.*c.*	Recordkeeping	264.279				Please provide an answer in the Submitted column!
599	V.F.1.	Complete and submit Tables V.F.1 - Land Treatment Units and V.F.2 - Land Treatment Unit Capacity in hard copy and editable electronic format					Please provide an answer in the Submitted column!
600	V.F.1.~.	For a new LTU, provide the horizontal and vertical dimensions approved by the Regional Administrator. The maximum depth of treatment zone is:	264.271(c)				Please provide an answer in the Submitted column!
601	V.F.1.a.	No more than 1.5 m (5 ft.) from the surface	264.271(c)(1)				Please provide an answer in the Submitted column!
602	V.F.1.b.	More than 1 m (3 ft.) above the seasonal high water table	264.271(c)(2)				Please provide an answer in the Submitted column!
603	V.F.2.	If the LTU will manage incompatible or reactive wastes, as indicated in Table V.F.1, include the requirements of 264.17 & 264.281 in the engineering report	264.281				Please provide an answer in the Submitted column!
604	V.F.3.	If the LTU will manage incompatible or reactive wastes, as indicated in Table V.F.1, include the requirements of 264.17 & 264.282 in the engineering report	264.282				Please provide an answer in the Submitted column!
605	V.F.4.	If LTU will manage FO20, FO21, FO22, FO23, FO26, & FO27, as indicated in Table V.F.1, include the requirements of 264.283 in the engineering report	264.283				Please provide an answer in the Submitted column!
606	V.F.5.	Describe the LTU, including a plan view and cross-section					Please provide an answer in the Submitted column!
607	V.F.6.	Complete and submit Table V. F.3 - Land Treatment Principal Hazardous Constituents in hard copy and editable electronic format					Please provide an answer in the Submitted column!
608	V.F.7.	Describe measures of Run-on diversion control:	335.171(3)				Please provide an answer in the Submitted column!
609	V.F.7.*a.*	System collects and controls run-off volume resulting from 100-yr, 24-hr storm	335.171(3)				Please provide an answer in the Submitted column!
610	V.F.7.*b.*	Collection and holding facilities managed expeditiously after storm	335.171(5)				Please provide an answer in the Submitted column!
611	V.F.8.	Describe measures of Run-off controls:	335.171(4)				Please provide an answer in the Submitted column!
612	V.F.8.*a.*	System collects and controls run-off volume resulting from 100-yr, 24-hr storm	335.171(4)				Please provide an answer in the Submitted column!
613	V.F.8.*b.*	Collection and holding facilities managed expeditiously after storm; and	335.171(5)				Please provide an answer in the Submitted column!
614	V.F.8.*c.*	Run-off volume calculations should be included					Please provide an answer in the Submitted column!
615	V.F.9.	Describe practices of wind dispersal system controls	335.171(6)				Please provide an answer in the Submitted column!
616	V.F.10.	Provide treatment demonstration, including:	264.272				Please provide an answer in the Submitted column!
617	V.F.10.*a.*	A description of plans to conduct treatment demonstration as requirement in 264.272	270.20(a)				Please provide an answer in the Submitted column!
618	V.F.10.*b.*	List of wastes	270.20(a)(1)				Please provide an answer in the Submitted column!
619	V.F.10.*c.*	Characteristics of waste and presence of appendix VIII of 261 constituents	264.272(c)(1)(i)				Please provide an answer in the Submitted column!
620	V.F.10.*d.*	Climate of the area	264.272(c)(1)(ii)				Please provide an answer in the Submitted column!
621	V.F.10.*e.*	Topography of the area	264.272(c)(1)(iii)				Please provide an answer in the Submitted column!
622	V.F.10.*f.*	Characteristics of the soil in the area	264.272(c)(1)(iv)				Please provide an answer in the Submitted column!
623	V.F.10.*g.*	Data sources to be used to make the demonstration	270.20(a)(2)				Please provide an answer in the Submitted column!
624	V.F.10.*h.*	Laboratory or field test that will be conducted, including:	270.20(a)(3)				Please provide an answer in the Submitted column!

625	V.F.10.*h.1.*	Type of test	270.20(a)(3)(i)				Please provide an answer in the Submitted column!
626	V.F.10.*h.2.*	Materials, methods, and analytical procedures	270.20(a)(3)(ii)				Please provide an answer in the Submitted column!
627	V.F.10.*h.3.*	Expected time for completion	270.20(a)(3)(iii)				Please provide an answer in the Submitted column!
628	V.F.10.*h.4.*	Volume and characteristics of the unit to be simulated, including treatment zone, climatic conditions, and operating practices	270.20(a)(3)(iv)				Please provide an answer in the Submitted column!
629	V.F.10.*h.5.*	A description of land treatment program as required under 264.271 that includes: the list of wastes; design and operating procedures; waste application rates and methods; control of pH; microbial enhancement/chemical reactions; and moisture control	270.20(b)				Please provide an answer in the Submitted column!
630	V.F.10.*i.*	Duration of the test	264.272(c)(3)(iii)				Please provide an answer in the Submitted column!
631	V.F.10.*j.*	Conducted in a manner that protects health & environment	264.272(c)(3)				Please provide an answer in the Submitted column!
632	V.F.10.*k.*	Operating practices that will be used at the LTU	264.272(c)(1)(v)				Please provide an answer in the Submitted column!
633	V.F.11.	Provide unsaturated zone monitoring program addressing:	264.278				Please provide an answer in the Submitted column!
634	V.F.11.*a.*	Soil-pore liquid monitoring, which should include:	264.278(a)				Please provide an answer in the Submitted column!
635	V.F.11.*a.1.*	Hazardous constituents, which require approval by the regional administrator	264.278(a)(1)				Please provide an answer in the Submitted column!
636	V.F.11.*a.2.*	Justification of principle hazardous constituents, which require approval by the regional administrator	264.278(a)(2)				Please provide an answer in the Submitted column!
637	V.F.11.*b.*	Sampling location	264.278(b)				Please provide an answer in the Submitted column!
638	V.F.11.*c.*	Background values	264.278(c)				Please provide an answer in the Submitted column!
639	V.F.11.*d.*	Sampling frequency for soil and soil-pore liquid monitoring	264.278(d)				Please provide an answer in the Submitted column!
640	V.F.11.*e.*	Sampling and analysis procedures:	264.278(e)				Please provide an answer in the Submitted column!
641	V.F.11.*e.1.*	Sample collection	264.278(e)(1)				Please provide an answer in the Submitted column!
642	V.F.11.*e.2.*	Sample preservation and shipment	264.278(e)(2)				Please provide an answer in the Submitted column!
643	V.F.11.*e.3.*	Analytical procedures	264.278(e)(3)				Please provide an answer in the Submitted column!
644	V.F.11.*e.4.*	Chain of custody	264.278(e)(4)				Please provide an answer in the Submitted column!
645	V.F.11.*f.*	Statistical methods	264.278(f-g)				Please provide an answer in the Submitted column!
646	V.F.12.	Demonstrate conditions met for food chain crop:	264.276				Please provide an answer in the Submitted column!
647	V.F.12.*a.*	Crops for human consumption	264.276(a)(1)				Please provide an answer in the Submitted column!
648	V.F.12.*b.*	Food chain crops demonstration	264.276(a)(1)				Please provide an answer in the Submitted column!
649	V.F.12.*c.*	Demonstration basis	264.276(a)(2)				Please provide an answer in the Submitted column!
650	V.F.12.*d.*	Test procedures	264.276(a)(3-4)				Please provide an answer in the Submitted column!
651	V.F.12.*e.*	Cadmium bearing wastes	264.276(b)				Please provide an answer in the Submitted column!
652	V.F.12.*f.*	Animal feed	264.276(b)(2)				Please provide an answer in the Submitted column!
653	V.F.13.	Provide detailed plans and specifications individually sealed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	305.50(a)(7)				Please provide an answer in the Submitted column!
656	V.G.~.*a.*	For new landfill only: The costs associated with above-grade construction and potential adverse effect associated with above-grade construction	305.50(a)(5)				Please provide an answer in the Submitted column!
657	V.G.~.*b.*	For a new landfill only: Located in recharge zone must include a hydrogeologic report prepared by a licensed professional geoscientist or PE along with the Registered Engineering Firm's name and Registration Number	305.50(a)(6)				Please provide an answer in the Submitted column!
658	V.G.~.*c.*	Test fill	264.19(c)(2)				Please provide an answer in the Submitted column!
659	V.G.~.*d.*	Calculation of action leakage rate	264.302				Please provide an answer in the Submitted column!

660	V.G.~.*e.*	Monitoring and inspection during construction or installation	264.303(a)				Please provide an answer in the Submitted column!
661	V.G.~.*f.*	Response action plan	264.304(a)				Please provide an answer in the Submitted column!
662	V.G.~.*g.*	Surveying and recordkeeping	264.309				Please provide an answer in the Submitted column!
664	V.G.2.	If a landfill will manage ignitable or reactive wastes, as indicated in Table V.G.1, include the requirements of 264.17 & 264.312 in the engineering report	264.312				Please provide an answer in the Submitted column!
665	V.G.3.	If a landfill will manage incompatible wastes, as indicated in Table V.G.1, include the requirements of 264.17 and 264.313 in the engineering report	264.313				Please provide an answer in the Submitted column!
666	V.G.4.	If a landfill will manage FO20, FO21, FO22, FO23, FO26, & FO27, as indicated in Table V.F.1, include the requirements of 264.317 in the engineering report	264.317				Please provide an answer in the Submitted column!
667	V.G.5.	Describe the landfill, including a plan view and cross-section					Please provide an answer in the Submitted column!
668	V.G.6.	Describe containment system:	TCEQ Tech Guideline #6; EPA Publications 530-SW-85-014, 625/4-89-022, and SW-869				Please provide an answer in the Submitted column!
670	V.G.6.b.	Describe the liners and leachate collection system:					Please provide an answer in the Submitted column!
671	V.G.6.b.~.*a.*	Analysis for artificial liners:	EPA Publications 530-SW-85-014, 625/4-89-022, and SW-869				Please provide an answer in the Submitted column!
672	V.G.6.b.1.	Seaming method					Please provide an answer in the Submitted column!
673	V.G.6.b.2.	Surface preparation method					Please provide an answer in the Submitted column!
674	V.G.6.b.3.	Tensile strength					Please provide an answer in the Submitted column!
675	V.G.6.b.4.	Impact resistance					Please provide an answer in the Submitted column!
676	V.G.6.b.5.	Compatibility demonstration					Please provide an answer in the Submitted column!
677	V.G.6.b.6.	Foundation design					Please provide an answer in the Submitted column!
678	V.G.6.b.~.*b.*	Analysis for soil liners:	EPA Publications 530-SW-85-014, 625/4-89-022, and SW-869				Please provide an answer in the Submitted column!
679	V.G.6.b.7.	Waste migration analysis					Please provide an answer in the Submitted column!
680	V.G.6.b.8.	Atterberg limits, % passing a # 200 sieve, permeability					Please provide an answer in the Submitted column!
681	V.G.6.b.9.	Moisture content					Please provide an answer in the Submitted column!
682	V.G.6.b.10.	Standard proctor density, compaction data					Please provide an answer in the Submitted column!
683	V.G.6.b.~.*c.*	Analysis for leachate collection system:					Please provide an answer in the Submitted column!
684	V.G.6.b.11.	Capacity of the system - Address:					Please provide an answer in the Submitted column!
685	V.G.6.b.11.a.	Rate of leachate removal					Please provide an answer in the Submitted column!
686	V.G.6.b.11.b.	Capacity of sumps					Please provide an answer in the Submitted column!
687	V.G.6.b.11.c.	Thickness of mounding and maximum hydraulic					Please provide an answer in the Submitted column!
688	V.G.6.b.12.	Pipe material strength					Please provide an answer in the Submitted column!
689	V.G.6.b.13.	Pipe network spacing and grading					Please provide an answer in the Submitted column!
690	V.G.6.b.14.	Collection sump material and strength					Please provide an answer in the Submitted column!
691	V.G.6.b.15.	Drainage media specifications and performance					Please provide an answer in the Submitted column!
692	V.G.6.b.16.	Analysis showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe					Please provide an answer in the Submitted column!
693	V.G.6.b.17.	Compatibility demonstration					Please provide an answer in the Submitted column!

694	V.G.6.c.	If liner system and leachate collection components are chemically resistant to wastes, submit tests and documentation					Please provide an answer in the Submitted column!
695	V.G.6.d.	Provide QA/QC plan					Please provide an answer in the Submitted column!
696	V.G.6.e.	Whether the leachate collection components are chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report					Please provide an answer in the Submitted column!
697	V.G.6.f.	Provide a Response Action Plan that proposes actions to be taken in the case of exceedance of the landfill Action Leakage Rate. At a minimum, the Response Action Plan must include the requirements of 40 CFR 264.304	264.304				Please provide an answer in the Submitted column!
698	V.G.7.	Provide for Dikes:	EPA Publications 625/4-89-022 and SW-869				Please provide an answer in the Submitted column!
699	V.G.7.a.	Slope stability analysis					Please provide an answer in the Submitted column!
700	V.G.7.b.	Hydrostatic and hydrodynamic analyses					Please provide an answer in the Submitted column!
701	V.G.7.c.	Ability to withstand scouring from leaky liner, etc.					Please provide an answer in the Submitted column!
702	V.G.8.	For newly regulated units, lateral expansions or replacement of existing units must meet minimum technological requirements (MTR). MTR must address:	335.173; 264.301				Please provide an answer in the Submitted column!
703	V.G.8.*a.*	Top liner migration prevention	264.301(c)(1)(i)(A)				Please provide an answer in the Submitted column!
704	V.G.8.*b.*	Composite bottom liner migration prevention	264.301(c)(1)(i)(B)				Please provide an answer in the Submitted column!
705	V.G.8.*c.*	Leachate collection and removal systems above and between liners	264.301(c)(2)				Please provide an answer in the Submitted column!
706	V.G.8.*d.*	Leachate collection and removal systems between liners and immediately above the bottom composite liner	264.301(c)(3)				Please provide an answer in the Submitted column!
707	V.G.8.*e.*	Removal of pumpable liquids	264.301(c)(4)				Please provide an answer in the Submitted column!
708	V.G.8.*f.*	Liner system location relative to high water table	264.301(c)(5)				Please provide an answer in the Submitted column!
709	V.G.8.*g.*	Design and operating requirements for new and existing liner systems:	335.173; 264.301				Please provide an answer in the Submitted column!
710	V.G.8.*g.1.*	Liner must be constructed of materials that prevent wastes passing into the liner during the active life of the facility	335.173(a)(1)				Please provide an answer in the Submitted column!
711	V.G.8.*g.2.*	Materials have appropriate chemical properties and sufficient strength and thickness to prevent failure due to:	335.173(a)(1)(A)				Please provide an answer in the Submitted column!
712	V.G.8.*g.2.a.*	Pressure gradients (including static head and external hydrogeologic forces)	335.173(a)(1)(A)				Please provide an answer in the Submitted column!
713	V.G.8.*g.2.b.*	Physical contact with waste or leachate	335.173(a)(1)(A)				Please provide an answer in the Submitted column!
714	V.G.8.*g.2.c.*	Climate conditions	335.173(a)(1)(A)				Please provide an answer in the Submitted column!
715	V.G.8.*g.2.d.*	Stress of installation and daily operation	335.173(a)(1)(A)				Please provide an answer in the Submitted column!
716	V.G.8.*g.3.a.*	Liner system foundation	335.173(a)(1)(B)				Please provide an answer in the Submitted column!
717	V.G.8.*g.3.b.*	Liner system coverage	335.173(a)(1)(C)				Please provide an answer in the Submitted column!
718	V.G.8.*g.4.a.*	Bottom liner migration prevention	335.173(a)(2)(A)				Please provide an answer in the Submitted column!
719	V.G.8.*g.4.b.*	Minimize rate of migration of wastes out of landfill	335.173(a)(2)(B)				Please provide an answer in the Submitted column!
720	V.G.8.*g.5.a.*	Leachate collection and removal systems above top liner	335.173(a)(3)				Please provide an answer in the Submitted column!
721	V.G.8.*g.5.b.*	Conditions that ensure leachate depth will not exceed 30 cm (1ft.)	335.173(a)(3); 264.301(c)(3)(ii)				Please provide an answer in the Submitted column!
722	V.G.8.*g.5.c.*	Construction of materials that are chemically resistant to waste and leachate	335.173(a)(3)(A)(i)				Please provide an answer in the Submitted column!
723	V.G.8.*g.5.d.*	Materials strength and thickness	335.173(a)(3)(A)(ii)				Please provide an answer in the Submitted column!
724	V.G.8.*g.5.e.*	Design and operation to prevent clogging	335.173(a)(3)(B)				Please provide an answer in the Submitted column!

725	V.G.8.*g.6.*	Liner system exemption requests;	335.173(b)				Please provide an answer in the Submitted column!
726	V.G.8.*g.7.*	Exemption based on existing portion	335.173(d)				Please provide an answer in the Submitted column!
727	V.G.8.*g.8.*	Exemption for monofills	335.173(e); 264.301(e)				Please provide an answer in the Submitted column!
728	V.G.9.	Provide Site Development Plan, including:					Please provide an answer in the Submitted column!
729	V.G.9.*a.*	Method and rate of waste deposition					Please provide an answer in the Submitted column!
730	V.G.9.*b.*	Waste segregation					Please provide an answer in the Submitted column!
731	V.G.9.*c.*	Average and maximum lift size					Please provide an answer in the Submitted column!
732	V.G.9.*d.*	Average and maximum cell and trench size					Please provide an answer in the Submitted column!
733	V.G.10.	Describe Run-on controls, including:					Please provide an answer in the Submitted column!
734	V.G.10.~.*1.*	Design, construction, operation and maintenance of run-on control system	335.173(g); 264.301(g)				Please provide an answer in the Submitted column!
735	V.G.10.~.*2.*	Collection and holding facilities managed expeditiously					Please provide an answer in the Submitted column!
736	V.G.10.a.	Run-on volume and depth calculations resulting from 100-yr, 24-hr storm	335.173(g)				Please provide an answer in the Submitted column!
737	V.G.10.b.	Back-water calculations (for ditches on plant property)					Please provide an answer in the Submitted column!
738	V.G.11.	Describe Run-off Controls, including:					Please provide an answer in the Submitted column!
739	V.G.11.*a.*	Design, construction, operation and maintenance of run-off control system	335.173(h); 264.301(h)				Please provide an answer in the Submitted column!
740	V.G.11.*b.*	System collects and controls run-off volume resulting from 100-yr, 24-hr storm	335.173(h)				Please provide an answer in the Submitted column!
741	V.G.12.	Describe practices of wind dispersal system controls	335.173(j); 264.301(j)				Please provide an answer in the Submitted column!
742	V.G.13.	Liquid wastes: Provide supporting documentation showing that an appropriate stabilization procedures, etc. were used for the following:	264.314				Please provide an answer in the Submitted column!
743	V.G.13.*a.*	Bulk or containerized free liquids	335.175(a-b); 264.314(a-b)				Please provide an answer in the Submitted column!
744	V.G.13.*b.*	Placement of any liquid waste which is not a hazardous waste in a landfill	335.175(c)				Please provide an answer in the Submitted column!
745	V.G.13.*c.*	Containers holding free liquids:	335.173(d)				Please provide an answer in the Submitted column!
746	V.G.13.*c.1.*	Restriction to small containers (e.g. ampule)	335.173(d)(1)				Please provide an answer in the Submitted column!
747	V.G.13.*c.2.*	Non-storage containers(e.g. battery or capacitor)	335.175(d)(2)				Please provide an answer in the Submitted column!
748	V.G.13.*c.3.*	Labpack containers	335.175(d)(3)				Please provide an answer in the Submitted column!
749	V.G.14.	If providing an alternate design or operating practices, demonstrate the following:	335.175(d); 264.301(d)				Please provide an answer in the Submitted column!
750	V.G.14.a.	Will prevent migration of hazardous constituents into the groundwater					Please provide an answer in the Submitted column!
751	V.G.14.b.	Will allow detection of leaks of hazardous constituents through the top liner at least as effectively					Please provide an answer in the Submitted column!
752	V.G.15.	If seeking an exemption from double-liner requirements for monofills, provide the following:	264.301(e)				Please provide an answer in the Submitted column!
753	V.G.15.*a.*	Alternative design and operation	335.173(b)				Please provide an answer in the Submitted column!
754	V.G.15.*b.*	Nature and quantity of wastes	335.173(b)(1)				Please provide an answer in the Submitted column!
755	V.G.15.*c.*	Proposed alternate design and operation	335.173(b)(2)				Please provide an answer in the Submitted column!
756	V.G.15.*d.*	Hydrogeologic setting , including liners and soils	335.173(b)(3)				Please provide an answer in the Submitted column!
757	V.G.15.*e.*	All other factors which would influence the quality and mobility of leachate produced					Please provide an answer in the Submitted column!
758	V.G.16.	Above-grade benefits: Provide benefits, costs, adverse effects associated with above-grade construction	361.108 (TX Health & Safety Code)				Please provide an answer in the Submitted column!
759	V.G.*17.*	Provide detailed plans and specifications individually sealed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm’s name and Registration Number	305.50(a)(7)				Please provide an answer in the Submitted column!

760	V.H.	**Incinerators**	305 Subchapter I; 335.152(a)(13); 264 subpart O				
761	V.H.1.	Complete and submit Table V.H.1 - Incinerators in hard copy and editable electronic format	270.19; 270.62				Please provide an answer in the Submitted column!
762	V.H.2.	Complete and submit Table V.H.2 - Incinerator Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems in hard copy and editable electronic format					Please provide an answer in the Submitted column!
763	V.H.3.	Complete and submit Table V.H.3 - Maximum Constituent Feed Rates in hard copy and editable electronic format					Please provide an answer in the Submitted column!
764	V.H.4.	Complete and submit Table V.H.4 - Maximum Allowable Emission Rates in hard copy and editable electronic format					Please provide an answer in the Submitted column!
765	V.H.5.	Complete and submit Table V.H.5 - Incinerator Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems - Short-Term Operation during shakedown period, trial burn period and period after completion of initial trial burn					Please provide an answer in the Submitted column!
766	V.H.6.	Describe precautions taken for management of reactive and/or incompatible wastes	264.17				Please provide an answer in the Submitted column!
767	V.H.7.	If incinerator manages FO20, FO21, FO22, FO23, FO26, or FO27, the DRE requirement is 99.9999%	264.343(a)(2)				
768	V.H.8.	For trial burn, one or more of Appendix VIII organic compounds present in waste must be designated as POHC. Selection based on concentration in waste feed and degree of difficulty to incinerate. Complete and submit Table V.H.8 - Principal Organic Hazardous Constituents in hard copy and editable electronic format					Please provide an answer in the Submitted column!
769	V.H.9.	Submit QA/QC Plan for sampling, analysis and monitoring for trail burn					Please provide an answer in the Submitted column!
770	V.H.10.	Integration with MACT Standards Minimization of emissions from startup, shutdown, and malfunction events for permitted units, identify the following if applicable:	305.175-176; 270.235				Please provide an answer in the Submitted column!
771	V.H.10.*a.*	Retain relevant permit conditions	270.235(a)(i)				Please provide an answer in the Submitted column!
772	V.H.10.*b.*	Revise relevant permit conditions	270.235(a)(ii)				Please provide an answer in the Submitted column!
773	V.H.10.*c.*	Remove permit conditions with approved plan documentation	270.235(a)(iii)				Please provide an answer in the Submitted column!
774	V.H.*11.*	INCINERATOR TRIAL BURN PLAN:	No Letter = Common D=DILO (Data In Lieu of Testing)				
775	V.H.*11.a.*	TRIAL BURN PLAN REQUIREMENTS: Provide information describing the plans for the test that demonstrates the following requirements:	305.172/305.175 (New); 270.62/305.174/305.175 (Existing)				
776	V.H.*11.a.1.*	Incinerator engineering description:	305.172(2)(B); 270.62(b)(2)(ii); D:270.19(c)(2)				Please provide an answer in the Submitted column!
777	V.H.*11.a.1.a.*	Manufacturer's name and model number of the incinerator	305.172(2)(B)(i); 270.62(b)(2)(ii)(A); D:270.19(c)(2)(i)				Please provide an answer in the Submitted column!

778	V.H.*11.a.1.b.*	Type of incinerator	305.172(2)(B)(ii); 270.62(b)(2)(ii)(B); D:270.19(c)(2)(ii)				Please provide an answer in the Submitted column!
779	V.H.*11.a.1.c.*	Linear dimensions including cross sectional area of combustion chamber	305.172(2)(B)(iii); 270.62(b)(2)(ii)(C); D:270.19(c)(2)(iii)				Please provide an answer in the Submitted column!
780	V.H.*11.a.1.d.*	Description of auxiliary fuel supply, type/feed, max and typical rate, and heat value	305.172(2)(B)(iv); 270.62(b)(2)(ii)(D); D:270.19(c)(2)(iv)				Please provide an answer in the Submitted column!
781	V.H.*11.a.1.e.*	Capacity of prime combustion air mover(s)	305.172(2)(B)(v); 270.62(b)(2)(ii)(E); D:270.19(c)(2)(v)				Please provide an answer in the Submitted column!
782	V.H.*11.a.1.f.*	Description of automatic waste feed cutoff system, cut off values, instrumentation with instrument range and accuracy	305.172(2)(B)(vi); 270.62(b)(2)(ii)(F); D:270.19(c)(2)(vi)				Please provide an answer in the Submitted column!
783	V.H.*11.a.1.g.*	Stack gas monitoring and pollution control equipment monitoring system with instrument range and accuracy	305.172(2)(B)(vii); 270.62(b)(2)(ii)(G); D:270.19(c)(2)(vii)				Please provide an answer in the Submitted column!
784	V.H.*11.a.1.h.*	Nozzle, injector. and burner design	305.172(2)(B)(viii); 270.62(b)(2)(ii)(H); D:270.19(c)(2)(viii)				Please provide an answer in the Submitted column!
785	V.H.*11.a.1.i.*	Construction material	305.172(2)(B)(ix); 270.62(b)(2)(ii)(I); D:270.19(c)(2)(ix)				Please provide an answer in the Submitted column!
786	V.H.*11.a.1.j.*	Location and description of temperature, pressure, and flow indicating and control devices with instrument range and accuracy	305.172(2)(B)(x); 270.62(b)(2)(ii)(J); D:270.19(c)(2)(x)				Please provide an answer in the Submitted column!
787	V.H.*11.a.1.k.*	Emergency shutdown procedures	305.172(2)(B)(vi) and (2)(G); 270.62(b)(2)(vii)				Please provide an answer in the Submitted column!
788	V.H.*11.a.2.*	Description of air pollution control equipment operation and control	305.172(2)(F); 270.62(b)(7)(vi)				Please provide an answer in the Submitted column!
789	V.H.*11.a.3.*	Identification of fugitive emission source, location, emission rate, and their means of control 40 CFR 264.345(d)	305.172(2)(H) and 305.172(7)(G); 270.62(b)(2)(viii) and 270.62(b)(7)(vii); D:270.19(c)(7)				Please provide an answer in the Submitted column!
790	V.H.*11.a.4.*	Analysis of each waste or mixture of wastes:	305.172(2)(A); 270.62(b)(2)(i); D:270.19(c)(1)				Please provide an answer in the Submitted column!
791	V.H.*11.a.4.a.*	Waste heat value	305.172(2)(A)(i); 270.62(b)(2)(i)(A); 270.19(c)(1)(i)				Please provide an answer in the Submitted column!
792	V.H.*11.a.4.b.*	Levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, all metals routinely detected by EPA Method used, total chlorine/chloride, and ash	305.172(2)(H); 270.62(b)(2)(viii); D:270.19(c)(7)				Please provide an answer in the Submitted column!

793	V.H.*11.a.4.c.*	Viscosity (if applicable) or description of physical form of waste feed stream	305.172(2)(A)(ii); 270.62(b)(2)(i)(B); D:270.19(c)(1)(ii)				Please provide an answer in the Submitted column!
794	V.H.*11.a.4.d.*	Identification of any hazardous constituents listed in Part261 appendix VIII	305.172(2)(A)(iii); 270.62(b)(2)(i)(C); D:270.19(c)(1)(iii)				Please provide an answer in the Submitted column!
795	V.H.*11.a.4.e.*	Approximate quantification of all hazardous constituents	305.172(2)(A)(iv); 270.62(b)(2)(i)(D); D:270.19(c)(1)(iv)				Please provide an answer in the Submitted column!
796	V.H.*11.a.4.f.*	POHC selection	305.172(4); 270.62(b)(4); D:270.19(c)(1)(v)				Please provide an answer in the Submitted column!
797	V.H.*11.a.5.*	Sampling analysis, and monitoring procedures, locations, equipment description, frequency, and procedures	305.172(2)C); 270.62(b)(2)(iii); D:270.19(c)(2)(x)				Please provide an answer in the Submitted column!
798	V.H.*11.a.6.*	Detailed trial burn schedule including dates, duration, quantity of waste to be burned, and other factors	305.172(2)(D); 270.62(b)(2)(iv)				Please provide an answer in the Submitted column!
799	V.H.*11.a.7.*	Detailed test protocol table with column for each test condition containing detailed test conditions for each waste stream, operating temperatures, each waste feed rate, combustion gas velocity, use of auxiliary fuel, and other relevant parameter. Historical justification of Trial Burn test conditions	305.172(2)(E); 270.62(b)(2)(v)				Please provide an answer in the Submitted column!
800	V.H.*11.a.8.*	Other Information including, but not limited to, Engineering Drawings including incinerator, air pollution control devices, sampling protocols and access, PFD, PI&D, elevations and plan views, piping, containment, vessels, specifications, and calculations appropriately sealed	305.172(2)(H); 270.62(b)(2)(viii); D:270.19(c)(7)				Please provide an answer in the Submitted column!
801	V.H.*11.b.*	TYPICAL AND MAXIMUM FLOW RATE OF EACH WASTE STREAM	305.172(2)(H); 270.62(b)(2)(viii); D:270.19(c)(7)				Please provide an answer in the Submitted column!
802	V.H.*11.c.*	DATA OBJECTIVES FOR TRIAL BURN:					
803	V.H.*11.c.1.*	Quantitative analysis of POHCs in waste feed to incinerator	305.172(7)(A); 270.62(b)(7)(i); D:270.19(c)(8)				Please provide an answer in the Submitted column!
804	V.H.*11.c.2.*	Quantitative analysis of metals in feed streams, hazardous waste, and other fuels	270.66(f)(1) (by procedure); D:270.19(c)(7)				Please provide an answer in the Submitted column!
805	V.H.*11.c.3.*	Quantitative analysis of exhaust gas for POHCs, O2, & HCl, metals, and chlorine	305.172(7)(B); 270.62(b)(7)(ii); 270.66(f)(4) (by procedure); D:270.19(c)(5)				Please provide an answer in the Submitted column!
806	V.H.*11.c.4.*	Quantitative analysis of scrubber water (if used), ash residue, and other residues for fate of POHCs	305.172(7)(C); 270.62(b)(7)(iii)				Please provide an answer in the Submitted column!
807	V.H.*11.c.5.*	Computation of DRE per 40 CFR 264.343(b)	305.172(7)(D); 270.62(b)(7)(iv); D:270.19(c)(5)				Please provide an answer in the Submitted column!

808	V.H.*11.c.6.*	Computation of HCl removal efficiency per 40 CFR 264.343(b)	305.172(7)(E); 270.62(b)(7)(v); D:270.19(c)(5) and (6)(vii)				Please provide an answer in the Submitted column!
809	V.H.*11.c.7.*	Computation of PM per 40 CFR 264.343('c)	305.172(7)(F); 270.62(b)(7)(vi); D:270.19(c)(5)				Please provide an answer in the Submitted column!
810	V.H.*11.c.8.*	Measurement of average, maximum, and minimum temperatures and combustion gas velocity	305.172(7)(H); 270.62(b)(7)(viii); D:270.19(c)(6)(v) and (c)(5)				Please provide an answer in the Submitted column!
811	V.H.*11.c.9.*	Continuous measurements of CO in exhaust gas	305.172(7)(I); 270.62(b)(7)(ix); D:270.19(c)(5)(ii)				Please provide an answer in the Submitted column!
812	V.H.*11.c.10.*	Other Information	305.172(7)(J); 270.62(b)(7)(x); D:270.19(c)(7)				Please provide an answer in the Submitted column!
813	V.H.*11.d.*	PERFORMANCE STANDARDS:					
814	V.H.*11.d.1.*	Incinerator burning HW must achieve a DRE of 99.99% for each POHC	264.343(a)(1)				Please provide an answer in the Submitted column!
815	V.H.*11.d.2.*	An incinerator burning HW FO20, FO21, FO22, FO23, FO26, or FO27 must achieve a DRE of 99.9999% for each POHC	264.343(a)(2)				Please provide an answer in the Submitted column!
816	V.H.*11.d.3.*	An incinerator burning HW and producing stack emissions of more than 1.8 kg/hr. (4lbs/hr.) of HCl must control HCl emissions if 1.8 kg/hr. or 1% of HCl in the stack gas prior to entering any pollution control equipment	264.343(b)				Please provide an answer in the Submitted column!
817	V.H.*11.d.4.*	An incinerator burning HW must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter(0.08 grains per dry standard cubic foot) when corrected for the amount of 02 in the stack gas	264.343(c)				Please provide an answer in the Submitted column!
818	V.H.*11.e.*	METALS EMISSIONS CONTROLS:	By Guidance/Procedure apply 266.106 and 270.22				
819	V.H.*11.e.1.*	Tier 1 feed rate screening limits for metals are specified in Part 266 Appendix I as a function of TESH, Terrain type and land use - No test required:	266.106(b); 270.22(a)(3)				Please provide an answer in the Submitted column!
820	V.H.*11.e.1.a.*	Noncarcinogenic metals in all feed streams (HW, fuel, and industrial furnace feed stock)	266.106(b)(1); 270.22(a)(3)(i-iii)				Please provide an answer in the Submitted column!
821	V.H.*11.e.1.b.*	Carcinogenic metals in all fee streams HW, fuel, and industrial furnace feed stock	266.106(b)(2)(i-ii); 270.22(a)(3)(i-iii)				Please provide an answer in the Submitted column!
822	V.H.*11.e.1.c.*	Terrain-adjusted effective stack height (TESH)determined	266.106(b)(3)(i-iii); 270.22(a)(3)(iv)				Please provide an answer in the Submitted column!
823	V.H.*11.e.1.d.*	Terrain type- Non-complex or Complex	266.106(b)(4); 270.22(a)(3)(iv)				Please provide an answer in the Submitted column!
824	V.H.*11.e.1.e.*	Land use - urban or rural	266.106(b)(5); 270.22(a)(3)(iv)				Please provide an answer in the Submitted column!
825	V.H.*11.e.1.f.*	Multiple Stacks - all emissions form calculated worst-case stack	266.106(b)(6); 270.22(a)(3)(v)				Please provide an answer in the Submitted column!
826	V.H.*11.e.1.g.*	Eligible for Tier I	266.106(b)(7); 270.22(a)(3)(vi)				Please provide an answer in the Submitted column!

827	V.H.*11.e.1.h.*	Metals feed rate monitoring	266.106(b)(8); 270.22(a)(3)(i-iii) & (vii)				Please provide an answer in the Submitted column!
828	V.H.*11.e.2.*	Tier II emissions rate screening limits for metals are specified in Part 266 Appendix I as a function of: TESH, terrain type, and land use. Test required:	266.106(c); 270.22(a)(1); 270.66				Please provide an answer in the Submitted column!
829	V.H.*11.e.2.a.*	Noncarcinogenic metals	266.106(c)(1)				Please provide an answer in the Submitted column!
830	V.H.*11.e.2.b.*	Carcinogenic metals	266.106(c)(2)				Please provide an answer in the Submitted column!
831	V.H.*11.e.2.c.*	Emissions rate limits must be implemented by limiting feed rates of metals to trial burn levels, total feed rate per 266.102(e)(6)	266.106(c)(3)				Please provide an answer in the Submitted column!
832	V.H.*11.e.2.d.*	Terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and eligibility criteria in 266.106(b) apply	266.106(c)(4)				Please provide an answer in the Submitted column!
833	V.H.*11.e.2.e.*	Multiple stacks - all emissions from calculated worst-case stack	266.106(c)(5)				Please provide an answer in the Submitted column!
834	V.H.*11.e.3.*	Tier III and Adjusted Tier I site-specific risk assessment - Test required:	206.106(d); 270.22(a)(1); 270.66				Please provide an answer in the Submitted column!
835	V.H.*11.e.3.a.*	Metals and controls must be demonstrated by testing using air dispersion modeling to predict the maximum annual average off-site ground level concentration and that acceptable ambient levels are not exceeded	266.106(d)(1)				Please provide an answer in the Submitted column!
836	V.H.*11.e.3.b.*	Acceptable ambient levels listed in Part 266 Appendices IV and V	266.106(d)(2)				Please provide an answer in the Submitted column!
837	V.H.*11.e.3.c.*	Carcinogenic metals - the sum of the ratios of the predicted maximum and annual average off-site ground level concentration to RSDs shall not exceed 1.0	266.106(d)(3)				Please provide an answer in the Submitted column!
838	V.H.*11.e.3.d.*	Noncarcinogenic metals - The predicted maximum annual average off-site ground level concentration or each metal shall not exceed the RAC	266.106(d)(4)				Please provide an answer in the Submitted column!
839	V.H.*11.e.3.e.*	Multiple stacks- Must perform emissions testing and dispersion modeling to demonstrate aggregate emissions from all stacks do not exceed acceptable ambient levels	266.106(d)(5)				Please provide an answer in the Submitted column!
840	V.H.*11.e.3.f.*	Feed rate limits set to levels during trial burn or compliance testing	266.106(d)(6)				Please provide an answer in the Submitted column!
841	V.H.*11.e.4.*	Adjusted Tier 1 feed rate screening limits - Determined using Part 266 Appendix 1 screening limit and site-specific dispersion modeling. No test required	266.106(e); 270.22(a)(3)				Please provide an answer in the Submitted column!
842	V.H.*11.e.5.*	Alternative Tier II or III implementation approaches	266.106(f); 270.22(c)				Please provide an answer in the Submitted column!
843	V.H.*11.e.6.*	Emission testing for metals shall be conducted using the Multiple Metals Train as described in Part 266 Appendix IX:	266.106(g)				Please provide an answer in the Submitted column!
844	V.H.*11.e.6.a.*	Metal testing shall be conducted using Method 0060	266.106(g)(1)				Please provide an answer in the Submitted column!
845	V.H.*11.e.6.b.*	Hexavalent Chromium – Chromium Emissions are assumed to be hexavalent chromium unless emission testing is conducted using Method 0061	266.106(g)(2)				Please provide an answer in the Submitted column!
846	V.H.*11.e.7.*	Dispersion modeling methods required under this section	266.106(h)				Please provide an answer in the Submitted column!
847	V.H.*11.f.*	HCl & Cl2 EMISSIONS STANDARDS:	By Guidance/Procedure apply 266.107 and 270.22				
848	V.H.*11.f.1.*	Tier 1 feed rate screening limits - Feed rate screening limits specified in Part 266 Appendix II as a function of TESH, Terrain type, and land use - Analysis required: Feed rate of total chlorine and chloride, organic and inorganic, in HW, fuels and industrial furnace feed stocks	266.107(b)(1); 270.22(a)(5); D:270.22(a)(6)				Please provide an answer in the Submitted column!

849	V.H.*11.f.2.*	Tier II emissions rate screening limits - Emission rate screening limits specified in Part 266, Appendix III as a function of TESH, Terrain type, and land use - emission test required	266.107(b)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
850	V.H.*11.f.3.*	Terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and eligibility criteria in 266.106(b) apply	266.107(b)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
851	V.H.*11.f.4.*	Multiple stacks - If more than one on-site stack from a BIF, the incinerator or other treatment unit is subject to control HCl and Cl2 under RCRA permit or interim status and must comply with Tier I and II screening limits	266.107(b)(4); D:270.22(a)(6)				Please provide an answer in the Submitted column!
852	V.H.*11.f.5.*	Tier III Site - Specific Risk Assessments - Emissions test required:	266.107(c)				Please provide an answer in the Submitted column!
853	V.H.*11.f.5.a.*	Emission rate for HCl and Cl2 - demonstrated by using air dispersion modeling to predict the maximum annual average off-site ground level concentration for HCl and Cl2 and demonstrate that acceptable ambient levels are not exceeded	266.107(c)(1); D:270.22(a)(6)				Please provide an answer in the Submitted column!
854	V.H.*11.f.5.b.*	Acceptable ambient levels are listed in Part 266 Appendix IV for HCl and Cl2	266.106(c)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
855	V.H.*11.f.5.c.*	MULTIPLE STACKS - must demonstrate that aggregate emissions for all on-site stacks do not exceed acceptable ambient levels	266.107(c)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
856	V.H.*11.f.6.*	Averaging periods defined in 266.102(e)(6)	266.107(d); D:270.22(a)(6)				Please provide an answer in the Submitted column!
857	V.H.*11.f.7.*	Adjusted Tier 1 feed rate screening limits - No test required	266.107(e); D:270.22(a)(6)				Please provide an answer in the Submitted column!
858	V.H.*11.f.8.*	Emission testing - HCl and Cl2 sampling shall be conducted using the procedures described in Methods 0050 or 0051	266.107(f); D:270.22(a)(6)				Please provide an answer in the Submitted column!
859	V.H.*11.f.9.*	Dispersion modeling per 40 CFR 266.106(h)	266.107(g)				Please provide an answer in the Submitted column!
860	V.H.*11.g.*	QA/QC PLAN	Guidance				Please provide an answer in the Submitted column!
861	V.H.*11.h.*	PROVIDE INFORMATION REGARDING ADDITIONAL DATA REQUIRED FOR DATA IN LIEU OF TESTING (DILO):	270.19(c)				Please provide an answer in the Submitted column!
862	V.H.*11.h.1.*	Waste Description and analysis comparisons	270.19(c)(4)				Please provide an answer in the Submitted column!
863	V.H.*11.h.2.*	Incinerator and pollution control design and operation condition comparison including firebox, burners/injectors, incinerator, air pollution control device and operation, and sampling port and process measurement locations	270.19(c)(4)				Please provide an answer in the Submitted column!
864	V.H.*11.h.3.*	Previous trial burn results:	270.19(c)(5)				Please provide an answer in the Submitted column!
865	V.H.*11.h.3.a.*	Sampling and analysis methods	270.19(c)(5)(i)				Please provide an answer in the Submitted column!
866	V.H.*11.h.3.b.*	Methods and results of monitoring	270.19(c)(5)(ii)				Please provide an answer in the Submitted column!
867	V.H.*11.h.4.*	Expected incinerator operation comparison	270.19(c)(6)				Please provide an answer in the Submitted column!
868	V.H.*11.h.5.*	Data from comparable facility or unit and Supplemental Information	270.19(c)(7)				Please provide an answer in the Submitted column!
869	V.H.*11.h.*	Provide QA/QC information for data validation, including chromatograms, Chain of Custody, sample preservation records, laboratory notes, etc.	305.172(7)(J); EPA Publication SW-846; D:270.19(c)(7)				Please provide an answer in the Submitted column!
870	V.H.*11.h.*	Other Information for comparison including, but not limited to engineering drawings for incinerator, air pollution control devices, sampling ports and access, PI&D, elevations, and plan views, all sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	305.172(7)(J); D:270.19(c)(7)				Please provide an answer in the Submitted column!
871	V.I.	**Boilers and Industrial Furnaces**	335.221-225; 266 subpart H				

872	V.I.1.	Complete and submit Table V.I.1 - Boilers and Industrial Furnaces in hard copy and editable electronic format	270.22; 270.66				Please provide an answer in the Submitted column!
873	V.I.2.	Complete and submit Table V.I.2 - Boiler and Industrial Furnace Permit Conditions, Monitoring, and Automatic Feed Cutoff Systems in hard copy and editable electronic format					Please provide an answer in the Submitted column!
874	V.I.3.	Complete and submit Table V.I.3 - Maximum Constituent Feed Rates in hard copy and editable electronic format					Please provide an answer in the Submitted column!
875	V.I.4.	Complete and submit Table V.I.4 - Maximum Allowable Emission Rates in hard copy and editable electronic format					Please provide an answer in the Submitted column!
876	V.I.5.	Complete and submit Table V.I.5 - Boiler and Industrial Furnace Permit Conditions, Monitoring, and Automatic Waste Feed Cutoff Systems - Short-Term Operation during shakedown period, trial burn period, and period after completion of the initial trial burn					Please provide an answer in the Submitted column!
877	V.I.6.	Describe procedures to manage reactive and/or incompatible wastes	264.17				Please provide an answer in the Submitted column!
878	V.I.7.	For FO20, FO21, FO22, FO23, FO26, and/or FO27 wastes the DRE is 99.9999%	266.104(a)(3)				
879	V.I.8.	For trial burn, one or more of Appendix VIII organic compounds present in waste must be designated as POHC. Selection based on concentration in waste feed and degree of difficulty to incinerate. Complete and submit Table V.I.8 - Principal Organic Hazardous Constituents	266.104(a)(2)				Please provide an answer in the Submitted column!
880	V.I.9.	Submit QA/QC plan for all sampling, analysis, and monitoring activities for trial burn	Guidance				Please provide an answer in the Submitted column!
881	V.I.10.	As applicable, information for facilities requesting addressing of permit conditions deferred to HWC MACT compliance	270.235(1)(a)(i)-(iii); 305.572(a)(6)				Please provide an answer in the Submitted column!
882	V.I.*11.*	B/IF TB/RB CHECKLIST:	No Letter = Common D = DILO (Data In Lieu of Testing)				
883	V.I.*11.a.*	TRIAL BURN PLAN REQUIREMENTS: Provide information describing the plans for the test that demonstrates the following requirements:					
884	V.I.*11.a.1.*	Provide detailed engineering description of BIF:	270.66(c)(3); D.270.22(a)(6)				Please provide an answer in the Submitted column!
885	V.I.*11.a.1.a.*	Manufacturer's name and model number or the boiler or industrial furnace	270.66(c)(3)(i); D:270.22(a)(6)				Please provide an answer in the Submitted column!
886	V.I.*11.a.1.b.*	Type of boiler or industrial furnace	270.66(c)(3)(ii) D:270.22(a)(6)				Please provide an answer in the Submitted column!
887	V.I.*11.a.1.c.*	Maximum design capacity in appropriate units	270.66(c)(3)(iii); D:270.22(a)(6)				Please provide an answer in the Submitted column!
888	V.I.*11.a.1.d.*	Description of hazardous waste feed system, and other fuels and feed stocks, nozzle, and injector	270.66(c)(3)(iv); D:270.22(a)(6)				Please provide an answer in the Submitted column!
889	V.I.*11.a.1.e.*	Capacity of hazardous waste feed system	270.66(c)(3)(v) D:270.22(a)(6)				Please provide an answer in the Submitted column!
890	V.I.*11.a.1.f.*	Typical and maximum flow rate of each waste stream	270.66(c)(9); D:270.22(a)(6)				Please provide an answer in the Submitted column!
891	V.I.*11.a.1.g.*	Description of automatic waste feed cutoff system, cut off values, instrumentation with instrument range and accuracy	270.66(c)(3)(vi); D:270.22(a)(6)				Please provide an answer in the Submitted column!

892	V.I.*11.a.1.h.*	Description of any air pollution control system	270.66(c)(3)(vii); D:270.22(a)(6)				Please provide an answer in the Submitted column!
893	V.I.*11.a.1.i.*	Description of stack gas monitoring and pollution control monitoring systems with instrument range and accuracy	270.66(c)(3)(viii); D:270.22(a)(6)				Please provide an answer in the Submitted column!
894	V.I.*11.a.1.j.*	Emergency shutdown procedures	270.66(c)(3)(vi); 270.66(c)(8); D:270.22(a)(6)				Please provide an answer in the Submitted column!
895	V.I.*11.a.2.*	Description of air pollution control equipment operation and control, and planned operation conditions	270.66(c)(7); D:270.22(a)(6)				Please provide an answer in the Submitted column!
896	V.I.*11.a.3.*	Identification of fugitive emission source, location, and their means of control	270.66(f)(6); D:270.22(a)(6)				Please provide an answer in the Submitted column!
897	V.I.*11.a.4.*	Analysis of all and each feed stream including HW, other fuels, feed stocks:	270.66(c)(1); D:270.22(a)(6)				Please provide an answer in the Submitted column!
898	V.I.*11.a.4.a.*	Heat value, levels of antimony, barium, beryllium, cadmium, chromium, lead mercury, silver, thallium, all metals routinely detected*by EPA Methods used, total chlorine/chloride, and ash	270.66(c)(1)(i); D:270.22(a)(6)				Please provide an answer in the Submitted column!
899	V.I.*11.a.4.b.*	Viscosity (if liquid) or description of physical form of feed stream	270.66(c)(1)(ii); D:270.22(a)(6)				Please provide an answer in the Submitted column!
900	V.I.*11.a.5.*	Analysis each HW as fired:	270.66(c)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
901	V.I.*11.a.5.a.*	Identification of any hazardous constituents listed in Appendix VIII, Part 261	270.66(c)(2)(i); D:270.22(a)(6)				Please provide an answer in the Submitted column!
902	V.I.*11.a.5.b.*	Approximate quantification of hazardous constituents identified, SW-846	270.66(c)(2)(ii); D:270.22(a)(6)				Please provide an answer in the Submitted column!
903	V.I.*11.a.5.c.*	Description of blending procedures, analysis of blending materials, ratios (if applicable)	270.66(c)(2)(iii); D:270.22(a)(6)				Please provide an answer in the Submitted column!
904	V.I.*11.a.6.*	POHC selection	270.66(e); D:270.22(a)(6)				Please provide an answer in the Submitted column!
905	V.I.*11.a.7.*	Detailed description of sampling and monitoring procedures including locations, frequency, and planned analytical procedures	270.66(c)(4); D:270.22(a)(6)				Please provide an answer in the Submitted column!
906	V.I.*11.a.8.*	Detailed test schedule including dates, durations, quantity of waste to be burned, and other factors:	270.66(c)(5)				Please provide an answer in the Submitted column!
907	V.I.*11.a.8.a.*	Table with column for each test condition containing detailed test conditions for each waste stream, operating temperatures, waste feed rate, combustion gas velocity and flow rate, use of auxiliary feed, hazardous waste feed rates, other fuel feed rates, planned operating conditions for emission control equipment, other relevant parameters, justification for test condition including historical justification, if any	270.66(c)(6)				Please provide an answer in the Submitted column!
908	V.I.*11.a.9.*	Other information including, but not limited to, Engineering Drawings including boiler, combustion chamber, air pollution control devices, sampling ports and access, PFD, PI&D, elevations and plan views, instrument/control measurement locations, piping containment, vessels, specifications, and calculations, all sealed as appropriate	270.66(c)(9)				Please provide an answer in the Submitted column!
909	V.I.*11.b.*	DATA OBJECTIVES FOR TRIAL BURN:					
910	V.I.*11.b.1.*	Quantitative analysis of metals in feed streams, HW, and other fuels	270.66(f)(1); D:270.22(a)(6)				Please provide an answer in the Submitted column!

911	V.I.*11.b.2.*	DRE trial burn:	270.66(f)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
912	V.I.*11.b.2.a.*	Quantitative analysis of POHCs in waste feed to incinerator	270.66(f)(2)(i); D:270.22(a)(6)				Please provide an answer in the Submitted column!
913	V.I.*11.b.2.b.*	Quantitative analysis of exhaust gas for POHCs, O2, HCl	270.66(f)(2)(iii); D:270.22(a)(6)				Please provide an answer in the Submitted column!
914	V.I.*11.b.2.c.*	Computation of DRE per 40 CFR 264.343(a)	270.66(f)(2)(iii)				Please provide an answer in the Submitted column!
915	V.I.*11.b.3.*	For trial burn for chlorinated dioxins and furans - stack gas analysis for CDDs/CDFs, if applicable	270.66(f)(3)				Please provide an answer in the Submitted column!
916	V.I.*11.b.4.*	For trial burn for particulate matter, metals, or HCl/C12, must provide stack gas analysis for PM, metals, or HCl/Cl2, and computations	270.66(f)(4); D:270.22(a)(6)				Please provide an answer in the Submitted column!
917	V.I.*11.b.5.*	For trial burn for DRE, metals or HCl/Cl2, must provide analysis of scrubber water (if any), ash, other residues for POHCs, metals, and HCl/Cl2, and computations	270.66(f)(5); D:270.22(a)(6)				Please provide an answer in the Submitted column!
918	V.I.*11.b.6.*	Continuous measurements of CO, O2, HC in stack gas	270.66(f)(7); D:270.22(a)(6)				Please provide an answer in the Submitted column!
919	V.I.*11.b.7.*	Permit standards for burners-emission standards	266.102(c); D:270.22(a)(6)				Please provide an answer in the Submitted column!
920	V.I.*11.c.*	STANDARDS TO CONTROL ORGANIC EMISSIONS:	266.104; D:270.22(a)(6)				
921	V.I.*11.c.1.*	DRE standard of 99.99% for all HW constituents in the waste feed	266.104(a)(1); D:270.22(a)(6)(i)(A)				Please provide an answer in the Submitted column!
922	V.I.*11.c.2.*	Designation of POHCs - those compounds in compliance with the DRE requirements in a trial burn in conformance with procedures prescribed in 270.66	270.66(a)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
923	V.I.*11.c.3.*	Dioxin listed waste-must achieve DRE of 99.999% for each POHCs as stated above	270.66(a)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
924	V.I.*11.d.*	SPECIAL PROVISIONS FOR BOILERS:					
925	V.I.*11.d.1.*	Automatic waiver or DRE trial burn for Boilers that operate complaint with 266.110 that do not burn HW containing (or derived from) EPA hazardous waste FO20, FO21, FO22, FO23, FO26, FO27, are considered to be in conformance with DRE standard are exempt from DRE Trial Burn	266.104(a)(4)				Please provide an answer in the Submitted column!
926	V.I.*11.d.2.*	Low risk waste exemption for DRE operation in Compliance with 266.109(a) is considered to be in compliance with 266.104(a)(1) and are exempt from DRE Trial Burn	266.104(a)(5)				Please provide an answer in the Submitted column!
927	V.I.*11.e.*	CARBON MONOXIDE STANDARDS:					
928	V.I.*11.e.1.*	Stack gas cannot exceed 100 ppmv on an hourly rolling average, corrected for 7% oxygen, dry basis	266.104(b)(1); D:270.22(a)(6)				Please provide an answer in the Submitted column!
929	V.I.*11.e.2.*	Co and oxygen shall be continuously monitored in conference with part 266 Appendix IX	266.104(b)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
930	V.I.*11.e.3.*	Compliance with 100ppmv must be continuously monitored and demonstrated during trial burn	266.104(b)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
931	V.I.*11.f.*	ALTERNATE CARBON MONOXIDE STANDARD:	266.104(c)				
932	V.I.*11.f.1.*	Stack gas CO may exceed 100ppmv provided stack gas HC do not exceed 20 ppmv except as provided by 266.104(f)	266.104(c)(1)				Please provide an answer in the Submitted column!
933	V.I.*11.f.2.*	HC must be established on hourly rolling hourly average, and reported as propane, continuously corrected to 7% O2, dry basis	266.104(c)(2)				Please provide an answer in the Submitted column!

934	V.I.*11.f.3.*	HC shall be continuously monitored	266.104(c)(3)				Please provide an answer in the Submitted column!
935	V.I.*11.f.4.*	Procedure for alternative CO standard has to be established during trail burn	266.104(c)(4)				Please provide an answer in the Submitted column!
936	V.I.*11.g.*	SPECIAL REQUIREMENTS FOR FURNACES WHICH FEED WASTE SOLELY AS AN INGREDIENT AT LOCATIONS OTHER THAN THE “HOT” END MUST MEET HC LIMIT	266.104(d)				Please provide an answer in the Submitted column!
937	V.I.*11.h.*	CONTROL FOR DIOXINS AND FURANS:					
938	V.I.*11.h.1.*	BIFs equipped with dry PM control that operate w/in temp. range of 450-750 EF-includes emissions testing for dioxins and furans must conduct a site specific risk assessment	266.104(e); D:270.22(a)(6)				Please provide an answer in the Submitted column!
939	V.I.*11.i.*	MONITORING CO AND HC IN THE BY-PASS DUCT OF A CEMENT KILN	266.104(f)				Please provide an answer in the Submitted column!
940	V.I.*11.j.*	USE OF EMISSIONS TESTING DATA TO DEMONSTRATE COMPLIANCE AND ESTABLISH OPERATING LIMITS	266.104(g); D:270.22(a)(6)				Please provide an answer in the Submitted column!
941	V.I.*11.k.*	PARTICULATE MATTER (PM) EMISSIONS CONTROL:	266.105; 266.102(e)(3)				
942	V.I.*11.k.1.*	May not exceed 180 mg/dscf (0.08 grains/dscf) corrected for 7% O2	266.105(a); D:270.22(a)(6)				Please provide an answer in the Submitted column!
943	V.I.*11.k.2.*	Exempt from PM standard if requirements of low risk waste exemption met in 266.109(b)	266.105(b); 270.22(a)(4); D:270.22(a)(6)				Please provide an answer in the Submitted column!
944	V.I.*11.l.*	METAL EMISSIONS CONTROLS:	266.106				
945	V.I.*11.l.1.*	Tier 1 feed rate screening limits for metals are specified in Part 266 Appendix 1 as a function of TESH, terrain type, and land use - No test required:	266.106(b); 270.22(a)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
946	V.I.*11.l.1.a.*	Noncarcinogenic metals in all feed streams (HW, fuel and industrial furnace feed stock)	266.106(b)(1); D:270.22(a)(6)				Please provide an answer in the Submitted column!
947	V.I.*11.l.1.b.*	Carcinogenic metals in all feed streams HW, fuel and industrial furnace feed stock	266.106(b)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
948	V.I.*11.l.1.c.*	TESH - Terrain -adjusted effective stack height determined	266.106(b)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
949	V.I.*11.l.1.d.*	Terrain type - Noncomplex or Complex	266.106(b)(4); D:270.22(a)(6)				Please provide an answer in the Submitted column!
950	V.I.*11.l.1.e.*	Land use - urban or rural	266.106(b)(5); D:270.22(a)(6)				Please provide an answer in the Submitted column!
951	V.I.*11.l.1.f.*	Multiple stacks - all emissions from calculated worst-case stack	266.106(b)(6); D:270.22(a)(6)				Please provide an answer in the Submitted column!
952	V.I.*11.l.2.*	Tier II emission rate screening limits for metals are specified in Part 266 Appendix I as a function of: TESH, terrain type, and land use. Test required:	266.106(c); D:270.22(a)(6)				Please provide an answer in the Submitted column!
953	V.I.*11.l.2.a.*	Noncarcinogenic metals	266.106(c)(1); D:270.22(a)(6)				Please provide an answer in the Submitted column!
954	V.I.*11.l.2.b.*	Carcinogenic metals	266.106(c)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
955	V.I.*11.l.2.c.*	Emission rate limits must be implemented by limiting feed rates of metals to trial burn levels, total feed rate per 266.102(e)(6)	266.106(c)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
956	V.I.*11.l.2.d.*	Terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and eligibility criteria in 266.106(b) apply	266.106(c)(4)				Please provide an answer in the Submitted column!
957	V.I.*11.l.2.e.*	Multiple stacks - all emissions from calculated worst-case stack	266.106(c)(5); D:270.22(a)(6)				Please provide an answer in the Submitted column!

958	V.I.*11.l.3.*	Tier III and adjusted Tier I site specific risk assessment - Test required:	266.106(d); D:270.22(a)(6)				Please provide an answer in the Submitted column!
959	V.I.*11.l.3.a.*	Metals control must be demonstrated by testing using air dispersion modeling to predict the maximum annual average off-site ground level concentration and that acceptable ambient levels are not exceeded	266.106(d)(1); D:270.22(a)(6)				Please provide an answer in the Submitted column!
960	V.I.*11.l.3.b.*	Acceptable ambient levels listed in Part 266 Appendices IV and V	266.106(d)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
961	V.I.*11.l.3.c.*	Carcinogenic metals - sum of the ratios of the predicted maximum annual average off-site ground level concentration to RSDs shall not exceed 1.0	266.106(d)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
962	V.I.*11.l.3.d.*	Noncarcinogenic metals - predicted maximum annual average ground level concentration or each metal shall not exceed the RAC	266.106(d)(4); D:270.22(a)(6)				Please provide an answer in the Submitted column!
963	V.I.*11.l.3.e.*	Multiple stacks - Must perform emissions testing and dispersion modeling to demonstrate aggregate emissions from all stacks do not exceed acceptable ambient levels	266.106(d)(5); D:270.22(a)(6)				Please provide an answer in the Submitted column!
964	V.I.*11.l.3.f.*	Feed rate limits set to levels during TB or conformance	266.106(d)(6); D:270.22(a)(6)				Please provide an answer in the Submitted column!
965	V.I.*11.l.4.*	Adjusted Tier 1 feed rate screening limits - determined using Part 266 Appendix I screening limit and site-specific dispersion modeling - No test required	266.106(e); D:270.22(a)(6)				Please provide an answer in the Submitted column!
966	V.I.*11.l.5.*	Alternative Tier or III implementation approaches	266.106(f); D:270.22(a)(6)				Please provide an answer in the Submitted column!
967	V.I.*11.l.6.*	Emission testing for metals shall be conducted using the Multiple Metals Train as described in Part 266 Appendix IX:	266.106(g); D:270.22(a)(6)				Please provide an answer in the Submitted column!
968	V.I.*11.l.6.a.*	Metal testing shall be conducted using Method 0060	266.106(g)(1)				Please provide an answer in the Submitted column!
969	V.I.*11.l.6.b.*	Hexavalent Chromium – Chromium Emissions are assumed to be hexavalent chromium unless emission testing is conducted using Method 0061	266.106(g)(2)				Please provide an answer in the Submitted column!
970	V.I.*11.l.7.*	Dispersion modeling	266.106(h)				Please provide an answer in the Submitted column!
971	V.I.*11.m.*	HCl & Cl2 EMISSIONS STANDARDS	266.107; D:270.22(e)(5)				
972	V.I.*11.m.1.*	Tier 1 feed rate screening limits - Feed rate screening limits specified in Part 266 Appendix II as a function of TESH, Terrain type, and land use - Analysis required: Feed rate of total chlorine and chloride, organic and inorganic, in HW, fuels and industrial furnace feed stocks	266.107(b)(1); 270.22(a)(5); D:270.22(a)(6)				Please provide an answer in the Submitted column!
973	V.I.*11.m.2.*	Tier II emissions rate screening limits - Emission rate screening limits specified in Part 266, Appendix III as a function of TESH, Terrain type, and land use - emission testing is required:	266.107(b)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
974	V.I.*11.m.2.a.*	Terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and eligibility criteria in 266.106(b) apply	266.107(b)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
975	V.I.*11.m.2.b.*	Multiple stacks - If more than one on-site stack from a BIF, the incinerator or other treatment unit is subject to control HCl and Cl2 under RCRA permit or interim status and must comply Tier I and II screening limits	266.107(b)(4); D:270.22(a)(6)				Please provide an answer in the Submitted column!
976	V.I.*11.m.3.*	Tier III Site - Specific Risk Assessments - Emissions testing is required:	266.107(c)				Please provide an answer in the Submitted column!
977	V.I.*11.m.3.a.*	Emission rate for HCl and Cl2 - demonstrated by using air dispersion modeling to predict the maximum annual average off-site ground level concentration for HCl and Cl2 and demonstrate that acceptable ambient levels are not exceeded	266.107(c)(1); D:270.22(a)(6)				Please provide an answer in the Submitted column!

978	V.I.*11.m.3.b.*	Acceptable ambient levels are listed in Part 266 Appendix IV for HCl and Cl2	266.106(c)(2); D:270.22(a)(6)				Please provide an answer in the Submitted column!
979	V.I.*11.m.4.*	MULTIPLE STACKS - must demonstrate that aggregate emissions for all on-site stacks do not exceed acceptable ambient levels	266.107(c)(3); D:270.22(a)(6)				Please provide an answer in the Submitted column!
980	V.I.*11.m.5.*	Averaging periods defined in 266.102(e)(6)	266.107(d); D:270.22(a)(6)				Please provide an answer in the Submitted column!
981	V.I.*11.m.6.*	Adjusted Tier 1 feed rate screening limits - No testing is required	266.107(e); D:270.22(a)(6)				Please provide an answer in the Submitted column!
982	V.I.*11.m.7.*	Emission testing - HCl and Cl2 sampling shall be conducted using the procedures described in Part 266 Appendix IX	266.107(f); D:270.22(a)(6)				Please provide an answer in the Submitted column!
983	V.I.*11.m.8.*	Dispersion modeling per 40 CFR 266.106(h)	266.107(g)				Please provide an answer in the Submitted column!
984	V.I.*11.n.*	Provide a Quality Assurance Project Plan for the Trial Burn Plan	Guidance				Please provide an answer in the Submitted column!
985	V.I.*11.o.*	ADDITIONAL DATA FOR DATA IN LIEU OF TESTING (DILO):	270.22(a)(6)				
986	V.I.*11.o.1.*	Comparison of wastes description and analysis	270.22(a)(6)(i)(A)				Please provide an answer in the Submitted column!
987	V.I.*11.o.2.*	Comparison of design and operating conditions as required by 270.66 - for both devices	270.22(a)(6)(i)(B)				Please provide an answer in the Submitted column!
988	V.I.*11.o.3.*	Data QA/QC for Data Validation including Chromatograms, Chain of Custody, Sample Preservation Records, Laboratory Notes, etc.	270.22(a)(6)(i)(C); Guidance; EPA Publication SW-846				Please provide an answer in the Submitted column!
989	V.I.*11.o.4.*	Other Information for Comparison including, but not limited to, Engineering Drawings, including boiler, combustion chamber, air pollution control devices, sampling ports and access, PED, PI&D, elevations and plan views, instrument/control measurement locations, piping, containment, vessels, specifications, and calculations, all sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	270.22(a)(6)(i)(C)				Please provide an answer in the Submitted column!
990	V.I.*12.*	STANDARDS FOR DIRECT TRANSFER	266.111				
991	V.I.*12.a.*	The regulations in this section apply to owners and operators of boilers and industrial furnaces subject to §§ 266.102 or 266.103 if hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit	266.111(a) and (b)				Please provide an answer in the Submitted column!
992	V.I.*12.b.*	General operating requirements:	266.111(c)				Please provide an answer in the Submitted column!
993	V.I.*12.b.1.*	No direct transfer of a pumpable hazardous waste shall be conducted from an open-top container to a boiler or industrial furnace	266.111(c)(1)				Please provide an answer in the Submitted column!
994	V.I.*12.b.2.*	Direct transfer equipment used for pumpable hazardous waste shall always be closed, except when necessary to add or remove the waste, and shall not be opened, handled, or stored in a manner that may cause any rupture or leak	266.111(c)(2)				Please provide an answer in the Submitted column!
995	V.I.*12.b.3.*	The direct transfer of hazardous waste to a boiler or industrial furnace shall be conducted so that it does not:	266.111(c)(3)				Please provide an answer in the Submitted column!
996	V.I.*12.b.3.a.*	Generate extreme heat or pressure, fire, explosion, or violent reaction	266.111(c)(3)(i)				Please provide an answer in the Submitted column!
997	V.I.*12.b.3.b.*	Produce uncontrolled toxic mists, fumes, dusts, or gases in quantities to threaten human health	266.111(c)(3)(ii)				Please provide an answer in the Submitted column!
998	V.I.*12.b.3.c.*	Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions	266.111(c)(3)(iii)				Please provide an answer in the Submitted column!
999	V.I.*12.b.3.d.*	Damage the structural integrity of the container or direct transfer equipment containing the waste	266.111(c)(3)(iv)				Please provide an answer in the Submitted column!

1000	V.I.*12.b.3.e.*	Adversely affect the capability of the boiler or industrial furnace to meet the standards provided by §§ 266.104 through 266.107	266.111(c)(3)(v)				Please provide an answer in the Submitted column!
1001	V.I.*12.b.3.f.*	Threaten human health or the environment	266.111(c)(3)(vi)				Please provide an answer in the Submitted column!
1002	V.I.*12.b.4.e.*	Hazardous waste shall not be placed in direct transfer equipment if it could cause the equipment or its secondary containment system to rupture, leak, corrode, or otherwise fail	266.111(c)(4)				Please provide an answer in the Submitted column!
1003	V.I.*12.b.5.*	The owner or operator of the facility shall use appropriate controls and practices to prevent spills and overflows from the direct transfer equipment or its secondary containment systems. These include at a minimum:	266.111(c)(5)				Please provide an answer in the Submitted column!
1004	V.I.*12.b.5.a.*	Spill prevention controls (e.g., check valves, dry discount couplings)	266.111(c)(5)(i)				Please provide an answer in the Submitted column!
1005	V.I.*12.b.5.b.*	Automatic waste feed cutoff to use if a leak or spill occurs from the direct transfer equipment	266.111(c)(5)(ii)				Please provide an answer in the Submitted column!
1006	V.I.*12.c.*	Areas where direct transfer vehicles (containers) are located. Applying the definition of container under this section, owners and operators must comply with the following requirements:	266.111(d)				Please provide an answer in the Submitted column!
1007	V.I.*12.c.1.*	The containment requirements of § 264.175 of this chapter	266.111(d)(1)				Please provide an answer in the Submitted column!
1008	V.I.*12.c.2.*	The use and management requirements of subpart I, part 265 of this chapter, except for §§ 265.170 and 265.174, and except that in lieu of the special requirements of § 265.176 for ignitable or reactive waste, the owner or operator may comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjacent property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's (NFPA) “Flammable and Combustible Liquids Code,” (1977 or 1981), (incorporated by reference, see § 260.11). The owner or operator must obtain and keep on file at the facility a written certification by the local Fire Marshall that the installation meets the subject NFPA codes	266.111(d)(2)				Please provide an answer in the Submitted column!
1009	V.I.*12.c.3.*	The closure requirements of § 264.178 of this chapter	266.111(d)(3)				Please provide an answer in the Submitted column!
1010	V.I.*12.d.*	Direct transfer equipment must meet the following requirements:	266.111(e)				Please provide an answer in the Submitted column!
1011	V.I.*12.d.1.*	Owners and operators shall comply with the secondary containment requirements of § 265.193 of this chapter, except for paragraphs 265.193 (a), (d), (e), and (i) as follows:	266.111(e)(1)				Please provide an answer in the Submitted column!
1012	V.I.*12.d.1.a.*	For all new direct transfer equipment, prior to their being put into service	266.111(e)(1)(i)				Please provide an answer in the Submitted column!
1013	V.I.*12.d.1.b.*	For existing direct transfer equipment within 2 years after August 21, 1991	266.111(e)(1)(ii)				Please provide an answer in the Submitted column!
1014	V.I.*12.d.2.*	Requirements prior to meeting secondary containment requirements	266.111(e)(2)				Please provide an answer in the Submitted column!
1015	V.I.*12.d.2.a.*	Existing direct transfer equipment that does not have secondary containment, the owner or operator shall determine whether the equipment is leaking or is unfit for use and shall obtain and keep on file a written assessment reviewed and certified by a qualified, registered professional engineer in accordance with § 270.11(d) of this chapter	266.111(e)(2)(i)				Please provide an answer in the Submitted column!
1016	V.I.*12.d.2.b.*	Determine whether the direct transfer equipment is adequately designed and has sufficient structural strength and compatibility with the waste(s) to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment shall consider the following:	266.111(e)(2)(ii)				Please provide an answer in the Submitted column!

1017	V.I.*12.d.2.b.1.*	Design standard(s) to which the direct transfer equipment was constructed	266.111(e)(2)(ii)(A)				Please provide an answer in the Submitted column!
1018	V.I.*12.d.2.b.2.*	Hazardous characteristics of the waste(s) that have been or will be handled	266.111(e)(2)(ii)(B)				Please provide an answer in the Submitted column!
1019	V.I.*12.d.2.b.3.*	Existing corrosion protection measures	266.111(e)(2)(ii)(C)				Please provide an answer in the Submitted column!
1020	V.I.*12.d.2.b.4.*	Documented age of the equipment (otherwise, an estimate of the age)	266.111(e)(2)(ii)(D)				Please provide an answer in the Submitted column!
1021	V.I.*12.d.2.b.5.*	Results of a leak test or other integrity examination so that effects of temperature variations, vapor pockets, cracks, leaks, corrosion, and erosion are accounted for	266.111(e)(2)(ii)(E)				Please provide an answer in the Submitted column!
1022	V.I.*12.d.2.c.*	If the direct transfer equipment is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of §§ 265.196 (a) and (b) of this chapter	266.111(e)(2)(iii)				Please provide an answer in the Submitted column!
1023	V.I.*12.d.3.*	Inspections and recordkeeping	266.111(e)(3)				Please provide an answer in the Submitted column!
1024	V.I.*12.d.3.a.*	The owner or operator must inspect at least once each operating hour when hazardous waste during transferred from the transport vehicle (container) to the B/IF:	266.111(e)(3)(i)				Please provide an answer in the Submitted column!
1025	V.I.*12.d.3.a.1.*	Overfill/spill control equipment to ensure it is in good working order	266.111(e)(3)(i)(A)				Please provide an answer in the Submitted column!
1026	V.I.*12.d.3.a.2.*	The above ground portions of the direct transfer equipment to detect corrosion, erosion, or releases of waste	266.111(e)(3)(i)(B)				Please provide an answer in the Submitted column!
1027	V.I.*12.d.3.a.3.*	Data from monitoring equipment and leak-detection equipment to ensure that the direct transfer equipment is being operated according to its design	266.111(e)(3)(i)(C)				Please provide an answer in the Submitted column!
1028	V.I.*12.d.3.b.*	The owner or operator must inspect cathodic protection systems, if used, for proper functioning according to the schedule provided by § 265.195(b):	266.111(e)(3)(ii)				Please provide an answer in the Submitted column!
1029	V.I.*12.d.3.c.*	Records of inspections made under this paragraph shall be maintained in the operating record at the facility, available for inspection at least 3 years from the inspection date	266.111(e)(3)(iii)				Please provide an answer in the Submitted column!
1030	V.I.*12.d.4.*	Design and installation of new equipment. Must comply with § 265.192	266.111(e)(4)				Please provide an answer in the Submitted column!
1031	V.I.*12.d.5.*	Response to leaks or spills must comply with § 265.196	266.111(e)(5)				Please provide an answer in the Submitted column!
1032	V.I.*12.d.6.*	Owners and operators must comply with § 265.197 for Closure, except for § 265.197 (c)(2) through (c)(4)	266.111(e)(6)				Please provide an answer in the Submitted column!
1033	V.J.	**Drip Pads**	335.152(a)(15); 264 subpart W				
1034	V.J.~.	Submit a Drip Pad Engineering Report including at a minimum:	264.570-573; 270.26				Please provide an answer in the Submitted column!
1035	V.J.1.	Complete and submit Table V.J.1. - Drip Pads in hard copy and editable electronic format	270.26(a)				Please provide an answer in the Submitted column!
1036	V.J.2.	Complete and submit Table V.J.2. - Drip Pad Synthetic Liner System in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1037	V.J.3.~.	Describe detailed plans and engineering report, including:					Please provide an answer in the Submitted column!
1038	V.J.3.~.	The engineering report must address:					Please provide an answer in the Submitted column!
1039	V.J.3.~.*a.*	Design characteristics:	264.573; 270.26(c)(1)				Please provide an answer in the Submitted column!
1040	V.J.3.~.*a.1.*	Constructed of non-earthen materials	264.573(a)(1)				Please provide an answer in the Submitted column!
1041	V.J.3.~.*a.2.*	Sloped to free-drain treated wood drippage, rain, and other waters or solutions	264.573(a)(2)				Please provide an answer in the Submitted column!
1042	V.J.3.~.*a.3.*	Curb or berm around the perimeter	264.573(a)(3)				Please provide an answer in the Submitted column!
1043	V.J.3.~.*a.4.*	Hydraulic conductivity of less than or equal to 1x10-7 cm/s	264.573(a)(4)(i)				Please provide an answer in the Submitted column!
1044	V.J.3.~.*a.5.*	Sufficient strength and thickness	264.573(a)(5)				Please provide an answer in the Submitted column!
1045	V.J.3.~.*b.*	For artificial liners:					Please provide an answer in the Submitted column!

1046	V.J.3.a.	Seaming method					Please provide an answer in the Submitted column!
1047	V.J.3.b.	Surface preparation method					Please provide an answer in the Submitted column!
1048	V.J.3.c.	Tensile strength					Please provide an answer in the Submitted column!
1049	V.J.3.d.	Impact resistance					Please provide an answer in the Submitted column!
1050	V.J.3.e.	Compatibility Demonstration					Please provide an answer in the Submitted column!
1051	V.J.3.f.	Foundation design (settlement potential, bearing capacity/stability and potential for bottom heave blow-out)					Please provide an answer in the Submitted column!
1052	V.J.3.~.*c.*	For leakage collection system:					Please provide an answer in the Submitted column!
1053	V.J.3.g.	Capacity of system:					Please provide an answer in the Submitted column!
1054	V.J.3.g.1.	Rate of leakage removal					Please provide an answer in the Submitted column!
1055	V.J.3.g.2.	Capacity of sumps					Please provide an answer in the Submitted column!
1056	V.J.3.g.3.	Thickness of mounding & maximum hydraulic head					Please provide an answer in the Submitted column!
1057	V.J.3.h.	Pipe material and strength					Please provide an answer in the Submitted column!
1058	V.J.3.i.	Pipe network spacing and grading					Please provide an answer in the Submitted column!
1059	V.J.3.j.	Collection sump material and strength					Please provide an answer in the Submitted column!
1060	V.J.3.k.	Drainage media specifications & performance					Please provide an answer in the Submitted column!
1061	V.J.3.l.	Analysis that shows pipe and pipe perforation size will prevent clogging					Please provide an answer in the Submitted column!
1062	V.J.3.m.	Compatibility demonstration					Please provide an answer in the Submitted column!
1063	V.J.*4.*	Provide description of leak detection system (applies only if drip pads are constructed after 12/24/92 per 264.570(a)	270.26(c)(3)				Please provide an answer in the Submitted column!
1064	V.J.*5.*	Provide description of how drip pad will be maintained	270.26(c)(4)				Please provide an answer in the Submitted column!
1065	V.J.*6.*	Provide description of the collection system	270.26(c)(5)				Please provide an answer in the Submitted column!
1066	V.J.*7.*	Provide description of control of run-on	270.26(c)(6)				Please provide an answer in the Submitted column!
1067	V.J.*8.*	Provide description of control of run-off	270.26(c)(7)				Please provide an answer in the Submitted column!
1068	V.J.*9.*	Provide description of when drippage will be removed from collection system to prevent overflow	270.26(c)(8)				Please provide an answer in the Submitted column!
1069	V.J.*10.*	Provide description of procedures for cleaning the drip pad (at least weekly)	270.26(c)(9)				Please provide an answer in the Submitted column!
1070	V.J.*11.*	Provide description of operating practices and procedures	264.573; 270.26(c)(10)				Please provide an answer in the Submitted column!
1071	V.J.*12.*	Provide description of removal procedures for waste	270.26(c)(11)				Please provide an answer in the Submitted column!
1072	V.J.*13.*	Provide description of collection and holding units for run-on/off are emptied	270.26(c)(12)				Please provide an answer in the Submitted column!
1073	V.J.*14.*	Provide description of process equipment used if treatment is carried out on the drippad;	270.26(c)(13)				Please provide an answer in the Submitted column!
1074	V.J.*15.*	Provide descriptions of inspection requirements in accordance with 264.573 and 270.14(b)(5)	270.26(c)(14)				Please provide an answer in the Submitted column!
1075	V.J.*16.*	Provide description of how HW residues and contaminated materials will be removed from Drip Pads at closure	270.26(c)(16)				Please provide an answer in the Submitted column!
1076	V.J.*17.*	If applicant elects to comply with 264.572(b) instead of 264.572(a), demonstrate the drip pad has the following:	264.573(b)				Please provide an answer in the Submitted column!
1077	V.J.*17.a.*	Synthetic liner installed below the drip pad. The liner must have: sufficient thickness and strength, foundation capable of supporting; and installed to cover all surrounding land that could come into contact with waste	264.573(b)(1)				Please provide an answer in the Submitted column!
1078	V.J.*17.b.*	Leakage detection system installed above the liner and must be/have:	264.573(b)(2)				Please provide an answer in the Submitted column!
1079	V.J.*17.b.1.*	Chemically resistant	264.573(b)(2)(i)(A)				Please provide an answer in the Submitted column!

1080	V.J.*17.b.2.*	Sufficient strength and thickness	264.573(b)(2)(i)(B)				Please provide an answer in the Submitted column!
1081	V.J.*17.b.3.*	Prevention of clogging	264.573(b)(2)(ii)				Please provide an answer in the Submitted column!
1082	V.J.*17.b.4.*	Designed to detect failure	264.573(b)(2)(iii)				Please provide an answer in the Submitted column!
1083	V.J.*17.c.*	Leakage detection system above the liner designed to collect leakage from the drip pad. Permittee must record, etc. any leakage collected	264.573(b)(3)				Please provide an answer in the Submitted column!
1084	V.J.*18.*	Describe how you will ensure drip pads are free of cracks, gaps, corrosion or other deterioration	264.573(c)				Please provide an answer in the Submitted column!
1085	V.J.*19.*	Demonstrate how the drip pad is designed to convey, drain, and collect liquid resulting from drippage or precipitation to prevent run-off	264.573(d)				Please provide an answer in the Submitted column!
1086	V.J.*20.*	Unless protected by structure described in 264.570 (b) ensure drip pads have run-on control system (TCEQ recommends 25-yr, 24-hr rainfall event)	264.573(e)				Please provide an answer in the Submitted column!
1087	V.J.*21.*	Unless protected by structure described in 264.570 (b) ensure drip pads have run-off control system (TCEQ recommends 25-yr, 24-hr rainfall event)	264.573(f)				Please provide an answer in the Submitted column!
1088	V.J.*22.*	Describe the means of overflow prevention	264.573(h)				Please provide an answer in the Submitted column!
1089	V.J.*23.*	Indicate the inspection frequency	264.573(i)				Please provide an answer in the Submitted column!
1090	V.J.*24.*	Describe procedures that ensure all hazardous waste (HW) is held on drip pad until drippage ceases	264.573(k)				Please provide an answer in the Submitted column!
1091	V.J.*25.*	Describe procedures that ensure run-on/off removed ASAP after storms	264.573(l)				Please provide an answer in the Submitted column!
1092	V.J.*26.*	Management of release of HW from the drip pad: Provide a plan of removing wastes, caused by a release of HW (e.g., leakage from leak detection system), that includes:	264.573(m) 264.573(m)(1)				Please provide an answer in the Submitted column!
1093	V.J.*26.a.*	Documentation of record of discovery	264.573(m)(1)(i)				Please provide an answer in the Submitted column!
1094	V.J.*26.b.*	Documentation of the portion of the drip pad involved	264.573(m)(1)(ii)				Please provide an answer in the Submitted column!
1095	V.J.*26.c.*	Steps necessary to repair and clean-up release	264.573(m)(1)(iii)				Please provide an answer in the Submitted column!
1096	V.J.*26.d.*	Notification of the Regional office and Ex. Director	264.573(m)(1)(iv)				Please provide an answer in the Submitted column!
1097	V.J.*27.*	Provide documentation of procedures to maintain records in the facility	264.573(o)				Please provide an answer in the Submitted column!
1098	V.J.*28.*	Provide assessment of existing pad integrity: including written plan for upgrading, repairing and modifying to meet the requirements of 264.573(b) and PE certification	264.571				Please provide an answer in the Submitted column!
1099	V.J.*29.*	Provide certification requirements sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	264.571(a); 264.573(a)(4)(ii); 264.573(g); 264.573(m)(3); 270.26(c)(15)				Please provide an answer in the Submitted column!
1100	V.K.	**Miscellaneous Units**	335.152(a)(16); 270.23				
1101	V.K.~.	Submit a Miscellaneous Unit(s) Engineering Report including the following at a minimum:	264.600-602				Please provide an answer in the Submitted column!
1102	V.K.1.	Complete and submit Table V.K - Miscellaneous Units in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1103	V.K.2.	Provide application information on design requirements of 305 and 335 and 264 subparts I through O; Part 270; Part 63, subpart EEE; and Part 146, as appropriate	264.601(a)				Please provide an answer in the Submitted column!
1104	V.K.3.	For units which involves combustion, provide emission data or trial burn plan; complete Tables V.H.1-5 (for incinerators) or Tables V.I.1-5 (for BIFs)					Please provide an answer in the Submitted column!
1105	V.K.*4.*	Provide Engineering Report including the following:					Please provide an answer in the Submitted column!
1106	V.K.*4.a.*	Air Quality Addendum should be completed, Section IX of Part B					Please provide an answer in the Submitted column!

1107	V.K.*4.b.*	Plans and description of the design, construction, and operation of the miscellaneous units					Please provide an answer in the Submitted column!
1108	V.K.*4.c.*	Physical characteristics of materials in construction of the miscellaneous unit					Please provide an answer in the Submitted column!
1109	V.K.*4.d.*	Address prevention of releases to groundwater or subsurface environment:	264.601(a)				Please provide an answer in the Submitted column!
1110	V.K.*4.d.1.*	Amount, characteristics potential migration of wastes	264.601(a)(1)				Please provide an answer in the Submitted column!
1111	V.K.*4.d.2.*	Hydrogeologic/geologic of the unit and area	264.601(a)(2)				Please provide an answer in the Submitted column!
1112	V.K.*4.d.3.*	Quality of groundwater	264.601(a)(3)				Please provide an answer in the Submitted column!
1113	V.K.*4.d.4.*	Quantity and flow direction	264.601(a)(4)				Please provide an answer in the Submitted column!
1114	V.K.*4.d.5.*	Proximity to groundwater users and rates	264.601(a)(5)				Please provide an answer in the Submitted column!
1115	V.K.*4.d.6.*	Land use	264.601(a)(6)				Please provide an answer in the Submitted column!
1116	V.K.*4.d.7.*	Potential to affect surface waters	264.601(a)(7)				Please provide an answer in the Submitted column!
1117	V.K.*4.d.8 .*	Potential for health risks	264.601(a)(8)				Please provide an answer in the Submitted column!
1118	V.K.*4.d.9.*	Potential for damage by exposure	264.601(a)(9)				Please provide an answer in the Submitted column!
1119	V.K.*4.e.*	Prevention of adverse effects through surface water considering:	264.601(b)				Please provide an answer in the Submitted column!
1120	V.K.*4.e.1.*	Amount and characteristics of wastes	264.601(b)(1)				Please provide an answer in the Submitted column!
1121	V.K.*4.e.2.*	Confining and collecting systems	264.601(b)(2)				Please provide an answer in the Submitted column!
1122	V.K.*4.e.3.*	Hydrogeologic characteristics & topography of unit & area	264.601(b)(3)				Please provide an answer in the Submitted column!
1123	V.K.*4.e.4.*	Patterns of precipitation	264.601(b)(4)				Please provide an answer in the Submitted column!
1124	V.K.*4.e.5.*	Quality, quantity, direction of groundwater flow	264.601(b)(5)				Please provide an answer in the Submitted column!
1125	V.K.*4.e.6.*	Proximity to surface waters & soils	264.601(b)(6)				Please provide an answer in the Submitted column!
1126	V.K.*4.e.7.*	Uses & quality standards for surface waters	264.601(b)(7)				Please provide an answer in the Submitted column!
1127	V.K.*4.e.8.*	Quality of surface waters & soils	264.601(b)(8)				Please provide an answer in the Submitted column!
1128	V.K.*4.e.9.*	Land use	264.601(b)(9)				Please provide an answer in the Submitted column!
1129	V.K.*4.e.10.*	Potential for health risks	264.601(b)(10)				Please provide an answer in the Submitted column!
1130	V.K.*4.e.11.*	Potential for damage by exposure	264.601(b)(11)				Please provide an answer in the Submitted column!
1131	V.K.*4.f.*	Prevention of releases through air:	264.601(c)				Please provide an answer in the Submitted column!
1132	V.K.*4.f.1.*	Amount & characteristics of waste	264.601(c)(1)				Please provide an answer in the Submitted column!
1133	V.K.*4.f.2.*	Effectiveness of systems to prevent emissions	264.601(c)(2)				Please provide an answer in the Submitted column!
1134	V.K.*4.f.3.*	Operating characteristics	264.601(c)(3)				Please provide an answer in the Submitted column!
1135	V.K.*4.f.4.*	Meteorologic & topographic characteristics surrounding area	264.601(c)(4)				Please provide an answer in the Submitted column!
1136	V.K.*4.f.5.*	Local air quality	264.601(c)(5)				Please provide an answer in the Submitted column!
1137	V.K.*4.f.6.*	Potential for health risks	264.601(c)(6)				Please provide an answer in the Submitted column!
1138	V.K.*4.f.7.*	Potential for damage by exposure	264.601(c)(7)				Please provide an answer in the Submitted column!
1139	V.K.*4.g.*	Monitoring, analysis, inspection, response, reporting and corrective action	264.602				Please provide an answer in the Submitted column!
1140	V.K.*4.h.*	Detailed hydrologic, geologic, and meteorologic assessments and land use maps	270.23 (b)				Please provide an answer in the Submitted column!
1141	V.K.*4.i.*	Exposure information	270.23(c)				Please provide an answer in the Submitted column!
1142	V.K.*4.j.*	Laboratory testing area	270.23(d)				Please provide an answer in the Submitted column!
1143	V.K.*4.k.*	Any additional information determined by the Director for evaluation of unit and environmental performance standards of 264.100(b)	270.23(e)				Please provide an answer in the Submitted column!
1144	V.K.*5.*	Provide detailed plans and specifications individually sealed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	305.50(a)(7)				Please provide an answer in the Submitted column!

1145	V.L.	**Containment Buildings**	335.152(a)(20); 264 Subpart DD				
1146	V.L.~.	Submit a Miscellaneous Unit(s) Engineering Report including the following at a minimum:	264.1100-1101(c)(3) and 264.1101(d-e)				Please provide an answer in the Submitted column!
1147	V.L.*1.*	Complete and submit Table V.L. - Containment Buildings in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1148	V.L.*2.*	Provide plans and description of the design, construction, and operation of the containment building:	264.1101				Please provide an answer in the Submitted column!
1149	V.L.*2.a.*	Completely enclosed to prevent precipitation, wind, and run-on	264.1101(a)(1)				Please provide an answer in the Submitted column!
1150	V.L.*2.b.*	Should be constructed with structural strength and thickness and address:	264.1101(a)(2)				Please provide an answer in the Submitted column!
1151	V.L.*2.b.1.*	Primary barrier against fugitive dust emissions	264.1101(a)(2)(i)				Please provide an answer in the Submitted column!
1152	V.L.*2.b.2.*	Ability to prevent wastes from migration	264.1101(a)(2)(ii)				Please provide an answer in the Submitted column!
1153	V.L.*2.c.*	Compatibility data	264.1101(a)(3)				Please provide an answer in the Submitted column!
1154	V.L.*2.d.*	The primary barrier	264.1101(a)(4)				Please provide an answer in the Submitted column!
1155	V.L.*2.e.*	Containment buildings used to manage wastes containing free liquids should have:	264.1101(b)				Please provide an answer in the Submitted column!
1156	V.L.*2.e.1.*	Primary barrier to prevent migration	264.1101(b)(1)				Please provide an answer in the Submitted column!
1157	V.L.*2.e.2.*	Liquid collection and removal system (e.g. geomembrane covered by a concrete surface) that is sloped to drain liquids and minimize hydraulic head on the containment system at the earliest practicable time	264.1101(b)(2)				Please provide an answer in the Submitted column!
1158	V.L.*2.e.3.*	Secondary containment system including secondary barrier and leak detection system constructed with:	264.1101(b)(3)				Please provide an answer in the Submitted column!
1159	V.L.*2.e.3.a.*	A bottom slope of 1% or more	264.1101(b)(3)(i)(A)				Please provide an answer in the Submitted column!
1160	V.L.*2.e.3.b.*	Granular drainage material with hydraulic conductivity of 1x10-2 cm/s or more and a thickness of 12 in. or constructed with synthetic or geonet with transmissivity of 3x10-5 m2/s or more	264.1101(b)(3)(i)(B); 264.1101(b)(3)(ii)				Please provide an answer in the Submitted column!
1161	V.L.*2.e.3.c.*	Materials that are chemically resistant	264.1101(b)(3)(iii)				Please provide an answer in the Submitted column!
1162	V.L.*2.f.1.*	Controls and practices to ensure containment of HW within the unit, at a minimum must address or contain:	264.1101(c)(1)				Please provide an answer in the Submitted column!
1163	V.L.*2.f.1.a.*	Primary barrier: free of cracks, gaps, corrosion or other deterioration	264.1101(c)(1)(i)				Please provide an answer in the Submitted column!
1164	V.L.*2.f.1.b.*	Maintain level of stored treated HW within the containment walls	264.1101(c)(1(ii)				Please provide an answer in the Submitted column!
1165	V.L.*2.f.1.c.*	Measures to prevent tracking of HW outside of the unit	264.1101(c)(1)(iii)				Please provide an answer in the Submitted column!
1166	V.L.*2.f.1.d.*	Measures to control fugitive air emissions	264.1101(c)(1)(iv)				Please provide an answer in the Submitted column!
1167	V.L.*2.f.2.*	Certification signed by a licensed PE that the building meets the design requirements	264.1101(c)(2)				Please provide an answer in the Submitted column!
1168	V.L.*2.f.3.*	Procedures in case of release or repair of the unit	264.1101(c)(3)				Please provide an answer in the Submitted column!
1169	V.L.*2.g.*	For containment buildings that contain areas with and without a secondary containment system permittee must address:	264.1101(d)				Please provide an answer in the Submitted column!
1170	V.L.*2.g.1.*	Design and operation in accordance with 246.1101(a-c)	264.1101(d)(1)				Please provide an answer in the Submitted column!
1171	V.L.*2.g.2.*	Prevent release of liquids	264.1101(d)(2)				Please provide an answer in the Submitted column!
1172	V.L.*2.g.3.*	Maintain facility's operating log	264.1101(d)(3)				Please provide an answer in the Submitted column!
1173	V.L.*2.h.*	Waiver requirements for secondary containment	264.1101(e)				Please provide an answer in the Submitted column!
1174	V.L.*3.*	Provide detailed plans and specifications individually sealed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number	305.50(a)(7)				Please provide an answer in the Submitted column!

1349	VI.D.	**Unsaturated Zone Monitoring**	264.278				Please provide an answer in the Submitted column!
1350	VI.D.1.	Provide list of all hazardous constituents:	264.278(a)				Please provide an answer in the Submitted column!
1351	VI.D.1.a.	Current parameters	264.278(a)				Please provide an answer in the Submitted column!
1352	VI.D.1.b.	Proposed parameters	264.278(a)				Please provide an answer in the Submitted column!
1353	VI.D.2.	Provide number of soil-pore liquid sample points:	264.278(b)				Please provide an answer in the Submitted column!
1354	VI.D.2.c.	Depth of sample points	264.278(b)				Please provide an answer in the Submitted column!
1355	VI.D.2.d.	Equipment used for soil-pore liquid monitoring	264.278(b)				Please provide an answer in the Submitted column!
1356	VI.D.3.	Provide number of soil-core sampling points:					Please provide an answer in the Submitted column!
1357	VI.D.3.e.	Depth of soil-core sampling points					Please provide an answer in the Submitted column!
1358	VI.D.3.f.	Indicate on a facility map location of all sampling points					Please provide an answer in the Submitted column!
1363	VII.~.*3.*	Closure Performance Standards describes how closure would: minimize the need for further maintenance; control, minimize, or eliminate post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and comply with the closure requirements of Subpart G and unit-specific closure requirements	264.111				Please provide an answer in the Submitted column!
1364	VII.A.	**Closure**					
1365	VII.A.*1.*	Complete and submit Table VII.A - Unit Closure in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1366	VII.A.*2.*	Provide time and activities required for partial and final closure activities including:	264.112(b)				Please provide an answer in the Submitted column!
1367	VII.A.*2.a.*	Description of closure of each unit	264.112(b)(1)				Please provide an answer in the Submitted column!
1368	VII.A.*2.b.*	Final closure and maximum extent of operation	264.112(b)(2)				Please provide an answer in the Submitted column!
1369	VII.A.*2.c.*	Maximum waste inventory over the active life of the facility	264.112(b)(3)				Please provide an answer in the Submitted column!
1370	VII.A.*2.d.*	Inventory removal, disposal or decontamination of equipment , structures and soils	264.112(b)(4)				Please provide an answer in the Submitted column!
1371	VII.A.*2.e.*	Detailed description of other activities during closure (i.e. ground-water monitoring, leachate collection, and run-on and run-off control)	264.112(b)(5)				Please provide an answer in the Submitted column!
1372	VII.A.*2.f.*	Schedule for closure of each unit and for final closure of the facility	264.112(b)(6)				Please provide an answer in the Submitted column!
1373	VII.A.*2.g.*	Estimate of expected year of final closure	264.112(b)(7)				Please provide an answer in the Submitted column!
1374	VII.A.*3.*	Certification of Closure: Submit a certification to TCEQ IHW Section which indicates that within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, that a Certification of Closure and report must be submitted to TCEQ IHW Section for review.	264.115				Please provide an answer in the Submitted column!
1375	VII.A.*4.*	Closure of Containers: plan must ensure that:	264.178				Please provide an answer in the Submitted column!
1376	VII.A.*4.a.*	All wastes and waste residues must be removed from containment system	264.178				Please provide an answer in the Submitted column!
1377	VII.A.*4.b.*	Containers, liner, bases, and soil containing or contaminated with HW or residues must be decontaminated removed at closure	264.178; 350.32 Remedy Standard A				Please provide an answer in the Submitted column!
1378	VII.A.*5.*	Closure of Tank Systems: plan must ensure that closure will:	264.197				Please provide an answer in the Submitted column!
1379	VII.A.*5.a.*	Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, structures and equipment contaminated with waste	264.197(a); 350.32 Remedy Standard A				Please provide an answer in the Submitted column!
1380	VII.A.*5.b.*	If not all contaminated soils can be practically removed, perform closure and post-closure as a landfill per 264.310 and 350.33 Remedy Standard B	264.197(b)				Please provide an answer in the Submitted column!

1381	VII.A.*5.c.*	A contingent closure and post-closure plan for closure as a landfill if tank system does not have satisfactory secondary containment per 264.193(b-f) and not granted variance for the secondary containment system per 264.193(g), the plan must include:	264.197(c); 350.33 Remedy Standard B				Please provide an answer in the Submitted column!
1382	VII.A.*5.c.1.*	Requirements under 264.197(a-b)	264.197(c)(1)				Please provide an answer in the Submitted column!
1383	VII.A.*5.c.2.*	Contingent post-closure care plan	264.197(c)(2)				Please provide an answer in the Submitted column!
1384	VII.A.*5.c.3.*	Cost estimates for closure and post-closure care and contingent closure and post-closure plan	264.197(c)(3)				Please provide an answer in the Submitted column!
1385	VII.A.*5.c.4.*	Financial assurance based on 264.197(c)(3)	264.197(c)(4)				Please provide an answer in the Submitted column!
1386	VII.A.*5.c.5.*	Must meet all financial responsibility requirements for landfills under 264, Subparts G and H	264.197(c)(5)				Please provide an answer in the Submitted column!
1387	VII.A.*6.*	Closure of Surface Impoundments: plan must ensure that closure will:	335.169; 264.228				Please provide an answer in the Submitted column!
1388	VII.A.*6.a.*	Remove and decontaminate all wastes and contaminated materials	335.169(a)(1); 264.228(a)(1)				Please provide an answer in the Submitted column!
1389	VII.A.*6.b.*	Eliminate free liquid wastes or solidify/stabilize remaining materials	335.169(a)(2); 264.228(a)(2)(i-ii)				Please provide an answer in the Submitted column!
1390	VII.A.*6.c.*	SI Final cover must be designed and constructed to:	264.228(a)(2)(iii)				Please provide an answer in the Submitted column!
1391	VII.A.*6.c.1.*	Provide long-term minimization of the migration of liquids through the closed impoundment	335.169(a)(2)(A); 264.228(a)(2)(iii)(A)				Please provide an answer in the Submitted column!
1392	VII.A.*6.d.*	Minimize maintenance	335.169(a)(2)(B); 264.228(a)(2)(iii)(B)				Please provide an answer in the Submitted column!
1393	VII.A.*6.e.*	Promote drainage and minimize erosion or abrasion	335.169(a)(2)(C); 264.228(a)(2)(iii)(C)				Please provide an answer in the Submitted column!
1394	VII.A.*6.f.*	Accommodate settling and subsidence	335.169(a)(2)(D); 264.228(a)(2)(iii)(D)				Please provide an answer in the Submitted column!
1395	VII.A.*6.g.*	Ensure that permeability is less than or equal to bottom liner system or natural sub-soil present	335.169(a)(2)(E); 264.228(a)(2)(iii)(E)				Please provide an answer in the Submitted column!
1396	VII.A.*6.h.*	For clean closure, the closure plan must identify 350.32 Remedy Standard A	350.32 Remedy Standard A				Please provide an answer in the Submitted column!
1397	VII.A.*6.i.*	If wastes are left in place, applicant must comply with closure requirements for landfills per 264.310 and post closure per 264.117 through 264.120. The closure and post-closure plan must include:	335.169(b); 264.228(b); 350.33 Remedy Standard B.				Please provide an answer in the Submitted column!
1398	VII.A.*6.i.1.*	Maintaining the integrity and effectiveness of final cover including repairs of the cap	335.169(b)(1); 264.228(b)(1)				Please provide an answer in the Submitted column!
1399	VII.A.*6.i.2.*	Maintenance and monitoring of leak detection system	335.169(b)(2); 264.228(b)(2)				Please provide an answer in the Submitted column!
1400	VII.A.*6.i.3.*	Maintenance and monitoring of groundwater monitoring system	335.169(b)(3); 264.228(b)(3)				Please provide an answer in the Submitted column!
1401	VII.A.*6.i.4.*	Prevention of erosion from run-on and run-off	335.169(b)(4); 264.228(b)(4)				Please provide an answer in the Submitted column!
1402	VII.A.*6.j.*	If intend to remove wastes but do not have constructed liner system, contingent post-closure plan per 264.118 and cost estimates per 264.142 & 264.144 must be included	335.169(c)				Please provide an answer in the Submitted column!
1403	VII.A.*7.*	Closure of Waste Piles: Plan must ensure that closure will:	264.258				Please provide an answer in the Submitted column!

1404	VII.A.*7.a.*	Remove or decontaminate all wastes and contaminated materials	264.258(a); 350.32 Remedy Standard A				Please provide an answer in the Submitted column!
1405	VII.A.*7.b.*	If not all contaminated materials can be removed, applicant must close the waste pile as a landfill, and provide post-closure care plan per 264.310	264.258(b); 350.33 Remedy Standard B				Please provide an answer in the Submitted column!
1406	VII.A.*7.c.*	If intend to remove wastes but do not have constructed liner system, contingent post-closure plan per 264.118 and cost estimates per 264.142 & 264.144 must be included	264.258(c)				Please provide an answer in the Submitted column!
1407	VII.A.*8.*	Closure of Land Treatment Units: Plan must ensure that:	335.172; 264.280				Please provide an answer in the Submitted column!
1408	VII.A.*8.a.*	During closure of land treatment facilities the owner or operator must comply with the following:					Please provide an answer in the Submitted column!
1409	VII.A.*8.a.1.*	Continue operations necessary to maximize degradation, transformation, or immobilization of hazardous constituents	335.172(a)(1); 264.280(a)(1)				Please provide an answer in the Submitted column!
1410	VII.A.*8.a.2.*	Minimize run-off of hazardous constituents	335.172(a)(2); 264.280(a)(2)				Please provide an answer in the Submitted column!
1411	VII.A.*8.a.3.*	Maintain run-on control system	335.172(a)(3); 264.280(a)(3)				Please provide an answer in the Submitted column!
1412	VII.A.*8.a.4.*	Maintain run-off management system	335.172(a)(4); 264.280(a)(4)				Please provide an answer in the Submitted column!
1413	VII.A.*8.a.5.*	Control wind dispersal of hazardous waste	335.172(a)(5); 264.280(a)(5)				Please provide an answer in the Submitted column!
1414	VII.A.*8.a.6.*	Continue to comply with prohibitions and controls concerning food chain crops per 264.276	335.172(a)(6); 264.280(a)(6)				Please provide an answer in the Submitted column!
1415	VII.A.*8.a.7.*	Continue unsaturated zone monitoring per 264.278	335.172(a)(7); 264.280(a)(7)				Please provide an answer in the Submitted column!
1416	VII.A.*8.a.8.*	Maintain vegetative cover	335.172(a)(8); 264.280(a)(8)				Please provide an answer in the Submitted column!
1417	VII.A.*8.b.*	Submit closure certification per 264.115 signed by an independent licensed Geoscientist or PE	335.172(b); 264.280(b)				Please provide an answer in the Submitted column!
1418	VII.A.*9.*	Closure of Landfills: plan must ensure that:	335.174; 264.310				Please provide an answer in the Submitted column!
1419	VII.A.*9.a.*	Plans and engineering report that describe the final cover components in detail. Cover installation and construction quality assurance procedures should be thoroughly described	EPA Publication 530-SW-85-014; TCEQ Technical Guidance No. 3				Please provide an answer in the Submitted column!
1420	VII.A.*9.b.*	Adequate cover, designed and constructed to:					Please provide an answer in the Submitted column!
1421	VII.A.*9.b.1.*	Provide long-term minimization of migration of liquids through the closed landfill	335.174(a)(1); 264.310(a)(1)				Please provide an answer in the Submitted column!
1422	VII.A.*9.b.2.*	Function with minimum maintenance	335.174(a)(2); 264.310(a)(2)				Please provide an answer in the Submitted column!
1423	VII.A.*9.b.3.*	Promote drainage and minimize erosion or abrasion of the cover	335.174(a)(3); 264.310(a)(3)				Please provide an answer in the Submitted column!
1424	VII.A.*9.b.4.*	Accommodate settling and subsidence without loss of integrity	335.174(a)(4); 264.310(a)(4)				Please provide an answer in the Submitted column!
1425	VII.A.*9.b.5.*	Ensure that the permeability is less than or equal to bottom liner or natural subsoils, if unlined	335.174(a)(5); 264.310(a)(5)				Please provide an answer in the Submitted column!
1426	VII.A.*9.c.*	For waste left in place, the closure plan must comply with applicable requirements of 30 TAC 350.33 Remedy Standard B	350.33 Remedy Standard B.				Please provide an answer in the Submitted column!

1427	VII.A.*10.*	Closure of Incinerators; plan must ensure that:	264.351				Please provide an answer in the Submitted column!
1428	VII.A.*10.a.*	All hazardous wastes and waste residues including ash, scrubber waters and scrubber sludges, and any structures or operating equipment such as pumps and valves, etc. must be removed from the incinerator site	264.351; 350.32 Remedy Standard A				Please provide an answer in the Submitted column!
1429	VII.A.*11.*	Closure of Drip Pads; plan must demonstrate that closure will:	264.575				Please provide an answer in the Submitted column!
1430	VII.A.*11.a.*	Remove or decontaminate all waste residues, contaminated containment system components (pads, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage	264.575(a); 350.32 Remedy Standard A				Please provide an answer in the Submitted column!
1431	VII.A.*11.b.*	If not all subsoils can be decontaminated, post-closure care must be submitted per 264.310	264.575(b); 350.33 Remedy Standard B				Please provide an answer in the Submitted column!
1432	VII.A.*11.c.*	If unit has no liner system, contingent post-closure plan per 264.118 and cost estimate per 264.142 & 264.144 must be submitted	264.575(c)				Please provide an answer in the Submitted column!
1433	VII.A.*12.*	Closure of Miscellaneous Units:	335.152(a)(5)				Please provide an answer in the Submitted column!
1434	VII.A.*12.a.*	Closure plan must show that all hazardous waste and hazardous waste residues will be removed and decontaminated from the treatment process or discharge equipment process and discharge equipment structures	350.32 Remedy Standard A				Please provide an answer in the Submitted column!
1435	VII.A.*12.b.*	If any wastes, waste residues or contaminated materials or soils will remain after closure, provide plans for closing the miscellaneous unit as a landfill in accordance with 264.310 and 350.33 Remedy Standard B that:	350.33 Remedy Standard B.				Please provide an answer in the Submitted column!
1436	VII.A.*12.b.1.*	Minimizes need for further maintenance	264.111(a)				Please provide an answer in the Submitted column!
1437	VII.A.*12.b.2.*	Provides protection of human health and the environment, prevents escape of hazardous waste, constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or atmosphere	264.111(b)				Please provide an answer in the Submitted column!
1438	VII.A.*12.b.3.*	Complies with any applicable requirements of 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601-603, and 264.1102	264.111(c)				Please provide an answer in the Submitted column!
1439	VII.A.*13.*	Closure of Containment Buildings: plan must ensure that:	264.1102				Please provide an answer in the Submitted column!
1440	VII.A.*13.a.*	Remove or decontaminate all waste residues, contaminated system components (liners, etc.), contaminated subsoils, structures and equipment.	264.1102(a); 350.32 Remedy Standard A				Please provide an answer in the Submitted column!
1441	VII.A.*13.b.*	If not all contaminated subsoils can be removed the operator must close the facility and perform post-closure care in accordance with closure and post-closure requirements that apply to landfills (264.310) and 350.33 Remedy Standard B	264.1102(b); 350.33 Remedy Standard B.				Please provide an answer in the Submitted column!
1442	VII.A.*14.*	Closure of Boilers and Industrial Furnaces (BIF): plan must ensure that closure will:	266.102(a)(2)(vii); 264.112(b)				Please provide an answer in the Submitted column!
1443	VII.A.*14.a.*	Remove all hazardous wastes, residues (including ash, scrubber waters, scrubber sludges) from the BIF including ductwork, piping, air pollution control equipment, sumps, and any other structures or operating equipment such as pumps, valves, etc. that have come in contact with hazardous wastes	350.32 Remedy Standard A.				Please provide an answer in the Submitted column!
1444	VII.B.	**Closure Cost Estimate (including contingent closure)**	TCEQ Technical Guidance No.10; 335.178; 264.142				
1445	VII.B.~.*a.*	Provide detailed cost estimate of closing the facility					Please provide an answer in the Submitted column!

1446	VII.B.~.*b.*	Provide cost of closure at the most expensive point in the facilities operating life	264.142(a)(1)				Please provide an answer in the Submitted column!
1447	VII.B.1.	If closure costs based on contractor bids; provide a copy of the bid specification and each contractor's response					Please provide an answer in the Submitted column!
1448	VII.B.2.	Complete and submit Table VII.B - Unit Closure Cost Estimate in hard copy and editable electronic format Closure costs based on detailed analysis: cost of each item, equipment, third party labor and supervision, transportation, and analytical costs, etc.					Please provide an answer in the Submitted column!
1449	VII.B.3.	Provide closure costs based on off-site shipment and disposal, including:	335.178				Please provide an answer in the Submitted column!
1450	VII.B.3.*a.*	Maximum inventory of wastes	335.178(1)				Please provide an answer in the Submitted column!
1451	VII.B.3.*b.*	Wastes generated during closure	335.178(2)				Please provide an answer in the Submitted column!
1452	VII.B.3.*c.*	Contaminated storm water	335.178(3)				Please provide an answer in the Submitted column!
1453	VII.B.3.*d.*	Leachate	335.178(4)				Please provide an answer in the Submitted column!
1454	VII.B.4.	Provide cost for closure under contingent closure plan required for each surface impoundments, waste pile or tank system					Please provide an answer in the Submitted column!
1468	VII.C.1.*i.*	Additional Post-closure for Land Treatment:	264.280(c)				Please provide an answer in the Submitted column!
1469	VII.C.1.*i.1.*	During post-closure of land treatment facilities, the owner or operator must comply with the following:					Please provide an answer in the Submitted column!
1470	VII.C.1.*i.1.a.*	Continue all operations (including pH control)	264.280(c)(1)				Please provide an answer in the Submitted column!
1471	VII.C.1.*i.1.b.*	Maintain vegetative cover	264.280(c)(2)				Please provide an answer in the Submitted column!
1472	VII.C.1.*i.1.c.*	Maintain run-on control system	264.280(c)(3)				Please provide an answer in the Submitted column!
1473	VII.C.1.*i.1.d.*	Maintain run-off management system	264.280(c)(4)				Please provide an answer in the Submitted column!
1474	VII.C.1.*i.1.e.*	Control wind dispersal of waste;	264.280(c)(5)				Please provide an answer in the Submitted column!
1475	VII.C.1.*i.1.f.*	Continue to comply with food-chain crops prohibitions	264.280(c)(6)				Please provide an answer in the Submitted column!
1476	VII.C.1.*i.1.g.*	Continue UZM and GW monitoring	264.280(c)(7)				Please provide an answer in the Submitted column!
1477	VII.C.1.*j.*	Additional Post-closure for Miscellaneous Units	270.14(b)(13)				Please provide an answer in the Submitted column!
1496	VIII.A.~.	Provide statement to demonstrate that the applicant has sufficient financial resources to operate and close the facility; and information concerning how they intend to obtain financing for construction	305.50(a)(4)				Please provide an answer in the Submitted column!
1497	VIII.A.1.	FINANCIAL ASSURANCE FOR CLOSURE	30 TAC Chapter 37 Subchapter P; 264.143				
1498	VIII.A.1.*a.*	Submit any of the following financial assurance mechanisms:					Please provide an answer in the Submitted column!
1499	VIII.A.1.*a.1.*	Closure trust fund	37.6021(b)(1); 264.143(a)				Please provide an answer in the Submitted column!
1500	VIII.A.1.*a.2.*	Surety bond guaranteeing payment into closure trust fund	37.6021(b)(2); 264.143(b)				Please provide an answer in the Submitted column!
1501	VIII.A.1.*a.3.*	Surety bond guaranteeing performance of closure	37.6021(b)(3); 264.143(c)				Please provide an answer in the Submitted column!
1502	VIII.A.1.*a.4.*	Irrevocable letter of credit	37.6021(b)(4); 264.143(d)				Please provide an answer in the Submitted column!
1503	VIII.A.1.*a.5.*	Closure insurance	37.6021(b)(5); 264.143(e)				Please provide an answer in the Submitted column!
1504	VIII.A.1.*a.6.*	Financial test and corporate guarantee for closure	37.6021(b)(6-7); 264.143(f)				Please provide an answer in the Submitted column!
1505	VIII.A.1.*a.7.*	Use of multiple financial mechanisms	264.143(g)				Please provide an answer in the Submitted column!
1506	VIII.A.1.*a.8.*	Use of financial mechanism for multiple facilities	37.51 264.143(h)				Please provide an answer in the Submitted column!
1517	VIII.A.3.	FINANCIAL ASSURANCE FOR CORRECTIVE ACTION	30 TAC Chapter 37 Subchapter P				
1518	VIII.A.3.*a.*	Submit any of the following financial assurance mechanisms:					Please provide an answer in the Submitted column!
1519	VIII.A.3.*a.1.*	Corrective action trust fund	37.6021(b)(1)				Please provide an answer in the Submitted column!
1520	VIII.A.3.*a.2.*	Surety bond guaranteeing payment into corrective action fund	37.6021(b)(2)				Please provide an answer in the Submitted column!

1521	VIII.A.3.*a.3.*	Corrective action letter of credit	37.6021(b)(4)				Please provide an answer in the Submitted column!
1522	VIII.A.3.*a.4.*	Corrective action insurance;	37.6021(b)(5)				Please provide an answer in the Submitted column!
1523	VIII.A.3.*a.5.*	Financial test and corporate guarantee for corrective action	37.6021(b)(6-7)				Please provide an answer in the Submitted column!
1524	VIII.A.3.*a.6.*	Use of financial mechanism of for multiple facilities	37.51				Please provide an answer in the Submitted column!
1525	VIII.A.4.	LIABILITY REQUIREMENTS: (Not required for post-closure care) if applicable:	30 TAC Chapter 37 Subchapter P; 264.147				
1526	VIII.A.4.*a.*	Coverage for sudden accidental occurrences (required)	37.6031(b); 264.147(a)				Please provide an answer in the Submitted column!
1527	VIII.A.4.*b.*	Coverage for non-sudden accidental occurrences (required of land-based units)	37.6031(c); 264.147(b)				Please provide an answer in the Submitted column!
1528	VIII.A.4.*c.*	Requests for variance	264.147(c)				Please provide an answer in the Submitted column!
1529	VIII.A.4.*d.*	Adjustments by the Regional Administrator	37.411; 264.147(d)				Please provide an answer in the Submitted column!
1530	VIII.A.4.*e.*	Period of coverage	264.147(e)				Please provide an answer in the Submitted column!
1531	VIII.A.4.*f.*	Financial test	37.541; 264.147(f)				Please provide an answer in the Submitted column!
1532	VIII.A.4.*g.*	Guarantee for liability coverage	37.551; 264.147(g)				Please provide an answer in the Submitted column!
1533	VIII.A.4.*h.*	Letter of credit	37.521; 264.147(h)				Please provide an answer in the Submitted column!
1534	VIII.A.4.*i.*	Surety bond	37.511; 264.147(i)				Please provide an answer in the Submitted column!
1535	VIII.A.4.*j.*	Trust fund	37.501; 264.147(j)				Please provide an answer in the Submitted column!
1536	VIII.A.4.*k.*	Endorsement or Certification: Submit the original Hazardous Waste Facility Endorsement wording pursuant to 264.151(i)(3), or Certificate of Liability wording pursuant to 264.151(j)(4)	30 TAC Chapter 37 Subchapter D; 264.147(k)				Please provide an answer in the Submitted column!
1541	VIII.B.3.	For a new commercial hazardous waste management facility, submit a written statement signed by an authorized signatory explaining how the applicant intends to provide emergency response financial assurance	305.44; 305.50(a)(12)(C) or (D)				Please provide an answer in the Submitted column!
1561	X.	**Air Emissions Standards**					
1562	X.A.	**Provide a report on Process Vents, if applicable:**	335.152(a)(17); 264 subpart AA; 270.24				Please provide an answer in the Submitted column!
1563	X.A.1.	Complete and submit Table X.A. - Process Vents in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1564	X.A.2.	Submit the certification for organic emissions, signed and dated					Please provide an answer in the Submitted column!
1565	X.B.	**Provide a report on Equipment Leaks, if applicable:**	335.152(a)(18); 264 subpart BB; 270.25				Please provide an answer in the Submitted column!
1566	X.B.1.	Complete and submit Table X.B. - Equipment Leaks in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1567	X.B.2.	Submit the certification for equipment, signed and dated					Please provide an answer in the Submitted column!
1568	X.C.	**Provide a report on Tanks, Surface Impoundments and Containers, if applicable:**	335.152(a)(19); 264 subpart CC; 270.27				Please provide an answer in the Submitted column!
1569	X.C.1.	Complete and submit Table X.C. - Tanks, Surface Impo ndments, and Containers Subject to Air Emission Controls in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1570	X.C.2.	Complete submit the Floating Roof Cover certification, signed and dated, for Tanks					Please provide an answer in the Submitted column!
1571	X.C.3.	Complete and submit the Floating Membrane Cover certification, signed and dated, for Surface Impoundments					Please provide an answer in the Submitted column!
1572	X.C.4.	Complete and submit the Container certification, signed and dated					Please provide an answer in the Submitted column!
1573	X.C.5.	Complete and submit the Control Device certification, signed and dated					Please provide an answer in the Submitted column!

1574	X.D.	**For "One-Stop" Permits only, Provide TCEQ Office of Air Quality information:**					Please provide an answer in the Submitted column!
1575	X.D.1.	Area map to scale					Please provide an answer in the Submitted column!
1576	X.D.2.	Plot plan to scale					Please provide an answer in the Submitted column!
1577	X.D.3.	Complete and submit Table X.D.1(a). - Emission Point Parameters in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1578	X.D.4.	Process description, operating schedule and flow chart					Please provide an answer in the Submitted column!
1579	X.D.5.	Design specifications using OAQ table					Please provide an answer in the Submitted column!
1580	X.D.6.	VOC concentrations in water, sludge, or soil					Please provide an answer in the Submitted column!
1581	X.D.7.	Exhaust stack or emission point parameters					Please provide an answer in the Submitted column!
1582	X.D.8.	BACT documentation for new or modified facilities					Please provide an answer in the Submitted column!
1583	X.D.9.	Documentation of compliance with NSPS and NESHAPS					Please provide an answer in the Submitted column!
1584	X.D.10.	Documentation as to whether a permit is required for new source review by Part C or D of Title I of Clean Air Act					Please provide an answer in the Submitted column!
1585	X.D.11.	Demonstration of emission control reliability					Please provide an answer in the Submitted column!
1586	X.D.12.	Results of atmospheric dispersion modeling					Please provide an answer in the Submitted column!
1587	X.D.13.	Complete and submit Table X.D.7. - For Fugitive Sources for storage tanks in hard copy and editable electronic format					Please provide an answer in the Submitted column!
1588	X.D.14.	Statement addressing OAQ regulations					Please provide an answer in the Submitted column!
1589	X.D.15.	All methods of calculating emissions referenced or justified					Please provide an answer in the Submitted column!
1590	XI.	**Compliance Plan**					

Texas Commission on Environmental Quality
Industrial & Hazardous Waste Part B Permit Application

I. General Information

Provide all Part B responsive information in Appendix I. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

Provide responsive information in Appendix I.

a. Complete Table I - General Information

b. For all incoming New, Renewal, Class 3 Permit Modification, and Major Amendment applications, the TCEQ requires that a Core Data Form (CDF) be submitted whether or not a change has occurred in the previously submitted form.

   For Minor Amendment, Class 1, Class 1[1] , and Class 2 Permit Modification applications, the TCEQ requires that the CDF be only submitted if a change in any information in the previously submitted form has occurred at the time of the application submittal.

   For more information regarding the Core Data Form, call (512) 239 1575 or go to the TCEQ Web site at https://www.tceq.texas.gov/permitting/central_registry/guidance.html

c. Signature on Application

   It is the duty of the operator to submit an application for a permit. The person who signs the application form will often be the operator himself; when another person signs on behalf of the applicant, his title or relationship to the applicant will be shown. In all cases, the person signing the form must be authorized to do so by the applicant. An application submitted by a corporation must be signed by a responsible corporate officer such as a president, secretary, treasurer, vice president, or by his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the activity described in the form originates. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a municipal, state, federal, or other public facility, the application must be signed by a principal executive officer, a ranking elected official, or another duly authorized employee. A person signing an application on behalf of an applicant must provide notarized proof of authorization.

d. Complete Interim Status Land Disposal Unit(s) Certification, as applicable

e. Submit List and Map of Adjacent Landowners List, as applicable.

Table I: General Information

Applicant: Facility Operator (or Facility Owner & Operator, if same)

Name[1]	McWane, Inc. (Tyler Pipe Company)
Address	11910 County Road 492
City, State	Tyler, Texas
Zip Code	75706
Telephone Number	(903) 882-5511
Alternate Telephone Number	
TCEQ Solid Waste Registration No.	30140
EPA I.D. No.	TXD066349770
Permit No.	50141
County	Smith
Regulated Entity Name	Tyler Pipe
Regulated Entity Reference Number (RN)	RN102679867
Customer Name	McWane, Inc.
Customer Reference Number:	CN602243313
Charter Number[2]	7116506
Previous or Former Names of the Facility (if applicable)	Ransom Industries, Inc.

Facility Owner: Identify the Facility Owner if different than the Facility Operator[3]

Name	same as Facility Operator
Address	
City, State	
Zip Code	
Telephone Number	
Alternate Telephone Number	
Fax:	

Facility Contact

Persons or firms who will act as primary contact:

Name, Title:	Scott Harris, Environmental Manager
Address	11910 County Road 492
City, State:	Tyler, Texas
Zip Code	75706
Telephone Number	(903) 882-2687
Alternate Telephone Number	
E-mail	scott.harris@tylerpipe.com
Fax:	(903) 882-2555

Persons or firms who will act as primary contact (if more than one):

Name, Title:	
Address	
City, State:	
Zip Code	
Telephone Number	
Alternate Telephone Number	
E-mail	
Fax:	

Agent in Service or Agent of Service (if you are an out-of-state company)[4]:

Name, Title:	C.T. Corporation Systems
Address	350 North St. Paul Street
City, State:	Dallas, Texas
Zip Code	75201

Individual responsible for causing notice to be published:

Name:	Scott Harris
Address	11910 County Road 492
City, State:	Tyler, Texas
Zip Code	75706
Telephone Number	(903) 882-2687

Alternate Telephone Number	
E-mail	scott.harris@tylerpipe.com
Fax:	(903) 882-2555

Public place in county where application will be made available[5]:

Name	Tyler Public Library
Address	201 S. College Avenue
City, State	Tyler, TX
Zip Code	75702

Application Type and Facility Status

☒ Permit	☒ Amendment	☐ Modification
☐ new	☐ major	☐ Class 3
☐ interim status	☒ minor	☐ Class 2
☒ renewal		☐ Class 1[1]
☐ RD&D		☐ Class 1
☒ Compliance Plan		

Application Type

Part of a Consolidated Permit Processing request? [30 TAC Chapter 33]	No
Does the application contain confidential material?[6]	No

Facility Status

◯ Proposed ◉ Existing

☒ On-Site

☐ Off-Site

☐ Commercial

☐ Recycle

☒ Land Disposal

☐ Areal or capacity expansion

☒ Compliance plan

Is the facility within the Coastal Management Program boundary? **No**

Description of Application Changes

Complete Table I.1 - Description of Proposed Application Changes.

Note: List all changes requested in Table I.1. Unlisted requests risk remaining unaddressed or possibly denied if brought to the permit application reviewer's attention at a later time.

Total acreage of the facility being permitted:	678
Identify the name of the drainage basin and segment where the facility is located:	Drainage area of Segment 0606 in the

Facility Siting Summary:

Is the facility located or proposed to be located:

Within a 100-year floodplain?	No
In the critical habitat of an endangered species of plant or animal?	No
On the recharge zone of a sole-source aquifer?	No
In an area overlying a regional aquifer?	Yes
Within 0.5 mile (2,640 feet) of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park?[7] [30 TAC 335.202] If Yes: the TCEQ shall not issue a permit for this facility.	No
In an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste? If Yes: provide a copy of the ordinance or order.	No

Wastewater and Stormwater Disposition

Is the disposal of any waste to be accomplished by a waste disposal well at this facility?	No
If Yes: List WDW Permit No(s):	

Will any point source discharge of effluent or rainfall runoff occur as a result of the proposed activities?	Yes
If Yes, is this discharge regulated by a TPDES or TCEQ permit? ☒ Yes	
TCEQ Permit No.	
TPDES Permit No.	1793
☐ No	
Date TCEQ discharge permit application filed	
Date TPDES discharge permit application filed:	

Information Required to Provide Notice

State Officials List [30 TAC 39.103(b)]

State Senator	Senator Bryan Hughes - District 1 P.O. Box 12068 Capitol Station Austin, TX 78711
State Representative	Rep. Cole Hefner - District 5 Room E2.710 P.O. Box 2910 Austin, TX 78768

Local Officials List [30 TAC 39.103(c)]

Mayor	Mayor Martin Heines City of Tyler 212 N. Bonner Avenue Tyler, TX 75702
Health Authority	Dr. Jeffrey Levin Health Authority NE Texas Public Health District 815 N. Broadway Avenue Tyler, TX 75702 The Honorable Nathaniel Moran Smith County Judge 200 E. Ferguson, Suite 100 Tyler, TX 75702

Based on the questions in the Bilingual Notice Instructions for this form, are you required to make alternate (Bilingual) notice for this application?	Yes
Bilingual Language(s):	Spanish

TCEQ Core Data Form Submitted? (see Section I Instructions, Item b.)	Yes
Has any information changed on the TCEQ Core Data Form since the last submittal?	Yes
Signature on Application Submitted? (see Section I Instructions, Item c)	Yes

1. Individual, Corporation, or Other Legal Entity Name - must match the Secretary of State's database records for the Facility)
2. If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.
3. The operator has the duty to submit an application if the facility is owned by one person and operated by another [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on Part A of this application [Section 361.087, Texas Health and Safety Code].
4. If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.
5. For applications for new permits, renewals, major amendments and Class 3 modifications a copy of the administratively complete application must be made available at a public place in the county where the facility is, or will be, located for review and copying by the public. Identify the public place in the county (e.g., public library, county court house, city hall), including the address, where the application will be made available for review and copying by the public.
6. For confidential information cross-reference the confidential material throughout the application to Section XIII: Confidential Material, and submit as a separate Section XIII document or binder conspicuously marked "CONFIDENTIAL".
7. Use only for a new commercial hazardous waste management facility or areal expansion of an existing commercial hazardous waste management facility or unit of that facility as defined in 30 TAC 335.202

Table I.1-Description of Proposed Application Changes

Permit/Compliance Plan Application Appendix/Section	Brief Description of Proposed Change	Modification or Amendment Type	Supporting Regulatory Citation
Hazardous Waste Permit (HW-50141)	Renewal of Permit No. HW-50141 (post-closure).	Permit Renewal	30 TAC 305.50
Appendix II.G.7	Minor corrections and update regarding products made	Permit Renewal	30 TAC 305.50(a)(8)
Appendix III.C	Minor updates to Security Plan	Permit Renewal	
Table V.G.1	Minor update regarding dimensions	Permit Renewal	
Tables VI.B.3.b & c	Minor update regarding well type, schedule and units	Permit Renewal	
Appendix VI.A	Minor text edits regarding regional geologic cross-section	Permit Renewal	
Appendix VI.B	Minor text updates and corrections regarding groundwater monitoring	Permit Renewal	
Tables VII.D & E.2	Update tables to reflect approved post closure costs	Permit Renewal	30 TAC 264.144
Appendix VII.C	Minor updates regarding post closure groundwater monitoring	Permit Renewal	30 TAC 264.310
Appendix VII.D	Update post closure period and incorporate approved costs	Permit Renewal	30 TAC 264.144
Appendix IX.A	Update Preliminary Review Facility Checklists to reflect current stats	Permit Renewal	30 TAC 335.166-167
Appendix IX.B-III	Minor updates to chronology of events	Permit Renewal	
Tables XI.A.1, XI.E.2 and XI.E.3, and CP Tables	Update Waste Management Unit data, costs, concentration limits, compliance period and aquifer description	Permit Renewal	

Permit/Compliance Plan Application Appendix/Section	Brief Description of Proposed Change	Modification or Amendment Type	Supporting Regulatory Citation
Appendix XI.A and XI.B	Minor updates to be consistent with other portions of the permit renewal document	Permit Renewal	
Appendix XI.C	Update Compliance Monitoring Program to be consistent with currently approved Groundwater Sampling and Analysis Plan	Permit Renewal	

Signature Page

I, Greg Simmons (*Operator*), General Manager (*Title*),

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Greg Simmons Date: 6-24-20

To be completed by the Operator if the application is signed by an Authorized Representative for the Operator

I, _____ (*Print or Type Name*), hereby designate _____ (*Print or Type Name*)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____

Printed or Typed Name of Operator or Principal Executive Officer

_____

Signature

SUBSCRIBED AND SWORN to before me by the said

On this 24th day of June, _____

My commission expires on the 27th day of May, 2023

Notary Public in and for Smith County, Texas

*[**Note**: Application Must Bear Signature & Seal of Notary Public]*

SANDRA CAROL SMITH
Notary ID #11373159
My Commission Expires
May 27, 2023

Sandra C Smith

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☐ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application.)*

☒ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 602243313		RN 102679867

SECTION II: Customer Information

4. General Customer Information | **5. Effective Date for Customer Information Updates** (mm/dd/yyyy)

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)* — *If new Customer, enter previous Customer below:*

McWane Inc.

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
	16301390007	63-13900	

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees
☐ 0-20 ☐ 21-100 ☐ 101-250 ☒ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☐ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☒ Other: Tyler Pipe Company

15. Mailing Address: 11910 County Road 492

City	Tyler	State	TX	ZIP	75706	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	Scott.Harris@tylerpipe.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(903) 882-2687		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Tyler Pipe Company

23. Street Address of the Regulated Entity: (No PO Boxes)	11721 US Hwy 69 North							
	City	Tyler	State	TX	ZIP	75706	ZIP + 4	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	

26. Nearest City	State	Nearest ZIP Code

27. Latitude (N) In Decimal:	32D 25.52		28. Longitude (W) In Decimal:	95D 22.30	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
	3315		331511

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Iron Foundry

34. Mailing Address:	11910 CR 492							
	City	Tyler	State	TX	ZIP	75706	ZIP + 4	
35. E-Mail Address:								

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
( ) -		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☒ Industrial Hazardous Waste
				30140 & HWP # 50141
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	James Scott Harris	41. Title:	Environmental Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(903) 882-2687		( ) -	scott.harris@tylerpipe.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

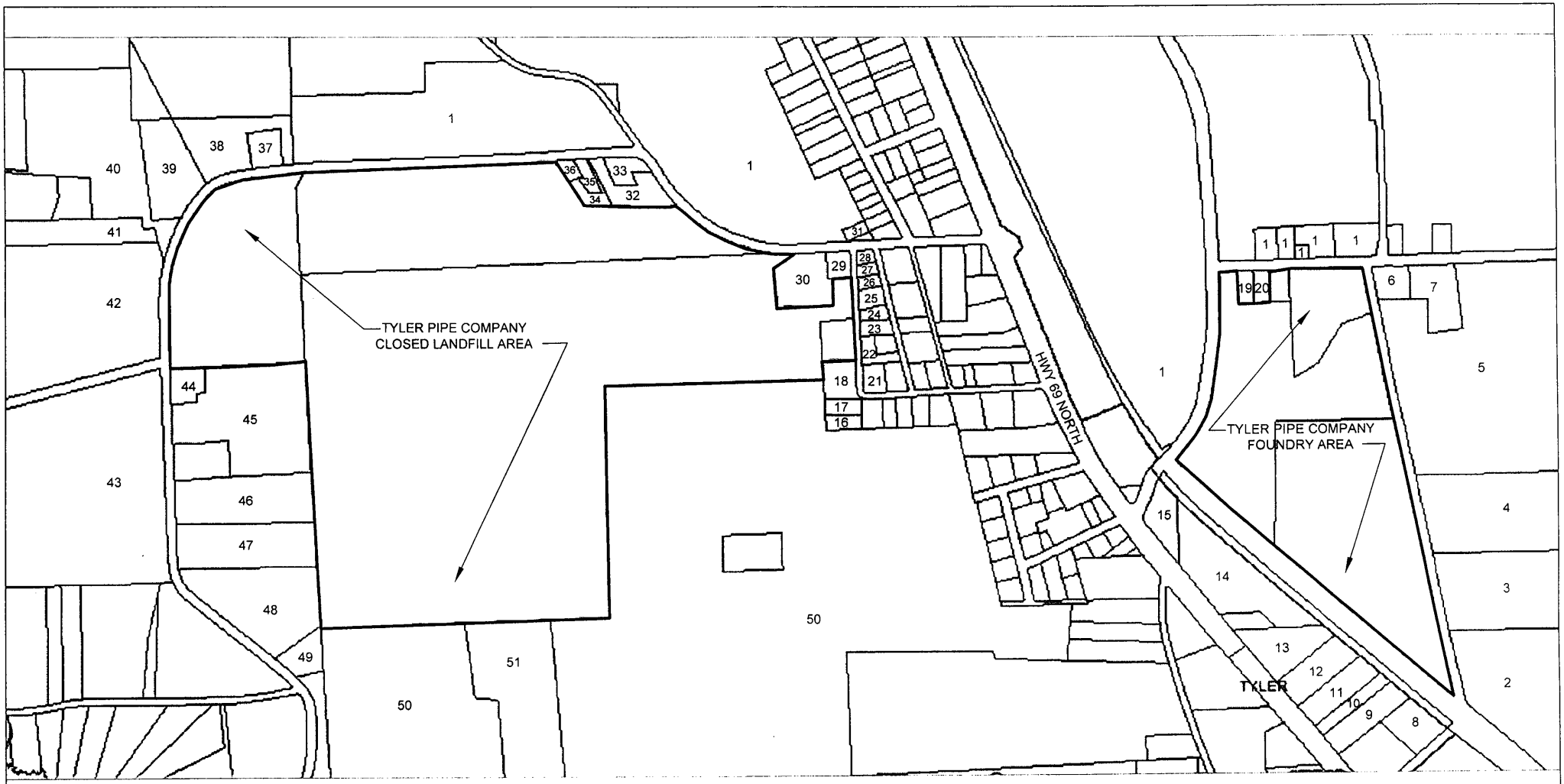
Company:	Tyler Pipe Company	Job Title:	VP/GM	
Name *(In Print)*:	Greg Simmons		Phone:	(903) 882-2687
Signature:	Greg Simmons		Date:	6-24-20

Appendix I.G.

Adjacent Landowners Map and List

Appendix I.G.
Adjacent Landowners Map and List

A map indicating the boundaries of all parcels of land located adjacent to the Tyler Pipe facility and a list of the names and mailing addresses of these adjacent landowners (and other nearby landowners who might consider themselves affected by the activities described by the application) are provided herein. A compact disk (CD) containing the adjacent landowners list in the appropriate mailing-label format as prescribed by the TCEQ is also included herein.



The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

JUNE 2020 PERMIT RENEWAL APPLICATION
ADJACENT LANDOWNERSHIP MAP

TYLER PIPE COMPANY
TYLER, TEXAS

SCALE (FEET)
0 600'

N

NOTES:
1. NUMBER CORRESPONDS TO LANDOWNER LIST.
2. MAP AND ADJACENT LANDOWNER LIST INORMATION WAS OBTAINED FROM SMITH COUNTY APPRAISA DISTRICT WEBSITE ON JUNE 28, 2012.

DATE: June 1, 2020	REV. NO: 0
FILENAME:	
DESIGNED BY: SJW	FIGURE: 1
DRAWN BY: SMG	
CHECKED BY: KTC	
APPROVED BY:	

McWane, Inc. (Tyler Pipe Company)
Permit No. HW-50141

1
RANSOM INDUSTRIES INC
11910 COUNTY ROAD 492
TYLER TX

2
EASTEX NURSERY ONE LP
11186 COUNTY ROAD 493
TYLER TX

3
JOSE LUIS AND ESTELA RAMOS
2306 WEST SHAW STREET
TYLER TX 75701

4
5
6
7
MARION AND JOAN ALDREDGE
3331 DINAH LANE
TYLER TX 75701-8227

8
9
10
BIG SKY LAND COMPANY LLC
3230 CANTERBURY LANE
MONTGOMERY TX 77356

11
RUSH TRUCK CENTERS OF TEXAS LP
PO BOX 34630
SAN ANTONIO TX 78265-4630

12
WT SMART
PO BOX 753
LINDALE TX 75771-0753

13
14
15
BROADSTONE CAMPING TEXAS LLC
C/O BROADSTONE REAL ESTATE LLC
800 CLINTON SQUARE
ROCHESTER NY 14604

16
KAREN L MCCAIN
11577 WEST SOUTH STREET
TYLER TX 75706-5622

17
18
VIRGIL T MCCAIN
11577 WEST SOUTH STREET
TYLER TX 75706-5622

19
TYLER PIPE EMPLOYEES
PO BOX 4970
TYLER TX 75712-4970

20
KEYSTONE CREDIT UNION
PO BOX 4970
TYLER TX 75712-4970

21
CHARLES MARCOS
11529 WEST FIRST AVENUE
TYLER TX 75706

22
23
HEATHER HARRIS
11571 WEST FIRST AVENUE
TYLER TX 75706-5601

24
25
GARY L WESTON
11617 WEST FIRST AVENUE
TYLER TX 75706-5603

26
JUAN RODRIGUEZ
7465 COUNTY ROAD 273
TYLER TX 75707-2289

27
ANDRES CHARLES
11655 WEST FIRST AVENUE
TYLER TX 75706-5603

28
MARY FAYE HUFF
1743 WOODSTREAM LANE
ALLEN TX 75002

29
JAMES AND ESPERANZA ARMSTRONG
11671 WEST SOUTH STREET
TYLER TX 75706

30
ONCOR ELECTRIC DELIVERY COMPANY
PO BOX 139100
DALLAS TX 75313

31
JAMES D AND JO ELLA WASHBURN
11721 WOOD SPRINGS ROAD
TYLER TX 75706-4433

32
ERMA L YOUNG
528 HILLCREST AVENUE
TYLER TX 75702-7651

33
KIMBERLY D EVANS
12471 COUNTY ROAD 468
TYLER TX 75706

34
TEXANNA TAYLOR ESTATE
865 SOUTHAMPTON STREET
AUBURN HILLS MI 48326

35
EMMA SASH ESTATE
12563 COUNTY ROAD 468
TYLER TX 75706-4402

36
CONLEY VEATRICE TAYLOR
865 SOUTHAMPTON STREET
AUBURN HILLS MI 48326

37
38
ISIDRO VARENA
905 BAMA LANE
TYLER TX 75701

39
EDWARD AND SHARON MELVIN REVOCABLE TRUST
13457 COUNTY ROAD 471
TYLER TX 75706

40
ANGELICA AND MARIA GONZALEZ
13016 COUNTY ROAD 468
TYLER TX 75706

41
42
BILLIE JOE STRAIT
1122 BRENDA DRIVE
DEER PARK TX 77536-4316

43
JERRY LEON JENKINS
13197 COUNTY ROAD 469
TYLER TX 75706

44
JUAN M AND MARIA J MORENO
13027 COUNTY ROAD 468
TYLER TX 75704

45
JUAN JAVIER AND VICTOR GONZALEZ
13031 COUNTY ROAD 468
TYLER TX 75704

46
GARY BAXTER
13039 COUNTY ROAD 468
TYLER TX 75704-2923

47
RODRIGO AND MARIA LUISA VALDEZ
10810 FM 2016
TYLER TX 75706

48
JENNIFER BROWN
13049 COUNTY ROAD 468
TYLER TX 75704

49
ROGER LEE AND HELEN COGBURN
13067 COUNTY ROAD 468
TYLER TX 75704-2923

50
JOYCE SLAUGHTER
12392 FM 3271
TYLER TX 75704-3820

51
LUANE SLAUGHTER CHANCELLOR
12418 FM 3271
TYLER TX 75704-3822

McWane, Inc.
(Tyler Pipe Company)
Permit No. HW-50141

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EASTEX NURSERY ONE LP
11186 COUNTY ROAD 493
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TYLER TX 75701

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3331 DINAH LANE
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PO BOX 753
LINDALE TX 75771-0753

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TYLER TX 75706-5603

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TYLER TX 75707-2289

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TYLER TX 75704-2923

JOYCE SLAUGHTER
12392 FM 3271
TYLER TX 75704-3820

LUANE SLAUGHTER CHANCELLOR
12418 FM 3271
TYLER TX 75704-3822

II. Facility Siting Criteria

Provide all Part B responsive information in Appendix II. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

For all new hazardous waste management facilities or areal expansions of existing hazardous waste management facilities provide a report which includes all applicable information regarding Unsuitable Site Characteristics found in 30 TAC Chapter 335, Subchapter G. The report must address each requirement applicable to the type of activity submitted in the application. Reference specific rule numbers whenever possible. Supporting information may be cross-referenced to other parts of this application such as Section V - Engineering Report or Section VI - Geology Report, but information submitted in previous applications must be fully reproduced herein. In addition, provide the information in Table II, as applicable.

For permit renewals provide a report which includes all applicable information regarding Unsuitable Site Characteristics found in 30 TAC Chapter 335, Subchapter G. In addition, provide the information in Table II, as applicable. The applicant may resubmit the information submitted with the original permit application provided this information has not changed. For a renewal this information is necessary to ensure a complete application is received.

For capacity expansions of existing facilities, please provide information in Table II, as applicable. Please note however, that additional technical information may be requested to address any facility siting characteristics noted in Table I, under Facility Siting Summary.

> **NOTE:** The standards contained in §335.204(a)(6) - (9), (b)(7) - (12), (c)(6) - (11), (d)(6) - (11), and (e) (8) - (13) are not applicable to facilities that have submitted a notice of intent to file a permit application pursuant to §335.391 of this title (relating to Pre-Application Review) prior to May 3, 1988, or to facilities that have filed permit applications pursuant to §335.2(a) of this title which were submitted in accordance with Chapter 305 of this title and that were declared to be administratively complete pursuant to §281.3 of this title (relating to Initial Review) prior to May 3, 1988.[30 TAC 335.201(b)]

A. Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills.

Complete Table II.A-Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills.

B. Additional Requirements for Land Treatment Facilities [30 TAC 335.204(b)]

RESERVED

C. Additional Requirements for Waste Piles [30 TAC 335.204(c)]

RESERVED

D. Additional Requirements for Storage Surface Impoundments [30 TAC 335.204(d)]

RESERVED

E. Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with wastes in place)

Complete Table II.E. - Additional Requirements for Landfills (and Surface Impoundments

Closed as Landfills with wastes in place)

F. Flooding

1. Identify whether the facility is located within a 100-year flood plain [40 CFR 270.14(b)(11)(iii)]. This identification must indicate the source of data for such determination and include a copy of relevant documentation (e.g., flood maps, if used and/or calculations). The boundaries of the hazardous waste management facility must be shown on the flood plain map. If the facility is not subject to inundation as a result of a 100-year flood event, indicate that the facility is not within the 100-year flood plain, and do not complete the remainder of the Flooding section in Table II. An applicant for a proposed hazardous waste landfill, areal expansion of a hazardous waste landfill, or a commercial hazardous waste land disposal unit may not rely solely on flood plain maps prepared by the Federal Emergency Management Agency (FEMA) or a successor agency for this determination.

2. If the facility is located within the 100-year flood plain the applicant must provide information detailing the specific flooding levels and other events (e.g., Design Hurricane projected by Corps of Engineers) which impact the flood protection of the facility. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, construction, operating, or maintaining the facility to withstand washout from a 100-year flood.

3. State whether any flood protection devices exist at the facility (e.g., flood walls, dikes, etc.), designed to prevent washout from the 100-year flood.

   a. If Yes: provide in Section V an engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)]

   Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]

   b. If No: the applicant shall provide in Section V a plan for constructing flood protection devices and a schedule including specific time frames for completion. Provide engineering analyses to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)]

   Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]

4. If applicable, and in lieu of the flood protection devices from above, provide a detailed description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded. [40 CFR 270.14(b)(11)(iv)(c)] The procedures should include:

   a. Timing of such movement relative of flood levels, including estimated time

to move the waste, to show that such movement can be completed before flood waters reach the facility. Indicate which specific events shall be use to begin waste movement (e.g., Hurricane warning, Flash Flood watch, etc.);

b. A description of the location(s) to which the waste will be moved and a demonstration that these facilities will be eligible to receive hazardous waste in accordance with appropriate regulations (i.e., a permitted facility);

c. The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use; and

d. The potential for accidental discharges of the waste during movement and precautions taken to preclude accidental discharges.

G. Additional Information Requirements

1. For a new hazardous waste management facility, include a map of relevant local land-use plans and descriptions of the major routes of travel in the vicinity of the facility to be used for the transportation of hazardous waste to and from the facility covering at least a five (5)-mile radius from the boundaries of the facility. [30 TAC 305.50(a)(10)(A)&(D)]

   RESERVED

2. For a new commercial hazardous waste management facility as defined in 30 TAC 335.202 or the subsequent areal expansion of such a facility or unit of that facility, indicate on the map the nearest established residence, church, school, day care center, surface water body used for a public drinking water supply, and dedicated public park.

   RESERVED

3. For new commercial hazardous waste management facilities, submit the following: [30 TAC 305.50(a)(12)(A)]

   a. the average number, gross weight, type, and size of vehicles used to transport hazardous waste;

   b. the major highways nearest the facility irrespective of distance; and

   c. the public roadways used by vehicles traveling to and from the facility within a minimum radius of 2.5 miles from the facility.

4. Include the names and locations of industrial and other waste-generating facilities within 0.5 miles for a new on-site hazardous waste management facility and the approximate quantity of hazardous waste generated or received annually at those facilities. [30 TAC 305.50(a)(10)(B)&(C)]

5. Include the names and locations of industrial and other waste-generating facilities within 1.0 miles for a new commercial hazardous waste management facility and the approximate quantity of hazardous waste generated or received annually at those facilities. [30 TAC 305.50(a)(10)(B)&(C)]

6. For existing land disposal facility units provide documentation that the information required by 30 TAC 335.5 has been placed in the county deed records. If previously submitted, please reference the submittal by date and registration number.

7. If a surface impoundment or landfill (including post-closure) is to be permitted, provide exposure information to accompany this application and in accordance

with 30 TAC 305.50(a)(8) and 40 CFR 270.10(j). This information will be considered separately from the TCEQ application completeness determination.

8. For a hazardous waste management facility requesting a capacity expansion of an existing hazardous waste management facility, please provide in Section VI.A.1.a the requested fault delineation information. [30 TAC 305.50(a)(4)(D)]

Table II Facility Siting Criteria Information

Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills

Is the facility located or proposed to be located[1]:

In wetlands? [as applicable: 30 TAC 335.204(a)(2), (b)(2), (c)(2), (d)(2), and/or (e)(2)	No
If Yes: the TCEQ shall not issue a permit for a new hazardous waste management facility or areal expansion of an existing facility into wetlands, pursuant to 30 TAC 335.205(a)(1).	
In the critical habitat of an endangered species of plant or animal?[6] [as applicable: 30 TAC 335.204(a)(8), (b)(10), (c)(9), (d)(9), and/or (e)(11)]	Not Applicable
If Yes: submit in Section V information demonstrating that design, construction, and operational features will prevent adverse effects on such critical habitat.	
On the recharge zone of a sole-source aquifer?2 [30 TAC 335.204(a)(3), (b)(3), (c)(3), (d)(3), and/or (e)(3)]	No
If Yes: then for storage and processing facilities (excluding storage surface impoundments), submit in Section V information demonstrating that secondary containment is provided to preclude migration to groundwater from spills, leaks, or discharges.	
In an area overlying a regional aquifer? [as applicable: 30 TAC 335.204(a)(4), (b)(4), (c)(4), (d)(4), and/or (e)(4)]	Yes, See Below
If Yes: submit site-specific information in Section V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1).	
In areas where soil unit(s) are within five feet of the containment structure, or treatment zone, as applicable, that have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10-5 cm/sec? [as applicable: 30 TAC 335.204(a)(5), (b)(5), (c)(5), (d)(5), and/or (e)(5)]	No
If Yes: provide additional information in Sections V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1)	
In areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system?[6] [as applicable: 30 TAC 335.204 (a)(6), (b)(7), (c)(6), and/or (e)(8)].	Not Applicable
If Yes: provide information in Section V demonstrating compliance with 30 TAC 335.205(a)(1).	

In areas of active geologic processes, including but not limited to erosion, submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cuttings, or earthquakes?[6] [as applicable: 30 TAC 335.204(a)(7), (b)(8) ,(c)(7), (d)(7), and/ or (e)(9)]	Not Applicable
Within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures?[6] [as applicable: 30 TAC 335.204(a)(9), (b)(12) ,(c)(11), (d)(11), and/or (e)(13)]	No
If Yes: specify in Section V the design, construction, and operational features that will prevent adverse effects resulting from any fault movement. If a fault is found to be present, the width and location of the actual or inferred surface expression of the fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, must be determined by a qualified geologist or geotechnical engineer and reported in Section VI.	

Table II.E. - Additional Requirements for Landfills (and Surface Impoundments Closed as Landfills with wastes in place)

Is the landfill located or proposed to be located:

Within 1000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or which is in use at the time the permit application is filed with the commission?	Yes
If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(6) and 335.205(a)(1).	
(For commercial hazardous waste landfills) in the 100-year flood plain of a perennial stream that is delineated on a flood map adopted by the Federal Emergency Management Agency after September 1, 1985, as zone A1-99, VO, or V1-30?	No
If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(7) and 335.205(a)(1).	
Within 1000 feet of an area subject to active coastal shoreline erosion even though the area is protected by a barrier island or peninsula?	No
If Yes: then submit in Section V.G design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.	
Within 5000 feet of a coastal shoreline subject to active shoreline erosion and which is unprotected by a barriers island or peninsula.	No
If Yes: then submit in Section V.G design, construction, and operational features which will prevent adverse effects resulting from storm surge and erosion or scouring by water.	
On a barrier island or peninsula?	No
If Yes: the TCEQ shall not issue a permit for a new hazardous waste landfill or an areal expansion of an existing landfill, pursuant to 30 TAC 335.204(e)(12) and 335.205(a)(1).	

Flooding (see Section II Instructions, Item F)

Is the facility within a 100-year flood plain?	No
Has a flood plain map been provided?	Yes
Has information about flooding levels and events, and other special flooding factors, been provided?[3]	
Do any flood protection devices exist at the facility (e.g., flood walls, dikes, etc.) designed to prevent washout from the 100-year flood?[3]	
If Yes: provide in Section V an engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)][4] **If No:** the applicant shall provide in Section V a plan for constructing flood protection devices and a schedule including specific time frames for completion. Provide engineering analyses to indicate the various hydrodynamic and hydrostatic forces expected to result at the facility as a consequence of a 100-year flood. [40 CFR 270.14(b)(11)(iv)(A)][5]	
If applicable, and in lieu of the flood protection devices from above, was a detailed description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded provided?[3, 6]	
Additional Information Requirements (see Section II instructions, Item G): Submitted?	Yes

1. Provide the source of information for all questions.
2. Note: Land treatment facilities, waste piles, storage surface impoundments, and landfills may not be located on the recharge zone of a sole-source aquifer.
3. Only required to be submitted if the facility is subject to inundation as a result of a 100-year flood event.
4. Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]
5. Include structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., flood walls, dikes) at the facility and how these will prevent washout. [40 CFR 270.14(b)(11)(iv)(B)]
6. The standards contained in §335.204(a)(6) - (9), (b)(7) - (12), (c)(6) - (11), (d)(6) - (11), and (e) (8) - (13) are not applicable to facilities that have submitted a notice of intent to file a permit application pursuant to §335.391 of this title (relating to Pre-Application Review) prior to May 3, 1988, or to facilities that have filed permit applications pursuant to §335.2(a) of this title which were submitted in accordance with Chapter 305 of this title and that were declared to be administratively complete pursuant to §281.3 of this title (relating to Initial Review) prior to May 3, 1988.[30 TAC 335.201(b)]

Appendix II.A.

Site Selection Report

Appendix II.A.
Site Selection Report

A site selection report that includes the information regarding unsuitable site characteristics as identified in 30 Texas Administrative Code (TAC) Chapter 335 Subchapter G (30 TAC §335.204) is provided herein for the area of the Tyler Pipe facility within which the closed *landfill* (NOR Unit No. 001) and the closed *sludge disposal area* (NOR Unit No. 082) are located. Specifically, the requirements of 30 TAC §335.204(a) and §335.204(e) apply to the closed landfills.

It is noted that since the original permit application was submitted pursuant to 30 TAC §335.2(a) and was declared to be administratively complete prior to May 3, 1988, various Subchapter G standards (as identified where appropriate within this report) are not applicable pursuant to 30 TAC §335.201(b). Copies of these applicable regulations are provided herein within ***Attachment II.A-1***.

Storage or Processing Facilities [30 TAC §335.204(a)]

(1) A storage or processing facility (excluding storage surface impoundments) may not be located in the 100-year floodplain unless it is designed, constructed, operated, and maintained to prevent physical transport of any hazardous waste by a 100-year flood event. "Physical transport" does not include movement of hazardous waste by an owner or operator to move the hazardous waste to safety during the threat of a 100-year flood event.

The facility is not located within a 100-year flood plain as demonstrated on the flood plain map provided in Appendix II.F. to this renewal application.

(2) A storage or processing facility (excluding storage surface impoundments) may not be located in wetlands.

The facility is not located within a wetlands area.

(3) A storage or processing facility (excluding storage surface impoundments) may not be located on the recharge zone of a sole-source aquifer unless secondary containment is provided to preclude migration to groundwater from spills, leaks or discharges.

The facility is not located on the recharge zone of a sole source aquifer.

(4) A storage or processing facility (excluding storage surface impoundments) may not be located in areas overlying regional aquifers unless:

(A) the regional aquifer is separated from the facility by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} centimeters per second (cm/sec), or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration; or

(B) secondary containment is provided to preclude migration to groundwater from spills, leaks or discharges.

Although the facility is located over a regional aquifer, there is a primary liner composed of natural soils (sandy clay) with a thickness of greater than 20 feet and a hydraulic conductivity toward the aquifer ranging from 1 x 10^{-6} cm/sec to 2.6 x 10^{-7} cm/sec beneath both the landfill and the sludge disposal area as documented in Table V.G.3 (Landfill Liner System) of the Part B Application forms. This represents adequate separation (considering both thickness and hydraulic conductivity) to provide protection of the underlying aquifer from potential pollutant migration.

(5) A storage or processing facility (excluding storage surface impoundments) may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec unless:

(A) secondary containment is provided to preclude migration to groundwater or surface water from spills, leaks or discharges; or

(B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration.

The soil units within five feet of the natural soils (sandy clay) primary liner beneath the landfill and the sludge disposal area do not exhibit any of the Unified Soil Classification designations identified above. The subsurface stratigraphy encountered at the site includes mostly clayey sand (SC) and sandy to silty clay (CL) to at least 25 feet below ground surface. These "clayey" soils exhibit a low-to-moderate plasticity index ranging between 5 and 19, with liquid limits generally at 30 or above. Permeabilities of tested soil samples range between 1 x 10^{-6} cm/sec and 2.6 x 10^{-7} cm/sec. As such, rates of percolation of leachate through the underlying soils are expected to be low. Furthermore, piping through the soil under a large hydrostatic head of retained water is not likely to occur. Hence, the underlying stratigraphy would preclude potential waste migration to groundwater (and the cover systems would preclude potential waste migration to surface water).

(6) A storage or processing facility (excluding storage surface impoundments) may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(7) A storage or processing facility (excluding storage surface impoundments) may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(8) A storage or processing facility may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(9) A storage or processing facility may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from fault movement. The presence, and if a fault is found to be present, the width and location of the actual or inferred surface expression of a fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, shall be determined by a licensed professional geoscientist or geotechnical engineer. For purposes of fault assessment under this paragraph, depths of shallow sediments to be considered could be as little as 100 feet (for older, slowly accumulated sediments), or as great as 300 feet (for younger, rapidly accumulated sediments). The fault study should include analyses of any electric logs developed for any required subsurface characterization of the site, interpretation of available aerial photographs, study of available maps, logs, and documents that may indicate fault locations at the surface and in the subsurface, and a visual observation of the proposed site.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

Landfills [30 TAC §335.204(e)]

Any surface impoundment to be closed as a landfill (where wastes will remain after closure of the impoundment) is subject to the requirements for landfills.

(1) Except as provided in subparagraphs (A) and (B) of this paragraph, a landfill may not be located in the 100-year floodplain existing prior to site development except in areas with flood depths less than three feet. Any landfill within the 100-year floodplain must be designed, constructed, operated, and maintained to prevent physical transport of any hazardous waste by a 100-year flood event.

(A) The areal expansion of a landfill in a 100-year floodplain may be allowed by the commission if the applicant demonstrates to the satisfaction of the commission that the facility design will prevent the physical transport of any hazardous waste by a 100-year flood event.

(B) A new commercial hazardous waste management facility landfill unit may not be located in a 100-year floodplain, unless the applicant demonstrates to the satisfaction of the commission that the facility design will prevent the physical transport of any hazardous waste by a 100-year flood event.

The facility is not located within a 100-year flood plain as demonstrated on the flood plain map provided in Appendix II.F. to this renewal application, it is not an areal expansion of a landfill, and is not a new commercial facility.

(2) A landfill may not be located in wetlands.

The facility is not located within a wetlands area.

(3) A landfill may not be located on the recharge zone of a sole-source aquifer.

The facility is not located on the recharge zone of a sole source aquifer.

(4) A landfill may not be located in areas overlying regional aquifers unless:

(A) it is in an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches and the depth to the regional aquifer is greater than 100 feet from the base of the containment structure; or

(B) the regional aquifer is separated from the base of the containment structure by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer

not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration.

Although the facility is located over a regional aquifer, there is a primary liner composed of natural soils (sandy clay) with a thickness of greater than 20 feet and a hydraulic conductivity toward the aquifer ranging from 1 x 10^{-6} cm/sec to 2.6 x 10^{-7} cm/sec beneath both the landfill and the sludge disposal area as documented in Table V.G.3 (Landfill Liner System) of the Part B Application forms. This represents adequate separation (considering both thickness and hydraulic conductivity) to provide protection of the underlying aquifer from potential pollutant migration.

(5) A landfill may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec unless:

(A) it is in an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches; or

(B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration.

The soil units within five feet of the natural soils (sandy clay) primary liner beneath the landfill and the sludge disposal area do not exhibit any of the Unified Soil Classification designations identified above. The subsurface stratigraphy encountered at the site includes mostly clayey sand (SC) and sandy to silty clay (CL) to at least 25 feet below ground surface. These "clayey" soils exhibit a low-to-moderate plasticity index ranging between 5 and 19, with liquid limits generally at 30 or above. Permeabilities of tested soil samples range between 1 x 10^{-6} cm/sec and 2.6 x 10^{-7} cm/sec. As such, rates of percolation of leachate through the underlying soils are expected to be low. Furthermore, piping through the soil under a large hydrostatic head of retained water is not likely to occur. Hence, the underlying stratigraphy would preclude potential waste migration to groundwater (and the cover systems would preclude potential waste migration to surface water).

(6) A landfill may not be located within 1,000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or if no such notice is filed, at the time the permit application is filed with the commission. The measurement of distances required for a new hazardous waste landfill shall be taken from a perimeter around the proposed new hazardous waste landfill. The perimeter shall be not more than 75 feet from the edge of the proposed new hazardous waste landfill unit.

The closed landfill units are located well within the facility boundary fence line. There are no established residences, churches, schools, day-care centers, surface-water bodies used for public drinking water supply, or dedicated parks within 1,000 feet of the facility fence line (see Appendix VI.A. to this renewal application).

(7) A landfill at which hazardous waste is received for a fee may not be located in the 100-year floodplain of a perennial stream, delineated on a flood map adopted by the Federal Emergency Management Agency after September 1, 1985, as zone A1-99, VO, or V1-30. This provision shall not apply to any facility for which a notice of intent to file an application, or an application, has been filed with the commission as of September 1, 1985.

The facility is not located within a 100-year flood plain (see Appendix II.F. to this renewal application). It is also noted that the landfill units are closed and no longer receive hazardous waste (and never received hazardous wastes for a fee, since it is not a commercial facility).

(8) A landfill may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(9) A landfill may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(10) A landfill may not be located within 1,000 feet of an area subject to active coastal shoreline erosion, if the area is protected by a barrier island or peninsula, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water. On coastal shorelines which are subject to active shoreline erosion and which are unprotected by a barrier island or peninsula, a separation distance from the shoreline to the facility must be at least 5,000 feet unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(11) A landfill may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(12) A landfill may not be located on a barrier island or peninsula.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(13) A landfill may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from fault movement. The presence, and if a fault is found to be present, the width and location of the actual or inferred surface expression of a fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, shall be determined by a licensed professional geoscientist or geotechnical engineer. For purposes of fault assessment under this paragraph, depths of shallow sediments to be considered could be as little as 100 feet (for older, slowly accumulated sediments), or as great as 300 feet (for younger, rapidly accumulated sediments).

The fault study should include analyses of any electric logs developed for any required subsurface characterization of the site, interpretation of available aerial photographs, study of available maps, logs, and documents that may indicate fault locations at the surface and in the subsurface, and a visual observation of the proposed site.

Standard not applicable to facility pursuant to 30 TAC §335.201(b) – see Attachment II.A-1.

(14) For purposes of this subchapter, any surface impoundment to be closed as a landfill (where wastes will remain after closure of the impoundment) is subject to the requirements for landfills.

Since the sludge disposal area (NOR Unit No. 082) was a former surface impoundment that was closed in place as a landfill, the regulations of this part apply.

Attachment II.A-1
Regulations Applicable to the Site Selection Report

Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 335	INDUSTRIAL SOLID WASTE AND MUNICIPAL HAZARDOUS WASTE
SUBCHAPTER G	LOCATION STANDARDS FOR HAZARDOUS WASTE STORAGE, PROCESSING, OR DISPOSAL
RULE §335.204	**Unsuitable Site Characteristics**

(a) Storage or processing facilities (excluding storage surface impoundments).

(1) A storage or processing facility (excluding storage surface impoundments) may not be located in the 100-year floodplain unless it is designed, constructed, operated, and maintained to prevent physical transport of any hazardous waste by a 100-year flood event. "Physical transport" does not include movement of hazardous waste by an owner or operator to move the hazardous waste to safety during the threat of a 100-year flood event.

(2) A storage or processing facility (excluding storage surface impoundments) may not be located in wetlands.

(3) A storage or processing facility (excluding storage surface impoundments) may not be located on the recharge zone of a sole-source aquifer unless secondary containment is provided to preclude migration to groundwater from spills, leaks or discharges.

(4) A storage or processing facility (excluding storage surface impoundments) may not be located in areas overlying regional aquifers unless:

(A) the regional aquifer is separated from the facility by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} centimeters per second (cm/sec), or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration; or

(B) secondary containment is provided to preclude migration to groundwater from spills, leaks or discharges.

(5) A storage or processing facility (excluding storage surface impoundments) may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec unless:

(A) secondary containment is provided to preclude migration to groundwater or surface water from spills, leaks or discharges; or

(B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration.

(6) A storage or processing facility (excluding storage surface impoundments) may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas.

(7) A storage or processing facility (excluding storage surface impoundments) may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes.

(8) A storage or processing facility may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species.

(9) A storage or processing facility may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from fault movement. The presence, and if a fault is found to be present, the width and location of the actual or inferred surface expression of a fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, shall be determined by a licensed professional geoscientist or geotechnical engineer. For purposes of fault assessment under this paragraph, depths of shallow sediments to be considered could be as little as 100 feet (for older, slowly accumulated sediments), or as great as 300 feet (for younger, rapidly accumulated sediments). The fault study should include analyses of any electric logs developed for any required subsurface characterization of the site, interpretation of available aerial photographs, study of available maps, logs, and documents that may indicate fault locations at the surface and in the subsurface, and a visual observation of the proposed site.

(b) Land treatment facilities.

(1) A land treatment facility may not be located in the 100-year floodplain unless it is designed, constructed, operated and maintained to prevent physical transport of any hazardous waste by a 100-year flood event. A new commercial hazardous waste management facility land treatment unit may not be located in a 100-year flood plain, unless the applicant demonstrates to the satisfaction of the commission that the facility design will prevent the physical transport of any hazardous waste by a 100-year flood event.

(2) A land treatment facility may not be located in wetlands.

(3) A land treatment facility may not be located in the recharge zone of a sole-source aquifer.

(4) A land treatment facility may not be located in areas overlying regional aquifers unless:

(A) it is an area where the average annual evaporation exceeds average annual rainfall plus the hydraulic loading rate of the facility by more than 40 inches and the depth to the regional aquifer is greater than 100 feet from the base of the treatment zone; or

(B) the regional aquifer is separated from the base of the treatment zone by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec, or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration.

(5) A land treatment facility may not be located in areas where soil units(s) within five feet of the treatment zone have a Unified Soil Classification of GW, GP, GM, GC, SW, SP or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec, unless:

(A) it is in an area where the average annual evaporation exceeds average annual rainfall plus the hydraulic loading rate by more than 40 inches; or

(B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration.

(6) A land treatment facility may not be located within 1,000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or if no such notice is filed, at the time the permit application is filed with the commission. The measurement of distances required for a new hazardous waste land treatment facility shall be taken from a perimeter around the proposed new hazardous waste land treatment management unit. The perimeter shall be not more than 75 feet from the edge of the proposed new hazardous waste land treatment unit.

(7) A land treatment facility may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas.

(8) A land treatment facility may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes.

(9) A land treatment facility may not be located within 1,000 feet of an area subject to active coastal shoreline erosion if the area is protected by a barrier island or peninsula unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water. On coastal shorelines which are subject to active shoreline erosion and which are unprotected by a barrier island or peninsula, a separation

distance from the shoreline to the facility must be at least 5,000 feet unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water.

(10) A land treatment facility may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species.

(11) A land treatment facility may not be located on a barrier island or peninsula.

(12) A land treatment facility may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from fault movement. The presence, and if a fault is found to be present, the width and location of the actual or inferred surface expression of a fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, shall be determined by a licensed professional geoscientist or geotechnical engineer. For purposes of fault assessment under this paragraph, depths of shallow sediments to be considered could be as little as 100 feet (for older, slowly accumulated sediments), or as great as 300 feet (for younger, rapidly accumulated sediments). The fault study should include analyses of any electric logs developed for any required subsurface characterization of the site, interpretation of available aerial photographs, study of available maps, logs, and documents that may indicate fault locations at the surface and in the subsurface, and a visual observation of the proposed site.

(c) Waste piles.

(1) A waste pile may not be located in the 100-year floodplain unless it is designed, constructed, operated, and maintained to prevent physical transport of any hazardous waste by a 100-year flood event. "Physical transport" does not include movement of hazardous waste by an owner or operator to move the hazardous waste to safety during the threat of a 100-year flood event.

(2) A waste pile may not be located in wetlands.

(3) A waste pile may not be located on the recharge zone of a sole-source aquifer.

(4) A waste pile may not be located in areas overlying regional aquifers unless:

(A) the regional aquifer is separated from the base of the containment structure by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration; or

(B) secondary containment is provided to preclude pollutant migration to groundwater from spills, leaks, or discharges.

(5) A waste pile may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec unless:

(A) secondary containment is provided to preclude pollutant migration to groundwater or surface water from spills, leaks, or discharges; or

(B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration.

(6) A waste pile may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas.

(7) A waste pile may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes.

(8) A waste pile may not be located within 1,000 feet of an area subject to active coastal shoreline erosion if the area is protected by a barrier island or peninsula unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water. On coastal shorelines which are subject to active shoreline erosion and which are unprotected by a barrier island or peninsula, a separation distance from the shoreline to the facility must be at least 5,000 feet unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water.

(9) A waste pile may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species.

(10) A waste pile may not be located on a barrier island or peninsula.

(11) A waste pile may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from fault movement. The presence, and if a fault is found to be present, the width and location of the actual or inferred surface expression of a fault, including both the identified zone of deformation and

the combined uncertainties in locating a fault trace, shall be determined by a licensed professional geoscientist or geotechnical engineer. For purposes of fault assessment under this paragraph, depths of shallow sediments to be considered could be as little as 100 feet (for older, slowly accumulated sediments), or as great as 300 feet (for younger, rapidly accumulated sediments). The fault study should include analyses of any electric logs developed for any required subsurface characterization of the site, interpretation of available aerial photographs, study of available maps, logs, and documents that may indicate fault locations at the surface and in the subsurface, and a visual observation of the proposed site.

(d) Storage surface impoundments.

(1) A storage surface impoundment may not be located in the 100-year floodplain unless it is designed, constructed, operated, and maintained to prevent physical transport of any hazardous waste by a 100-year flood event. "Physical transport" does not include movement of hazardous waste by an owner or operator to move the hazardous waste to safety during the threat of a 100-year flood event.

(2) A storage surface impoundment may not be located in wetlands.

(3) A storage surface impoundment may not be located on the recharge zone of a sole-source aquifer.

(4) A storage surface impoundment may not be located in areas overlying regional aquifers unless:

(A) the regional aquifer is separated from the base of the containment structure by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration; or

(B) the impoundment is double-lined and has an intervening leak detection system or the

facility has an equivalent design which provides commensurate or greater assurance of waste containment.

(5) A storage surface impoundment may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec unless:

(A) the impoundment is double-lined and has an intervening leak detection system or the facility has an equivalent design which provides commensurate or greater assurance of waste containment; or

(B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration.

(6) A storage surface impoundment may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas.

(7) A storage surface impoundment may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes.

(8) A storage surface impoundment may not be located within 1,000 feet of an area of active coastal shoreline erosion if the area is protected by a barrier island or peninsula, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water. On coastal shorelines which are subject to active shoreline erosion and which are unprotected by a barrier island or peninsula, a separation distance from the shoreline to the facility must be at least 5,000 feet unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water.

(9) A storage surface impoundment may not be located in the critical habitat of an endangered species of plant and animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species.

(10) A storage surface impoundment may not be located on a barrier island or peninsula.

(11) A storage surface impoundment may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from fault movement. The presence, and if a fault is found to be present, the width and location of the actual or inferred surface expression of a fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, shall be determined by a licensed professional geoscientist or geotechnical engineer. For

purposes of fault assessment under this paragraph, depths of shallow sediments to be considered could be as little as 100 feet (for older, slowly accumulated sediments), or as great as 300 feet (for younger, rapidly accumulated sediments). The fault study should include analyses of any electric logs developed for any required subsurface characterization of the site, interpretation of available aerial photographs, study of available maps, logs, and documents that may indicate fault locations at the surface and in the subsurface, and a visual observation of the proposed site.

(e) Landfills. Any surface impoundment to be closed as a landfill (where wastes will remain after closure of the impoundment) is subject to the requirements for landfills.

(1) Except as provided in subparagraphs (A) and (B) of this paragraph, a landfill may not be located in the 100-year floodplain existing prior to site development except in areas with flood depths less than three feet. Any landfill within the 100-year floodplain must be designed, constructed, operated, and maintained to prevent physical transport of any hazardous waste by a 100-year flood event.

(A) The areal expansion of a landfill in a 100-year floodplain may be allowed by the commission if the applicant demonstrates to the satisfaction of the commission that the facility design will prevent the physical transport of any hazardous waste by a 100-year flood event.

(B) A new commercial hazardous waste management facility landfill unit may not be located in a 100-year floodplain, unless the applicant demonstrates to the satisfaction of the commission that the facility design will prevent the physical transport of any hazardous waste by a 100-year flood event.

(2) A landfill may not be located in wetlands.

(3) A landfill may not be located on the recharge zone of a sole-source aquifer.

(4) A landfill may not be located in areas overlying regional aquifers unless:

(A) it is in an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches and the depth to the regional aquifer is greater than 100 feet from the base of the containment structure; or

(B) the regional aquifer is separated from the base of the containment structure by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10^{-7} cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration.

(5) A landfill may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10^{-5} cm/sec unless:

(A) it is in an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches; or

(B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration.

(6) A landfill may not be located within 1,000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or if no such notice is filed, at the time the permit application is filed with the commission. The measurement of distances required for a new hazardous waste landfill shall be taken from a perimeter around the proposed new hazardous waste landfill. The perimeter shall be not more than 75 feet from the edge of the proposed new hazardous waste landfill unit.

(7) A landfill at which hazardous waste is received for a fee may not be located in the 100-year floodplain of a perennial stream, delineated on a flood map adopted by the Federal Emergency Management Agency after September 1, 1985, as zone A1-99, VO, or V1-30. This provision shall not apply to any facility for which a notice of intent to file an application, or an application, has been filed with the commission as of September 1, 1985.

(8) A landfill may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas.

(9) A landfill may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes.

(10) A landfill may not be located within 1,000 feet of an area subject to active coastal shoreline erosion, if the area is protected by a barrier island or peninsula, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water. On coastal shorelines which are subject to active shoreline erosion and which are unprotected by a barrier island or peninsula, a separation distance from the shoreline to the facility must be at least 5,000 feet unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water.

(11) A landfill may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species.

(12) A landfill may not be located on a barrier island or peninsula.

(13) A landfill may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse

effects resulting from fault movement. The presence, and if a fault is found to be present, the width and location of the actual or inferred surface expression of a fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, shall be determined by a licensed professional geoscientist or geotechnical engineer. For purposes of fault assessment under this paragraph, depths of shallow sediments to be considered could be as little as 100 feet (for older, slowly accumulated sediments), or as great as 300 feet (for younger, rapidly accumulated sediments). The fault study should include analyses of any electric logs developed for any required subsurface characterization of the site, interpretation of available aerial photographs, study of available maps, logs, and documents that may indicate fault locations at the surface and in the subsurface, and a visual observation of the proposed site.

(14) For purposes of this subchapter, any surface impoundment to be closed as a landfill (where wastes will remain after closure of the impoundment) is subject to the requirements for landfills.

(f) Injection Wells. The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine, or cave is prohibited.

Source Note: The provisions of this §335.204 adopted to be effective May 28, 1986, 11 TexReg 2347; amended to be effective May 3, 1988, 13 TexReg 1913; amended to be effective November 7, 1991, 16 TexReg 6065; amended to be effective September 1, 2003, 28 TexReg 6915

Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 335	INDUSTRIAL SOLID WASTE AND MUNICIPAL HAZARDOUS WASTE
SUBCHAPTER A	INDUSTRIAL SOLID WASTE AND MUNICIPAL HAZARDOUS WASTE IN GENERAL
RULE §335.2	**Permit Required**

(a) Except with regard to storage, processing, or disposal to which subsections (c) - (h) of this section apply, and as provided in §335.45(b) of this title (relating to Effect on Existing Facilities), and in accordance with the requirements of §335.24 of this title (relating to Requirements for Recyclable Materials and Nonhazardous Recyclable Materials) and §335.25 of this title (relating to Handling, Storing, Processing, Transporting, and Disposing of Poultry Carcasses), and as provided in §332.4 of this title (relating to General Requirements), no person may cause, suffer, allow, or permit any activity of storage, processing, or disposal of any industrial solid waste or municipal hazardous waste unless such activity is authorized by a permit, amended permit, or other authorization from the Texas Commission on Environmental Quality (commission) or its predecessor agencies, the Department of State Health Services (DSHS), or other valid authorization from a Texas state agency. No person may commence physical construction of a new hazardous waste management facility without first having submitted Part A and Part B of the permit application and received a finally effective permit.

(b) In accordance with the requirements of subsection (a) of this section, no generator, transporter, owner or operator of a facility, or any other person may cause, suffer, allow, or permit its wastes to be stored, processed, or disposed of at an unauthorized facility or in violation of a permit. In the event this requirement is violated, the executive director will seek recourse against not only the person who stored, processed, or disposed of the waste, but also against the generator, transporter, owner or operator, or other person who caused, suffered, allowed, or permitted its waste to be stored, processed, or disposed.

(c) Any owner or operator of a solid waste management facility that is in existence on the effective date of a statutory or regulatory change that subjects the owner or operator to a requirement to obtain a hazardous waste permit who has filed a hazardous waste permit application with the commission in accordance with the rules and regulations of the commission, may continue the storage, processing, or disposal of hazardous waste until such time as the commission approves or denies the application, or, if the owner or operator becomes subject to a requirement to obtain a hazardous waste permit after November 8, 1984, except as provided by the United States Environmental Protection Agency (EPA) or commission rules relative to termination of interim status. If a solid waste facility which has become a commercial hazardous

waste management facility as a result of the federal toxicity characteristic rule effective September 25, 1990, and is required to obtain a hazardous waste permit, such facility that qualifies for interim status is limited to those activities that qualify it for interim status until the facility obtains the hazardous waste permit. Owners or operators of municipal hazardous waste facilities that satisfied this requirement by filing an application on or before November 19, 1980, with the EPA are not required to submit a separate application with the DSHS. Applications filed under this section shall meet the requirements of §335.44 of this title (relating to Application for Existing On-Site Facilities). Owners and operators of solid waste management facilities that are in existence on the effective date of statutory or regulatory amendments under the Texas Solid Waste Disposal Act (Vernon's Supplement 1991), Texas Civil Statutes, Article 4477-7, or the Resource Conservation and Recovery Act (RCRA), 42 United States Code, §§6901 *et seq.,* that render the facilities subject to the requirement to obtain a hazardous waste permit, may continue to operate if Part A of their permit application is submitted no later than six months after the date of publication of regulations by the EPA under RCRA, which first require them to comply with the standards in Subchapter E of this chapter (relating to Interim Standards for Owners and Operators of Hazardous Waste Storage, Processing, or Disposal Facilities), or Subchapter H of this chapter (relating to Standards for the Management of Specific Wastes and Specific Types of Facilities); or 30 days after the date they first become subject to the standards in these subchapters, whichever first occur; or for generators who generate greater than 100 kilograms but less than 1,000 kilograms of hazardous waste in a calendar month and who process, store, or dispose of these wastes on-site, a Part A permit application shall be submitted to the EPA by March 24, 1987, as required by 40 Code of Federal Regulations (CFR) §270.10(e)(1)(iii). This subsection shall not apply to a facility if it has been previously denied a hazardous waste permit or if authority to operate the facility has been previously terminated. Applications filed under this section shall meet the requirements of §335.44 of this title. For purposes of this subsection, a solid waste management facility is in existence if the owner or operator has obtained all necessary federal, state, and local preconstruction approvals or permits, as required by applicable federal, state, and local hazardous waste control statutes, regulations, or ordinances; and either:

(1) a continuous physical, on-site construction program has begun; or

(2) the owner or operator has entered into contractual obligations, which cannot be cancelled or modified without substantial loss, for construction of the facility to be completed within a reasonable time.

(d) No permit shall be required for:

(1) the processing or disposal of nonhazardous industrial solid waste, if the waste is processed or disposed on property owned or otherwise effectively controlled by the owner or operator of the industrial plant, manufacturing plant, mining operation, or agricultural operation from which the waste results or is produced; the property is within 50 miles of the plant or operation; and the waste is not commingled with waste from any other source or sources (An industrial plant, manufacturing plant, mining operation, or agricultural operation owned by one person shall not be considered an "other source" with respect to other plants and operations owned by the same person.);

(2) the storage of nonhazardous industrial solid waste, if the waste is stored on property owned or otherwise effectively controlled by the owner or operator of the industrial plant, manufacturing plant, mining operation, or agricultural operation from which the waste results or is produced, and the waste is not commingled with waste from any other source or sources (An industrial plant, manufacturing plant, mining operation, or agricultural operation owned by one person shall not be considered an "other source" with respect to other plants and operations owned by the same person.);

(3) the storage or processing of nonhazardous industrial solid waste, if the waste is processed in an elementary neutralization unit;

(4) the collection, storage, or processing of nonhazardous industrial solid waste, if the waste is collected, stored, or processed as part of a treatability study;

(5) the storage of nonhazardous industrial solid waste, if the waste is stored in a transfer facility in containers for a period of ten days or less, unless the executive director determines that a permit should be required in order to protect human health and the environment;

(6) the storage or processing of nonhazardous industrial solid waste, if the waste is processed in a publicly owned treatment works with discharges subject to regulation under the Clean Waste Act, §402, as amended through October 4, 1996, if the owner or operator has a National Pollutant Discharge Elimination System permit and complies with the conditions of the permit;

(7) the storage or processing of nonhazardous industrial solid waste, if the waste is stored or processed in a wastewater unit and is discharged in accordance with a Texas Pollutant Discharge Elimination System authorization issued under Texas Water Code, Chapter 26;

(8) the storage or processing of nonhazardous industrial solid waste, if the waste is stored or processed in a wastewater treatment unit that discharges to a publicly owned treatment works and the units are located at a noncommercial solid waste management facility; or

(9) the storage or processing of nonhazardous industrial solid waste, if the waste is processed in a wastewater treatment unit that discharges to a publicly owned treatment works liquid wastes that are incidental to the handling, processing, storage, or disposal of solid wastes at municipal solid waste facilities or commercial industrial solid waste landfill facilities.

(e) No permit shall be required for the on-site storage of hazardous waste by a person who is a conditionally exempt small quantity generator as described in §335.78 of this title (relating to Special Requirements for Hazardous Waste Generated by Conditionally Exempt Small Quantity Generators).

(f) No permit under this chapter shall be required for the storage, processing, or disposal of hazardous waste by a person described in §335.41(b) - (d) of this title (relating to Purpose, Scope, and Applicability) or for the storage of hazardous waste under the provisions of 40 CFR §261.4(c) and (d).

(g) No permit under this chapter shall be required for the storage, processing, or disposal of hazardous industrial waste or municipal hazardous waste that is generated or collected for the purpose of conducting treatability studies. Such samples are subject to the requirements in 40 CFR §261.4(e) and (f), as amended and adopted in the CFR through February 18, 1994, as published in the *Federal Register* (59 FR 8362), which are adopted by reference.

(h) A person may obtain authorization from the executive director for the storage, processing, or disposal of nonhazardous industrial solid waste in an interim status landfill that has qualified for interim status in accordance with 40 CFR Part 270, Subpart G, and that has complied with the standards in Subchapter E of this chapter, by complying with the notification and information requirements in §335.6 of this title (relating to Notification Requirements). The executive director may approve or deny the request for authorization or grant the request for authorization subject to conditions, which may include, without limitation, public notice and technical requirements. A request for authorization for the disposal of nonhazardous industrial solid waste under this subsection shall not be approved unless the executive director determines that the subject facility is suitable for disposal of such waste at the facility as requested. At a minimum, a determination of suitability by the executive director must include approval by the executive director of construction of a hazardous waste landfill meeting the design requirements of 40 CFR §265.301(a). In accordance with §335.6 of this title, such person shall not engage in the requested activities if denied by the executive director or unless 90 days' notice has been provided and the executive director approves the request except where express executive director approval has been obtained prior to the expiration of the 90 days. Authorization may not be obtained under this subsection for:

(1) nonhazardous industrial solid waste, the storage, processing, or disposal of which is expressly prohibited under an existing permit or site development plan applicable to the facility or a portion of the facility;

(2) polychlorinated biphenyl compounds wastes subject to regulation by 40 CFR Part 761;

(3) explosives and shock-sensitive materials;

(4) pyrophorics;

(5) infectious materials;

(6) liquid organic peroxides;

(7) radioactive or nuclear waste materials, receipt of which will require a license from the TDH or the commission or any other successor agency; and

(8) friable asbestos waste unless authorization is obtained in compliance with the procedures established under §330.136(b)(6)(B) - (E) of this title (relating to Disposal of Special Wastes). Authorizations obtained under this subsection shall be effective during the pendency of the interim status and shall cease upon the termination of interim status, final administrative disposition of the subject permit application, failure of the facility to operate the facility in

compliance with the standards set forth in Subchapter E of this chapter, or as otherwise provided by law.

(i) Owners or operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit. Owners or operators of surface impoundments, landfills, land treatment units, and waste pile units that received wastes after July 26, 1982, or that certified closure (according to 40 CFR §265.115) after January 26, 1983, must have post-closure permits, unless they demonstrate closure by removal or decontamination as provided under 40 CFR §270.1(c)(5) and (6), or obtain an order in lieu of a post-closure permit, as provided in subsection (m) of this section. If a post-closure permit is required, the permit must address applicable provisions of 40 CFR Part 264, and Subchapter F of this chapter (relating to Permitting Standards for Owners and Operators of Hazardous Waste Storage, Processing, or Disposal Facilities) provisions concerning groundwater monitoring, unsaturated zone monitoring, corrective action, and post-closure care requirements. The denial of a permit for the active life of a hazardous waste management facility or unit does not affect the requirement to obtain a post-closure permit under this section.

(j) Upon receipt of the federal Hazardous and Solid Waste Act (HSWA) authorization for the commission's Hazardous Waste Program, the commission shall be authorized to enforce the provisions that the EPA imposed in hazardous waste permits that were issued before the HSWA authorization was granted.

Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 335	INDUSTRIAL SOLID WASTE AND MUNICIPAL HAZARDOUS WASTE
SUBCHAPTER G	LOCATION STANDARDS FOR HAZARDOUS WASTE STORAGE, PROCESSING, OR DISPOSAL
RULE §335.201	**Purpose, Scope, and Applicability**

(a) This subchapter establishes minimum standards for the location of facilities used for the storage, processing, and disposal of hazardous waste. These standards are to be applied in the evaluation of an application for a permit to manage hazardous waste. Except as otherwise provided in this section, this subchapter applies to permit applications for new hazardous waste management facilities and areal expansions of existing hazardous waste management facilities, filed on or after September 1, 1984. These sections do not apply to the following:

(1) permit applications submitted pursuant to §335.2(c) of this title (relating to Permit Required), §335.43(b) of this title (relating to Permit Required), and §335.45(b) of this title (relating to Effect on Existing Facilities), including any revision submitted pursuant to §305.51 of this title (relating to Revision of Applications for Hazardous Waste Permits);

(2) permit applications filed pursuant to §335.2(a) of this title which have been submitted in accordance with Chapter 305 of this title (relating to Consolidated Permits) and which have been declared to be administratively complete pursuant to §281.3 of this title (relating to Initial Review) prior to September 1, 1984; and

(3) on-site remedial actions conducted pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 United States Code §§9601 et seq., as amended by the Superfund Amendments Reauthorization Act of 1986 or Texas Health and Safety Code, Chapter 361, Subchapter F.

(b) The standards contained in §335.204(a)(6) - (9), (b)(7) - (12), (c)(6) - (11), (d)(6) - (11), and (e) (8) - (13) are not applicable to facilities that have submitted a notice of intent to file a permit application pursuant to §335.391 of this title (relating to Pre-Application Review) prior to May 3, 1988, or to facilities that have filed permit applications pursuant to §335.2(a) of this title which were submitted in accordance with Chapter 305 of this title and that were declared to be administratively complete pursuant to §281.3 of this title (relating to Initial Review) prior to May 3, 1988.

(c) The purpose of this subchapter is to condition issuance of a permit for a new hazardous waste management facility or the areal expansion of an existing hazardous waste management facility on selection of a site that reasonably minimizes possible contamination of surface water and groundwater; to define the characteristics that make an area unsuitable for a hazardous waste management facility; and to prohibit issuance of a permit for a facility to be located in an area determined to be unsuitable, unless the design, construction and operational features of the facility will prevent adverse effects from unsuitable site characteristics. Nothing herein is intended to restrict or abrogate the commission's general authority under Texas Health and Safety Code, Chapter 361 to review site suitability for all facilities which manage municipal hazardous waste or industrial solid waste.

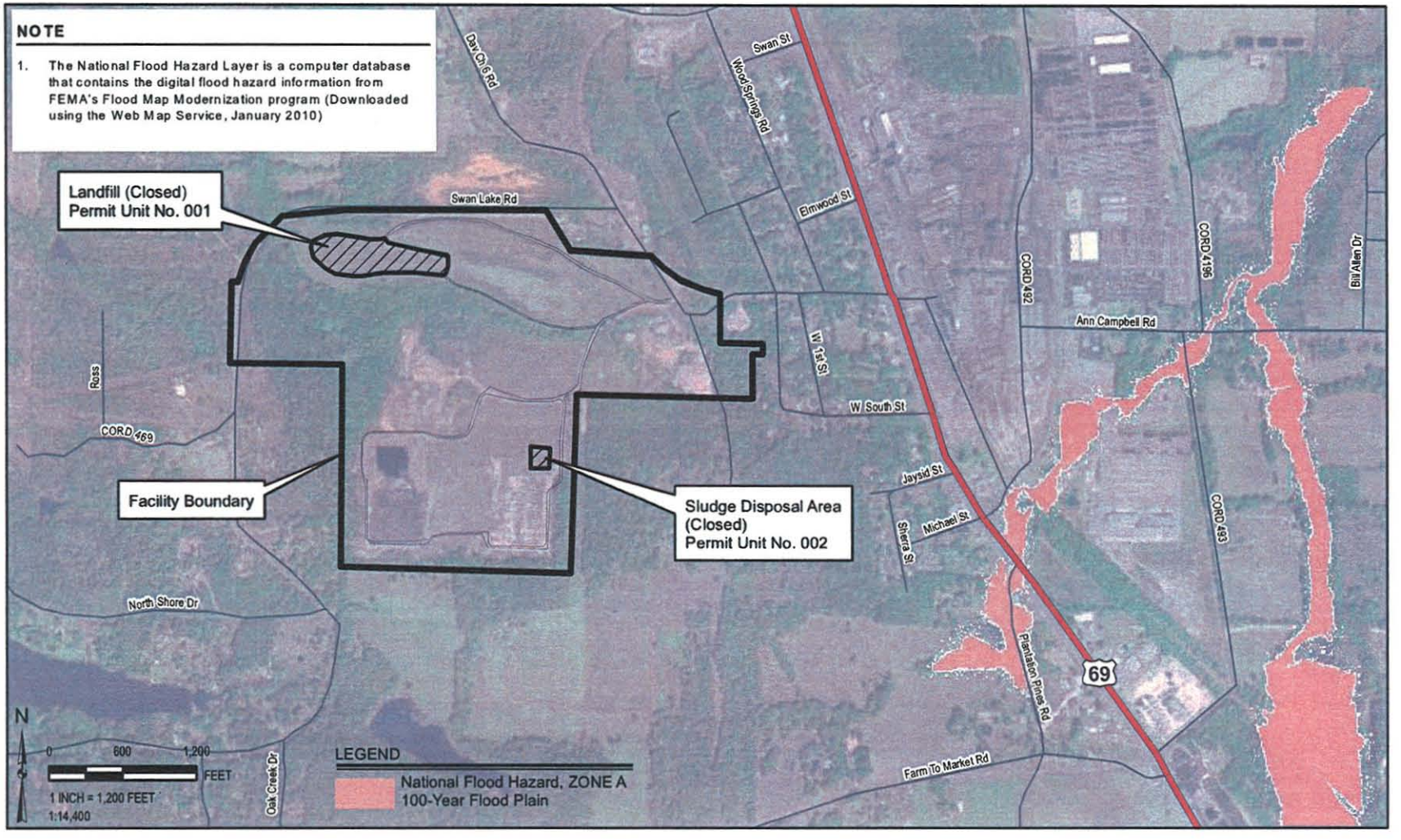
Source Note: The provisions of this §335.201 adopted to be effective May 28, 1986, 11 TexReg 2347; amended to be effective September 1, 1986, 11 TexReg 3696; amended to be effective May 3, 1988, 13 TexReg 1913; amended to be effective November 15, 2001, 26 TexReg 9135

Appendix II.F.

100-Year Flood Plain Map

Appendix II.F.
100-Year Flood Plain Map

A copy of the *Flood Insurance Rate Map* (January 2010) depicting the 100-year flood plan in the vicinity of the Tyler Pipe facility is provided herein. The map indicates that no portion of the facility, including the closed *landfill* (NOR Unit No. 001) and the closed *sludge disposal area* (NOR Unit No. 082), is within the 100-year flood plain.



RMT
744 Heartland Trail
Madison, WI 53717 - 1934
P.O. Box 8923
Madison, WI 53708 - 8923
Phone: 608-831-4444
Fax: 608-831-3334

APPENDIX II.F
100-YEAR FLOOD PLAIN MAP

MCWANE, INC. (TYLER PIPE COMPANY)
TYLER, TEXAS

DRAWN BY:	S S WILSON
APPROVED BY:	B PAULES
PROJ. NO.:	00-07749.26
FILE NO.:	077492602_FLOOD
DATE:	JANUARY 2010

D:\07749\26\GIS\MXD\077492602_FLOOD.mxd 1/14/2010 13:48:15

Appendix II.G.6.

Deed Recordation for Existing Land Disposal Units

Appendix II.G.6.
Deed Recordation for Existing Land Disposal Units

Documentation that the information required by 30 Texas Administrative Code (TAC) Chapter 335.5 has been placed in the deed records of Smith County, Texas for the closed *landfill* (NOR Unit No. 001) and the closed *sludge disposal area* (NOR Unit No. 082) is provided herein.

Closed Landfill (NOR Unit No. 001)

LAWRENCE & LAWRENCE

4.10

13942 VOL 1628 PAGE 747

SOLID WASTE DISPOSAL NOTIFICATION

STATE OF TEXAS X
KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF SMITH X

THAT the undersigned being the owner or person controlling an industrial solid waste site or both parties in accordance with Article 447-7 as amended of the Texas Civil Code and known as the Solid Waste Disposal Act and in accordance with the regulations promulgated thereunder do hereby submit for recordation the fact that a portion or portions of the hereinafter described tracts are to be utilized for the ultimate disposal of industrial solid waste.

WEST DISPOSAL SITE

FIRST TRACT: Being 35-1/3 acres of Francis Gilkerson Survey No. 266,
BEGINNING at the NWC of the Lucinda Smith 200 acres homestead and on NBL of said Gilkerson Survey P.O. 9" N. 57 E 7-2/10 vrs. P.O. 4" N. 64 E 7-8/10 vrs.;
THENCE E. along NBL of said homestead 670 vrs. to corner (bearings gone);
THENCE North with WBL of said homestead 297-7/10 vrs. to corner sassafras 3" N. 19 E. 20-2/10 sassafras 3" N. 22 E. 21 6/10 vrs.;
THENCE W. 670 vrs. to corner on WBL of said Gilkerson Survey P.O. 6" N. 9 E. 20-7/10 vrs.;
THENCE South with WBL of said Gilkerson Survey 297-7/10 to the place of beginning.

SECOND TRACT: Being 85-3/4 acres of the Francis Gilkerson Survey No. 266 and 25-7/10 acres of the Francis Gilkerson Survey No. 267;
BEGINNING 100-8/10 vrs. N. 88 deg. 11" W. from the NEC of the Lucinda Smith 200 acre homestead tract and on the SBL of same, Persimmon 4: S. 30 W 4-6/10 vrs. P.O. 6" S. 66 E. 9 vrs.;
THENCE N. 88 deg. 11 sec. W. 474-1/2 vrs. to the most Northerly NWC of said Smith 200 acre tract;
THENCE South 236-3/10 vrs. to the NEC of a 35-1/2 acre tract owned by the grantees;
THENCE West 670 vrs. to the NWC of same on the WBL of the Gilkerson Survey, P.O. 6 N 9 E. 20-7/10 vrs.;
THENCE North at 541-3/10 vrs. the NWC of No. 266 and SWC of No. 267 at 721-8/10 vrs. the SWC of A. C. Pontius tract;
THENCE East 591 vrs. to the NWC of J. W. Morris tract;
THENCE South 33 E. 131 vrs. to SWC of same;
THENCE East 215 vrs. to corner in Tyler & Hubbard road;
THENCE with said road S. 36 E. 120 vrs. to corner on SBL of No. 267 and NBL of No. 266;
THENCE East with said line to point North from the beginning, R.O. 11" S. 22-1/2 E. 4 vrs. Persimmon 4 S. 87 E 2-6/10 vrs.;
THENCE South 308 vrs. to the place of beginning.

THIRD TRACT: That certain lot, tract or parcel of land, a part of the A. Watkins Survey, A-1055, Smith County, Texas, a part of that certain called 225 acre tract conveyed to Sam D. Bailey by J. R. Swann on March 14, 1958, recorded in Vol. 904, page 202 and a part of that certain called 37.531 acre tract conveyed to Thomas E. Johnston by Ted Saba on November 3, 1972, and recorded in Volume 1431, page 432 of the Deed Records of Smith County, Texas, and being more completely described as follows, to-wit:
BEGINNING at a 1/2" Iron Rod for the NEC of said 225 acre tract and 37.531 acre tract and being on the East line of the A. Watkins Survey;
THENCE South 0 deg. 42 min. East, with the East line of the A. Watkins Survey, a distance of 1235.90 ft. to a 1/2" Iron Rod for corner, being the NEC of a certain 14.582 acre tract;
THENCE West, with the North line of the above mentioned 14.582 acre tract, a distance of 900.65 ft., to a 1/2" Iron Rod for the NWC of same being the West line of said 37.531 acre tract;
THENCE North 0 deg. 25 min. East, with the West line of said 37.531 acre tract a distance of 647.16 ft. to a 1/2" Iron Rod for the Southerly NWC of same;
THENCE East, a distance of 38.89 ft., to a 1/2" Iron Rod for an Ell corner of said 37.531 acre tract;
THENCE North 14 deg. 15 min. West, a distance of 308.33 ft. to a 1/2" Iron Rod for the NWC of said 37.531 acre tract;
THENCE with the North line of said 37.531 acre tract, North 85 deg. 00 min. East - 228.29 ft., North 44 deg. 00 min. East 303.04 ft., and North 83 deg. 45 min. East 481.66 ft. to the place of beginning, containing 22.949 acres of land.

SOUTHEAST DISPOSAL SITE

Lying and being situated in the H. Mickelborough Survey, A-651, Smith County, Texas, and being part of a 22.1803 acre tract as was described in a deed from Birdie Smith to Tyler Pipe and Foundry Company by deed dated October 5, 1955, which such deed is recorded in Volume 819, page 292 of the Deed Records of Smith County, Texas, and being the 7.2 acres of such tract as lies immediately South of County Road No. 492.

NORTHEAST DISPOSAL SITE

Lying and being situated in the H. Mickelborough Survey, A-651, Smith County, Texas, and being out of a tract of land as is more fully described in the Deed to John Howard Pratt and H. W. Bouterse which such deed appears of record in Volume 1311, page 161 of the Deed Records of Smith County, Texas, and being 24.837 acres of land, more or less, the tract herein referred to being that portion of the tract which lies on the North Side of County Road No. 492 and which is bounded on the West side by County Road No. 495.

The Texas Water Quality Board class of materials to be disposed or proposed to be disposed on the above referred to West Disposal Site is Class I, Class II and Class III.

The Texas Water Quality Board class of materials to be disposed or proposed to be disposed on the above referred to Southeast Disposal Site is Class II and Class III.

The Texas Water Quality Board class of materials to be disposed or proposed to be disposed on the above referred to Northeast Disposal Site is Class III.

Notice is further given that the dumping on the Southeast Disposal Site ended approximately during the year of 1972.

Notice is further given that the dumping on the Northeast Disposal Site ended approximately during the year of 1976.

The name and permanent address of the company operating each of these sites where more specific information on the materials can be secured is Tyler Pipe Industries, Inc., P. O. Box 2027, Tyler, Texas, 75710. The office of that company is located in the City of Swan, Texas, on U. S. Highway No. 69 about seven miles North of the City of Tyler, Smith County, Texas.

IN TESTIMONY WHEREOF, witness our various hands on this the 27th day of May, 1977.

TYLER PIPE INDUSTRIES, INC.

BY: James E. Russell, Secretary
Its Authorized Officer

Roland Chamblee
ROLAND CHAMBLEE

STATE OF TEXAS X

COUNTY OF SMITH X

BEFORE ME, the undersigned authority, on this day personally appeared JAMES E. RUSSELL, SECRETARY, known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged to me that the same was the act of the said TYLER PIPE INDUSTRIES, INC., a corporation, and that he executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 1st day of JUNE, 1977.

NOTARY PUBLIC SMITH COUNTY, TEXAS

Notary Public, Smith County, Texas

VOL 1628 PAGE 750

STATE OF TEXAS I

COUNTY OF SMITH I

BEFORE ME, the undersigned, a Notary Public in and for said County and State, on this day personally appeared ROLAND CHAMBLEE, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 6 day of June, 1977.

Notary Public, Smith County, Texas

THE STATE OF TEXAS
COUNTY OF SMITH I HEREBY CERTIFY THAT THE FOREGOING DEED OR INSTRUMENT OF WRITING WAS FILED IN MY OFFICE FOR RECORD AT 4:12 O'CLOCK P M, ON THE 24 DAY OF June 1977 AND THAT THE SAME TOGETHER WITH THE CERTIFICATE OF AUTHENTICATION WAS ON THIS DAY CORRECTLY RECORDED ON PAGES 747-750 IN VOLUME 1628 RECORD OF DEEDS OF SMITH COUNTY, TEXAS.
GIVEN UNDER MY HAND AND SEAL OF OFFICE IN TYLER, TEXAS THIS 7 DAY OF July, 19 77

ERNEST CHRISTIAN, County Clerk, Smith County, Texas
BY Pete Edwards Deputy

Closed Sludge Disposal Area (NOR Unit No. 082)

Smith County
Judy Carnes
County Clerk
Tyler Tx 75702

COPY

Instrument Number: 2009-R00024158

As

Recorded On: May 21, 2009 **Recordings - Land**

Parties: TYLER PIPE COMPANY **Billable Pages: 3**

To PUBLIC **Number of Pages: 4**

Comment: AFFID

(Parties listed above are for Clerks reference only)

**** Examined and Charged as Follows: ****

Recordings - Land	24.00
Total Recording:	**24.00**

********** DO NOT REMOVE. THIS PAGE IS PART OF THE INSTRUMENT **********

Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

File Information:

Document Number: 2009-R00024158
Receipt Number: 510837
Recorded Date/Time: May 21, 2009 09:16:48A
User / Station: D Colclasure - Cash Station 2

Record and Return To:

RAMEY & FLOCK
100 E FERGUSON
SUITE 500
TYLER TX 75702

I hereby certify that this instrument was filed and duly recorded in the Official Records of Smith County, Texas

Judy Carnes

County Clerk
Smith County, Texas

AFFIDAVIT OF FACT

STATE OF TEXAS §

COUNTY OF SMITH §

On this day, Anthony C. Orlowski, Assistant General Manager for Tyler Pipe Company, appeared before me and being duly sworn, stated:

1. "I am over the age of 21 years and I am not disqualified under the law from making this affidavit. I make this affidavit upon my personal knowledge."

2. "McWane, Inc. (Tyler Pipe Company) is the permitee of the Sludge Disposal Area, a 0.597 acre permitted Solid Waste Management Unit (Industrial Solid Waste Registration No. 30140)(Hazardous Waste Permit/Compliance Plan No. 50141) described by Metes and Bounds by the Francis Gilkerson Survey, Abstract No. 406 of Smith County, Texas recorded in Volume 3734, Page 535 of the Deed Records of Smith County, Texas. The undersigned further states that, from the mid-1970's to 1989, a Solid Waste Management Unit was operated on the aforesaid tract of land. Specifically, such operation was conducted on an approximately 0.23 acre portion of the above-referenced tract and is described in Exhibit "A" attached hereto."

Notice is hereby provided to any future owner or user of the site to consult with the Texas Commission on Environmental Quality (TCEQ) prior to planning or initiating any activity involving the disturbance of the landfill cover or any other on-site facility or structure, including, but not limited to, groundwater monitoring wells, stormwater detention ponds, landfill gas probes and flare, or leachate storage tanks.

Further affiant sayeth not.

Anthony C. Orlowski
Assistant General Manager
Tyler Pipe Company

SWORN TO AND SUBSCRIBED BEFORE ME by Anthony C. Orlowski on this the 20th day of May, 2009.

Notary Public

DOTTIE ARMSTRONG
MY COMMISSION EXPIRES
February 29, 2012

SSC ***STANGER SURVEYING COMPANY***
6381 NEW COPELAND ROAD
TYLER, TEXAS 75703
PH: 903-534-0174 FAX: 903-534-0176

EXHIBIT "A"
FRANCIS GILKERSON SURVEY, ABSTRACT NO. 406
SMITH COUNTY, TEXAS

METES AND BOUNDS DESCRIPTION FOR 0.597 ACRES OF LAND

BEING 0.597 of an acre of land situated in the Francis Gilkerson Survey, Abstract No. 406, Smith County, Texas, and being part of that certain Tract Seven (called 85.75 acres) as described in deed from Tyler Pipe Industries, Inc. to Union Acquisition Corporation, dated December 1, 1995 and recorded in Volume 3734, Page 535, of the Deed Records of Smith County, Texas, said 0.597 of an acre tract to be more particularly described by metes and bounds as follows:

COMMENCING at a fence corner post located at an ell corner of the above referenced 85.75 acre tract, from said post, a ½" iron rod (found) for the southeast corner of Tract Eight (called 35 1/3 acres) as recorded in Volume 3734, Page 535, bears South 02° 02' 38" West, 1482.09 feet;

THENCE South 25° 22' 23" West, for a distance of 505.03 feet, to a ½" iron rod (set with cap marked "STANGER") for the **POINT OF BEGINNING,** and being the northeast corner of the herein described tract;

THENCE South 02° 02' 34" West, for a distance of 160.19 feet, to a ½" iron rod (set with cap marked "STANGER") for the southeast corner of the herein described tract;

THENCE West, for a distance of 151.60 feet, to a ½" iron rod (set with cap marked "STANGER") for the southwest corner of the herein described tract;

THENCE North, for a distance of 176.52 feet, to a ½" iron rod (set with cap marked "STANGER") for the Northwest corner of the herein described tract;

THENCE South 84° 02' 15" East, for a distance of 158.17 feet, back to the point of beginning, and **containing 0.597 of an acre of land.**

All bearings, distances, coordinates and surveyed areas are based on the existing site grid coordinates of the Tyler Pipe Landfill monument system.

See Plat of Survey prepared even date.

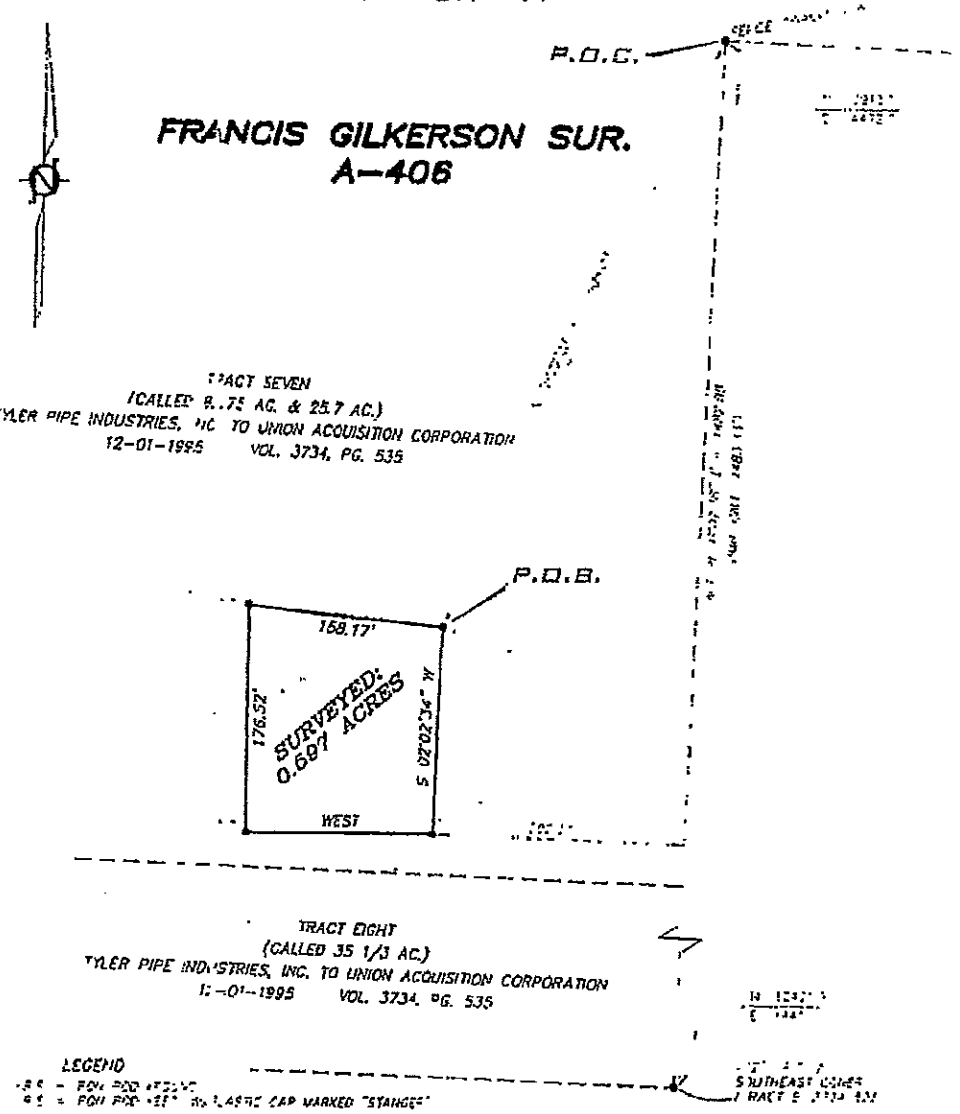
I, R. L. McCrary, Registered Professional Land Surveyor, do hereby certify that the above description was prepared from an actual survey made on the ground under my supervision, during the month of July 2003.

GIVEN UNDER MY HAND AND SEAL, this the 18th day of July, 2003.

R. L. McCrary
Registered Professional Land Surveyor
State of Texas No. 5384

STATE OF TEXAS
REGISTERED
R.L. McCRARY
5384
PROFESSIONAL
LAND SURVEYOR

EXHIBIT "A" VOL 7270 PAGE 573



PLAT OF SURVEY
SHOWING PART OF THE
FRANCIS GILKERSON SURVEY, ABSTRACT NO. 406
SMITH COUNTY, TEXAS
SCALE: 1" = 100 FEET

BEARING BASE
BEARINGS ARE BASED ON THE EXISTING SITE GRID COORDINATES
OF THE TYLER PIPE LANDFILL MONUMENT SYSTEM

BASEVALUES WERE HELD FROM PREVIOUS SURVEY

SEE METES AND BOUNDS DESCRIPTION PREPARED EVEN DATE

I, R. L. McCRARY, REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THIS PLAT TO REFLECT AN ACTUAL SURVEY MADE ON THE GROUND UNDER MY SUPERVISION DURING THE MONTH OF JULY, 2003

GIVEN UNDER MY HAND & SEAL, THIS THE 18TH DAY OF JULY, 2003

R. L. McCRARY
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF TEXAS

STANGER SURVEYING COMPANY
6383 Old Jacksonville Road
Tyler, Texas 75703
(903) 592-0124

Appendix II.G.7.

Exposure Assessment

Appendix II.G.7.
Exposure Assessment

This assessment presents information in accordance with the requirements of Section 3019 of the Resource Conservation and Recovery Act (RCRA) and to comply with 40 CFR §270.10(j) and 30 TAC §305.50(8) for land disposal units at the Tyler Pipe plant. The land disposal units that are included in this exposure assessment are the closed *landfill* (TCEQ Permit Unit No. 001) and the closed *sludge disposal area* (TCEQ Permit Unit No. 082). The landfill received both hazardous and non-hazardous wastes and was certified closed in 1995 (and is currently in post-closure care). Hazardous wastes were placed in the sludge disposal area, which was initially identified as a solid waste management unit (SWMU) and later added to Permit HW-50141 in 2003. This unit was certified closed in 2003 and is also currently in post-closure care.

This assessment describes the potential public exposure to hazardous wastes through releases from these two identified hazardous waste management units. The information presented herein was developed by identifying potential releases form these units, the potential exposure pathways and receptors, and the nature and magnitude of potential public exposure. The potential for public exposure to hazardous constituents released from the unit was examined for the following environmental pathways: air, groundwater, surface water, soil, and food chain.

General Information

- **Plant Description**
  The Tyler Pipe facility is located in Smith County, Texas which has a total population in excess of 250,000. The community of Swan is less than one-half mile to the west of the main plant and has a population of approximately 500. The city of Tyler is four miles to the south and has a population of 100,000.

  The Tyler Pipe plant encompasses a total area of 4,506 acres. The facility produces cast gray iron products. The land uses adjacent to the hazardous waste management unit boundaries are agricultural and low-density residential parcels.

- **Hazardous Waste Unit Descriptions**
  This exposure assessment addresses two closed hazardous waste landfill units (*landfill* and *sludge disposal area*) that are currently in post-closure care. The locations of these units relative to the facility boundaries are depicted in ***Figure II.G.7-1***. The landfill comprises 8.0 acres (waste volume of 720,000 cubic yards) and is located in the northwest quadrant of the property. The sludge disposal area comprises 0.6 acres (waste volume of 1,500 cubic yards) and is located in the southeast quadrant of the plant.

- **General Management Practices**
  Various waste management practices and policies are implemented at the Tyler Pipe plant to ensure the protection of human health and the environment during the post-closure management of hazardous wastes. These management practices include site access restrictions, personnel training, and periodic inspections and maintenance of the unit cover systems.

  – *Site Access Restrictions*
    The closed hazardous waste management units are located within secure areas with limited access. These areas are separated from other areas of the plant, are fenced, and have signs posted on the perimeters warning of restricted access to unauthorized personnel.

  – *Personnel Training*
    Tyler Pipe has established a training program for employees at all levels who are responsible for hazardous waste management activities and facilities. Both classroom and on-the-job training are offered. The training program is designed to educate employees in the following areas: waste classification, storage, treatment, and/or disposal requirements for waste generated onsite; RCRA regulations for hazardous waste management facilities; and spill prevention control and countermeasures and pollution prevention. Employees are required to complete the training program prior to assignment to an operating area involving hazardous waste management. Introductory and continuing training is conducted on an on-going basis for key staff members in both normal and emergency operations.

  – *Inspection and Maintenance*
    The closed hazardous waste management units are inspected on a monthly basis to ensure that no damage to facility components or erosion of the cover systems has occurred. Any damage that is identified during these inspections is reported to the maintenance department and the appropriate repairs are made in a timely manner.

Exposure Pathways

Potential pathways for public exposure to hazardous constituents from the closed landfill and sludge disposal area at the Tyler Pipe plant have been identified and evaluated. These pathways include both direct and indirect routes of potential exposure. The direct pathways of potential public exposure that have been identified include *air*, *groundwater*, *surface water*, and *soil*. The indirect pathway of potential public exposure that has been identified is the *food-chain* pathway.

Potential release and exposure scenarios were evaluated for each potential exposure pathway identified. The relative risks associated with these scenarios were qualitatively assessed based on the nature and magnitude of the potential for exposure. This evaluation was used to reach conclusions regarding the potential for public exposure to hazardous constituents from the

closed hazardous waste management units at the facility. The results of this assessment are discussed herein for each potential exposure pathway.

- **Air**
  Since the landfill and the sludge disposal area are closed in place under a cover system, there are no operations at either of these hazardous waste management units that could result in temporary emissions of particulates (dust contaminated with waste). The release of contaminants to the air is considered unlikely to occur since the wastes managed within each closed unit are essentially non-volatile solids (and a cover system is constructed over each unit). Since no liquid wastes were placed in either unit, vapor emissions are negligible. The area with a two-mile radius of the Tyler Pipe facility is primarily low-density residential, with the largest population center in Swan (~ 500 persons). Based on the nature, location, operational status, and site conditions associated with the two hazardous waste management units, there is no expected potential for exposure hazards to human health or the environment via the air pathway.

- **Groundwater**
  Tyler Pipe has implemented a TCEQ-approved groundwater detection monitoring program for the closed *landfill* as mandated by Permit No. HW-50141. This program involves the sampling of monitoring wells located both upgradient and downgradient of the closed landfill. Based on the results of investigations conducted proximal to the closed landfill and the fact that no statistically significant concentration increases above background levels have ever been confirmed during over 22 years of groundwater detection monitoring, there are no known sources of potential groundwater contamination emanating from this hazardous waste management unit. All groundwater monitoring activities for closed landfill are conducted in compliance with 30 TAC Chapter 335 and all required records are maintained by Tyler Pipe. Monitoring results are reported each year to the TCEQ in the *Annual Detection Monitoring Report* pursuant to Permit HW-50141.

  Tyler Pipe has implemented a TCEQ-approved groundwater compliance monitoring program for the closed *sludge disposal area* as mandated by the Compliance Plan portion of Permit No. HW-50141. This program involves the sampling of monitoring wells located both upgradient and downgradient of the closed sludge disposal area and was implemented in 2008 as a result of indications of releases to saturated soils above background levels during detection monitoring for various metal constituents (*cadmium*, *chromium*, *lead*, *mercury*, and *zinc*). However, the TCEQ has subsequently determined that the saturated soils do not represent a legitimate groundwater-bearing unit (GWBU). Consequently, Tyler Pipe installed new monitoring wells located upgradient and downgradient of this hazardous waste management unit in 2008 and completed these new wells in the uppermost GWBU.

The results of an affected property assessment that was conducted during 2008-2009 for the sludge disposal area did not indicate concentrations of metal constituents above background levels in any of the newly installed monitoring wells. Based on the results of this assessment, the fact that the releases of metal constituents from this unit appear to be limited to the saturated soils (not a GWBU) only, and the compliance monitoring program currently being conducted for the sludge disposal area, any sources of potential groundwater contamination emanating from this hazardous waste management unit are under control.

All groundwater monitoring activities for closed sludge disposal area are conducted in compliance with 30 TAC Chapter 335 and all required records are maintained by Tyler Pipe. Monitoring results are reported each year to the TCEQ in the *Annual Compliance Monitoring Report* pursuant to Permit HW-50141.

Considering the absence of groundwater contamination in the upper GWBU beneath the closed landfill and closed sludge disposal area (and the fact that contamination indicated beneath the sludge disposal area is limited to the saturated soils – a non-GWBU – and is under control), there is no expected potential for exposure hazards to human health or the environment via the groundwater pathway.

- **Surface Water**

  Surface water proximal to the Tyler Pipe facility is comprised of an intermittent tributary near the closed landfill that feeds Chinquapin Creek. Evaluation of the groundwater quality data for the closed landfill indicates that there are no waste constituents impacting the surface waters in the area. Surface runoff in the area of the closed landfill is managed in accordance with the facility *Stormwater Pollution Prevention Plan* to control the potential release of hazardous constituents into the area runoff. Since the wastes within the closed landfill are contained beneath a cover system, there is virtually no potential for the post-closure release of hazardous constituents to runoff.

  There is no surface water body proximal to the closed sludge disposal area. However, surface runoff in the area of the closed sludge disposal area is managed in accordance with the facility *Stormwater Pollution Prevention Plan* to control the potential release of hazardous constituents into the area runoff. Since the wastes within the closed sludge disposal area are contained beneath a cover system, there is virtually no potential for the post-closure release of hazardous constituents to runoff.

  The Tyler Pipe facility management practices and runoff monitoring/control system also restrict any exposure potential at the site via surface runoff. As such, there is no expected potential for exposure hazards to human health or the environment via the surface water pathway.

- **Soil**
  The potential for public exposure through contact with contaminated soil is virtually non-existent. Access to the closed landfill and closed sludge disposal area is limited to authorized personnel, thus eliminating any potential for contact with waste constituents by untrained personnel. In addition, there is no concentration of potential receptors within one-half mile of the facility. Furthermore, the wastes within the closed landfill and closed sludge disposal area are contained beneath cover systems, thereby eliminating the potential for the post-closure contact of hazardous constituents. Therefore, there is no expected potential for exposure hazards to human health or the environment via the soil pathway.

- **Food Chain**
  The food-chain pathway is an indirect exposure pathway. As such, the food chain may be affected by one or more of the direct exposure pathways. However, the evaluation of the direct exposure pathways (air, groundwater, surface water, and soil) presented herein indicates minimal potential for direct exposure. Therefore, the potential for indirect exposure through the food chain is virtually non-existent.

  No grazing of livestock is permitted within the boundaries of the Tyler Pipe facility. The plant is fenced to prevent livestock from gaining access to the plant area. However, native wildlife has been observed infrequently (but no attempts are made to control this access).

  Thus, there is no expected potential for exposure hazards to human health or the environment via the food-chain pathway.

Conclusions

Both direct (air, groundwater, surface water, and soil) and indirect (food chain) pathways of potential public exposure to hazardous constituents contained within the closed landfill and closed sludge disposal area located within the Tyler Pipe facility have been evaluated herein. The results of this exposure assessment indicate that there is no significant potential of a threat to human health or the environment through any of the exposure pathways evaluated.

Figures

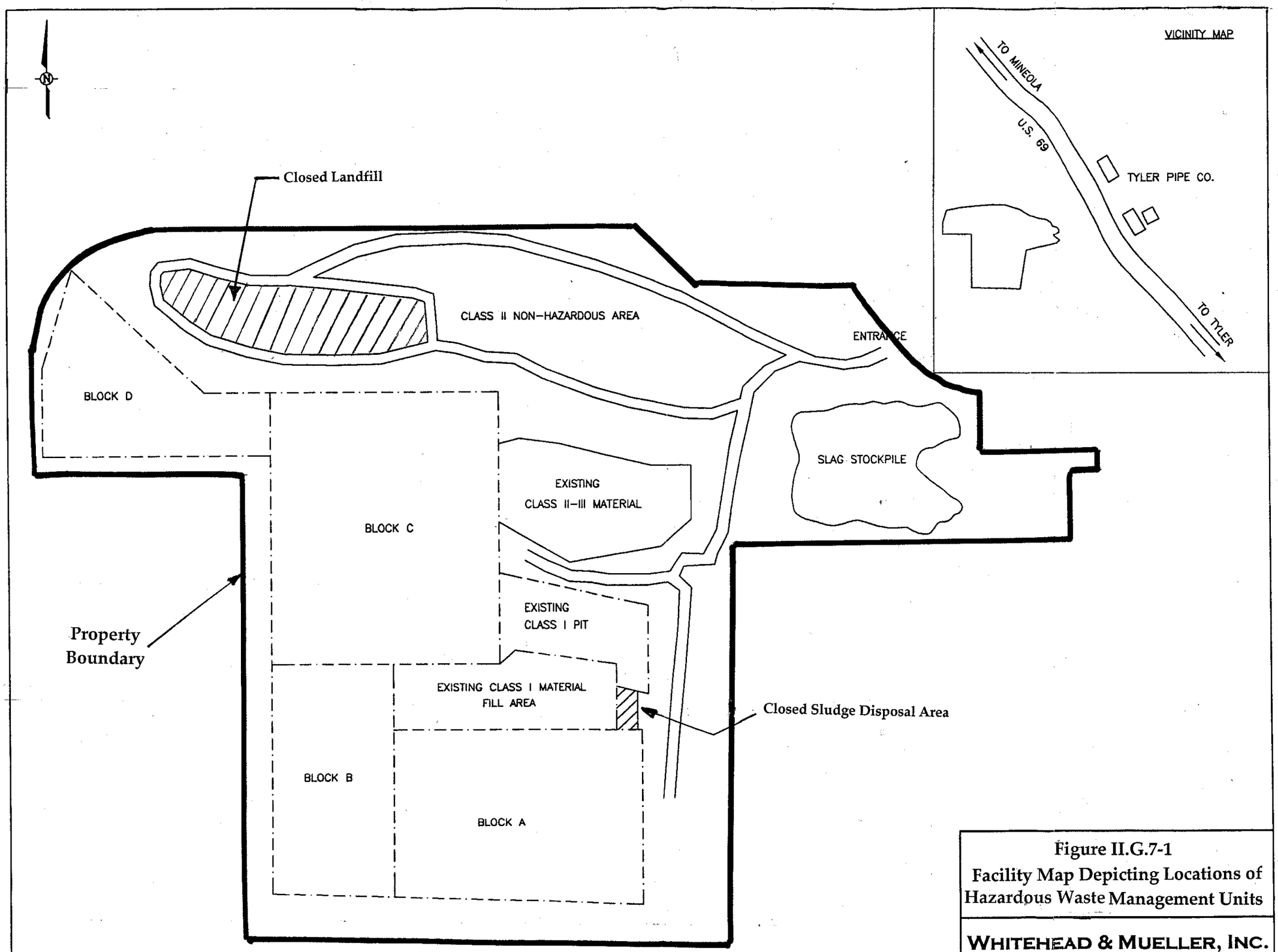


Figure II.G.7-1
Facility Map Depicting Locations of Hazardous Waste Management Units

WHITEHEAD & MUELLER, INC.

III. Facility Management

Provide all Part B responsive information in Appendix III. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

A. Compliance History and Applicant Experience

1. Provide listings of all solid waste management sites in Texas owned, operated, or controlled by the applicant as required by 30 TAC 305.50(a)(2).

2. For a new commercial hazardous waste management facility, provide a summary of the applicant's experience in hazardous waste management as required by 30 TAC 305.50(a)(12)(F).

RESERVED

B. Personnel Training Plan - RESERVED

C. Security

Describe how the facility complies with the security requirements of 40 CFR 264.14 or submit a justification demonstrating the reasons for requesting a waiver of these requirements.

D. Inspection Schedule

Describe summary of inspection schedule and Table III.D in Appendix III.D in accordance with instructions below.

Provide an inspection schedule summary for the facility which reflects the requirements of 40 CFR 264.15(b), 264.33 and, where applicable, the specific requirements in 40 CFR 264.174, 264.193(i), 264.195, 264.226, 264.254, 264.273, 264.303, 264.347, 264.552, 264.574, 264.602, 264.1033(f), 264.1034, 264.1052, 264.1053(e), 264.1057, 264.1058, 264.1063, 264.1084, 264.1085, 264.1086, 264.1088, 264.1101(c)(4) and 270.14(b)(5). The inspection schedule should reflect the requirements described below. The schedule should encompass each type of hazardous waste management (HWM) unit (i.e., facility component) and its inspection requirements. For incorporation into a permit, complete Table III.D. - Inspection Schedule for all units to be permitted.

The owner or operator must inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to the release of hazardous waste constituents to the environment or which may pose a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

The owner or operator must develop and follow a written schedule for inspecting other basic elements such as monitoring equipment, safety and emergency equipment, security devices, the presence of liquids in leak detection systems, where installed, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

If the owner or operator of a facility which contains a waste pile wishes to pursue an exemption from the groundwater monitoring requirements for that waste management unit, the inspection schedule must include examination of the base for cracking, deterioration, or other conditions that may result in leaks. The frequency of inspection

must be based on the potential for the liner (base) to crack or otherwise deteriorate under the conditions of operation (e.g., waste type, rainfall, loading rates, and subsurface stability).

E. Contingency Plan - RESERVED

F. Emergency Response Plan - RESERVED

Table III.D- Inspection Schedule

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
Landfill (NOR Unit No. 001)	* Cover system (such as subsidence, ponding on the cap, erosion, damage to cap or vegetation) * Monitoring well condition (such as missing cover, missing locks, deteriorated seals, etc.) * Warning sign damage *Fence damage *Electronic gate malfunction *Stormwater run-on *Drainage ditch blockage	monthly
Sludge Disposal Area (NOR Unit No. 082)	* Cover system (such as subsidence, ponding on the cap, erosion, damage to cap or vegetation) * Monitoring well condition (such as missing cover, missing locks, deteriorated seals, etc.) * Warning sign damage *Fence damage *Electronic gate malfunction *Stormwater run-on *Drainage ditch blockage	monthly

Appendix III.A.

Compliance History and Applicant Experience

Appendix III.A.
Compliance History and Applicant Experience

A listing of all solid waste management sites in Texas that are owned, operated, or controlled by McWane, Inc. as required by 30 TAC §305.50(a)(2) is provided herein. For purposes of this section, the terms "permit holder" and "applicant" include each member of a partnership or association and, with respect to a corporation, each officer and the owner or owners of a majority of the corporate stock, provided such partner or owner controls at least 20% of the permit holder or applicant and at least 20% of another business which operates a solid waste management facility.

Facility Name	Facility Location	TCEQ SWR Number
Tyler Pipe Company	Tyler, Texas	30140

Appendix III.C.

Security

Appendix III.C.
Security

In accordance with 40 CFR §264.14, Tyler Pipe prevents the unknowing entry and minimizes the possibility for unauthorized entry of persons and live stock into the operations area, landfill area, and sludge disposal area. The entire operations area is fenced and access is controlled by the plant security force. The landfill area is secured by a section of man-proof cyclone fence along the east property line where controlled entrance is made through an electronic gate. The remainder of the property is fenced with five-strand barbed wire. A roving security guard uses a portable two-way radio for communication.

Additionally, signs warning "DANGER – UNAUTHORIZED PERSONNEL KEEP OUT" are posted at the entrance and at other points around the perimeter of the property in accordance with 40 CFR §264.14(c). Other signs around the landfill area stating "PRIVATE PROPERTY – NO TRESPASSING" are attached to the fence at 200-foot intervals. Utility personnel in vehicles also provide additional security in the operations area and at the landfill area.

Appendix III.D.

Inspection Schedule

Appendix III.D.
Inspection Schedule

Inspections are conducted at the closed landfill and the closed sludge disposal area pursuant to the requirements of 40 CFR §264.15(b), §264.33, and §264.303 and are performed monthly in accordance with the schedule presented herein. The inspection schedule for these closed hazardous waste management units is also presented within Table III.D. of the Part B Application Forms.

An example of the form that is utilized when conducting the monthly inspections of these closed hazardous waste management units is also provided herein.

In accordance with the requirements of 40 CFR 264.15(d), Tyler Pipe will maintain all inspection records in the facility operating record for at least three (3) years from the date of inspection.

Inspection Schedule for
Hazardous Waste Management Units

Facility Unit(s) and Basic Elements	*Possible Error, Malfunction, or Deterioration*	*Frequency of Inspection*
Landfill (NOR Unit No. 001)	• Cover system (such as subsidence, ponding on the cap, erosion, damage to cap or vegetation) • Monitoring well condition (such as missing cover, missing locks, deteriorated seals, etc.) • Warning sign damage • Fence damage • Electronic gate malfunction • Stormwater run-on • Drainage ditch blockage	monthly
Sludge Disposal Area (NOR Unit No. 082)	• Cover system (such as subsidence, ponding on the cap, erosion, damage to cap or vegetation) • Monitoring well condition (such as missing cover, missing locks, deteriorated seals, etc.) • Warning sign damage • Fence damage • Electronic gate malfunction • Stormwater run-on • Drainage ditch blockage	monthly

TYLER PIPE COMPANY
MONTHLY HAZARDOUS WASTE LANDFILL & SLUDGE DISPOSAL AREA INSPECTION FORM

Form #: TPT-EWI-008-05-F03
Rev. Date: 12/03/2014

Date: _____ Time: _____ Inspected By: _____

Items Observed	Were Problems Identified Yes/No	Corrective Action Date Requested?	Corrective Action Date Completed	Comments
Sludge Disposal Area (Permit Unit #002)				
Observe Cover System for:				
Subsidence				
Ponding on the Cap				
Erosion of Cap or Vegetation				
Damage to Cap or Vegetation				
Observe Monitoring Wells for:				
Missing Covers				
Missing Locks				
Deteriorated Seals				
Vegetation Around Pads				
Hazardous Waste Landfill Area (Permit Unit #001)				
Observe Cover System for:				
Subsidence				
Ponding on the Cap				
Erosion of Cap or Vegetation				
Damage to Cap or Vegetation				
Observe Monitoring Wells for:				
Missing Covers				
Missing Locks				
Deteriorated Seals				
Vegetation Around Pads				
Evidence of Fire Ant Mounds				
Evidence of Wasp Around Bump Poles				
Outfalls and Landfill Perimeter				
Observe Condition of Fences Around Landfill / Is the Fence Damaged?				
Observe for Presence of Warnings Signs and Check Condition				
Verify That Electric Gate is Operational and Check Condition				
Observe Stormwater Run-On				
Observe Condition of Outfalls				
Observe Area Surrounding Outfalls for Drainage Ditch Blockage				

Comments: _____

Describe action taken to correct: _____

IV. Wastes and Waste Analysis

Provide all Part B responsive information in Appendix IV. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

A. Waste Management Information - RESERVED

B. Waste Managed In Permitted Units

For all hazardous waste management facilities and for inclusion into a permit, complete Table IV.B. - Wastes Managed In Permitted Units for each waste and debris to be managed in a permitted unit. Provide a description, EPA waste codes, and TCEQ waste form codes and classification codes. Guidelines for the Classification & Coding of Industrial Wastes and Hazardous Wastes, TCEQ publication RG-22, contains guidance for how to properly classify and code industrial waste and hazardous waste in accordance with 30 TAC 335.501-335.515 (Subchapter R).

Applicants need not specify the complete 8-digit waste code formulas for their wastes but must include the 3-digit form codes and 1-digit classification codes. This allows the applicant to specify major categories of wastes in an overall manner without having to list all the specific waste streams as generated.

C. Sampling and Analytical Methods - RESERVED

D. Waste Analysis Plan - RESERVED

Table IV.B. - Wastes Managed In Permitted Units

No.	Waste	EPA Hazardous Waste Numbers	TCEQ Waste Form Codes and Classification Codes
1	Mason-Dixon Plant Solids/ Cupola Wet Scrubbers	D006, D008	971460 0512319H
2	Sand/Silica - Molding/Green Sand Air Set Sand Shell Core Sand	Not Applicable	370590 05033192 05043192 05053192
3	General Miscellaneous Plant Refuse	Not Applicable	279760 05329012 40159992
4	Rubber	Not Applicable	380400 05764032
5	Asbestos	Not Applicable	170750 05093111

V. Engineering Reports

Provide all Part B responsive information in Appendix V. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

For multiple units provide an include all Part B responsive information in a separate Appendix for each unit.

The engineering report represents the conceptual basis for the storage, processing, or disposal units at the hazardous waste management (HWM) facility. It should include calculations and other such engineering information as may be necessary to follow the logical development of the facility design. Plans and specifications are an integral part of the report. They should include construction procedures, materials specifications, dimensions, design capacities relative to the volume of wastes (as appropriate), and the information required by 40 CFR 270.14(b)(8), 270.14(b)(10). Since these reports may be incorporated into any issued permit, the report should not include trade names, manufacturers, or vendors of specific materials, equipment, or services unless such information is critical to the technical adequacy of the material. Technical specifications and required performance standards are sufficient to conduct a technical review. For landfills, surface impoundments, and waste piles, a Construction Quality Assurance Plan, which considers the guidance in EPA publication 530-SW-85-014, Minimum Technology Guidance on Double Liner Systems for Landfills and Surface Impoundments; Design, Construction, and Operation, and/or EPA/600/R-93/182, Quality Assurance And Quality Control For Waste Containment Facilities, should be submitted.

For facilities which will receive wastes from off-site sources, the engineering report must also contain information on the units which will manage these off-site wastes in accordance with 30 TAC 335.45(a).

Certain ancillary components or appurtenant devices must be addressed in the Part B application. These include but are not limited to sumps, pipelines, ditches, and canals. The technical information and the level of detail required will vary with the nature, scope, and location of the ancillary component. At a minimum they should be included in descriptions of piping and process flow. More information may be required. A single area containing a large number of ancillary components or a remote appurtenant device in an unusually sensitive location may warrant some specific permit requirements. All ancillary components must be included in calculating closure cost estimates.

In each of the unit-specific sections, describe precautions taken to prevent accidental commingling of incompatible wastes. If reactive or ignitable wastes are to be managed, or if incompatible wastes are deliberately commingled, provide information to ensure that precautions are taken to avoid danger due to:

- generation of extreme heat or pressure, fire, explosion, or violent reaction;
- production of uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;
- production of uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion;
- damaging the structural integrity of the device or facility containing the waste; or
- threatening human health or the environment by any other means.

Comprehensive consideration should be given to ensure that the facility is designed in accordance with good public health and hazardous waste management practices. The application will be evaluated primarily for the aspects of design covered by the regulations. Nothing in any approval is intended to relieve the facility owner or operator of any liabilities or responsibilities with respect to the design, construction, or operation of the project.

A. General Engineering Reports

1. General Information

Complete Table V.A. - Facility Waste Management Handling Units listing all past, current or proposed units. *[Indicate units' status as* Active, Closed, Inactive *(built but not yet managing waste)*, Proposed *(not yet built)*, Never Built, Transferred, or Post-Closure. *Indicate appropriate units for Capacity information.]* **Note for renewals and modifications involving adding or dropping units from the permit:** List all TCEQ Permit Unit Numbers that have been assigned previously as in a current permit Attachment D -Authorized Facility Units table and do not reuse or reassign permit numbers for units that have been replaced, closed, removed from the permit, or transferred to other ownership. All Notice of Registration (NOR) Numbers must match the State of Texas Environmental Electronic Reporting System (STEERS) and may not be reused for replacement units.

Provide an overall plan view of the entire facility. Identify each hazardous or industrial solid waste management unit (container storage area, tank, incinerator, etc.) to be permitted in relation to its location and the type of waste managed in that unit. Also provide a plan view at an appropriate scale to clearly show the location of all hazardous waste management units to be permitted on one or more 8 1/2" x 14" sheets. Indicate on this plan view how the design or operation provides for buffer zones or waste segregation as appropriate for incompatible, ignitable, or reactive wastes.

Submit a topographic map or maps of the facility which clearly shows the information specified in 40 CFR 270.14(b)(19), 270.14(c)(3), and 270.14(d)(1)(i) (for large HWM facilities, the TCEQ will allow the use of other scales on a case-by-case basis). Please note that the term "facility" includes all contiguous land, structures, other appurtenances, and improvements on the land for storing, processing, or disposing of hazardous and industrial solid waste.

2. Features to Mitigate Unsuitable Site Characteristics

For all new hazardous waste management storage and/or processing facilities or areal expansions of existing hazardous waste management storage and/or processing facilities, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(a)(1) and (a)(3) through (9).

3. Construction Schedules - RESERVED

4. Provide detailed plans and specifications which when, accompanied by the engineering report, will be sufficiently detailed and complete to allow the Executive Director to ascertain whether the facility will be constructed and operated in compliance with all pertinent permitting requirements. Engineering plans and specifications must be prepared under the supervision of and sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act. For some facilities, plans in the form of a standard piping and instrumentation diagram will be sufficient. Overall dimensions and materials of construction must be shown.

B. Container Storage Areas -RESERVED

C. Tanks and Tank Systems -RESERVED

D. Surface Impoundments - RESERVED

E. Waste Piles -RESERVED

F. Land Treatment Units -RESERVED

G. Landfills

For Closed Landfills

1. Provide as-built plans and specifications for the final cover system, individually for each unit that is sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number would satisfy this requirement; Other as-built plans and specifications for the unit may be submitted upon request.

2. Complete Table V.G.1 - Landfills and list the landfills (and number of cells, if applicable) covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If wastes are segregated in some manner, list the cell number in which wastes are placed next to each waste type.

3. Complete Table V.G.3. - Landfill Liner System and specify the type of liner used for the landfill.

4. Complete Table V.G.4. - Landfill Leachate Collection System used for the landfill.

Provide an engineering report which includes all of the information specified in 30 TAC 305.50(a)(5), (6), (9), (10), and (12), 335.173, 40 CFR 264.19, 264.300, 264.301, 264.302, 264.303(a), 264.304, 264.309, 264.312, 264.313, 264.315-264.317, and applicable requirements of 270.21. The text of the report should be written to supplement engineering plans, specifications, and test results necessary to provide a detailed description of how the landfill will comply with these standards.

For landfills at a new hazardous waste management facility or which are part of an areal expansion of an existing hazardous waste management facility, include in the engineering report design, construction, and operational information specified in 30 TAC 335.204(e).

For all landfills, include in the report the following information.

1. Complete Table V.G.1 - Landfills and list the landfills (and number of cells, if applicable) covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If wastes are segregated in some manner, list the cell number in which wastes are placed next to each waste type.

2. If a landfill will manage ignitable or reactive waste, as indicated on Table V.G.1,

describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.312.

3. If a landfill will manage incompatible waste, as indicated on Table V.G.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.17 and 264.313.

4. If a landfill will manage F020, F021, F022, F023, F026, and F027 waste, as indicated on Table V.G.1, describe in the engineering report the procedures used to ensure compliance with 40 CFR 264.317.

5. Describe the landfill. A plan view and cross-section of the landfill should be included with the engineering report. As appropriate, detailed plan, elevation, cross-section of landfill containment facilities shall be included with the report.

6. Containment System

We suggest that the applicant use available recognized guidance documents, such as EPA publication 530-SW-85-014, which provide design guidance for liner systems. The applicant is strongly encouraged to test each synthetic liner after installation by an electrical leak location test, such as the electric field method described in EPA Technical Guidance Document EPA/600/R-93/182, Quality Assurance and Quality Control for Waste Containment Facilities, or an equivalent method, such as those found in ASTM publications, and approved by the Executive Director. Construction above the liner may not proceed until any detected leaks are sealed.

a. Complete Table V.G.3. - Landfill Liner System and specify the type of liner used for the landfill.

b. In the engineering report, describe the design, installation, construction, and operation of the liner and leachate collection system. The description must demonstrate that the liner system will prevent discharge to the land, groundwater, and surface water. The following analyses should be included as attachments to the engineering report (A QAPP should be included in the report to ensure that each analysis is performed appropriately):

For artificial liners:

(1) Seaming method
(2) Surface preparation method
(3) Tensile Strength
(4) Impact Resistance
(5) Compatibility Demonstration
(6) Foundation Design (including Settlement Potential, Bearing Capacity and Stability, and Potential for Bottom Heave Blow-out)

For soil liners:

(7) Waste Migration Analysis (based on head, porosity, and permeability) for the most mobile and least attenuated waste constituents
(8) Atterberg Limits, % passing a #200 sieve, and Permeability
(9) Moisture Content
(10) Standard Proctor Density, Compaction Data

For Leachate Collection System

For incorporation into the permit, complete Table V.G.4. - Landfill Leachate Collection System and Table V.G.5 - Landfill Soil Specifications used for the landfill.

(11) Capacity of the system:
  (a) rate of leachate removal
  (b) capacity of sumps
  (c) thickness of mounding and maximum hydraulic head

(12) Pipe Material and Strength
(13) Pipe Network Spacing and Grading
(14) Collection Sump(s) Material and Strength
(15) Drainage Media Specifications and Performance
(16) Analyses showing that pipe and pipe perforation size will prevent clogging and allow free liquid access to the pipe.
(17) Compatibility Demonstration

c. State whether the liner system components are chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.

d. Provide a quality assurance/quality control plan for all components to demonstrate that all components will be properly installed and will perform to design specifications.

e. Whether the leachate collection components are chemically resistant to the waste and how this resistance was determined. Attach any tests or documentation to the engineering report.

f. Provide a Response Action Plan that proposes actions to be taken in the case of exceedance of the landfill Action Leakage Rate. At a minimum the Response Action Plan must include the requirements of 40 CFR 264.304.

7. For Dikes:
   a. Slope Stability Analysis;
   b. Hydrostatic and Hydrodynamic Analyses
   c. Ability to withstand scouring from leaking liner.

8. Landfills that receive waste on or after May 8, 1985 (or for newly-regulated units, the effective date of the new RCRA regulation) into new units and/or lateral expansions or replacements of existing units must meet the minimum technological requirements of the Hazardous and Solid Waste Amendments of 1984, unless an appropriate waiver is granted by the Commission. The owner or operator of each new landfill unit for which the construction commences after January 29, 1992, or each lateral expansion of an existing landfill unit where construction commences after July 29, 1992, or replacement of an existing landfill unit that commence reuse after July 29, 1992 must install two or more liners and leachate collection and removal system unless commission approves alternate design or operating practices. Plans and specifications for both new and existing landfills must demonstrate conformity with 30 TAC 335.173 and 40 CFR 264.301(c).

9. Site Development Plan

   Describe the methods used to deposit waste in the landfill. This description

should include rate of waste deposition, waste segregation, average lift size, maximum lift, average cell or trench size, maximum cell or trench size, and other information necessary to depict how the landfill will be developed. Do not include liner or leachate collection system information, closure information, or handling of special wastes. This will be included elsewhere in the report.

10. Run-on Control [30 TAC 335.173(g)]

The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 100-year, 24-hour storm.

In the engineering report, include the following analyses:

a. Run-on volume and depth calculations from the peak discharge of the 100-year, 24-hour storm; and

b. For ditches on the plant property, back-water calculations.

Collection and holding facilities (e.g., tanks or basins) associated with the run-on control system must be emptied or otherwise managed expeditiously. [30 TAC 335.173(i)]

11. Run-off Control [30 TAC 335.173(h)]

The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control the water volume resulting from a 100-year, 24-hour storm.

Include all analyses used to calculate run-off volumes.

Collection and holding facilities (e.g., tanks or basins) associated with run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system. [30 TAC 335.173(i)]

12. Wind Dispersal [30 TAC 335.173(j)]

If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to minimize wind dispersal. Based upon the characteristics of the material to be landfilled describe the likelihood of wind dispersal occurring. Describe in detail any method and/or control mechanism used to prevent wind dispersal.

13. Liquid Waste

If liquid waste or waste containing free liquids is to be stabilized and then placed in the landfill, the procedures used to stabilize the waste must be described in the engineering report. The waste must be treated prior to landfilling using a treatment technology that does not solely involve the use of a material that functions primarily as a sorbent. Provide supporting documentation to verify that an appropriate stabilization procedure is used to comply with 30 TAC 335.175.

14. The Commission may approve an alternate design or operating practice for a landfill if the owner or operator demonstrates that such design or operating practices, together with location characteristics [40 CFR 264.301(d)]:

a. Will prevent the migration of hazardous constituents into the groundwater or surface water at least as effectively as the liners and leachate collection

and removal system; and

b. Will allow detection leaks of hazardous constituents through the top liner at least as effectively.

15. Exemption from Double-Liner Requirements for Monofills [264.301(e)]

Owners or operators of hazardous waste monofills will be exempted from the double-liner requirements if the Commission finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics are at least as effective as a double liner in preventing migration of hazardous constituents to the groundwater or surface water. If an exemption is sought, submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time.

16. Above-grade Benefits

The engineering report must evaluate the benefits, if any, associated with the construction of the landfill above existing grade at the proposed site, the costs associated with the above-grade construction, and the potential adverse effects, if any, which would be associated with the above-grade construction. [TX. Health and Safety Code 361.108]

17. Feasibility Study - Applicable to New Hazardous Waste Landfills or Areal Expansions of Existing Hazardous Waste Landfill

In accordance with the Health and Safety Code Section 361.106 and 30 TAC Section 335.205(a)(2), provide a feasibility study demonstrating that there is no practical, economic, and feasible alternative that is reasonably available to manage the types and classes of hazardous wastes to be disposed of at a proposed new hazardous waste landfill or the areal expansion of an existing hazardous waste landfill.

H. Incinerators -RESERVED

I. Boilers and Industrial Furnaces -RESERVED

J. Drip Pads -RESERVED

K. Miscellaneous Units -RESERVED

L. Containment Buildings -RESERVED

Table V.A. - Facility Waste Management Handling Units

TCEQ Permit Unit No. [1]	Unit Name	NOR No.[1]	Unit Description[3]	Capacity	Unit Status[2]
1	Landfill	001	--	720,000 cubic yards	Post-Closure
2	Sludge Disposal Area	082	--	1,500 cubic yards	Post-Closure

1. Permitted Unit No. and NOR No. cannot be reassigned to new units or used more than once and all units that were in the Attachment D of a previously issued permit must be listed.

2. Unit Status options: Active, Closed, Inactive (built but not managing waste), Proposed (not yet built), Never Built, Transferred, Post-Closure.

3. If a unit has been transferred, the applicant should indicate which facility/permit it has been transferred to in the Unit Description column of Table V.A.

Table V.G.1. - Landfills

Permit Unit No.	Landfill	N.O.R. No.	Waste Nos.[1]	Rated Capacity	Dimensions[2]	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage Ignitable, Reactive, Incompatible, or F020, F021, F022, F023, F026, and F027 Waste (state all that apply)
1	Landfill	001	0512319H	720,000 cubic yards	1,100 feet x 250 feet x 0, 6.3 acres	15 feet	not required (unit closed)	No
2	Sludge Disposal Area	082	0512319H	1,500 cubic yards	100 feet x 200 feet x 0, 0.46 acres	15 feet	not required (unit closed)	No

1from Table IV.B, first column
2Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

Table V.G.3. - Landfill Liner System

Permit Unit No.*	Landfill	Primary Liner			Secondary Liner			Clay Liner		
		Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness	Material	Permeability (cm/sec)	Thickness
1	Landfill	sandy clay	1 x 10-6 x 2.6 x 10-7	20+ feet	none	--	--	none	--	--
2	Sludge Disposal Area	sandy clay	1 x 10-6 x 2.6 x 10-7	20+ feet	none	--	--	none	--	--

* This number should match the Permit Unit No. given on Table V.G.1.

Table V.G.4. - Landfill Leachate Collection System

	Primary Leachate Collection System					Secondary Leachate Collection System				
Landfill	Drainage Media	Collection Pipes (including risers)	Filter Fabric	Geofabric	Sump Material	Drainage Media	Collection Pipes (including risers)	Filter Fabric	Geofabric	Sump Material
Landfill	none	--	--	--	--	--	none	--	--	--
Sludge Disposal Area	none	--	--	--	--	--	none	--	--	--

Table V.G.5.- Landfill Material and Construction Specifications

Unit(s): Landfill (NOR No. 001) and Sludge Disposal Area (NOR No. 082)

Cell(s)

Property/Parameter	Proposed Sampling Frequency[1]	Test Methods
Property/Parameter	Proposed Sampling Frequency[1]	Test Methods
Property/Parameter	Proposed Sampling Frequency[1]	Test Methods
Property/Parameter	Proposed Sampling Frequency[1]	Test Methods
Property/Parameter	Proposed Sampling Frequency[1]	Test Methods
Soil Liner Specifications		
Laboratory Standard Proctor Density and optimum moisture content[2]	Not applicable	ASTM D-698 or an equivalent method
Field density and moisture control tests on constructed soil liners[3]	Not applicable	ASTM D-1556, ASTM D-2167, ASTM, D-2922, or an equivalent method
Liquid Limit[4]	Not applicable	ASTM D-4318 or an equivalent method
Plasticity Index[4]	Not applicable	ASTM D-4318 or an equivalent method
Percent passing No. 200 sieve[5]	Not applicable	ASTM D-1140 or an equivalent method
Soil liner thickness and slope determinations[6]	Not applicable	Instrument Survey Measurements
Hydraulic conductivity measurements expressed in terms of cm/sec[7]	Not applicable	ASTM-5093, ASTM 2434, Technical Guidance No. 3, or an equivalent method
Leachate Collection/ Leak Detection System material		
Non-syntheic material sieve analysis tests[8]	Not applicable	
Hydraulic conductivity measurements expressed in units of cm/sec[9]	Not applicable	ASTM-5093, ASTM 2434, Technical Guidance No. 3, or an equivalent method
Drainage layer thickness determinations[10]	Not applicable	Instrument Survey Measurements or an equivalent method
Drainage pipe slope determinations[11]	Not applicable	Instrument Survey Measurements

1. NOTE: Construction testing frequencies must meet or exceed minimum requirements for the property or parameter tested listed below:
2. At a minimum frequency of at least one (1) representative sample from each 5000 cubic yards of soil.
3. At a minimum frequency of at least one (1) per every 10,000 square feet of each lift placed.
4. At a minimum frequency of at least one (1) per 1,000 cubic yards of soils for a minimum of two (2) tests per

layer per cell.

5. At a minimum frequency of at least one of at least one (1) per every 1,000 cubic yards of soil and a minimum of two (2) testers per layer per cell
6. At a minimum frequency of at least one (1) determination by appropriate surveying techniques per every 10,000 square feet of soil liner installed.
7. At a minimum frequency of one per acre per lift.
8. At a minimum rate of one (1) per 400 cubic yards
9. At a minimum frequency of four (4) representative samples collected from each compacted drainage layer
10. At a minimum frequency of at least one (1) per 10,000 square feet of drainage layer installed.
11. At a minimum frequency one (1) per twenty (20) feet of drainage pipe

Appendix V.A.

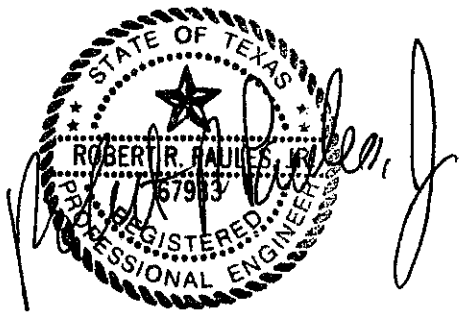
General Engineering Report

Professional Engineer Certification Disclaimer

General Engineering Report (Appendix V.A.)

Permit Renewal Application
McWane, Inc. (Tyler Pipe Company) - Tyler, Texas
July 2009

The *General Engineering Report* presented herein was compiled from information and drawings developed by others and previously provided to and approved by the Texas Commission on Environmental Quality (TCEQ) and/or its predecessor agency, the Texas Natural Resource Conservation Commission (TNRCC) within various assessment reports, permit renewal applications, and permit modification requests. Whereas RMT, Inc. contributed to the development and compilation of the descriptive text (which was conducted under my supervision), none of the included drawings was originally developed by RMT, Inc. As such, the professional engineer certification provided herein is exclusive of any of the figures presented.



Robert R. Paules, Jr., P.E.
Senior Consultant
RMT, Inc.

Corporate Texas Engineering Registration
No. F-001547

Appendix V.A.
General Engineering Report

The general engineering report presented herein has been developed for two facility hazardous waste management (HWM) units located at the Tyler Pipe plant in Smith County, Texas that were closed as landfills with waste in place under cover systems. These two facility HWM units are identified as follows:

- Landfill: NOR Unit No. 001
- Sludge Disposal Area: NOR Unit No. 082

A discussion of the general engineering considerations at the Tyler Pipe facility as related to these two HWM units is presented herein.

1. General Information

An overall site location map that encompasses the proximal area within a one-mile radius of the Tyler Pipe facility is presented as ***Figure V.A-1***. The locations of the closed landfill and the closed sludge disposal area are depicted on the facility map that is provided as ***Figure V.A-2***. Individual plan view maps of these HWM units are presented as ***Figure V.A-3*** (landfill) and ***Figure V.A-4*** (sludge disposal area). These units were closed in 1995 and 2003, respectively, and have been under post-closure care since that time.

A topographic map of the facility that includes the information specified in 40 Code of Federal Regulations (CFR) §270.14(b)(19), §270.14(c)(3), and §270.14(d)(1)(i) is presented as ***Figure V.A-5.***

2. Features to Mitigate Unsuitable Site Characteristics

(not applicable – not a new hazardous waste management facility or an expansion of an existing hazardous waste management facility)

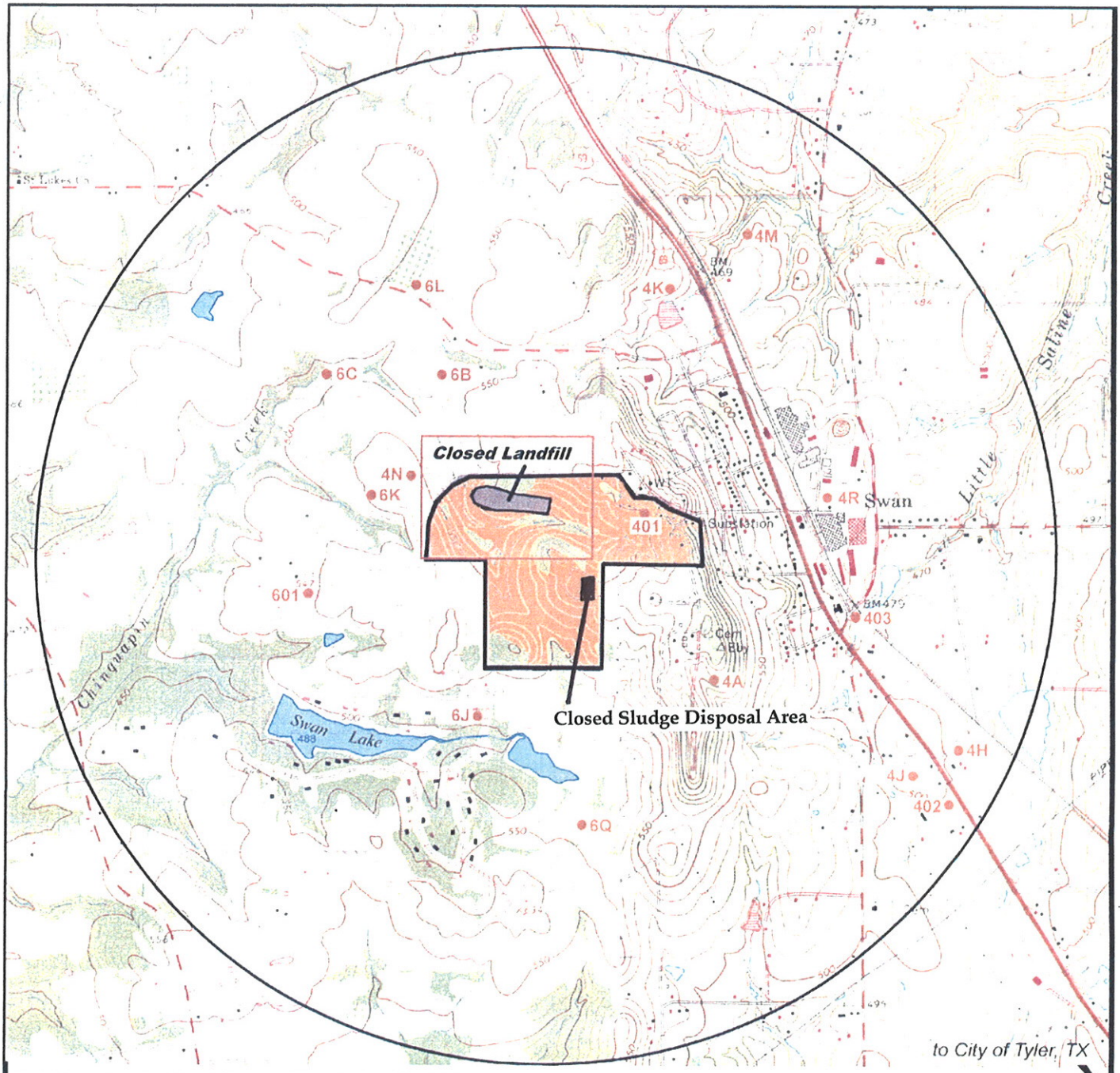
3. Construction Schedules

(not applicable – not a commercial hazardous waste management facility)

4. Detailed Plans and Specifications

(not applicable – units to be permitted have already been constructed and closed)

Figures



USGS quadrangles Mount Sylvan + Tyler North, TX. - 1973

Facility Boundary

6x Water Well

0 1/2 1

MILE

N

W E

S

120_0023

Figure V.A-1

Site Location Map

PARSONS ENGINEERING SCIENCE, INC.

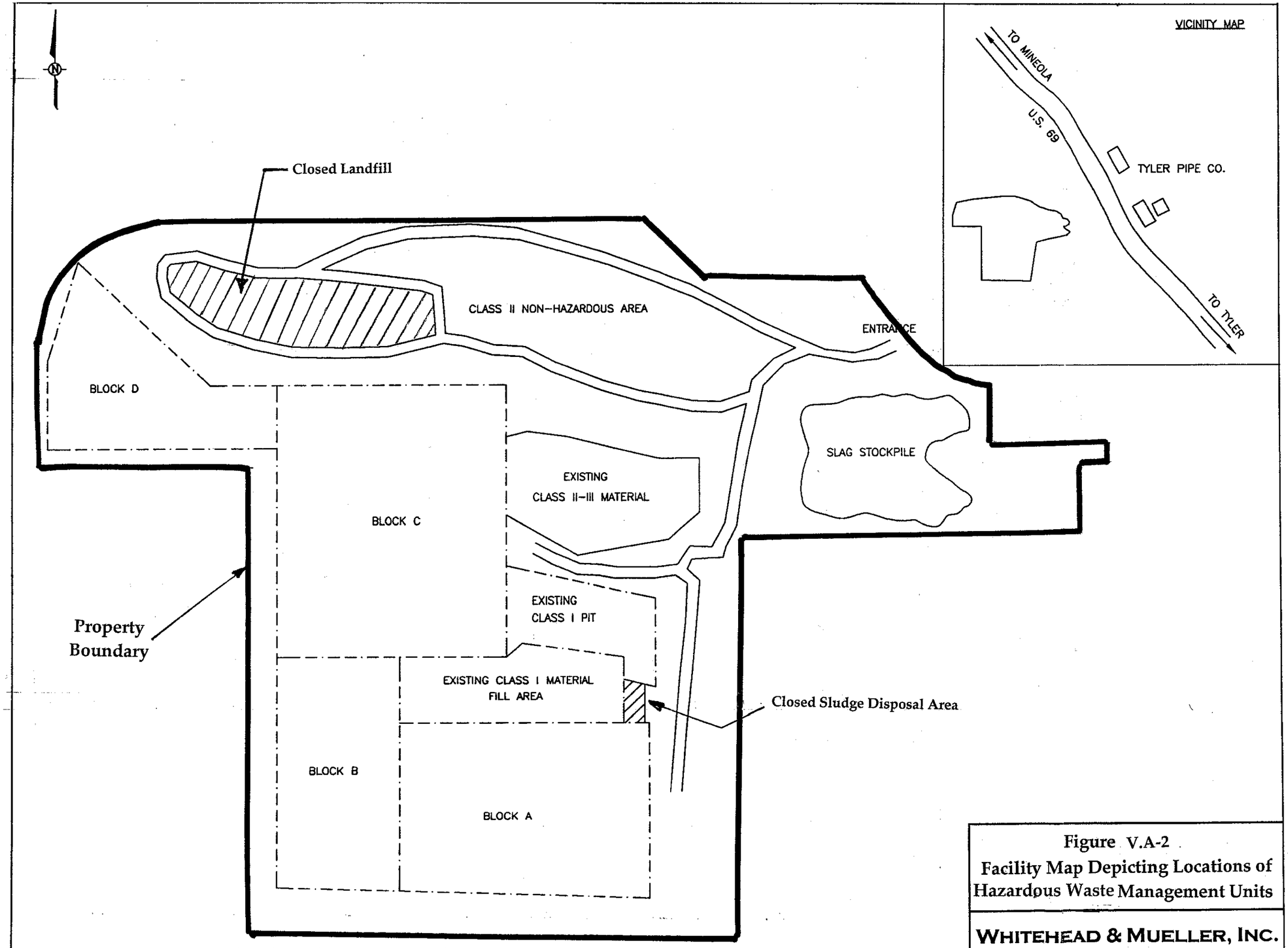
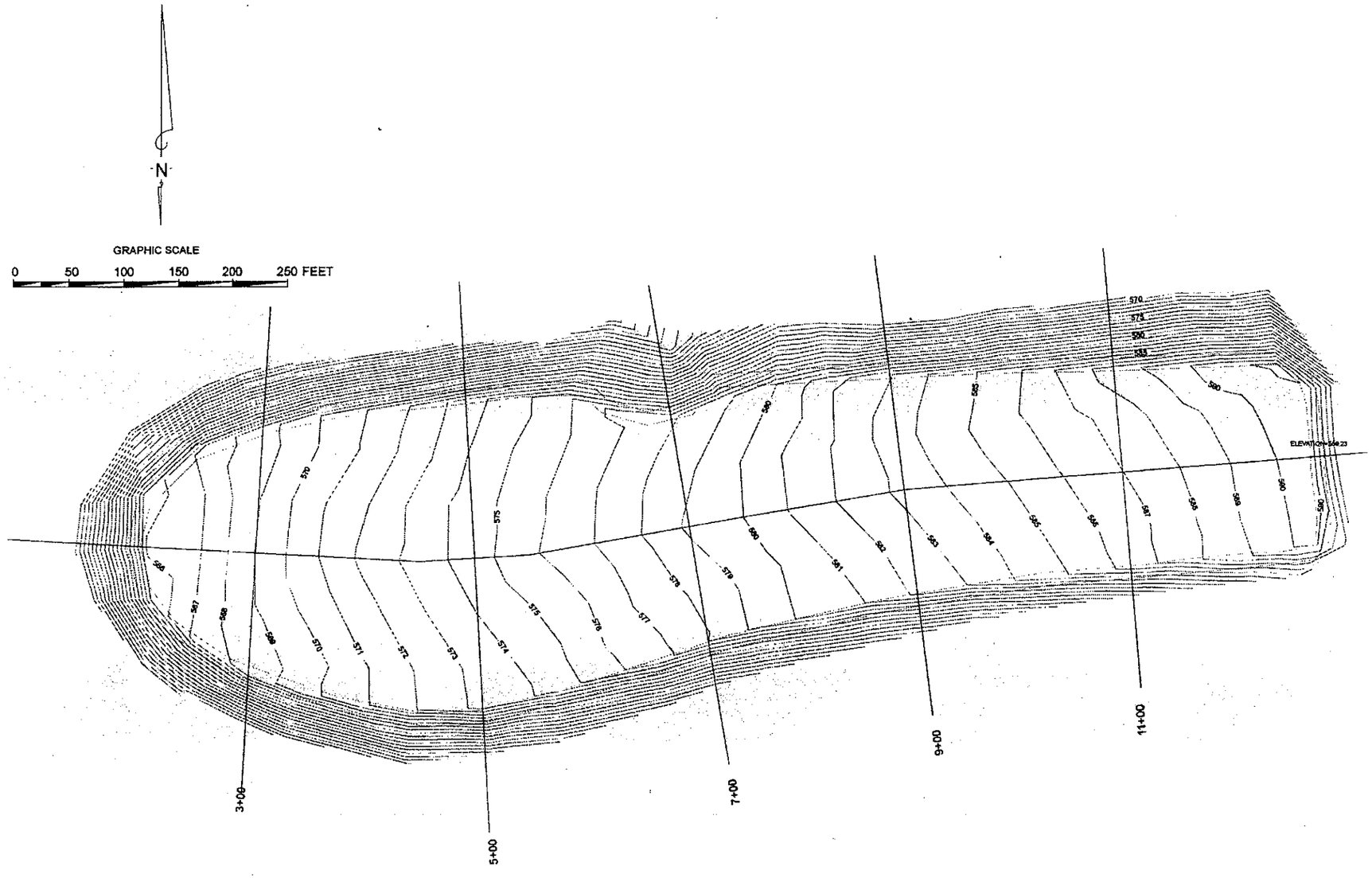


Figure V.A-2
Facility Map Depicting Locations of Hazardous Waste Management Units

WHITEHEAD & MUELLER, INC.



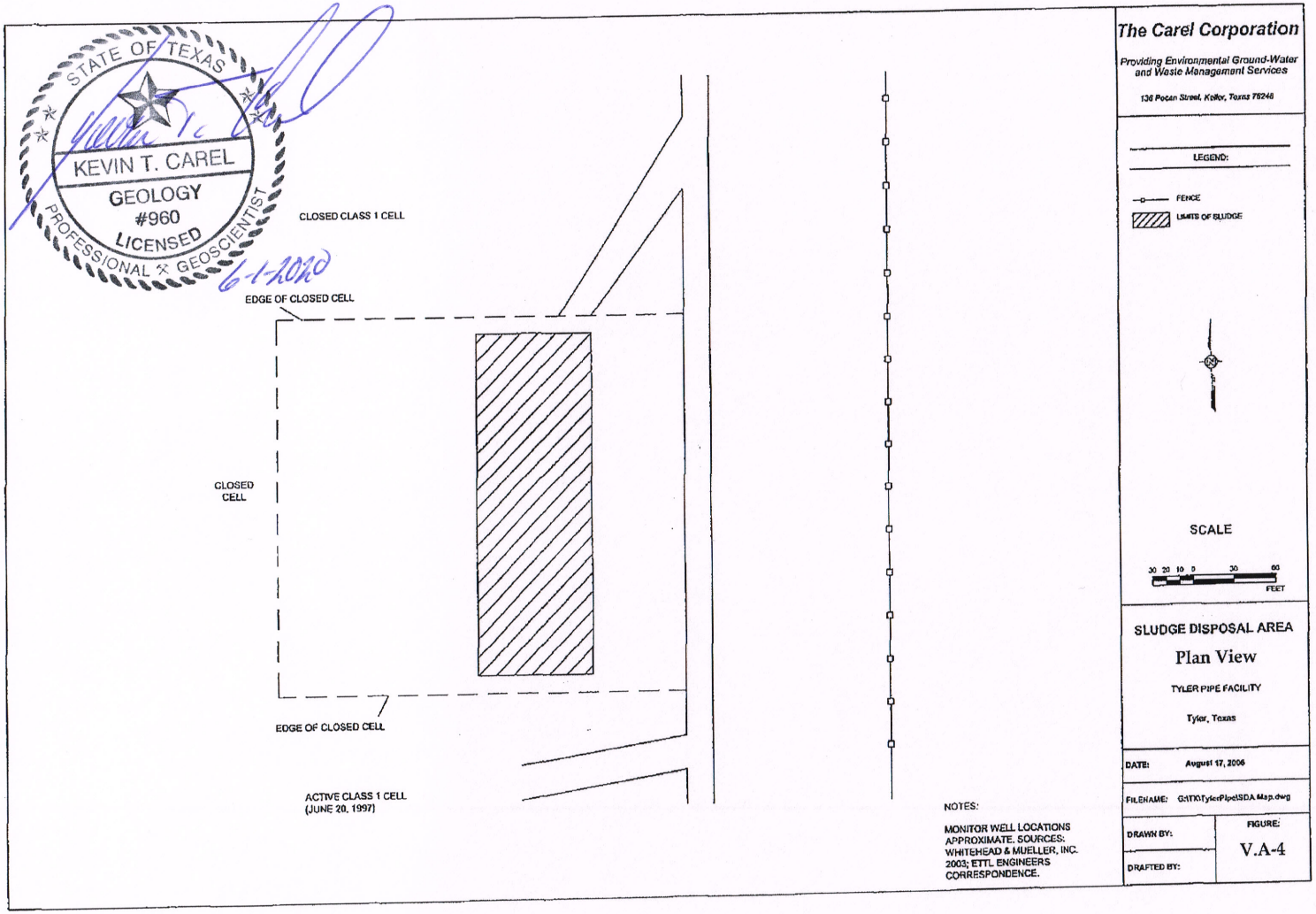
TYLER PIPE INDUSTRIES, INC.
CLASS I HAZARDOUS WASTE LANDFILL

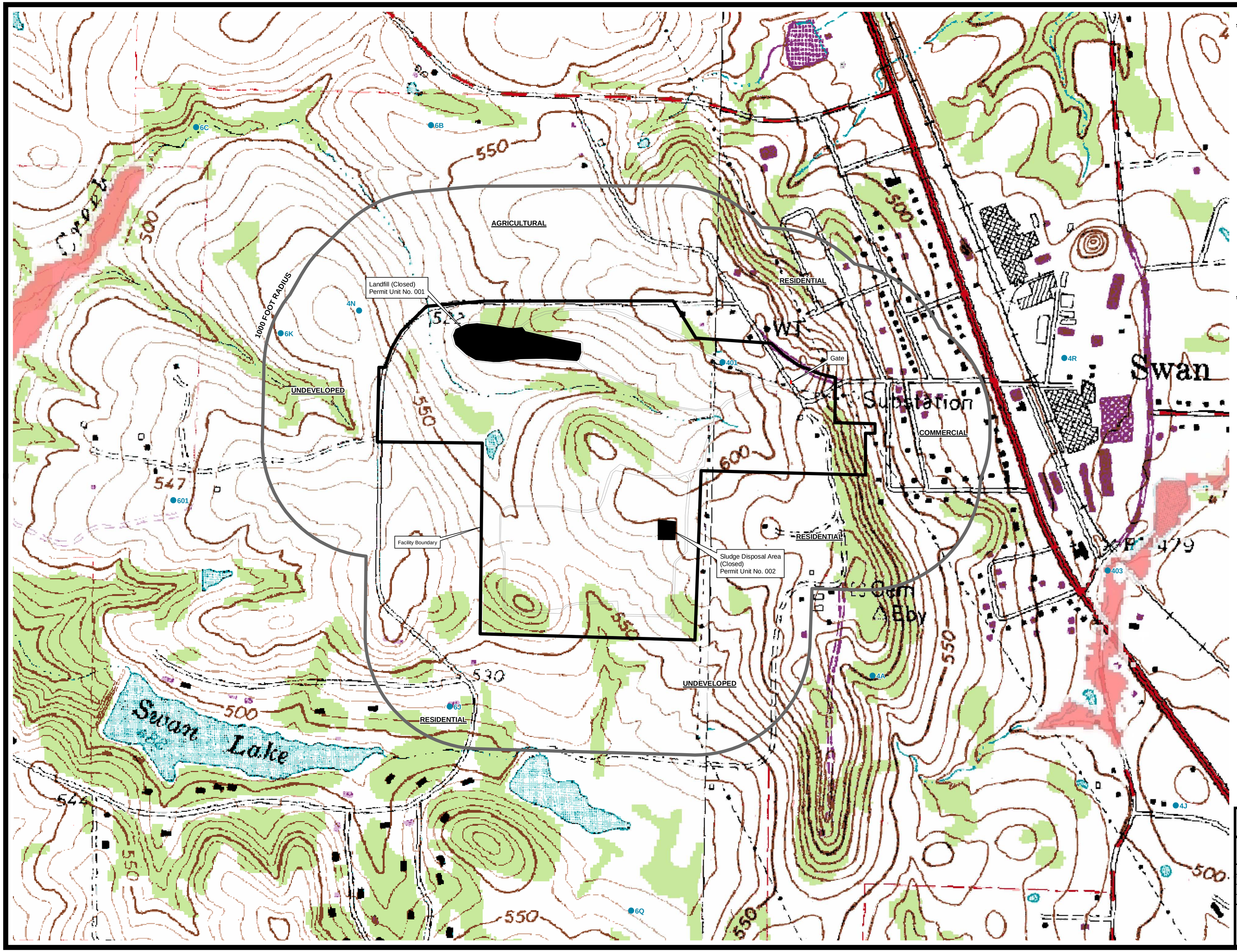
Figure V.A-3

Landfill Plan View

PARSONS ENGINEERING SCIENCE, INC.

120_0012A


STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020
CLOSED CLASS 1 CELL
EDGE OF CLOSED CELL
CLOSED CELL
EDGE OF CLOSED CELL
ACTIVE CLASS 1 CELL (JUNE 20, 1997)
NOTES:
MONITOR WELL LOCATIONS APPROXIMATE. SOURCES: WHITEHEAD & MUELLER, INC. 2003; ETTL ENGINEERS CORRESPONDENCE.
The Carel Corporation
Providing Environmental Ground-Water and Waste Management Services
136 Pecan Street, Keller, Texas 76248
LEGEND:
FENCE
LIMITS OF SLUDGE
SCALE
30 20 10 0 30 60
FEET
SLUDGE DISPOSAL AREA
Plan View
TYLER PIPE FACILITY
Tyler, Texas
DATE: August 17, 2006
FILENAME: G:\TX\TylerPipe\SDA Map.dwg
DRAWN BY:
DRAFTED BY:
FIGURE:
V.A-4



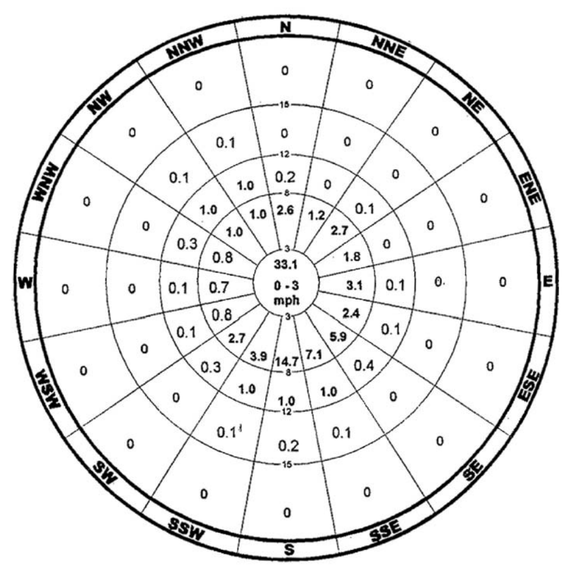
LEGEND

- Water Well
- National Flood Hazard, ZONE A
  100-Year Flood Plain

NOTES

1. Basemap Source: USGS Topographic Quadrangles (24K), Mount Sylvan & Tyler North (1995)
2. Water Well location obtained from records of the Texas Water Development Board and Texas Commission on Environmental Quality.
3. The National Flood Hazard Layer is a computer database that contains the digital flood hazard information from FEMA's Flood Map Modernization program (Downloaded using the Web Map Service, January 2010)

TYLER AREA WIND ROSE



NOTE: Decimal values are annual percentages of wind occurring in a particular direction for a particular range of wind speed. Integer values represent wind speeds in miles per hour.

SOURCE: National Climatic Data Center, Asheville, N.C.

N

0 200 400 FEET

1 " = 400 '

1:4,800

PROJECT:	MCWANE, INC. (TYLER PIPE COMPANY) TYLER, TEXAS
SHEET TITLE:	FACILITY TOPOGRAPHIC MAP
DRAWN BY: S S WILSON	SCALE: AS NOTED
CHECKED BY: B PAULES	DATE PRINTED: 1/14/2010
APPROVED BY: B PAULES	PROJ. NO. 00-07749.26
DATE: JANUARY 2010	FILE NO. 077492601_TOPO-22X34
	FIGURE V.A-5

RMT
744 Heartland Trail
Madison, WI 53717-1934
P.O. Box 8923 53708-8923
Phone: 608-831-4444
Fax: 608-831-3334

D:\07749\26\GIS\MXD\077492601_TOPO-22X34.mxd 1/14/2010 16:24:33

Appendix V.G.

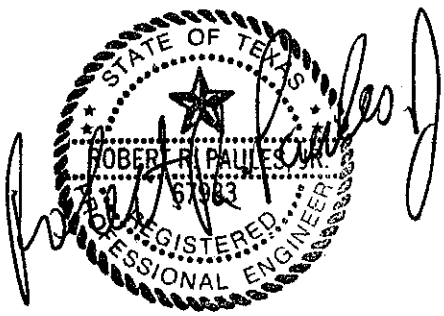
Landfills

Professional Engineer Certification Disclaimer

Landfills Report (Appendix V.G.)

Permit Renewal Application
McWane, Inc. (Tyler Pipe Company) - Tyler, Texas
July 2009

The *Landfills Report* presented herein was compiled from information and drawings developed by others and previously provided to and approved by the Texas Commission on Environmental Quality (TCEQ) and/or its predecessor agency, the Texas Natural Resource Conservation Commission (TNRCC) within various assessment reports, permit renewal applications, and permit modification requests. Whereas RMT, Inc. contributed to the development and compilation of the descriptive text (which was conducted under my supervision), none of the included drawings was originally developed by RMT, Inc. As such, the professional engineer certification provided herein is exclusive of any of the figures presented.



Robert R. Paules, Jr., P.E.
Senior Consultant
RMT, Inc.

Corporate Texas Engineering Registration
No. F-001547

Appendix V.G.
Landfills

The landfill report presented herein has been developed for two facility hazardous waste management (HWM) units located at the Tyler Pipe plant in Smith County, Texas that were closed as landfills with waste in place under cover systems. These two facility HWM units are identified as follows:

- Landfill: NOR Unit No. 001
- Sludge Disposal Area: NOR Unit No. 082

A discussion of the specific engineering considerations related to these two HWM units is presented herein.

1. General Information

- NOR Unit No. 001 (*landfill*)
  This former landfill encompasses 8.0 acres in the northwest quadrant of the site and was formerly used for the disposal of hazardous and non-hazardous industrial solid waste generated by the Tyler Pipe manufacturing operations. A plan view map of this closed HWM unit is presented as ***Figure V.G-1***. The landfill was closed (with waste in place) with an engineered cover system in 1995 and has been under post-closure care since that time.

- NOR Unit No. 082 (*sludge disposal area*)
  This former surface impoundment encompasses 0.6 acres in the southeast quadrant of the site and was formerly used for the disposal of hazardous and non-hazardous industrial solid waste generated by the Tyler Pipe manufacturing operations. A plan view map of the closed sludge disposal area is presented as ***Figure V.G-2***. The sludge disposal area was originally designated as a solid waste management unit (SWMU). Tyler Pipe decommissioned the sludge disposal area and backfilled the impoundment in 1989. The sludge disposal area was closed (with waste in place) as a landfill with a natural soil cap in 2003 and has been under post-closure care since that time. This SWMU was incorporated as a HWM unit into Tyler Pipe's permit through a 2003 permit modification.

2. Containment Systems

- NOR Unit No. 001 (*landfill*)
  This former landfill was constructed as an above-grade, single-cell unit employing both an earthen dike and the natural sub-grade for confinement of wastes. An earthen dike composed of a clay-rich soil was used to confine the wastes. The dike varies in height, generally increasing to the west and higher on the southern edge due to the natural topography. The crest of the dike is at least 12 feet wide at all points around the cell. Exterior slopes average approximately 3:1, with interior slopes being no steeper than 2:1.

  The crest of the dike was raised as needed to maintain a 3-foot vertical clearance above the outer edge of the waste. The waste was sloped up to a 2-5% grade to the center of the cell so that the center height of the waste was limited to the elevation of the crest of the dike in accordance with TCEQ Technical Guideline No. 3 for above-grade landfills. The bottom containment system used at the landfill consisted of the natural *in situ* soil encountered at the bottom of the excavation for the disposal area. No liner system, either artificial or of natural materials, was installed at the time of the original construction of this unit (in accordance with interim standards). An earthen dike is used to confine the wastes laterally on all sides of the landfill. The dike is composed of soil excavated on-site. Depths of excavations to obtain the fill material are estimated to have been between 5 and 10 feet BGS. Clay soils excavated from the on-site borrow areas were used primarily for the base and core area of the dike section, with other soils being used to complete the dike construction.

- NOR Unit No. 082 (*sludge disposal area*)
  This former surface impoundment employed both an earthen dike and the natural sub-grade for confinement of wastes, but was not an engineered unit (and configuration details are not available). An earthen dike composed of a clay-rich soil was used to prevent the overflow of wastes and to prevent stormwater run-on. The bottom containment system used at the sludge disposal area consisted of the natural *in situ* soil encountered at the bottom of the excavation for the disposal area. No liner system, either artificial or of natural materials, exists for this unit.

3. Dike Integrity

A slope stability study was performed in 1985 to investigate the structural integrity of the dikes (*Stability Analysis of Slopes – Surface Impoundments and Landfill Dikes*). This study included analyses for the stability of dikes having a maximum build-up of hydrostatic pressure within the dike because of high groundwater and/or long-term flooded surface water conditions, and for the same condition under seismic conditions. The case of rapid drawdown was not deemed appropriate for this part of the study.

All of the dike sections analyzed have computed factors of safety in excess of 2.0 against massive failure. One unusually steep section of the landfill dike had a computed safety factor of 1.52 for the steady-state seepage condition and 1.43 for the seismic condition. The results of this study indicate that the landfill dike will not experience failure with respect to any of the potential failure conditions. Although a detailed analysis was not performed, the fill material used in the dike construction (having moderately impermeable soils) should not be subject to piping or other hydrodynamic effects that could deteriorate the structural integrity of the dike.

4. Subsurface Stratigraphy

The subsurface stratigraphy encountered during a soil investigation performed as part of the site selection (*East Texas Testing Laboratory Report No. 156-74*) included mostly clayey sand (SC) and sandy to silty clay (CL) to at least 25 feet below ground surface (BGS). These "clayey" soils exhibited a low-to-moderate plasticity index ranging between 5 and 19. Liquid limits were generally at 30 or above, with an occasional value as low as 25. Measured water contents of soil samples and measured groundwater levels in the soil borings suggest that the water table may be approximately 15 feet BGS. Borings for the monitor wells indicate that the groundwater may be more shallow. Permeabilities of tested soil samples range between 1 $x10^{-6}$ cm/sec and 2.5 x 10^{-7} cm/sec. Rates of percolation of leachate through the underlying soils are expected to be low. Furthermore, piping through the soil under a large hydrostatic head of retained waster is not likely to occur.

Cross-sectional drawings depicting the subsurface stratigraphy proximal to the landfill area have been developed by Tyler Pipe. The lines of cross-section are identified on ***Figure V.G-3*** and the cross sections are presented as ***Figure V.G-4***. Typical sections and profiles of this landfill (indicating the maximum level of wastes with respect to the dike) have also developed. The lines of cross-section and sections/profiles are presented in ***Figure V.G-5***.

Cross-sectional drawings depicting the subsurface stratigraphy proximal to the sludge disposal area have also been developed by Tyler Pipe. The lines of cross-section are identified on ***Figure V.G-6*** and the cross sections are presented in ***Figure V.G-7*** and ***Figure V.G-8***.

5. Historical Unit Operations

- NOR Unit No. 001 (*landfill*)
  Dewatered sludge wastes were transported by dump truck to the landfill and were unloaded in a patterned sequence within the confines of the unit boundaries. On average, approximately 60-70 cubic yards of industrial solid waste was transported to the landfill daily during the active life of the unit. The piles of solid waste were spread out by bulldozer in 1-2 foot lifts to build an embankment that progressed from one end

of the unit to the other. The wastes were compacted such that the face of the waste embankment moved from east to west. After a lift was completed, a layer of furnace slag (non-hazardous) approximately 3-4 inches thick was spread on top of the lift to provide a solid surface for vehicles unloading wastes for the subsequent lift.

- NOR Unit No. 082 (*sludge disposal area*)
  Since the sludge disposal area was a pre-RCRA waste management unit, details regarding historical operations at this SWMU are not available. What is known is that dewatered sludge wastes resulting from emissions stack scrubbers were placed within this surface impoundment. The average daily volume of wastes placed into the sludge disposal area is unknown. Since this unit was formerly a surface impoundment, it is unlikely that additional waste management procedures were followed subsequent to waste placement (and none are documented).

6. Run-On and Run-Off Control

Stormwater run-on is controlled for the landfill as a result of the sloped cover system. Run-on is controlled for the sludge disposal area as a result of the sloped soil cap. The control of run-off from wastes is not applicable since both of these units are closed under a protective barrier and the contained wastes do not come in contact with stormwater.

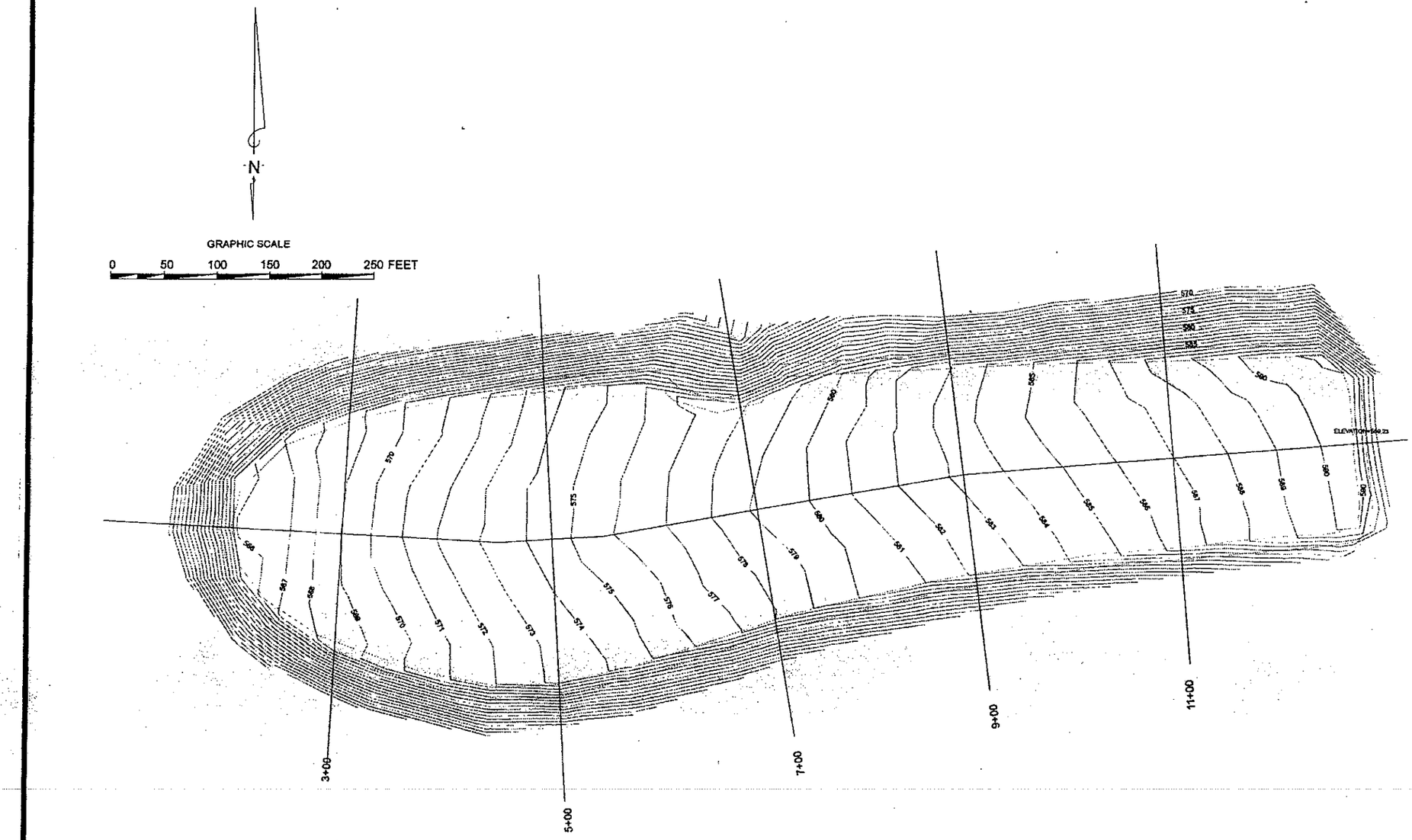
7. Wind Dispersal

The control of the wind dispersal of particulates is not applicable since both of these units are closed under a protective barrier and the emission of particulates from the contained wastes cannot occur.

8. Liquid Waste

The proper stabilization of liquid wastes is not applicable since both of these units are closed and are no longer utilized for the disposal of wastes.

Figures



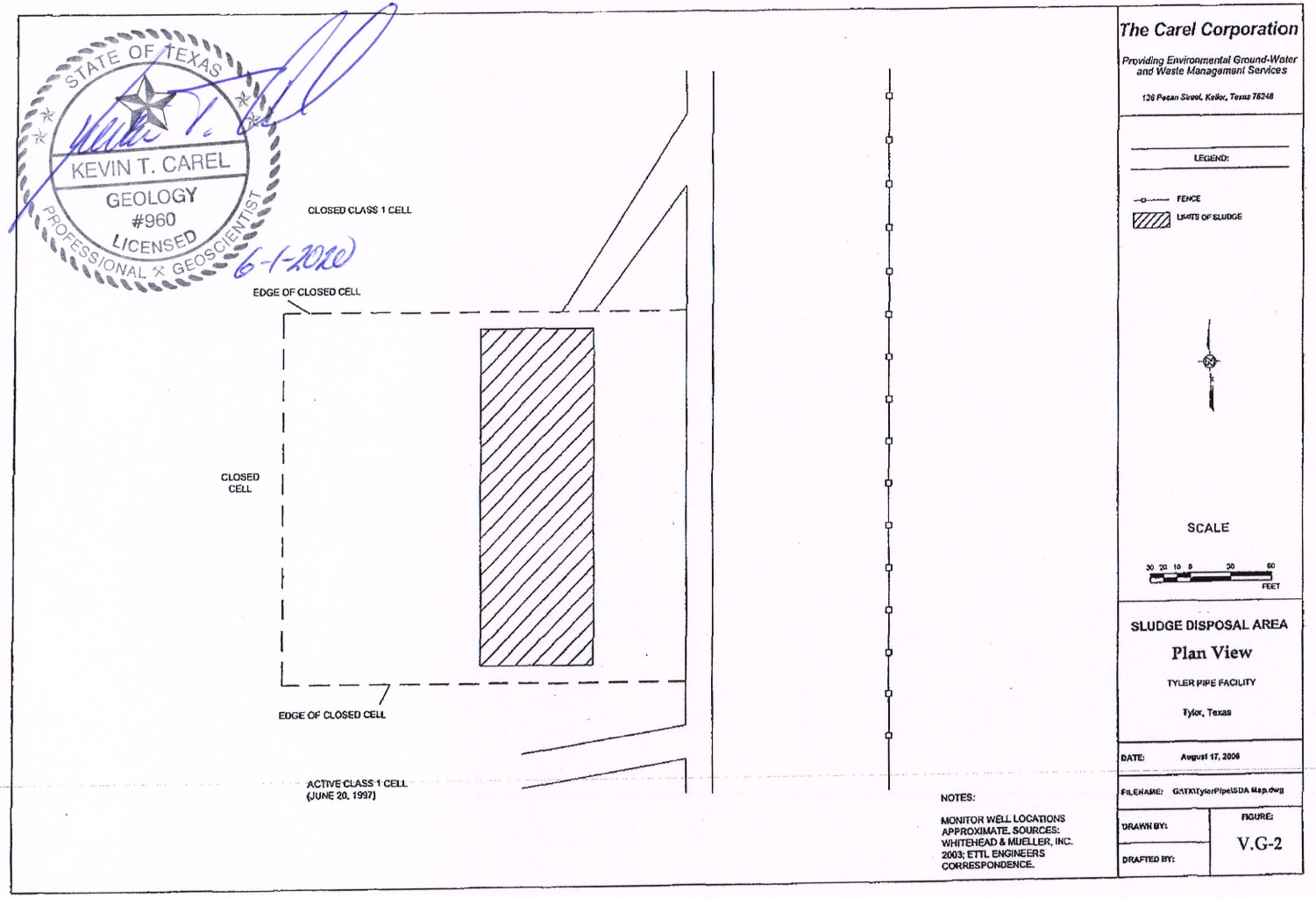
TYLER PIPE INDUSTRIES, INC.
CLASS I HAZARDOUS WASTE LANDFILL

Figure V.G-1

Landfill Plan View

PARSONS ENGINEERING SCIENCE, INC.

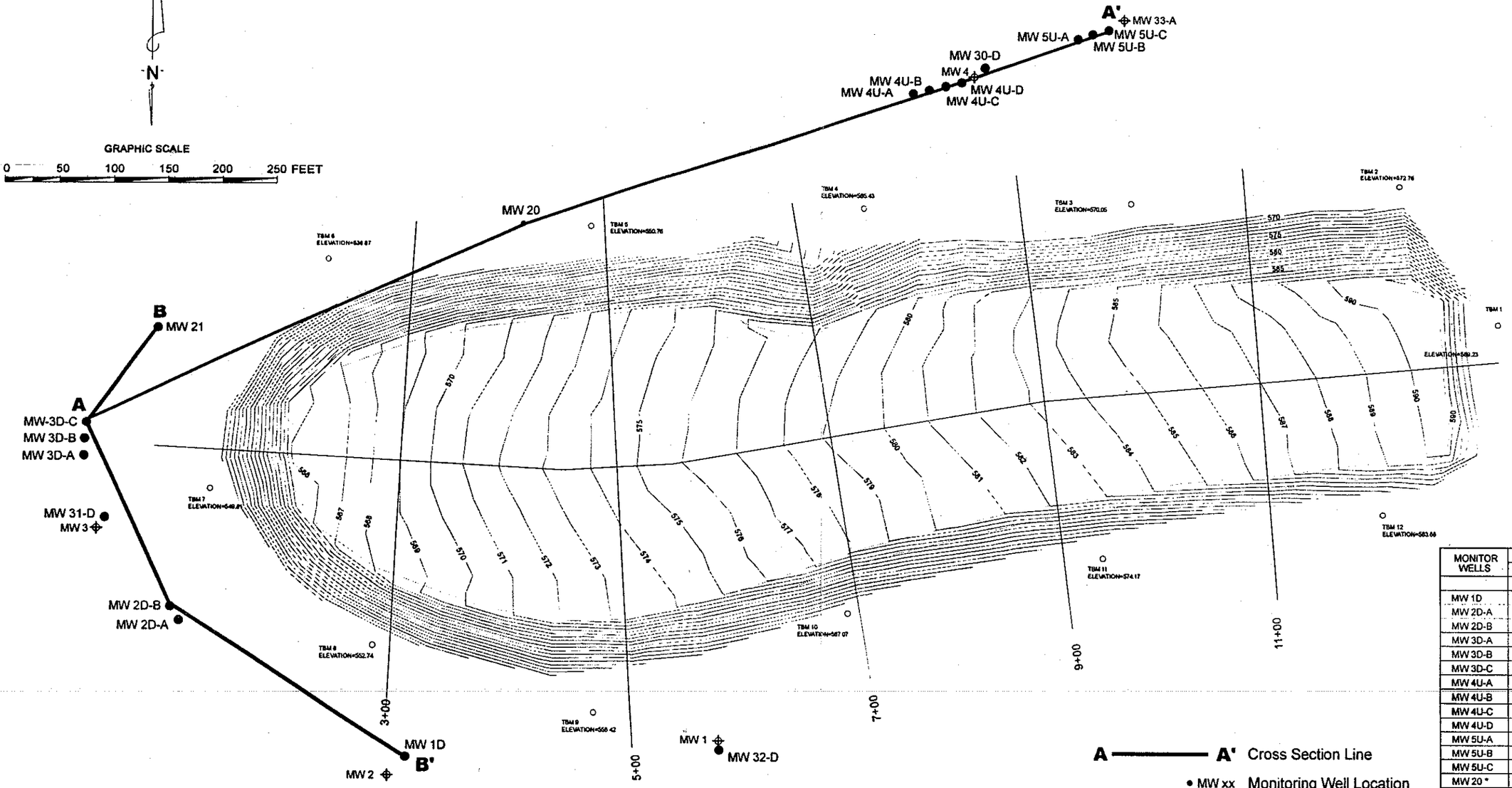
120_0012A


STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020
CLOSED CLASS 1 CELL
EDGE OF CLOSED CELL
CLOSED CELL
EDGE OF CLOSED CELL
ACTIVE CLASS 1 CELL (JUNE 20, 1997)
NOTES:
MONITOR WELL LOCATIONS APPROXIMATE. SOURCES: WHITEHEAD & MUELLER, INC. 2003; ETTL ENGINEERS CORRESPONDENCE.
The Carel Corporation
Providing Environmental Ground-Water and Waste Management Services
136 Pecan Street, Keller, Texas 76248
LEGEND:
FENCE
LIMITS OF SLUDGE
N
SCALE
30 20 10 0 30 60
FEET
SLUDGE DISPOSAL AREA
Plan View
TYLER PIPE FACILITY
Tyler, Texas
DATE: August 17, 2006
FILENAME: G:\TKT\TylerPipe\SDA Map.dwg
DRAWN BY:
DRAFTED BY:
FIGURE:
V.G-2

N

GRAPHIC SCALE

0 50 100 150 200 250 FEET



MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.56
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

* INDICATES EXISTING MONITOR WELLS
ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

A —— A' Cross Section Line

• MW xx Monitoring Well Location

○ TBM xx Benchmark Location

⊕ MW xx Abandoned Monitoring Well

○ ALUMINUM DISC SET IN STEEL PIPE W/PROTECTIVE POST BARRIERS

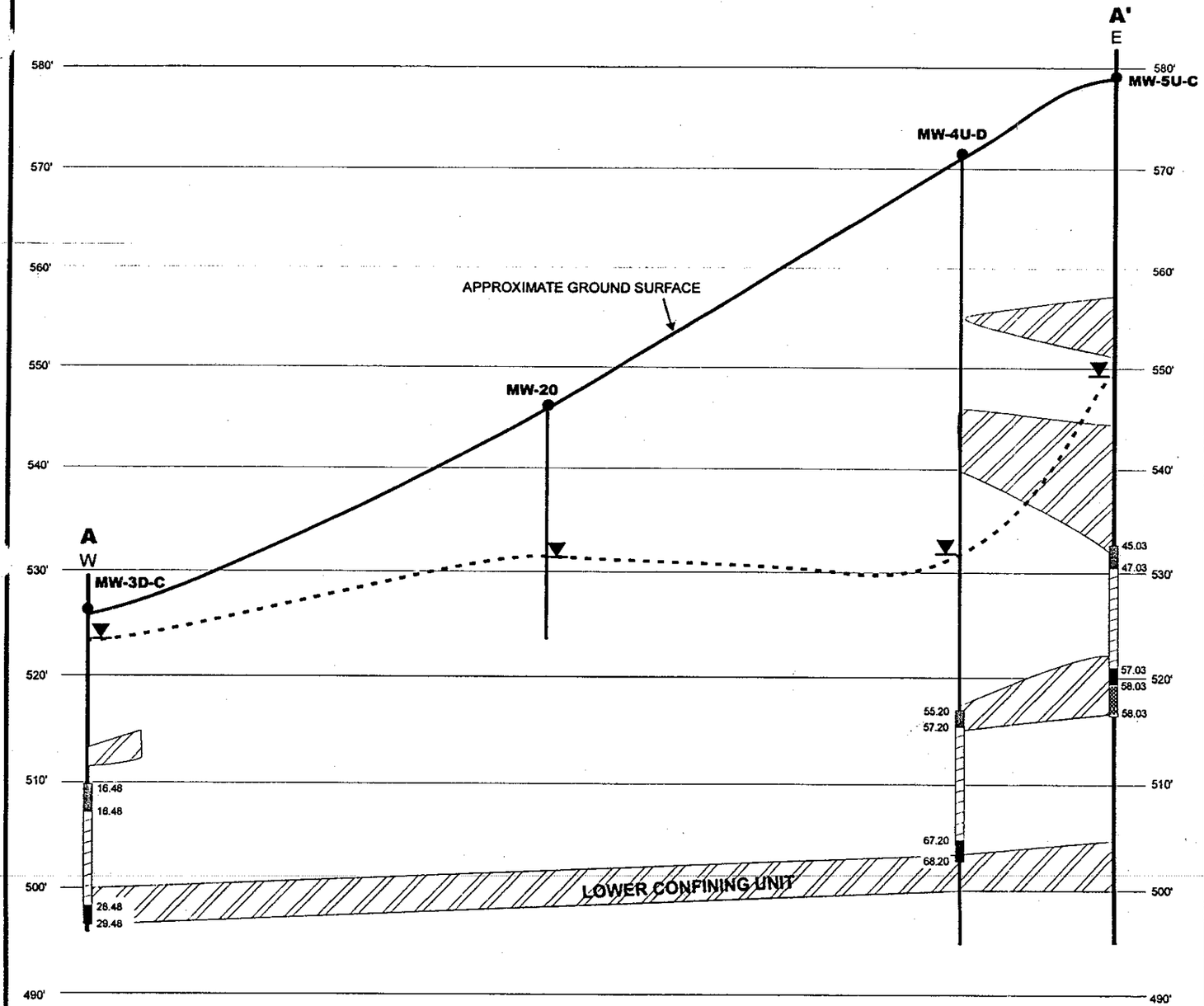
TYLER PIPE INDUSTRIES, INC.
CLASS I HAZARDOUS WASTE LANDFILL

Figure V.G-3

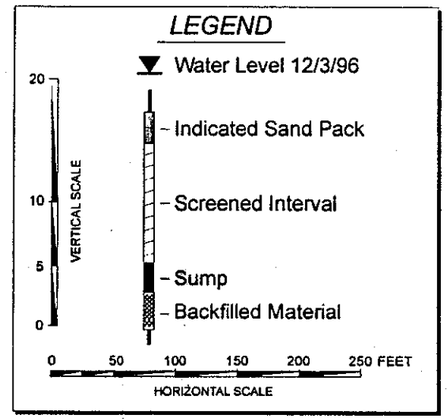
Monitor Well Locations
and Cross Section Locations

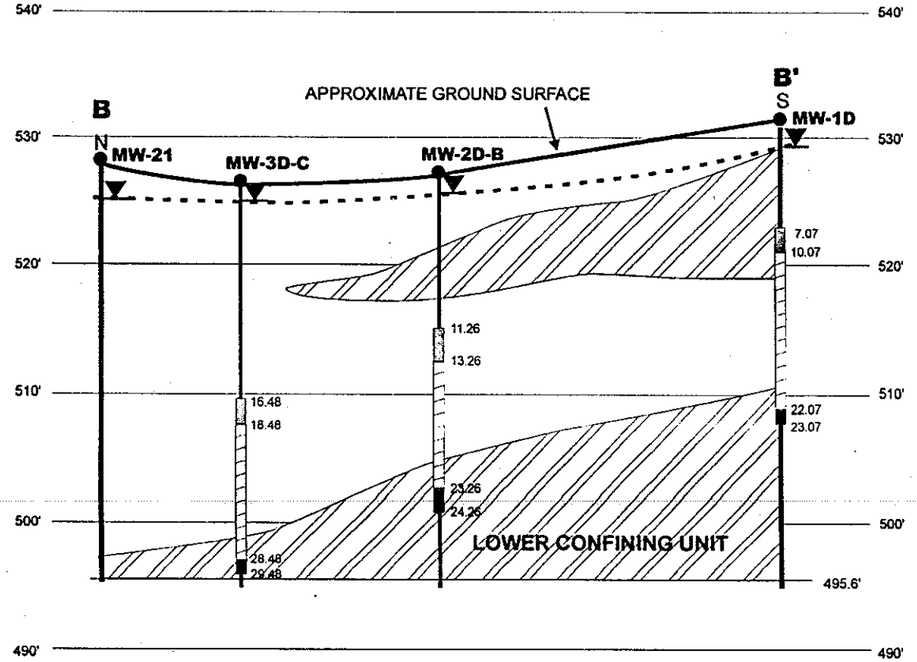
PARSONS ENGINEERING SCIENCE, INC.

120_0012



SECTION A-A'





SECTION B-B'

SILTY, CLAYEY SAND

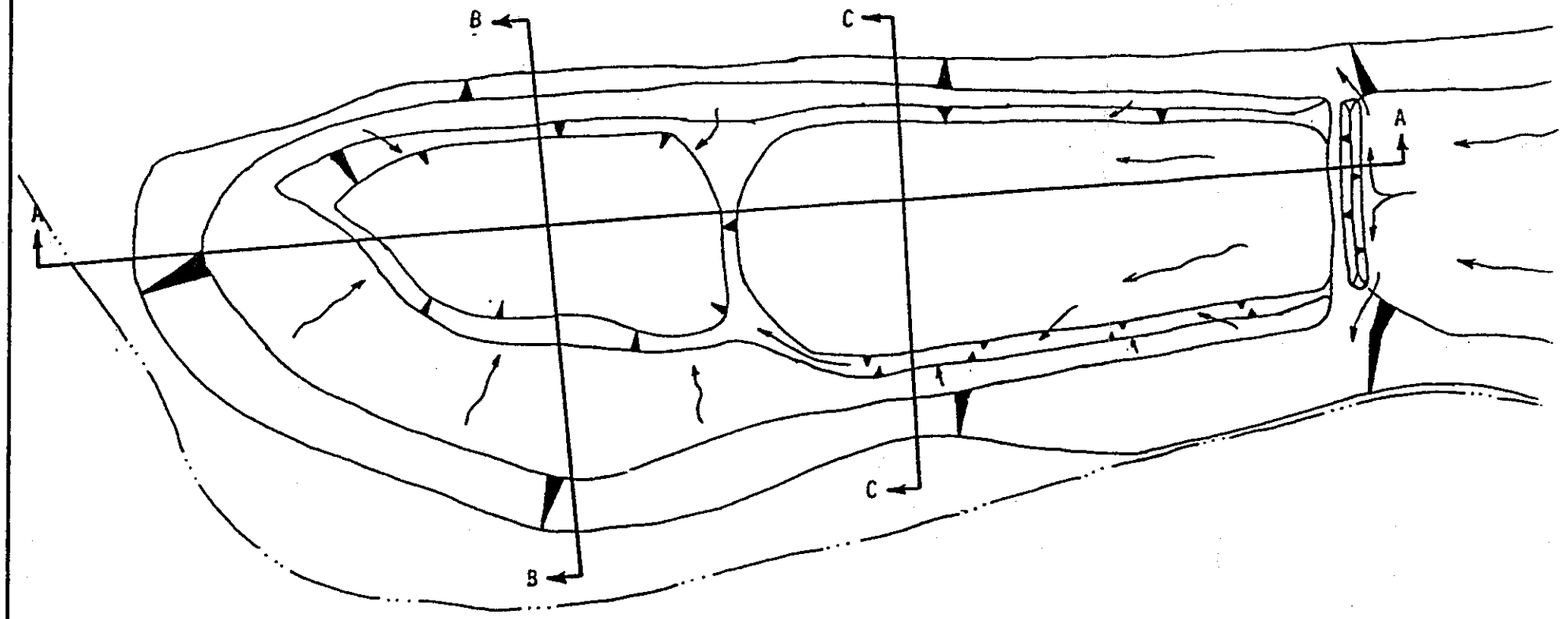
SILTY CLAY

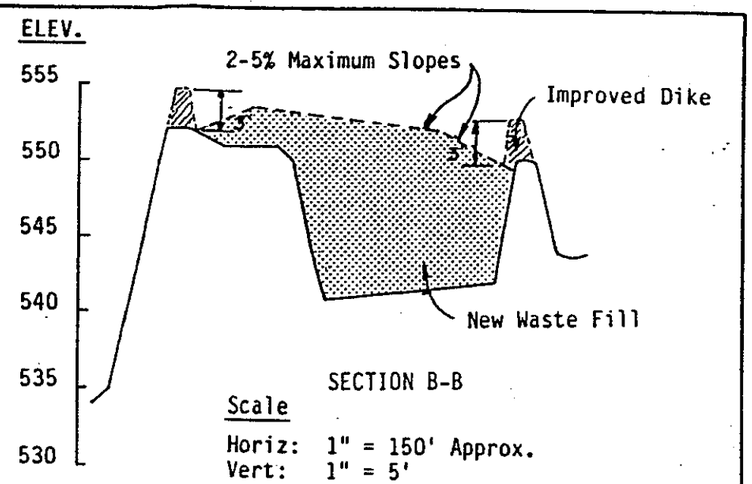
120_0020

Figure V.G-4

Cross Sections A-A' & B-B'

PARSONS ENGINEERING SCIENCE, INC.

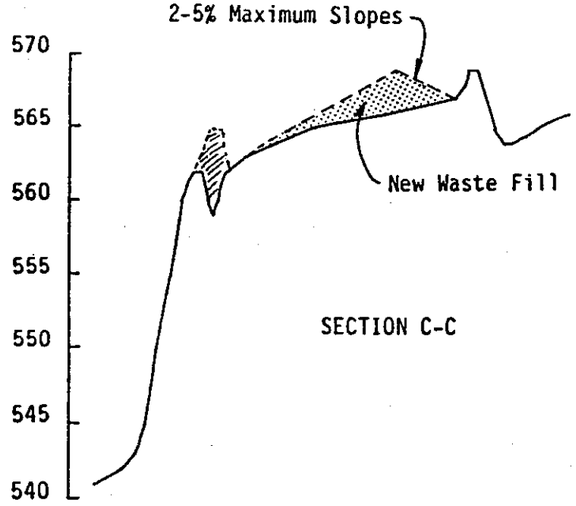




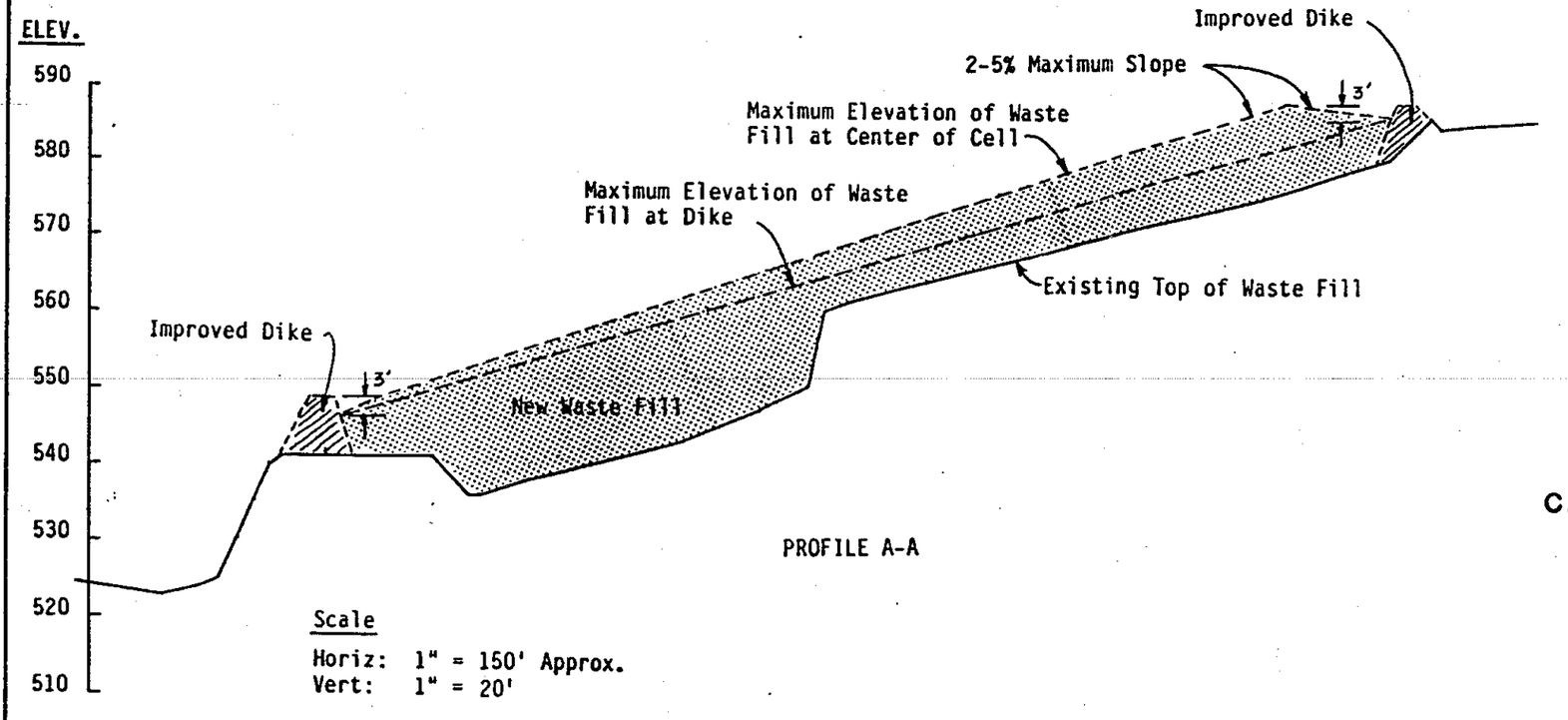
SECTION B-B

Scale

Horiz: 1" = 150' Approx.
Vert: 1" = 5'



SECTION C-C



PROFILE A-A

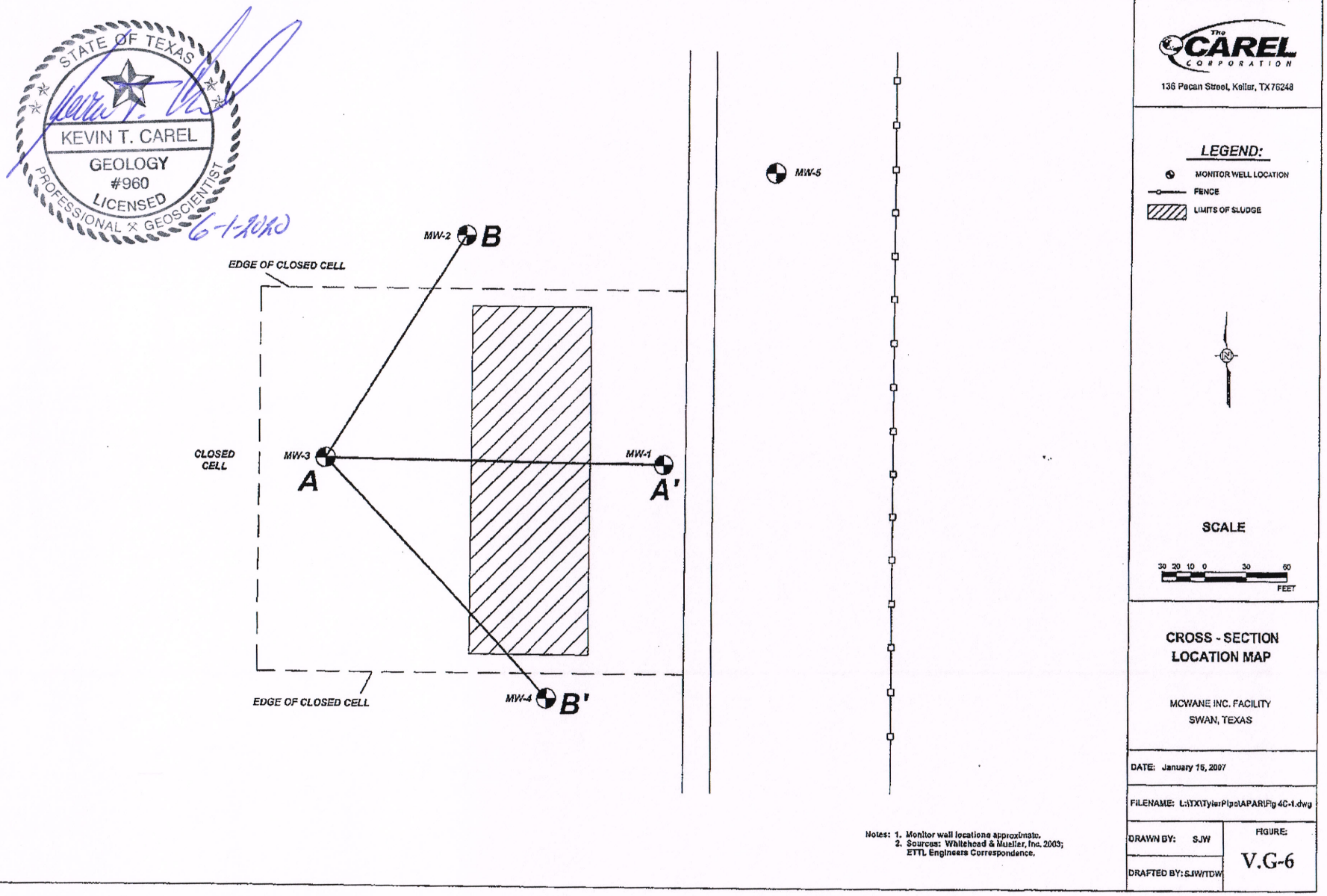
Scale

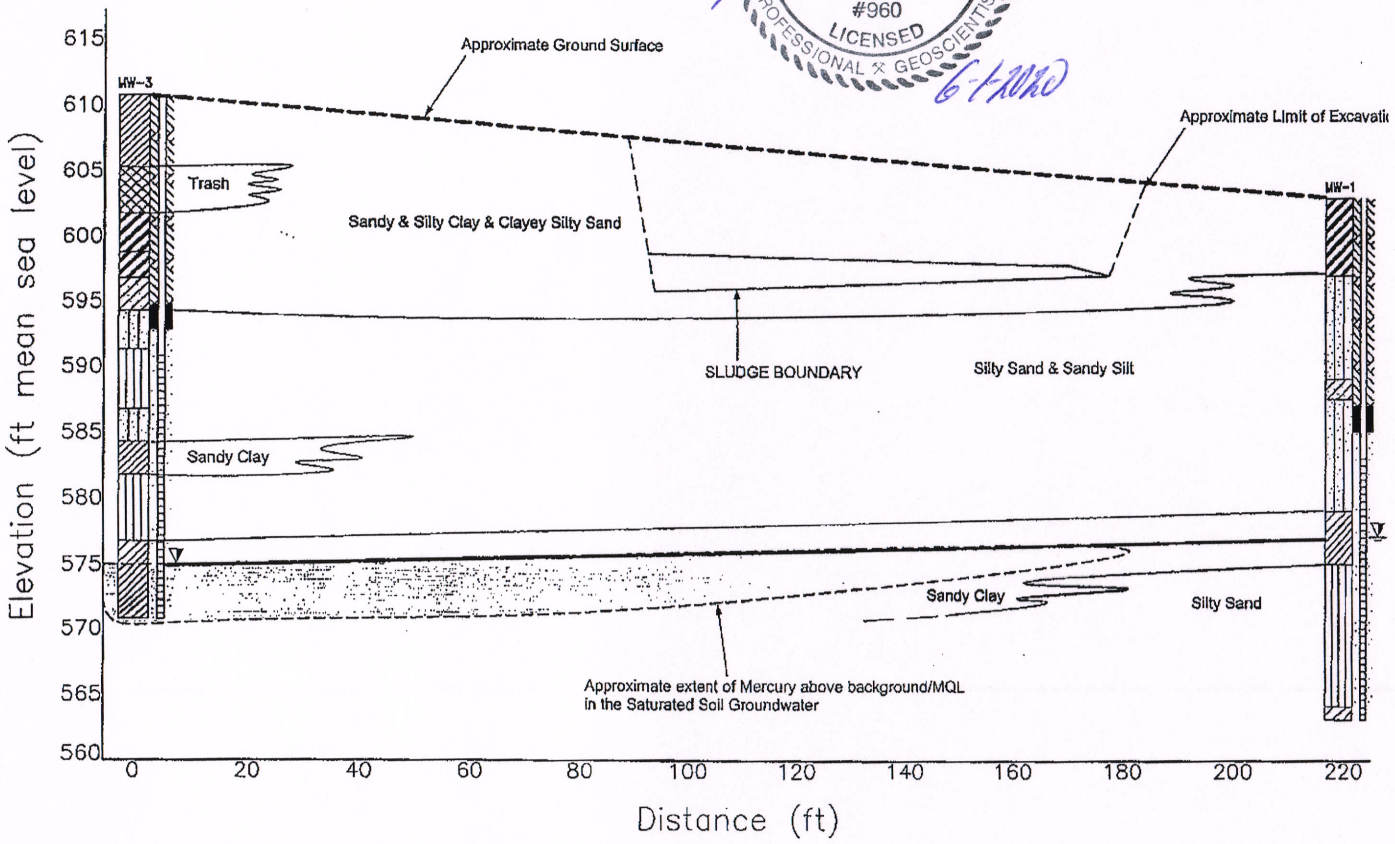
Horiz: 1" = 150' Approx.
Vert: 1" = 20'

Figure V.G-5

PLAN, PROFILE AND SECTIONS
CLASS I HAZARDOUS WASTE DISPOSAL AREA

Landfill
Tyler Pipe
Swan, Texas


STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2010
MW-2
B
EDGE OF CLOSED CELL
MW-5
CLOSED CELL
MW-3
A
MW-1
A'
EDGE OF CLOSED CELL
MW-4
B'
Notes: 1. Monitor well locations approximate.
2. Sources: Whitehead & Mueller, Inc. 2003; ETTL Engineers Correspondence.
The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248
LEGEND:
MONITOR WELL LOCATION
FENCE
LIMITS OF SLUDGE
N
SCALE
30 20 10 0 30 60
FEET
CROSS - SECTION LOCATION MAP
MCWANE INC. FACILITY
SWAN, TEXAS
DATE: January 15, 2007
FILENAME: L:\TX\TylerPipe\APAR\Fig 4C-1.dwg
DRAWN BY: SJW
DRAFTED BY: SJW/TDW
FIGURE:
V.G-6



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2007

Notes: 1. Water levels measured August 18, 2006.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- Sandy Clay
- Silty Clay
- Silty Sand
- Clayey Silty Sand
- Sandy Clayey Silt
- Trash
- Water Table

GEOLOGIC CROSS-SECTION A-A'

SLUDGE DISPOSAL AREA
MCWANE INC. FACILITY
SWAN, TEXAS

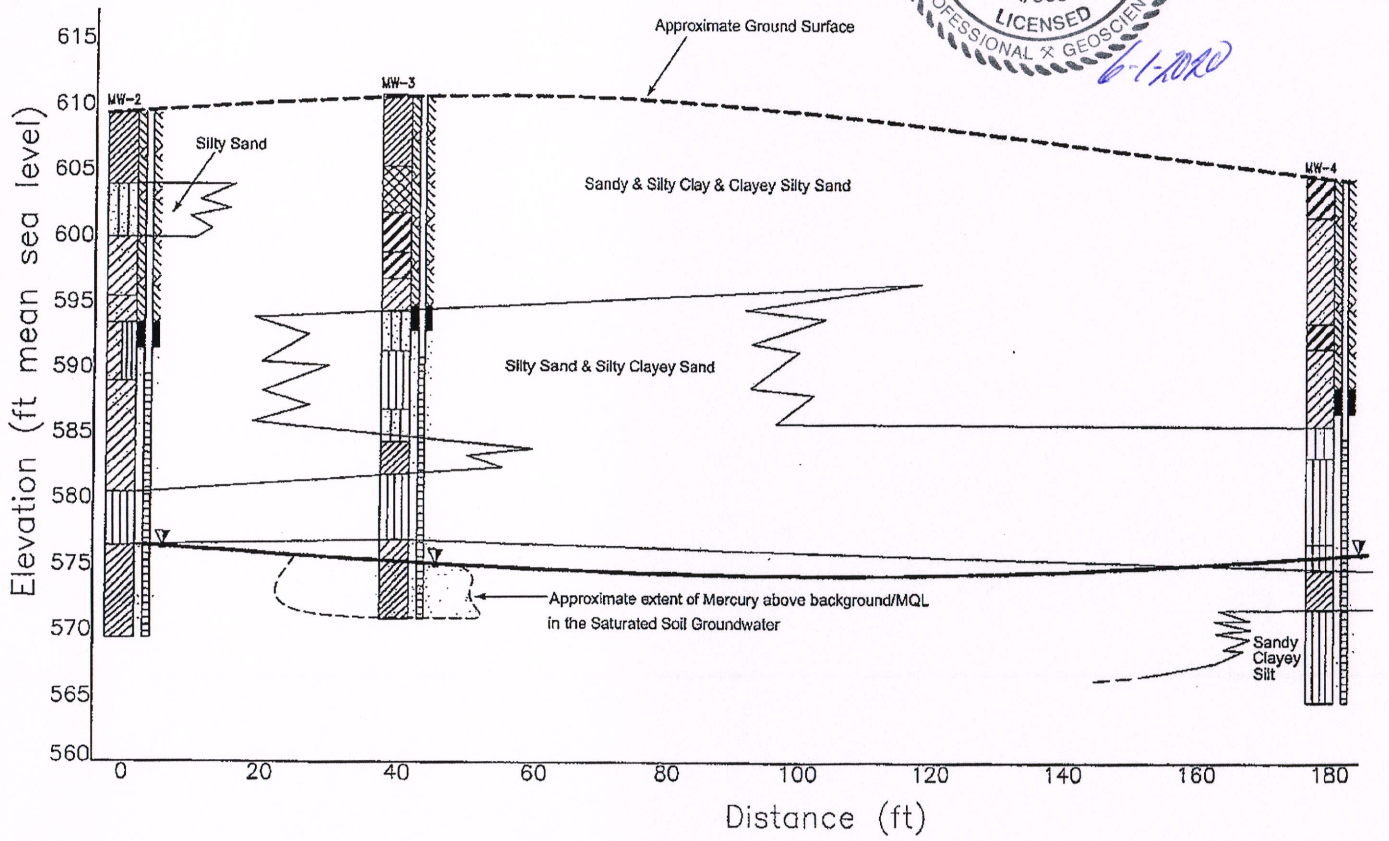
DATE: January 16, 2007

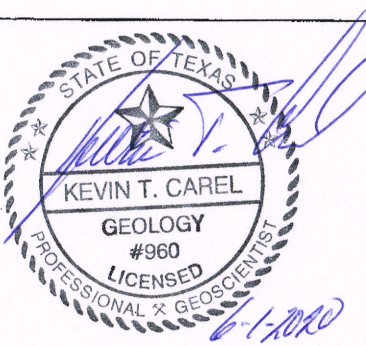
FILENAME: L:\TX\Tyler Pipe\APAR\Fig 4C-2.dwg

DRAWN BY: SJW/KTC

DRAFTED BY: SJW/TDW

FIGURE: V.G-7





Notes: 1. Water levels measured August 18, 2006.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- Sandy Clay
- Silty Clay
- Silty Sand
- Clayey Silty Sand
- Sandy Clayey Silt
- Silty Sand and Clayey Sand
- Water Table

GEOLOGIC CROSS-SECTION B-B'

SLUDGE DISPOSAL AREA
MCWANE INC. FACILITY
SWAN, TEXAS

DATE: January 16, 2007

FILENAME: L:\TX\Tyler Pipe\APAR\Fig A4.dwg

DRAWN BY: SJW/KTC

DRAFTED BY: SJW/TDW

FIGURE: V.G-8

VI. Geology Report

Provide all Part B responsive information in Appendix VI. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

This portion of the application applies to owners or operators of new hazardous waste management facilities; areal and/or capacity expansions of existing hazardous waste management facilities; and existing industrial solid waste facilities that store, process or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles (except those waste piles that meet the requirements of Section V.E.10.b. of this application), and tanks or drip pads which require a contingent post-closure plan.

For a new Compliance Plan or modification/amendment to an existing Compliance Plan of Section XI of this application, submit a Geology Report which contains updated site geologic information derived from on-going investigations since submittal of the last Permit modification/amendment application.

Submit a Geology Report which includes at a minimum the following information. This report and all specifications, details, calculations/estimates and each original sheet of plans, drawings, maps, cross-sections, other graphics, such as limits of contamination maps, etc. or any other geoscientific work must be signed and sealed by a Professional Geoscientist licensed in the State of Texas under the Professional Geoscientists Practice Act.

A. Geology and Topography

1. Active Geologic Processes

Provide a description and interpretation of the active geologic processes in the vicinity of the facility. This description should include:

a. An identification of any faults (active or otherwise) in the area of the facility. The preparer should determine which Holocene sediments or man-made structures have been displaced. The report should contain a description of the investigation techniques used to identify faults and should assess the degree, if any, to which a particular fault increases the long-term potential for waste migration. The clearance required from active faults to ensure that liner systems will not be disrupted will be based upon site specific factors such as the zone of significant surface deformation, uncertainty in locating the fault, activity of the fault, and a distance to provide a reasonable margin of safety. These issues should be addressed when discussing the offset of an industrial solid waste facility unit from an active fault.

To satisfy the requirements of 30 TAC 305.50(a)(4)(D) and 305.50(a)(10)(E), for a proposed hazardous waste management facility or a modification or amendment of a permit which includes a capacity expansion of an existing hazardous waste management facility, submit the following.

(1) A geologic literature review should be conducted, from which useful information on the possibility of faulting at a given site may be revealed. This includes, but is not limited to, maps of surface faults, subsurface structure, and field investigations by the author(s).

(2) Descriptions and maps of faulting, fracturing, and lineations in the area are necessary. An aerial photo with lineation interpretations is suggested.

(3) The maps and cross-sections are to be constructed using an amount of data necessary to adequately describe the geology of the area. Surface data, including data regarding known surface expressions, such as surface faults, gas seeps, lineations, etc., should be accounted for in the subsurface interpretations. A surface structure map should be prepared, incorporating all of the subsurface data as well as known surface features.

(4) A minimum of two structural cross-sections, utilizing available oil field and/or water well electric log data, shall be made perpendicular to each other, crossing at the proposed surface unit location. These cross-sections should define geologic units, indicating especially Holocene sediments and Underground Sources of Drinking Water (USDWs), as well as lithology. The cross-sections should be constructed from the surface, down through the shallowest major structure or the base of the Holocene, whichever is deeper. These cross-sections need to be on a scale necessary to depict the local geology (3000' radius from the site location minimum). If needed to adequately describe the local geology, then a larger radius or deeper area of review may be necessary.

(5) A minimum of two structural subsurface maps need to be prepared. One map should be made on the shallowest mappable subsurface marker, the other on a deeper horizon that shows the underlying major structure. Additional maps may be necessary.

(6) Field surveillance will be necessary to check the area of the facility for surface features, such as lineations, and to investigate potential surface faults as indicated by, but not limited to, aerial photos, topographic maps, and seismic and subsurface structural maps.

(7) The above requirements do not limit the use of any additional information, such as seismic data, isopach maps, or potentiometric maps, that may help in defining the geology of the area of review.

(8) If faulting exists within 3000 feet of the surface unit, it must be demonstrated that the fault has not had displacement within Holocene time. If such a fault does exist, it cannot pass within 200 feet of the surface unit.

(9) If a fault that has been active within the Holocene is located within 3000 feet of the surface unit, it must be demonstrated that, a.) the fault is not transmissive, i.e., it will not provide for groundwater movement that would result in endangerment to human health or the environment, and b.) there is no actual and/or potential problem of subsidence, which could endanger the stability of the surface unit.

b. A discussion of the extent of land surface subsidence in the vicinity of the facility including total recorded subsidence and past and projected rates of subsidence. For facilities located at low elevations along the coast which have experienced appreciable rates of subsidence, the potential for future submergence beneath Gulf water should be addressed.

c. A discussion of the degree to which the facility is subject to erosion. The potential for erosion due to surface water processes such as overland flow, channeling, gullying, and fluvial processes such as meandering streams and undercut banks should be evaluated. If the facility is located in a low-lying coastal area, historical rates of shoreline erosion should also be provided.

d. Complete Table VI.A.1. - Major Geologic Formations

2. **Applicable to Land Based Units Only.** Regional Physiography and Topography (applicable only to owners or operators of facilities that store, process, or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles, except waste piles exempt from groundwater monitoring requirements, and tanks which require a contingent post-closure plan)

    a. Distance and direction to nearest surface water body

    b. Slope of land surface

    c. Direction of slope

    d. Maximum elevation of facility

    e. Minimum elevation of facility

3. **Applicable to Land Based Units Only.** Regional Geology (applicable only to owners or operators of facilities that store, process, or dispose of hazardous waste in surface impoundments, landfills, land treatment units, waste piles, except waste piles exempt from groundwater monitoring requirements, and tanks which require a contingent post-closure plan)

    Provide a description of the regional geology of the area. This section should include:

    a. A geologic map of the region with text describing the stratigraphic and lithologic properties of the map units. An appropriate section of a published map series such as the Geologic Atlas of Texas prepared by the Bureau of Economic Geology is acceptable.

    b. A description of the generalized stratigraphic column in the facility area from the base of the lowermost aquifer capable of providing usable groundwater to the land surface. At least the uppermost 1,000 feet of section below the facility should be described. The geologic age, lithology, variation in lithology, thickness, depth, geometry, hydraulic conductivity, and depositional history of each geologic unit should be described based upon available geologic information. Regional stratigraphic cross sections should be provided, where available.

4. Subsurface Soils Investigation Report **(Applicable to land based units or units requiring contingent closure and post-closure).**

This section should contain the results of an investigation of subsurface conditions for each land based unit and/or unit which requires contingent closure and post-closure care. If several units are in close proximity, a single investigation for the area will suffice. This report should include:

a. The logs of borings performed at the waste management area. All borings must be conducted in accordance with established field exploration methods. Investigation procedures should be discussed in the report. A sufficient number of borings should be performed to establish subsurface stratigraphy and to identify and allow assessment of potential pathways for pollution migration. Borings must be sufficiently deep to allow identification of the uppermost aquifer and underlying hydraulically interconnected aquifers. Borings should penetrate through the uppermost aquifer and all deeper hydraulically interconnected aquifers, deep enough to identify the aquiclude at the lower boundary. Borings should be completed to a depth at least 30 feet below the deepest excavation planned at the waste management area.

b. A text which describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation. If appropriate, soils may be assigned to generalized strata to aid in the discussion.

c. A text which describes the investigator's interpretations of the subsurface stratigraphy based upon the field investigation. If appropriate, soils may be assigned to generalized strata to aid in the discussion.

d. Complete Table VI.A.4. - Waste Management Area Subsurface Conditions and provide in the report data which describes the geotechnical properties of the subsurface soil materials. All laboratory and field tests must be performed in accordance with recognized procedures. A brief discussion of test procedures should be included. All major strata encountered during the field investigation phase should be characterized with regard to: Unified Soil Classification, moisture content, percent less than number 200 sieve, Atterberg limits (liquid limit, plastic limit, and plasticity index), and coefficient of permeability. Field permeability tests should be used to determine the coefficient of permeability of sand or silt units and should also be used to supplement laboratory tests for more clay-rich soils. In addition, particle size distribution and relative density based upon penetration resistance should be determined for coarse-grained soils. For fine-grained soils the following parameters should also be determined: cohesive shear strength based upon either penetrometer or unconfined compression tests, dry unit weight, and degree of saturation(s). For the major soil strata encountered, the maximum, minimum, and average for each of these variables should be compiled.

e. For land treatment units, provide a description of the surficial soils at the site which includes:

(1) The name and description of the soil series at the site;
(2) Important physical properties of the series such as depth, permeability, available water capacity, soil pH, and erosion factors;
(3) Engineering properties and classifications such as USDA texture, Unified Soil Classification, size gradation, and Atterberg limits (liquid limit, plastic limit, and plasticity index); and
(4) The cation exchange capacity (CEC) of the soil(s) expressed in units of meq/100g.

Much of this information may be obtained by consulting the county soil survey published by the United States Department of Agriculture, Soil Conservation Service. If available, a copy of an aerial photograph showing soil series units on the land treatment area should be provided.

If an aerial photograph is not available, include a soil series map as an attachment to this subsurface soils investigation report.

B. Facility Groundwater

If past monitoring has shown the presence of hazardous constituents in the groundwater, the owner or operator must submit a Compliance Plan Application with this application. The Compliance Plan Application and instructions can be found in Section XI of this application form.

1. Regional Aquifers

Provide a description of the regional aquifers in the vicinity of the facility based upon available geologic references. The section should provide:

a. Aquifer names and their association with geologic units described in Section VI.A.3.b.;

b. A description of the constituent materials of the aquifer(s);

c. A description of the water-bearing and transmitting properties of the aquifer(s);

d. Whether the aquifers are under water table or artesian conditions;

e. Whether the aquifers are hydraulically connected;

f. A regional water table contour map or potentiometric surface map for each aquifer, if available, from published references;

g. An estimate of the rate of groundwater flow in units of ft/yr;

h. Values for total dissolved solids content of groundwater from the aquifers;

i. Identification of areas of recharge to the aquifers; and

Note: An application for a new hazardous waste surface impoundment, waste pile, land treatment unit, or landfill, which is to be located in the apparent recharge zone of a major or minor aquifer, as designated by the Texas Water Development Board, must include a hydrogeologic report documenting the potential effects, if any, on the regional aquifer in the event of a release from the waste containment system. See the publication entitled Water for Texas, Today and Tomorrow (1990) or subsequent revision (Available at http://www.twdb.texas.gov/waterplanning/swp/1990/index.asp) for more information [30 TAC 305.50(6)]

j. The present use of groundwater withdrawn from aquifers in the vicinity of the facility.

The preparer should update Section III.C.1.e. of the Part A permit application to ensure that all water wells within 1 mile of the property boundaries of the facility have been located. The aquifer(s) yielding water should be identified for each well.

2. Provide groundwater conditions for each land based unit or unit which requires post closure care which includes all the information specified in 30 TAC 335.156-335.167. This discussion should also include:

   a. Records of water level measurements in borings. The boring logs prepared in response to Section VI.A.4.a. should be annotated to note the level at which groundwater is first encountered and the level of groundwater after equilibration. Normally a 24-hour period is adequate for equilibration of groundwater but an extended period may be required for saturated clay deposits. This information should also be presented on the cross-sections required in Section VI.A.4.b. and recorded and retained in the facility groundwater monitoring record.

   b. Records of historical maximum and minimum static water level measurements in monitor wells. Historic water level measurements made during any previous groundwater monitoring should be presented in a table for each well.

   c. Upper and lower limits of the uppermost aquifer and deeper aquifers which are hydraulically interconnected to it beneath the facility boundary. In most cases this identification would include surface contour maps of the top and bottom surfaces. Indicate the typical depth at which groundwater is first encountered.

   d. A site specific water table contour map or potentiometric surface map for the uppermost aquifer, and the basis for such identification (the information obtained from hydrogeologic investigations of the facility area). The predicted groundwater flow direction and rate should be indicated.

   e. A discussion of the variation of hydraulic gradient across the site, including vertical gradient. Calculations for the maximum, minimum, and average groundwater flow velocities for each aquifer identified should also be provided, including pump test data where appropriate.

   f. An analysis of the most likely pathway(s) for pollutant migration in the event that the primary barrier liner system is penetrated.

3. Description of the Detection Monitoring Program

It is important to note that even if the proposed program may use the same well system as the present program, the sampling parameters may be different.

a. Include in the design report a description of the proposed detection monitoring program. This description should contain all requirements of 30 TAC 335.163-335.164.

b. Provide a justification for the selected suite of waste specific parameters specified in Table VI.B.3.c. - Groundwater Sample Analysis based on toxicity, mobility, persistence, and concentrations in light and dense non-aqueous phase components of the waste.

c. (Sampling and Analysis Plan) Describe the proposed sampling and analysis methods, as well as statistical comparison procedures to be utilized in evaluating groundwater monitoring data. Note: Methods listed for use in groundwater programs may provide flexibility allowing for updates of the base method. For methods other than the standard acceptable methods, applicant must provide a demonstration that the proposed methods are appropriate for groundwater analysis per 30 TAC 335.163(5).

d. Specify the statistical method and process for determining whether constituent concentrations in groundwater are above background, in accordance with 30 TAC 335.163. Refer to the EPA guidance document entitled Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Unified Guidance (March 2009) (document # EPA 530-F-09-020) for recommended methods.

   All data submitted to the TCEQ shall be in a manner consistent with the latest version of the "*Quality Assurance Project Plan for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation Recovery Act and Underground Injection Control*" (TCEQ QAPP) which a can be found on the agency's website.

   Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity. The method used to obtain a representative sample of the material to be analyzed shall be the appropriate method from ***Ground Water, Volume II: Methodology***, (document # EPA/625/6-90/016b) or an equivalent method approved by the Executive Director of the TCEQ. Laboratory methods shall be those specified in ***Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846***, 1987, as revised; ***Standard Methods for the Examination of Water and Wastewater, Fifteenth Edition***, 1980, and 1981 supplement, or current adopted edition; ***RCRA Ground-Water Monitoring: Draft Technical Guidance***, 1992, ***OSWER Directive 9950.1***, or an equivalent method approved in writing prior to use by the Executive Director. [30 TAC Section 305.125(11)(A)]

e. For inclusion into a permit, complete Table VI.B.3.b. - Unit Groundwater Detection Monitoring System to specify the proposed well system for each unit or waste management area which requires groundwater monitoring.

f. For inclusion into a permit, complete Table VI.B.3.c to specify:

(1) the suite of waste specific parameters (indicator parameters, waste constituents, or reaction products) which will be analyzed at each sampling event for each well or group of wells. These parameters must provide a reliable indication of the presence of hazardous constituents in the groundwater;

(2) the sampling frequencies and calendar intervals (e.g., monthly; quarterly within the second 30 days of each quarter; semiannually within the first 30 days of the 2nd and 4th quarters, etc.);

(3) the analytical method and the laboratory predicted detection limit and predicted Practical Quantification Limit (PQL) of the sample preparation and analysis methods for the selected parameters. This detection limit will represent the capability of the sampling and analysis to reliably and accurately determine the presence of the selected parameters in the sample; and

(4) the concentration limit which will be the basis for determining whether a release has occurred from the waste management unit/ area. Concentration limits shall be based on background values for the waste management unit/area, or PQL values developed through laboratory data obtained using practices consistent with the latest version of the TCEQ QAPP. If background values are lower than PQLs, the applicant may choose respective PQLs as concentration limits for hazardous constituents.

g. Submit drawings depicting the monitoring well design, current and proposed.

h. Submit at least one map of the entire facility and additional maps or drawings if necessary on one or more 8.5" x 11" sheets of sufficient scale to show the following in adequate detail:
   (1) Monitoring well locations, current and proposed;
   (2) Soil-pore liquid and core sampling points, current and proposed;
   (3) Waste management unit(s)/area;
   (4) Property boundary;
   (5) Point of compliance;
   (6) Direction of groundwater flow; and
   (7) Extent of any known plume of contamination

i. For the description of site-specific groundwater for inclusion in permit summary documents, please complete the following brief description:

   Groundwater is typically encountered approximately *[###]* feet below grade (*[###]* feet *[above/below]* Mean Sea Level) in the uppermost aquifer. The uppermost aquifer is part of the *[Name]* Formation and consists of *[brief lithological description]* ranging in thickness from *[### to ###]* feet. Groundwater flow is generally toward the *[north/east/south/west].*

C. Exemption from Groundwater Monitoring for an Entire Facility

In accordance with 30 TAC 335.156(b)(4), a waste management facility may be exempt from groundwater monitoring if the owner or operator can demonstrate that there is no potential for migration of liquid from any regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and post-

closure care period. This demonstration must be submitted with the permit application, and must be certified by a qualified geologist or geotechnical engineer.

This exemption does not apply to Unsaturated Zone Monitoring. Owners and operators of Land Treatment Units must monitor the unsaturated zone under all circumstances.

The following areas should be addressed in the demonstration, and any predictions must be made on assumptions that maximize the rate of liquid migration:

1. Thickness of soil between the base of the unit and saturated zone;
2. Thickness of saturated zone;
3. Head pressure of the fluids;
4. Properties of the saturated and unsaturated zone (including permeability, effective porosity, and homogeneity), and
5. Total life of facility

The criteria used for the evaluation of this demonstration are more stringent than those used for evaluations of demonstrations submitted prior to permitting. Thus it is necessary for an owner or operator to submit another demonstration even if one was submitted and approved previously.

This type of exemption differs from the exemptions described in Sections V.D. (Surface Impoundments), V.E. (Waste Piles), and V.G. (Landfills). An owner or operator may pursue a facility-wide exemption as well as an exemption for a particular unit, if the owner or operator wishes.

D. Unsaturated Zone Monitoring -RESERVED

Table VI.A.1. - Major Geologic Formations

Names Of Major Geologic Formation(s) Beneath The Facility	Lithology Of The Major Geologic Formation	Formation Thickness (Feet)	Depth To Top Of Formation	
			Feet/MSL(1)	Feet/BGS(2)
Sparta Formation	Sand and shale	60	600	0
Weches Formation	Shale at base, sandstone on top	70	540	60
Queen City Sand	Sand, sandstone, and some sandy shale	0 to 700	varies (minimum 470)	varies (minimum 130)
Reklaw Formation	Shale and clay	55 to 110	varies (minimum 470)	varies (minimum 130)
Carrizo Formation	Sand	40 to 225	varies (minimum 415)	varies (minimum 185)
Wilcox Group	Sand	755 to 1,320	varies (minimum 375)	varies (minimum 225)
Midway Group	Shales, clays, and silts	100	varies (minimum -380)	varies (minimum 980)

(1) MSL: Mean Sea Level

MLGL: Mean Low-tide Gulf Level

(2) BGS: Below Grade Surface

Table VI.A.4 - Waste Management Area Subsurface Conditions

Boring Number	Depth Below Grade	Stratum	USC Symbol	Liquid Limit*	Plasticity Index*	Percent Passing#200 Sieve	Permeability*	Percent Porosity*
CB-1	0-4'	Sparta Formation	SC	24.1	7.5	35.1		
CB-1	7-7'	Sparta Formation	CL	28.8	13.4	67.6		
CB-1	8-10'	Sparta Formation	CL				1.31 x 10-7	
CB-1	13-15'	Sparta Formation	SM-SC	24.5	5.4	14.2		
CB-1	23-30'	Sparta Formation	SM-SC	24.3	5.0	14.7		
CB-2	8-10'	Sparta Formation	SC				2.15 x 10-6	
CB-2	30-32'	Sparta Formation	SC	28.2	11.2	42.4		
CB-2	32-37'	Sparta Formation	CL	34.9	20.2	74.1		
CB-2	37-40'	Sparta Formation	CL	27.0	8.6	54.1		
CB-3	7-17'	Sparta Formation	SM-SC	26.4	5.0	41.0		
CB-3	17-27'	Sparta Formation	CL	46.3	23.4	72.8		
CB-3	23-25'	Sparta Formation					2.13 x 10-8	
MW-2	25.3'	Sparta Formation		40.6	14.8		1.70 x 10-6	

Boring Number	Depth Below Grade	Stratum	USC Symbol	Liquid Limit*	Plasticity Index*	Percent Passing#200 Sieve	Permeability*	Percent Porosity*
MW-3	--	Sparta Formation				60		
B-5	22'	Soil Zone	CL	51	29	56		

Maximum depth: 40 feet below grade
feet above MSL

*For the major soil strata encountered, record the minimum, maximum, and average values of these parameters as applicable.

Table VI.B.3.b. - Unit Groundwater Detection Monitoring Systems

Waste Management Unit/Area Name[1]				
Well Number(s)	1D	2D-A	2D-B	3D-A
Hydrogeologic Unit Monitored	Sparta "I"	Sparta "I"	Sparta "I"	Sparta "I"
Type (e.g., point of compliance, background, observation, etc.)	POC	POC	POC	POC
Up or Down Gradient	Down	Down	Down	Down
Casing Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC
Screen Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC
Screen Slot Size (in.)	0.010	0.010	0.010	0.010
Top of Casing Elevation (Ft, MLGL or MSL)	534.41	528.46	528.78	527.55
Grade or Surface Elevation (Ft, MLGL or MSL)	531.85	526.51	526.46	525.49
Well Depth (Ft, Below Grade Surface *[BGS]*)	22.07	14.89	24.26	9.58
Well Depth (Ft, Below Top of Casing *[BTOC]*)				
Screen Interval				
From(Ft, BGS)	10.07	8.89	13.26	4.0
To(Ft, BGS)	20.07	13.89	23.26	9.0
Screen Interval				
From(Ft, BGS)				
To(Ft, BGS)				
Facility Coordinates (e.g., lat./long. or company coordinates)	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"

Waste Management Unit/Area Name[1]				
Well Number(s)	3D-B	3D-C	4U-A	4U-B

Hydrogeologic Unit Monitored	Sparta "I"	Sparta "I"	Sparta "I"	Sparta "I"
Type (e.g., point of compliance, background, observation, etc.)	POC	POC	Background	Background
Up or Down Gradient	Down	Down	Up	Up
Casing Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC
Screen Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC
Screen Slot Size (in.)	0.010	0.010	0.010	0.010
Top of Casing Elevation (Ft, MLGL or MSL)	528.11	528.35	570.80	572.25
Grade or Surface Elevation (Ft, MLGL or MSL)	525.75	526.24	568.58	570.13
Well Depth (Ft, Below Grade Surface *[BGS]*)	19.31	29.48	41.00	51.26
Well Depth (Ft, Below Top of Casing *[BTOC]*)				
Screen Interval				
From(Ft, BGS)	8.31	18.48	30.00	40.26
To(Ft, BGS)	18.31	28.48	40.00	50.26
Screen Interval				
From(Ft, BGS)				
To(Ft, BGS)				
Facility Coordinates (e.g., lat./long. or company coordinates)	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"

Waste Management Unit/Area Name[1]				
Well Number(s)	4U-C	4U-D	5U-A	5U-B
Hydrogeologic Unit Monitored	Sparta "I"	Sparta "I"	Sparta "I"	Sparta "I"
Type (e.g., point of compliance, background, observation, etc.)	Background	Background	Background	Background
Up or Down Gradient	Up	Up	Up	Up

Casing Diameter and Material	2" PVC	2" PVC	2" PVC	2" PVC
Screen Diameter and Material	2" PV	2" PVC	2" PVC	2" PVC
Screen Slot Size (in.)	0.010	0.010	0.010	0.010
Top of Casing Elevation (Ft, MLGL or MSL)	573.43	574.40	578.18	578.97
Grade or Surface Elevation (Ft, MLGL or MSL)	571.26	571.97	575.83	576.70
Well Depth (Ft, Below Grade Surface *[BGS]*)	60.63	68.20	36.52	49.39
Well Depth (Ft, Below Top of Casing *[BTOC]*)				
Screen Interval				
From(Ft, BGS)	49.63	57.20	25.52	38.36
To(Ft, BGS)	59.63	67.20	35.52	48.36
Screen Interval				
From(Ft, BGS)				
To(Ft, BGS)				
Facility Coordinates (e.g., lat./long. or company coordinates)	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"

Waste Management Unit/Area Name[1]				
Well Number(s)	5U-C	MW-20	MW-21	
Hydrogeologic Unit Monitored	Sparta "I"	Sparta "I"	Sparta "I"	
Type (e.g., point of compliance, background, observation, etc.)	Background	POC	POC	
Up or Down Gradient	Up	Down	Down	
Casing Diameter and Material	2" PVC	2" PVC	2" PVC	
Screen Diameter and Material	2" PVC	2" PVC	2" PVC	
Screen Slot Size (in.)	0.010	0.010	0.010	

Top of Casing Elevation (Ft, MLGL or MSL)	579.83	547.09	530.00	
Grade or Surface Elevation (Ft, MLGL or MSL)	577.71	545.57	528.64	
Well Depth (Ft, Below Grade Surface *[BGS]*)	58.03	42.00	21.60	
Well Depth (Ft, Below Top of Casing *[BTOC]*)				
Screen Interval				
From(Ft, BGS)	47.03	27.00	11.60	
To(Ft, BGS)	57.03	42.00	21.60	
Screen Interval				
From(Ft, BGS)				
To(Ft, BGS)				
Facility Coordinates (e.g., lat./long. or company coordinates)	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"	95D 22' 45"/ 32D 26' 10"	

[1]From Tables in Section V.
MSL: Mean Sea Level; *MLGL*: Mean Low-tide Gulf Level; *BGS*: Below Grade Surface; *BTOC*: Below Top of Casing

Table VI.B.3.c. - Groundwater Detection Monitoring Parameters

Unit/Waste Management Area Landfill (NOR Unit No. 001)

Well No(s): 1D, 2D-A, 2D-B, 3D-A, 3D-B, 3D-C, 4U-A, 4U-B, 4U-C, 4U-D, 5U-A, 5U-B, 5U-C, MW-20, MW-21

Parameter	Sampling Frequency	Analytical Method	Method Detection Limit (MDL) or Method Quantification Limit (MQL) Value, (units), MDL or MQL[2]	Concentration Limit[1]
Cadmium	semi-annual	SW846 Method 6010 SW846 Method 6020 EPA Method 200.7 EPA Method 200.8	0.0002 mg/L	14.1 mg/L
Chromium	semi-annual	SW846 Method 6010 SW846 Method 6020 EPA Method 200.7 EPA Method 200.8	0.002 mg/L	10.6 mg/L
Lead	semi-annual	SW846 Method 6010 SW846 Method 6020 EPA Method 200.7 EPA Method 200.8	0.001 mg/L	29.1 mg/L
Zinc	semi-annual	SW846 Method 6010 SW846 Method 6020 EPA Method 200.7 EPA Method 200.8	0.003 mg/L	510 mg/L
pH	semi-annual	measured in field	not applicable	<3.1 or >5.7
Specific conductance	semi-annual	measured in field	not applicable	598.6

1. The concentration limit is the basis for determining whether a release has occurred from the waste management unit/area.
2. a. Enter the laboratory expected *Method Detection Limit* if determination of *Statistically Significant Increase* (SSI) occurrence is based on detection of the presence of the constituent of concern in the sample.
3. b. Enter the laboratory expected Method Quantification Limit if determination of SSI is based on statistical analysis of detection monitoring data or direct comparison to a limit value.

This should be based on the laboratory's minimum expected level of performance. Please designate which type of limit has been entered for each constituent, with its value and units.

Appendix VI.A.

Geology and Topography

PROFESSIONAL GEOLOGIST CERTIFICATION STATEMENT

Geology and Topography Report (Appendix VI.A)
Tyler Pipe Permit Renewal Application

General Site Information

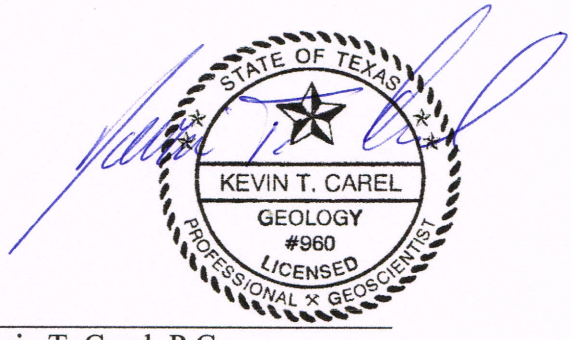
Facility: McWane, Inc. (Tyler Pipe Company)

Site Location: 11910 County Road 492, Tyler, Texas 75706

TCEQ Registration No.: 30140

Professional Geologist Certification Statement

I, Kevin T. Carel, am a licensed professional geoscientist in the State of Texas (license number 960) and a qualified groundwater scientist as defined in 30 TAC §330.3. I have reviewed the Geology and Topography Report (which was originally prepared by others) and supporting data contained herein. Where necessary, I have updated the report to correct errors and make it current as of the date of my signature below. The only warranty made by me in connection with this document is that I have used that degree of care and skill ordinarily exercised under similar conditions by reputable members of my profession, practicing in the same or similar locality. No other warranty, expressed nor implied, is intended.



Signature: _____

Kevin T. Carel, P.G.
No. 960-Texas

Date: _____

Firm/Address: The Carel Corporation
136 Pecan Street
Keller, Texas 76248
Texas Geoscience Firm # 50137

Professional Geologist Certification Disclaimer

Geology and Topography Report (Appendix VI.A.)

Permit Renewal Application
McWane, Inc. (Tyler Pipe Company) - Tyler, Texas
July 2009

The *Geology and Topography Report* presented herein was compiled from information and drawings developed by others and previously provided to and approved by the Texas Commission on Environmental Quality (TCEQ) and/or its predecessor agency, the Texas Natural Resource Conservation Commission (TNRCC) within various assessment reports, permit renewal applications, and permit modification requests. Whereas RMT, Inc. contributed to the development and compilation of the descriptive text (which was conducted under my supervision), none of the included drawings was originally developed by RMT, Inc. As such, the professional geologist certification provided herein is exclusive of any of the figures presented.

Laurence R. Lew, P.G.
Senior Consultant
RMT, Inc.

Appendix VI.A.
Geology and Topography

A discussion of the geological and topographic features that characterize the area in the vicinity of the Tyler Pipe facility is presented herein.

1. Active Geologic Processes

The major geologic structure present in the region of the facility is the Tyler Basin, which is a trough-like depression trending north-northeast and centered near Tyler. This synclinical structure, which opens to the south, is bounded by the Mount Enterprise Fault Zone, which extends from Shelby County to about 30 miles south of Tyler in Anderson County. It is characterized by piercement salt domes throughout the central part of the basin. In the vicinity of Lindale, two northeast trending, parallel faults form a graben, and about 8 miles north of Tyler, a third fault trends north-northeast into Wood County (SCS, 1993).

This permit renewal application does not include a capacity expansion, and therefore, no additional investigation into fault systems in the area of the facility was conducted.

2. Regional Physiography and Topography

Smith County is located in the northwestern portion of the West Gulf Coast Plain physiographic province. The surface topography is characterized as gently rolling with areas of locally rough terrain (SCS, 1993). The site is located in an upland region and is not subjected to excessive erosion such as overland flow, channel, or gullying.

No surface water bodies exist on the property. A major drainage divide, trending northwest to southeast just north of Tyler, creates predominantly northeastward drainage of surface water from the main Tyler Pipe plant area into the headwaters of Little Saline creek, with flow toward the Sabine River (***Figure VI.A-1***). Chinquapin Creek, which flows southwestward into the Neches River, receives all of the surface drainage from the solid waste landfill area due to its location south of the drainage divide. The landfill is located immediately adjacent to an intermittent tributary to Chinquapin Creek and the sludge disposal area (SDA) is located approximately 730 feet south of Chinquapin Creek. In addition, the landfill is located approximately 3,750 feet north of Swan Lake.

The location of the landfill is identified on ***Figure VI.A-1*** and the location of the SDA is identified on ***Figure VI.A-2***. The landfill has been diked and constructed with very little excavation of the original topography, which had a pre-landfill slope of 5 to 10 percent to the west. The slope of the SDA cap is essentially flat - 5% based upon a facility-wide topographic map (EMCON, 1997) and the direction of the slope is to the west and north.

The minimum and maximum surface elevation of the SDA is 605 feet above mean sea level (MSL) and 608 feet above MSL, respectively.

3. Regional Geology

The regional structural features of the area affect deposition of sediments and thus the occurrence and movement of groundwater. These regional structural features, shown in ***Figure VI.A-3***, also determine the areas of recharge of the regional aquifers. Smith County lies within the Gulf of Mexico basin. Within this basin are three structural embayments perpendicular to the coast. Smith County is located within the East Texas embayment. This embayment is separated into northern and southern subdivisions by the Mount Enterprise fault system. The area between the Mount Enterprise system and the Mexia-Talco fault zone to the north is called the Tyler Basin. The Tyler Basin is bounded on the east by the Sabine Uplift and on the west by the contact between sediments of the Eocene and Cretaceous ages.

The structure of the Tyler Basin has been altered by the piercing and doming of the sediments caused by upward movement of salt domes as the salt flowed under the pressure of overlying sediments and structural movement. This movement of salt and the formation of structural lows, domes, and ridges has controlled the deposition of sediments in Smith County throughout Cretaceous and Tertiary times. ***Figure VI.A-4***, a structure map drawn on the base of the Wilcox Group, shows the structural features of the county. ***Figure VI.A-5*** presents a structure map on the base of the Sparta Formation. The domes and faults visible on the Wilcox Group structure map are not as evident on the Sparta Formation structure map, indicating the structures have not been active in recent time.

Figure VI.A-6 is a generalized geologic map of the area and shows the surficial outcrops of the water-bearing strata. Although sediments as old as the Jurassic have been encountered in Smith County, the discussion below of formations is limited to the Eocene and to younger sediments because no fresh water is found in older formations. ***Figure VI.A-7*** is a stratigraphic-hydrologic correlation chart which shows the approximate depth of each freshwater-bearing formation beneath the plant. ***Figure VI.A-8A*** (Smith County) is a regional geologic cross section that shows the orientation and dip of the water-bearing formations across the basin from west to east. A description of the subsurface strata is presented below:

- **Midway Group**

  The Midway Group, the oldest Eocene rocks and therefore the lowermost in the sections, consists of marine shales, clays, and silts which were deposited unconformably on the underlying Cretaceous sediments. These sediments are relatively impermeable and do not transmit usable amounts of fresh water. They act as a lower boundary to the freshwater strata of the area and are found at a depth of approximately 1,700 to 1,800 feet beneath the plant area.

- **Wilcox Group**

  The Wilcox Group crops out in counties adjoining Smith County to both the east and west. The lithology is variable but consists primarily of a white to gray, medium- to fine-grained, loose, poorly cemented quartz sand. The upper part of this group contains stringers of lignite from 1 to 10 feet thick. In general, the upper Wilcox has a higher proportion of sand, and the lower Wilcox has more clay and shale. The thickness ranges from 755 feet to over 1,322 feet in Smith County, averaging about 900 feet. The Wilcox has been affected more lithologically and structurally by the formation of salt domes than by the younger units. The greatest thickness of Wilcox is found in structural basins and generally accompanies an increase in net sand thickness. In the plant area, the Wilcox occurs in the subsurface interval from 900 to 1,700 feet. Approximately 40 percent of the Wilcox is sand and 60 percent sandy clay. These sediments represent swampy to lagoonal to deltaic deposition in a near shore marine environment, deposited conformably over the Midway Group.

- **Carrizo Formation**

  The Carrizo unconformably overlies the Wilcox and is the oldest outcropping formation in Smith County except for two Cretaceous Age blocks, located in the northwest corner of the county, which were thrust to the surface by salt movement. At the surface, the Carrizo consists of thin, narrow bands in the northwest and southeast parts of the county and forms loose, deep sandy soils. Ninety-five percent of the Carrizo is a uniform, white to gray, fine- to medium-grained, clean, very porous, loose quartz sand grading upwards to a more silty sand at the top. The lithologic similarities between the Carrizo and the upper Wi1cox make it difficult to distinguish between the two in the subsurface. The Carrizo sands are generally coarser grained and better sorted than the Wilcox. The contact between the Carrizo and the Wilcox suggests an abrupt change in sedimentation. The Carrizo was laid down by heavily loaded streams building broad alluvial deposits on a flat coastal plain. The formation ranges in thickness from 40 to 225 feet, with an average thickness of 100 feet, and occurs from 700 to 900 feet beneath the plant. The Carrizo is thickest and sandiest on the south, southeast, and east flanks of the structural lows surrounding salt domes and in the broad, flat areas of eastern Smith County.

- **Reklaw Formation**

  The Reklaw conformably overlies the Carrizo and crops out in northwestern and southeastern Smith County. The formation consists mainly of black to chocolate brown, silty carbonaceous shale or clay and of gray to green, very fine to fine-grained, poorly bedded, glauconitic and quartzitic sandstone. The total thickness ranges from 55 to 100 feet but averages 70 feet in the county. The Reklaw was deposited in a shallow-water, brackish marine environment as the sea advanced over the more

continental Carrizo sediments. The formation is found from 640 to 700 feet beneath the plant area.

- **Queen City Formation**

  The Queen City crops out in over 75 percent of the county. The formation consists of a basal, loose, gray to brown, porous, medium- to fine-grained, silty to shaly quartz sand; a middle, soft, coherent, dark, olive green glauconitic sandstone; and an upper, soft, massive, cross-bedded, fine-grained, muscovitic quartz sand with lenses of sandy shale, iron-stained sandstone,· and lignite stringers. The thickness ranges from 0 to over 700 feet and averages 55 percent sand. The Queen City primarily represents a nearshore continental environment of swamps and lagoons, with some offshore deposits as well. The formation occurs from 300 to 640 feet in the subsurface.

- **Weches Formation**

  The Weches Formation, which forms an unconformable contact with the underlying Queen City, crops out as a thin belt in the county. Because it is highly resistant to erosion, the formation forms small, easily recognizable escarpments. The lithology is highly variable but generally is a black to brown massive shale at the base, with a green to brown, hard, glauconitic sandstone layer at the top. The thickness averages 70 feet, with the glauconitic layer making up a few feet to 10 feet of the total thickness. These sediments were deposited in a brackish marine environment and are found from 260 to 300 feet below the surface.

- **Sparta Formation**

  The Tyler Pipe plant lies within the outcrop area of the Sparta Formation. The lithology of the Sparta consists of mottled reddish-gray to white, loose, coarse- to fine-grained quartz sand with interfingering blue and gray shale layers. The thickness ranges from 0 at the basal outcrop to nearly 280 feet at Tyler and averages 70 percent sand. (See ***Figure VI.A-5*** for basal structure/map). The Sparta sands were deposited in a continental, near-shore environment and are found from the surface down to 260 feet in the area. The upper Sparta contains a unit known locally as the Tyler Greensand. This unit is a highly glauconitic sandstone which oxidizes to a rusty, reddish-brown color and has a maximum thickness of 60 feet. The Greensand was deposited in a brackish marine environment and may represent an unconformity between it and the Sparta.

4. Subsurface Soils Investigation Report

Several subsurface soil investigations have been conducted at the facility – at both the landfill and the SDA.

- **Landfill**

From September 22 through September 30, 1981, Underground Resource Management installed monitor wells 1 through 4, and logged the respective borings at the solid waste landfill. Six additional wells (MW-20, MW-21, MW-30D, MW-31D, MW-32D, and MW-33A) were installed sometime after the first investigation. In April 1996, MW-l, MW-2, MW-3, MW-4, and MW-33A were plugged and abandoned. During the same field effort, a total of thirteen replacement monitoring wells (MW-1D, MW-2D-A, B, MW-3D-A, B, C, MW-4U-A, B, C, D, and MW-5U-A, B, C) were installed. The locations of the wells are identified on ***Figure VI.A-9***. Monitor well installation diagrams and boring logs are provided in ***Attachment VI.A-1***.

– *Initial Monitoring Well Installation*

The majority of soils encountered during the investigations conducted at the landfill were sandy with a small proportion of silt and clay. Relatively discontinuous layers of silt and sandy or silty clay frequently occur in the lower portions of the borings, beginning around 10 to 20 feet in depth. Occasionally the near surface soils were low- to high-plasticity clays.

The sandy materials, silty sands, and clayey sands) above the 10- to 20-foot depth interval are generally moderately loose to medium.-density sands, with liquid limits typically from 24.1 t0 28.2 and plasticity indices ranging 5 to 11.2. The coefficient of permeability for material tested is greater than 10^{-6} cm/sec.

The limited number of clays encountered in this near-surface interval are relatively soft (firm to stiff), with cohesion values generally from 750 to 2,000 pounds per square foot (psf). These sandy and silty clays are typically associated with gravel, rock, or coarse sand and have a liquid limit from 28.8 to 46.3, with a plasticity index ranging from 13.4 to 23.4. No permeability values are available for the clays, but they are expected to be lower than 10^{-6} cm/sec.

Below this transitional zone, the clays are very stiff to hard, and the sands are dense to very dense. Cohesion values for the clays increase to 2,500 to 6,000 psf or greater. The liquid limit and plasticity index of the sandy and silty clays and sandy silts increase significantly below 15 feet in depth. The liquid limit ranges from 20 to 46.3, while the plasticity index varies from 8.6 to 23.4, with the lower values common to more sandy materials. (Note: The plasticity index of some of those samples tested may be low due to the nature of the material relative to the testing procedure.) Values for coefficient of permeability range from l.7 x 10^{-6} to 2.1 x 10^{-8} cm/sec for the least permeable silty clays (CL), clayey silts (MH), and high-plasticity clays (CH) around 25 to 30 feet in depth below the surface.

– *Replacement Well Installation*

The well replacement program conducted in April 1996, began with exploratory borings MW-1D, MW-2D, MW-3D (downgradient), and MW-4U and MW-5U (upgradient). Following advancement of the borings, a total of thirteen monitoring

wells were installed from April 23, 1996 to May 1, 1996. Each boring was sampled at 5-foot intervals and logged by a certified Professional Geologist. Each exploratory boring fully penetrated the uppermost water-bearing unit and extended 2 feet into the lower confining unit. The upper most water-bearing unit or "uppermost aquifer" as defined in the permit, is Stratigraphic Unit I of the Sparta Formation. This unit is approximately 30 feet thick, and is located between elevations 485 to 514 above MSL. It consists of a silty sand (SM), interbedded with clayey silt (ML) and silty clay (CL). The lower confining unit consists of a hard, dark gray-brown, silty clay (CL). The entire thickness of the saturated zone was screened with no screened interval greater than 10 feet. This required multiple wells at some locations.

Two geologic cross sections, oriented as shown on ***Figure VI.A-9***, were constructed to illustrate the stratigraphic relationship of Stratigraphic Unit I and the lower confining unit. Cross section A-A' (***Figure VI.A-10***) is oriented southwest-northeast along the northern boundary of the landfill and is approximately parallel to groundwater flow lines. Cross section B-B' (***Figure VI.A-9***) is oriented approximately north-south along the west side of the landfill, and is approximately parallel to groundwater equipotential lines. These cross sections illustrate lithologies and well construction details.

Both cross sections show the upper transmissive unit as a silty-clayey sand (SM-SC) with interbeds of silty clay (CL). The transmissive unit ranges in thickness from 20 feet in the southwest part of the site to a maximum thickness of approximately 70 feet in the northeast part of the site. It is underlain by the lower confining unit, which is composed of a hard, silty clay. Depths to groundwater and the lower confining unit increase with increase in elevation of the ground surface.

- **Sludge Disposal Area**

  A RCRA Facility Investigation (RFI) was conducted by EMCON and submitted to the TNRCC in November 1997. The RFI detailed the subsurface soils around the SDA, but did not detail the groundwater conditions. A subsequent investigation in 2003 conducted by Whitehead and Mueller, Inc. (W&M, 2003) was able to locate groundwater 32 feet below the ground surface (bgs) at the silty clay (CL) and high plasticity clay boundary (CH). In March 2004, W&M installed four monitoring wells (MW-1, MW-2, MW-3, and MW-4) in the SDA which were completed in the saturated soils underlying the SDA. The saturated soils are considered a Class 3 groundwater resource per Permit Provision XI.A.I and Table IV of the Compliance Plan. A cross-section depicting the subsurface conditions of the SDA is included in ***Figure VI.A-11***, ***Figure VI.A-12***, and ***Figure VI.A-13***.

In February 2008, the Carel Corporation (Carel, 2009) installed three additional observation wells and one monitoring well proximal to the SDA as part of an affected property assessment conducted pursuant to the Texas Risk Reduction Program (TRRP). The monitoring well, MW-5, was completed in the saturated soil zone and the three observation wells, OW-6, OW-7, and OW-8, were completed in the uppermost groundwater bearing unit (Sparta Formation) underlying the SDA. Boring logs and well construction diagrams are included in ***Attachment VI.A-1***.

The subsurface soils encountered in the SDA were consistent with the WoC (Wolfpen) Series as described by the Soil Survey of Smith County, Texas. The Wolfpen Series consists of a friable, slightly acidic, yellowish brown loamy fine sand near the surface and grades to a sandy clay with medium prominent red mottles with depth. The permeability of the Wolfpen Series ranges from 6.0 to 20.0 in/hr at the surface and 0.6 to 2.0 in/hr with depth and has an available water capacity range of 0.07 to 0.17 in/in. The cation exchange capacity of the Wolfpen has a range of 2.1 to 11.5 Meq/100g (SCS, 1993). A map illustrating the facility location and proximal soil units is provided as ***Figure VI.A-14***.

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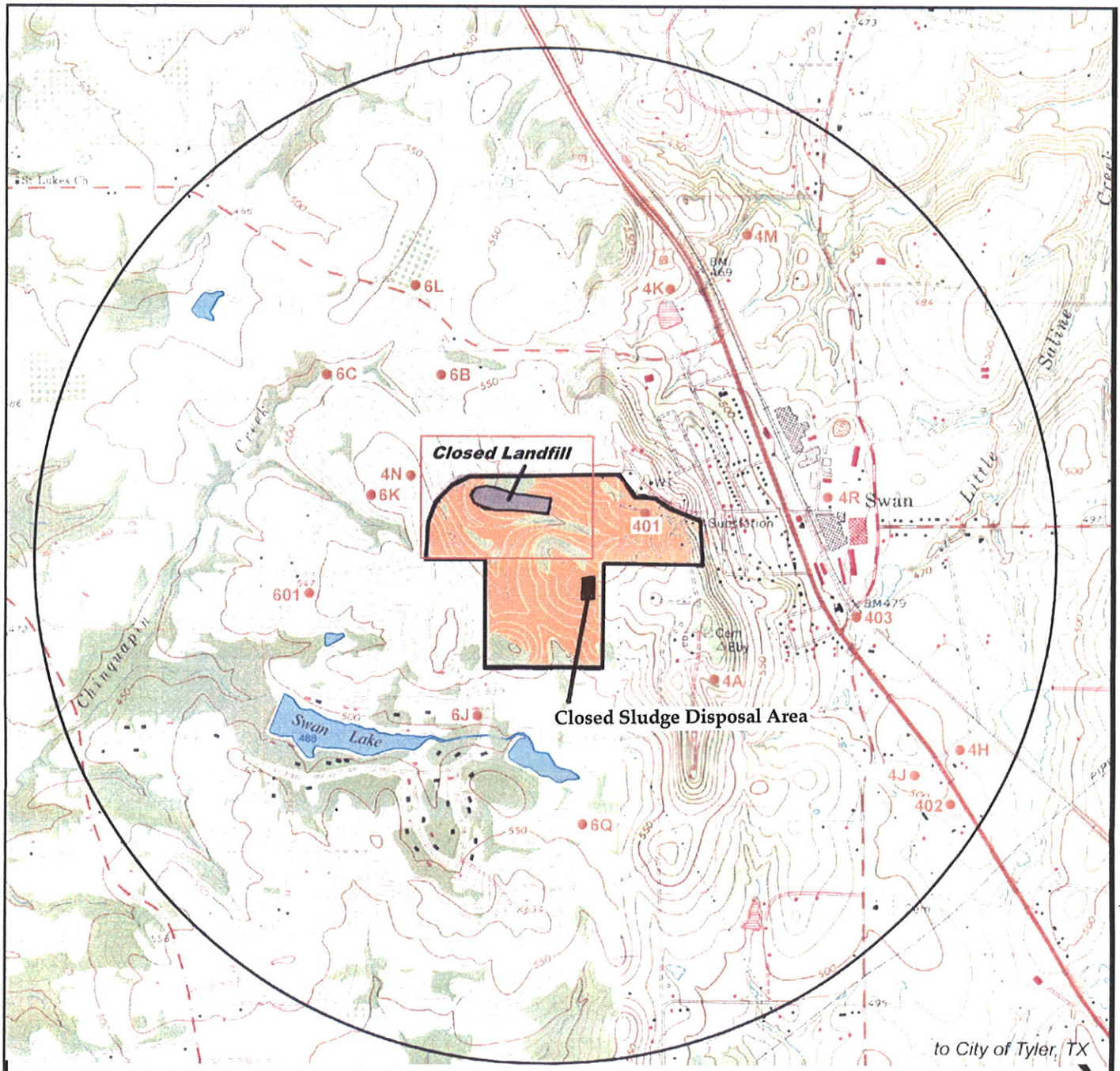
Figures



USGS quadrangles Mount Sylvan + Tyler North, TX. - 1973

Facility Boundary

6x Water Well

0 1/2 1

MILE

N

W E

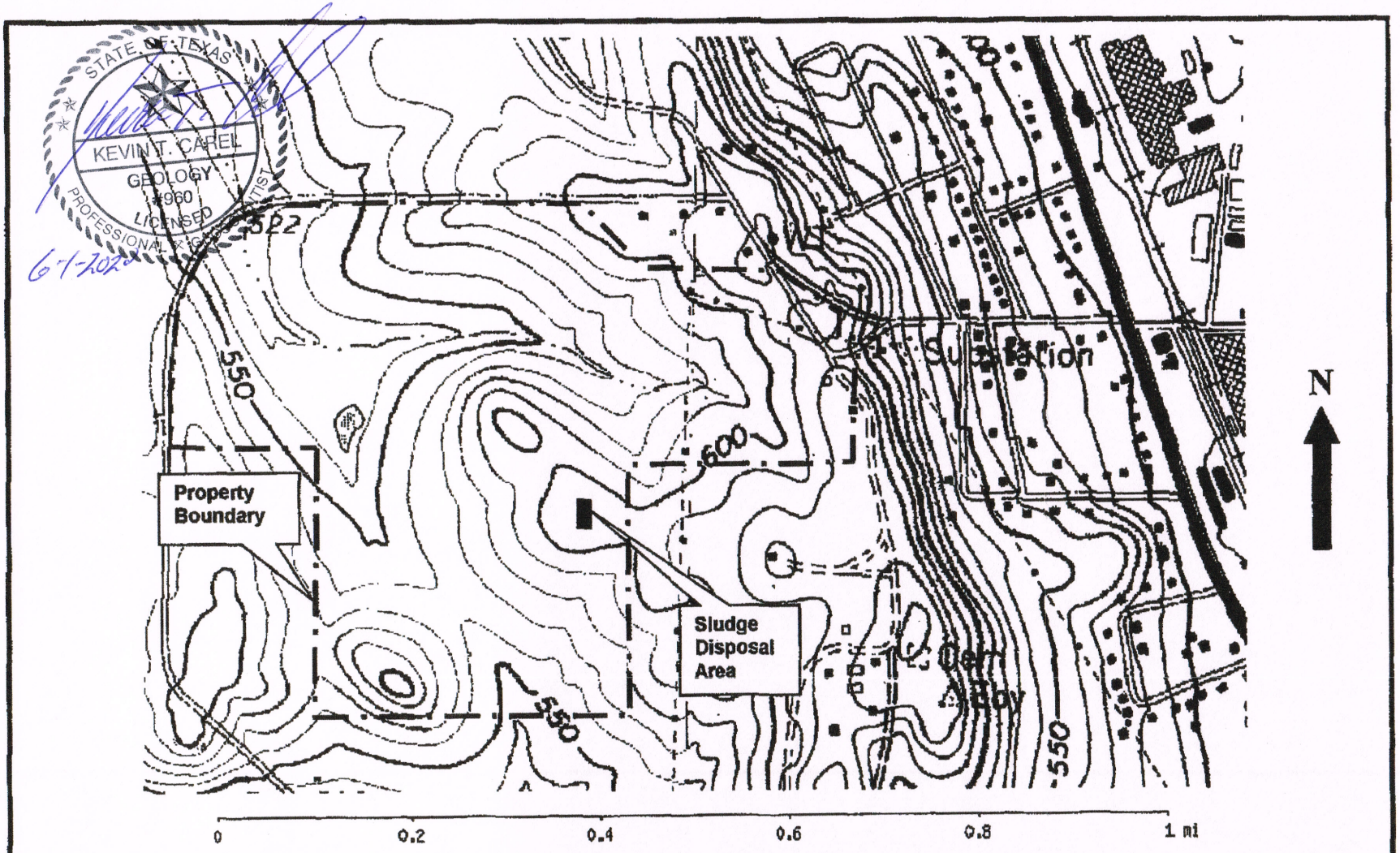
S

120_0023

Figure VI.A-1

Site Topography

PARSONS ENGINEERING SCIENCE, INC.



The Carel Corporation
Providing Environmental, Ground-Water and Waste Management Service

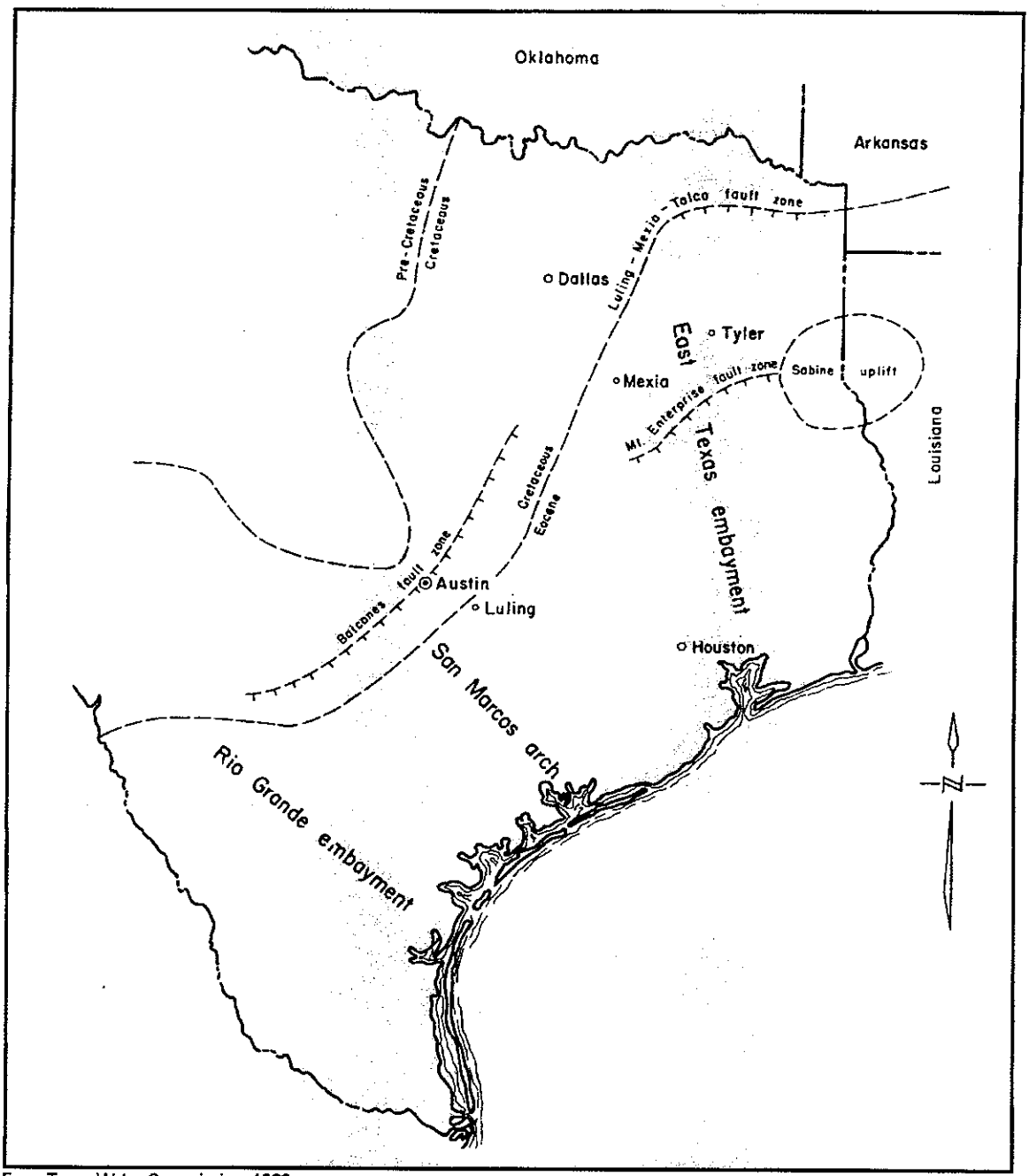
136 Pecan Street, Keller, TX 76248

(817) 337-0112

Tyler Pipe Facility
Sludge Disposal Area Compliance Plan Application
Part II Site Specific information
7.5 Minute USGS Quadrangle Topographic Map
USGS Quadrangles Tyler North and Mount Sylvan, TX

FIGURE

VI.A-2



From Texas Water Commission, 1963

Figure VI.A-3

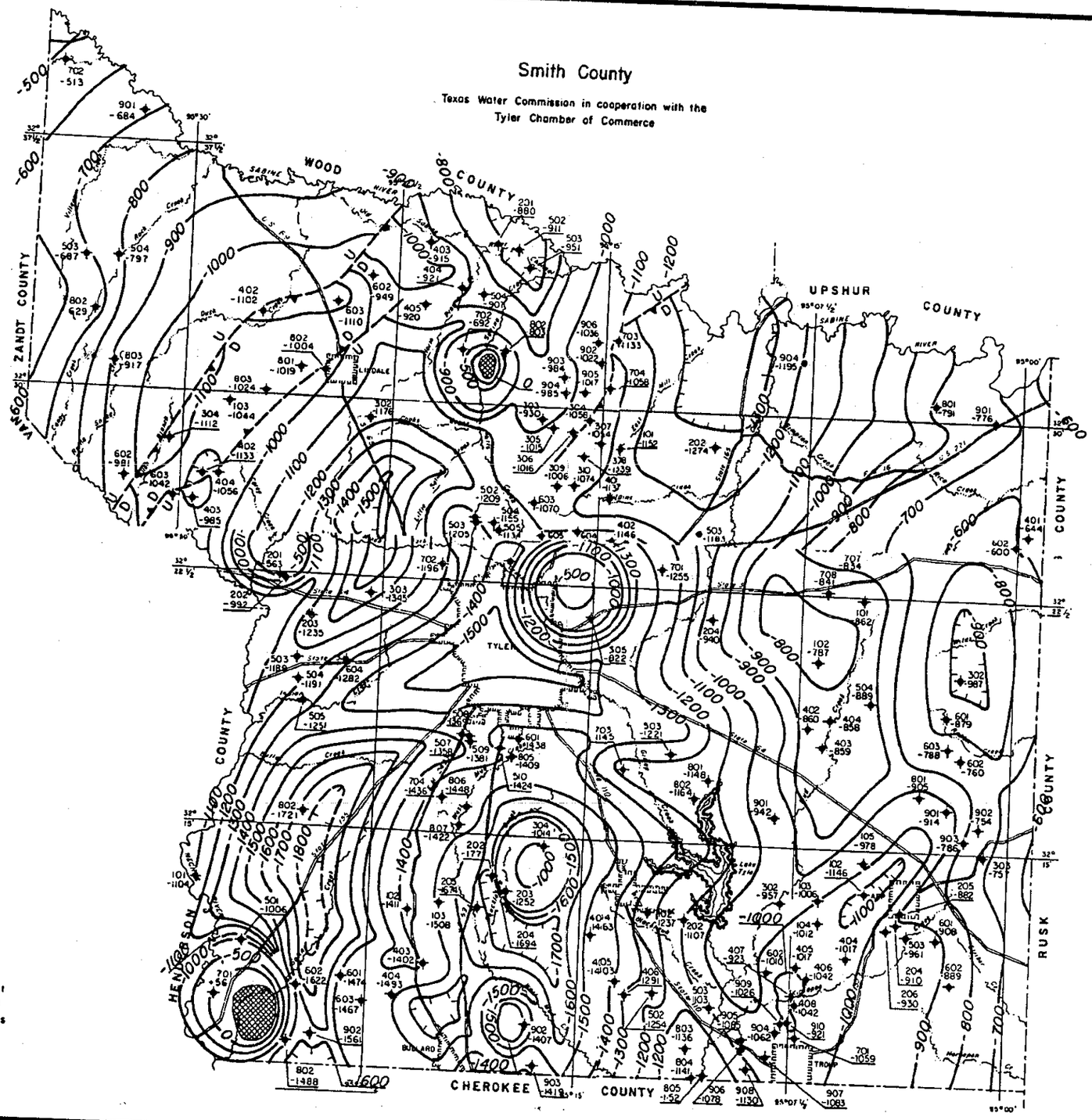
Regional geologic structure of eastern Texas

PARSONS ENGINEERING SCIENCE, INC.

120_0015

Smith County

Texas Water Commission in cooperation with the
Tyler Chamber of Commerce



EXPLANATION

- Electric log on oil test
- Electric log on water well

-900- Contour line (dashed where approximated)

Contour showing low or depression

U / D — Fault, showing direction of fault plane dip
U, upthrown side; D, downthrown side

Possible Salt

Contour interval, 100 feet

Contour interval in stippled areas is more than 100 feet

Datum is mean sea level

Note: The structural maps are based on all available data which include regional and local structural maps of the deeper formations. The author believes that the interpretation of the structure between control points agrees with the opinions of most geologists active in the area.

N

SCALE IN MILES
0 1 2 3 4

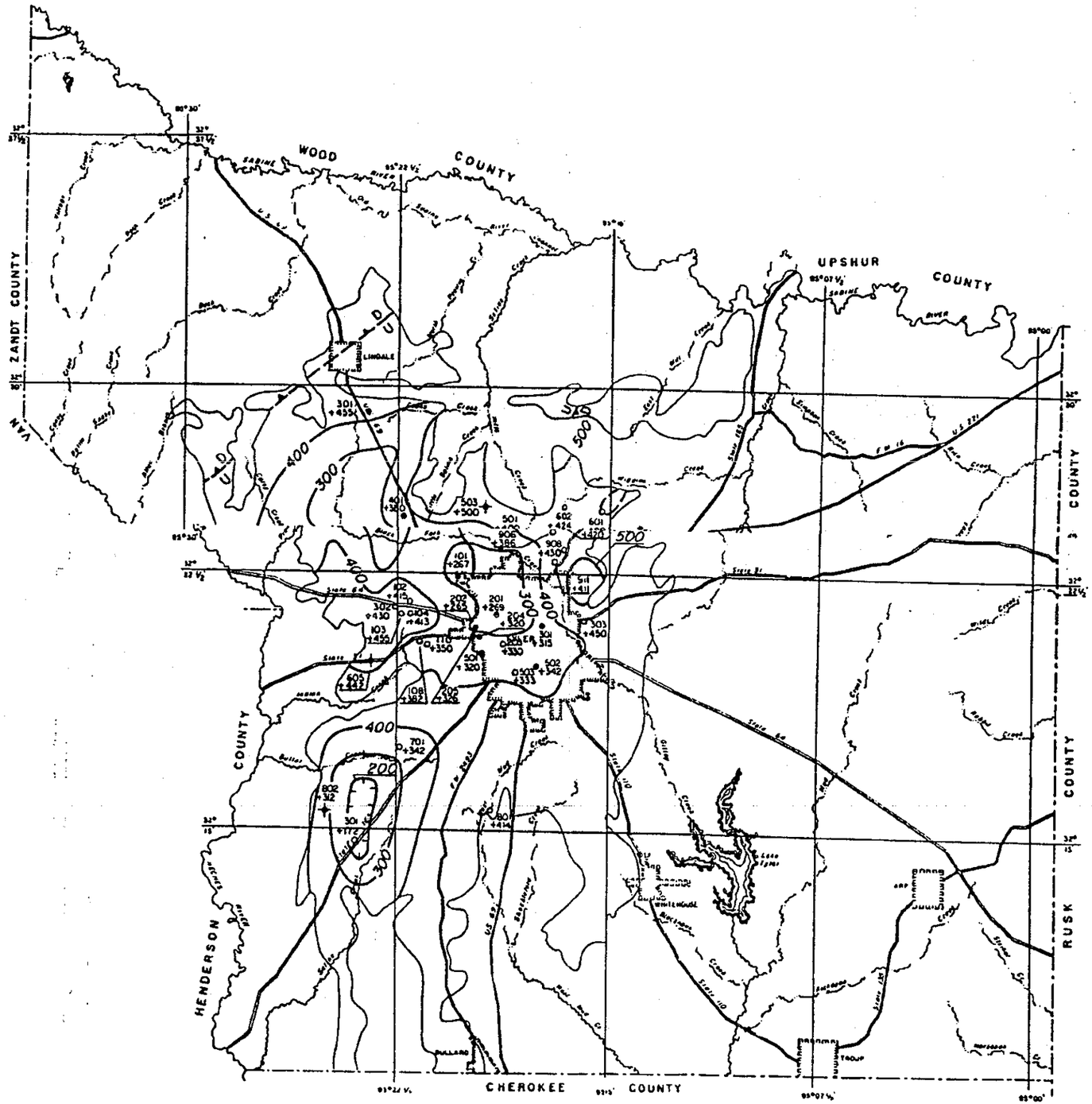
Base adapted from general highway map of the Texas Highway Department

Figure VI.A-4

Structure map of base of Wilcox group

PARSONS ENGINEERING SCIENCE, INC.

120_0014



EXPLANATION

- Electric log on oil test
- Electric log on water well of Sparta Formation
- 300 — Contour line (dashed where approximated)
- Contour showing low or depression
- U / D — Fault, showing direction of fault plane dip U, upthrown side; D, downthrown side
- Contour interval, 100 feet
- Datum is mean sea level
- Outcrop of Sparta Formation

Note: The structural maps are based on all available data which include regional and local structural maps of the deeper formations. The author believes that the interpretation of the structure between control points agrees with the opinions of most geologists active in the area.

N

0 1 2 3 4
SCALE IN MILES

Base adapted from general highway map of the Texas Highway Department

Figure VI.A-5

Structure map on the base of the Sparta formation, Smith County (Texas Water Commission in cooperation with the Tyler Chamber of Commerce, 1963)

PARSONS ENGINEERING SCIENCE, INC.

120_0013

Figure VI.A-6

Regional geologic map

PARSONS ENGINEERING SCIENCE, INC.

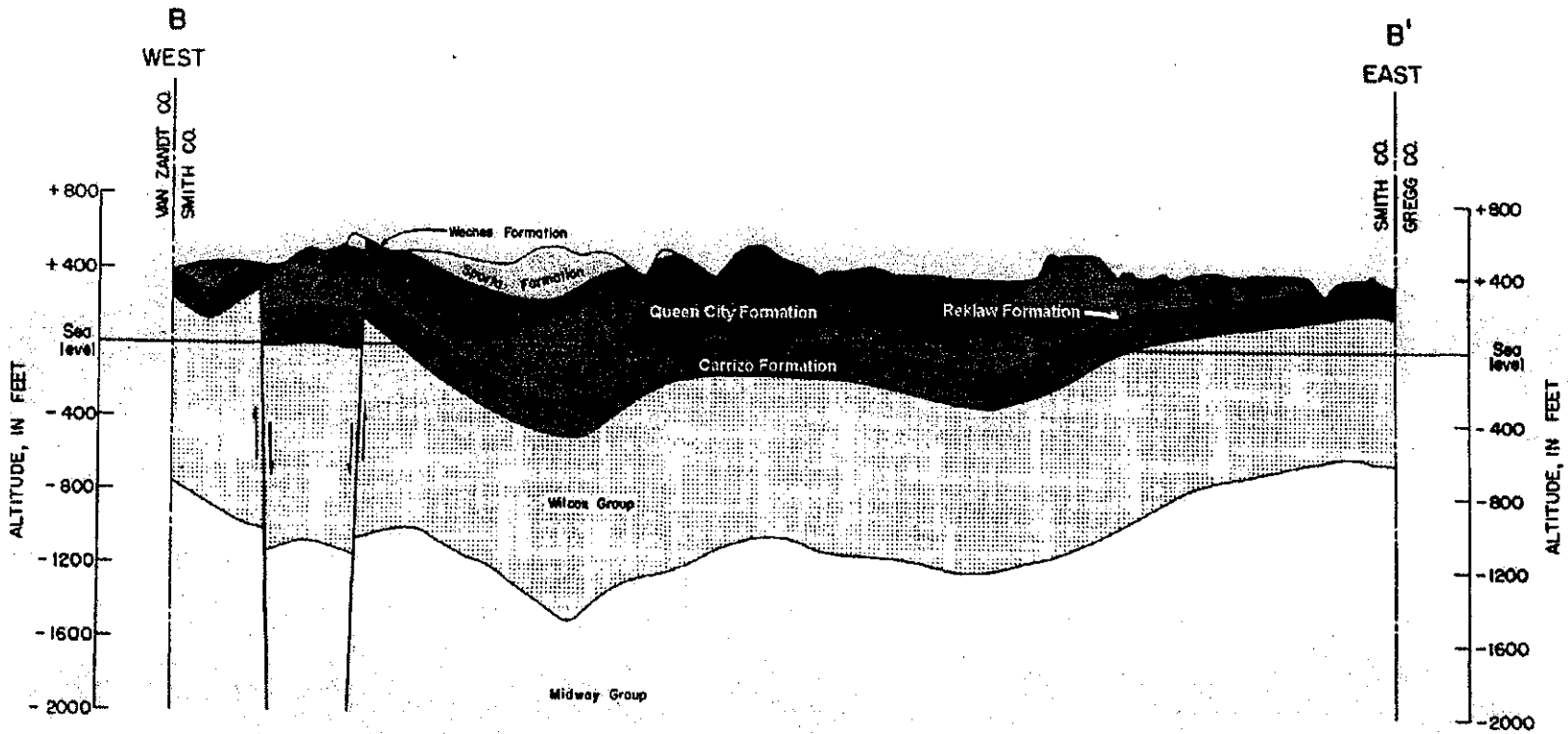
System	Series	Stratigraphic Unit	Hydrogeologic Unit	Thickness	Lithology	Water Bearing Properties
Tertiary	Upper Eocene	Sparta Formation	Sparta Aquifer	60	Sand and shale	Yield large amounts of water
		Weches Formation		70	Shale at base, sandstone on top	
		Queen City Sand	Queen City Aquifer	0-700	Sand, sandstone, and some sandy shale	Yields moderates amounts of water
		Reklaw Formation		55-100	Shale and clay	
		Carrizo Formation	Carrizo-Wilcox Aquifer	40-225	Sand	Yields large supplies of water to municipal
	Lower Eocene	Wilcox Group		755 - >1,320	Sand	
		Midway Group		100	Shales, clays, and, silts	

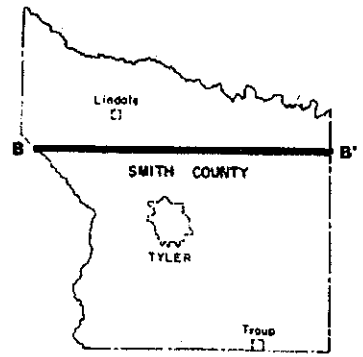
Figure VI.A-7

Stratigraphic Column

PARSONS ENGINEERING SCIENCE, INC.

120_0022





EXPLANATION

Fault, arrows show relative movement

2 1 0 2

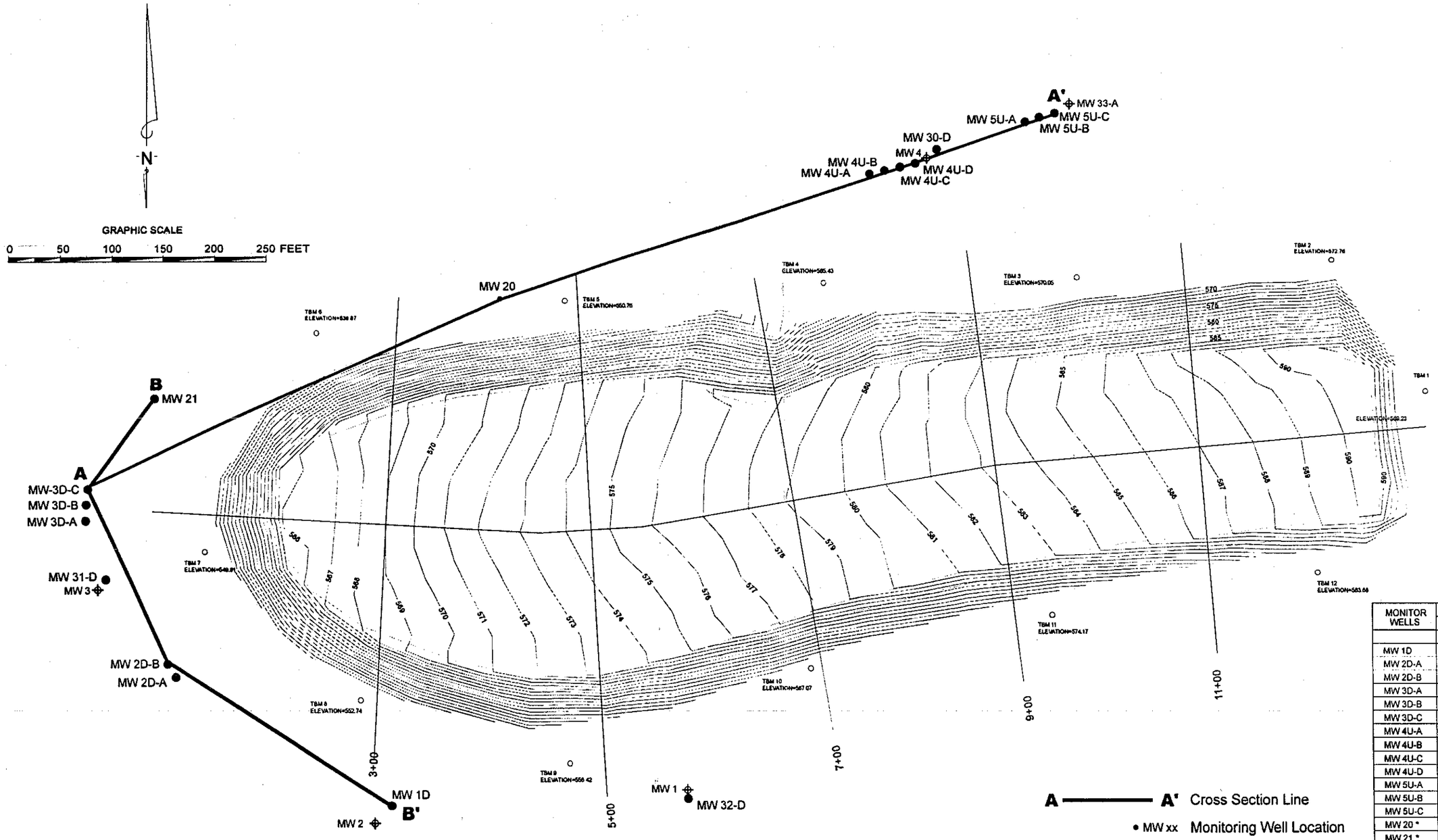
SCALE IN MILES

120_0016

Figure VI.A-8A

West - East (B-B') Geologic section, Smith County (Texas Water Commision with the Tyler Chamber of Commerce, 1963)

PARSONS ENGINEERING SCIENCE, INC.



MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.56
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

* INDICATES EXISTING MONITOR WELLS
ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

A —— A' Cross Section Line

• MW xx Monitoring Well Location

○ TBM xx Benchmark Location

⊕ MW xx Abandoned Monitoring Well

○ ALUMINUM DISC SET IN STEEL PIPE W/PROTECTIVE POST BARRIERS

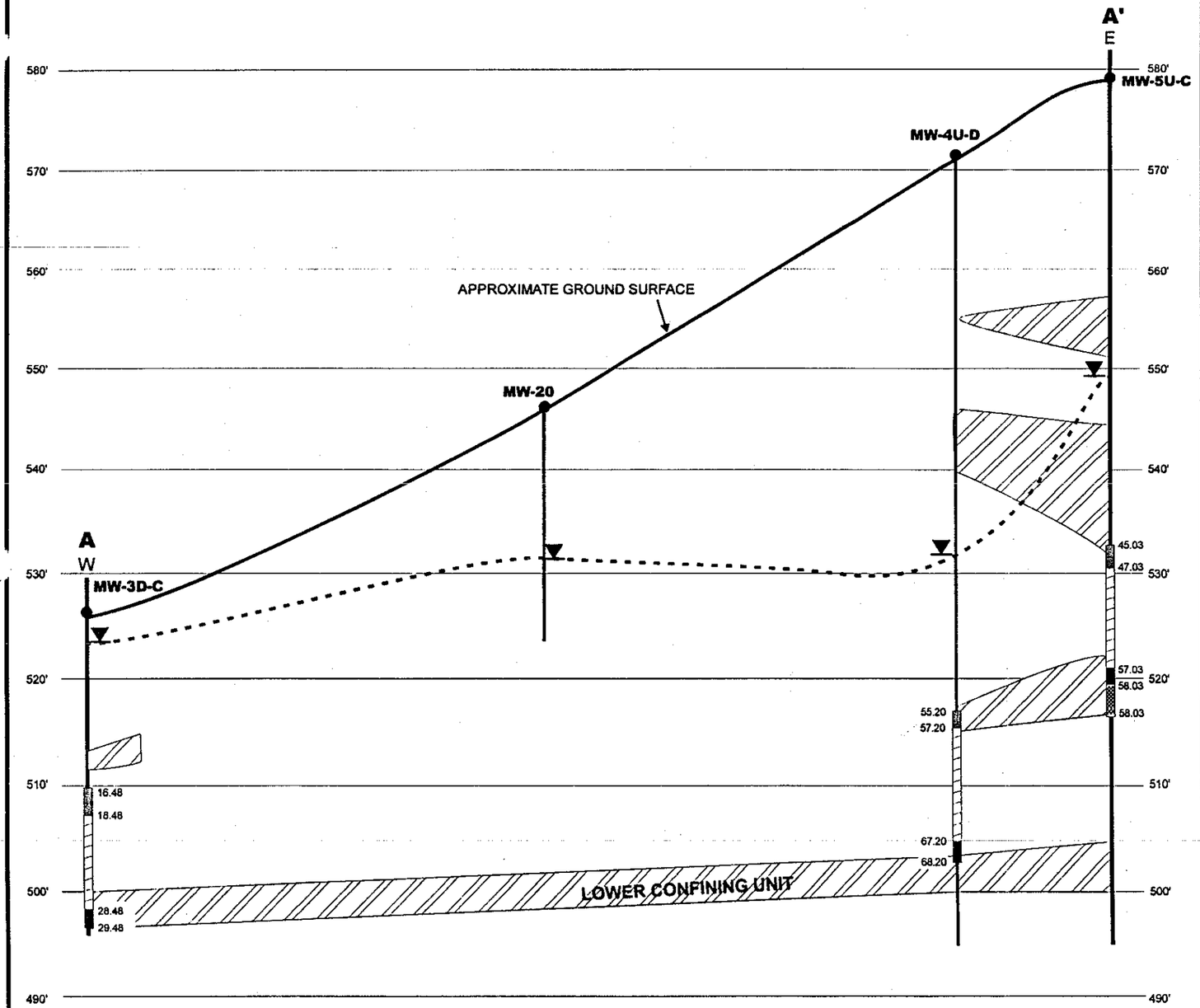
TYLER PIPE INDUSTRIES, INC.
CLASS I HAZARDOUS WASTE LANDFILL

Figure VI.A-9

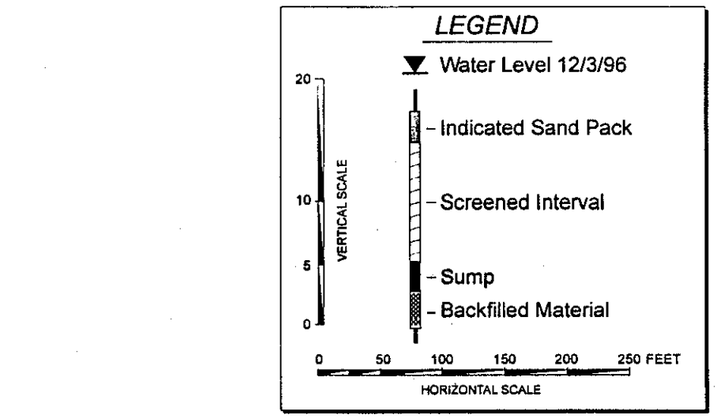
Monitor Well Locations
and Cross Section Locations

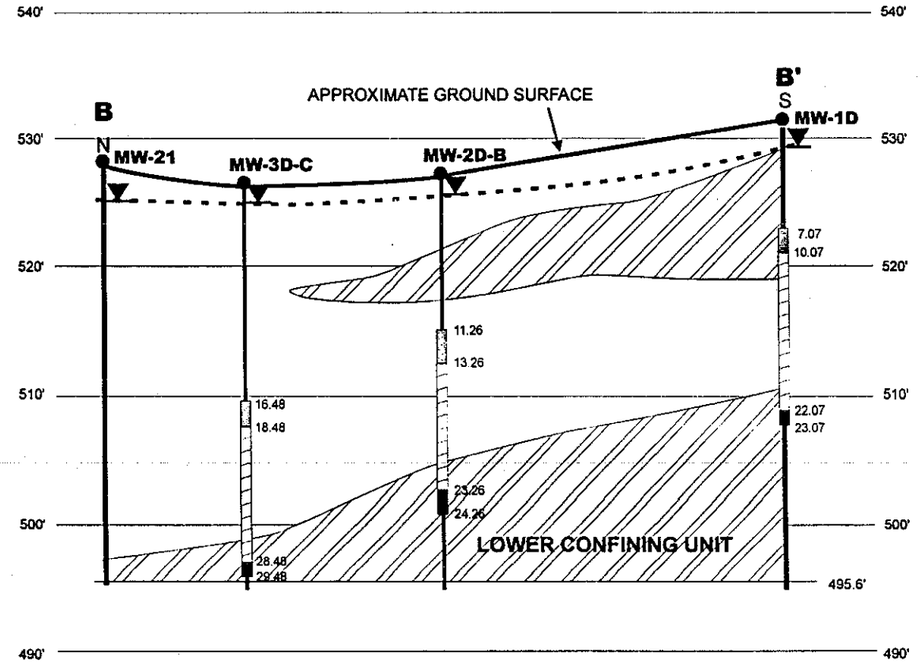
PARSONS ENGINEERING SCIENCE, INC.

120_0012



SECTION A-A'





SECTION B-B'

SILTY, CLAYEY SAND

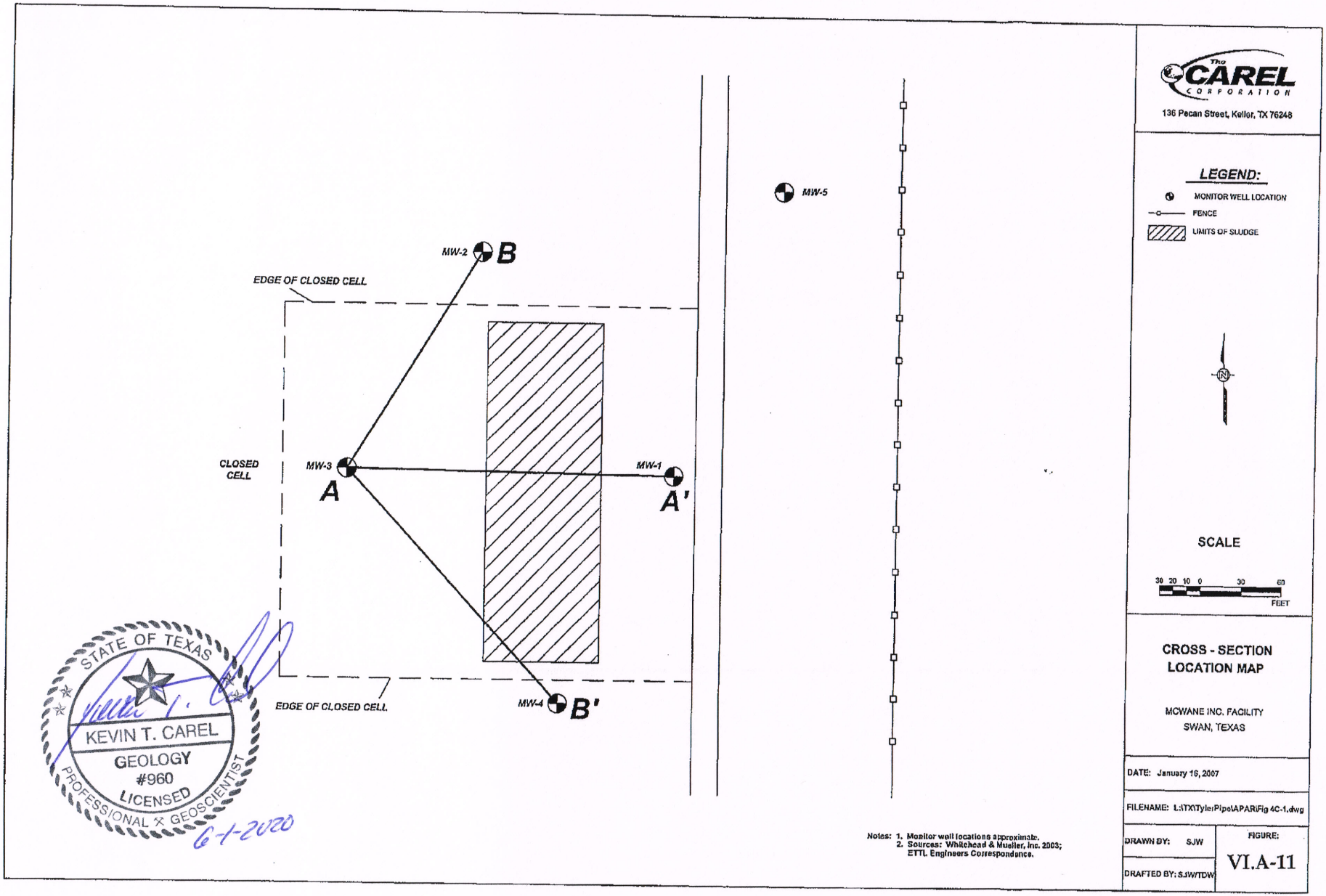
SILTY CLAY

120_0020

Figure VI.A-10

Cross Sections A-A' & B-B'

PARSONS ENGINEERING SCIENCE, INC.



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

6-1-2020

Notes: 1. Monitor well locations approximate.
2. Sources: Whitehead & Mueller, Inc. 2003; ETTL Engineers Correspondence.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- MONITOR WELL LOCATION
- FENCE
- LIMITS OF SLUDGE

SCALE

30 20 10 0 30 60
FEET

CROSS - SECTION LOCATION MAP

MCWANE INC. FACILITY
SWAN, TEXAS

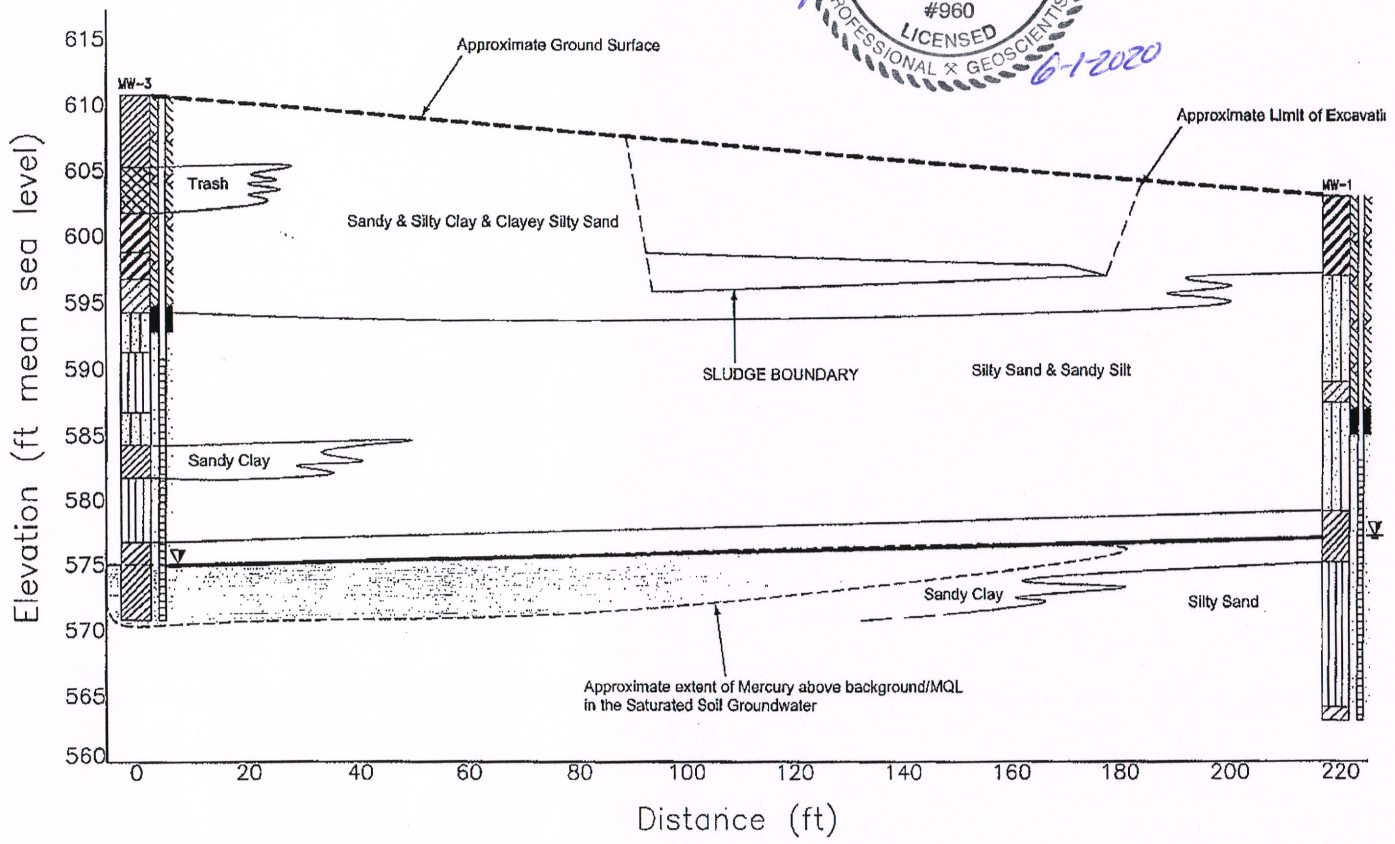
DATE: January 16, 2007

FILENAME: L:\TX\TylerPipe\APAR\Fig 4C-1.dwg

DRAWN BY: SJW

DRAFTED BY: SJW/TDW

FIGURE:
VI.A-11



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020

Notes: 1. Water levels measured August 18, 2006.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- Sandy Clay
- Silty Clay
- Silty Sand
- Clayey Silty Sand
- Sandy Clayey Silt
- Trash
- Water Table

GEOLOGIC CROSS-SECTION A-A'

SLUDGE DISPOSAL AREA
MCWANE INC. FACILITY
SWAN, TEXAS

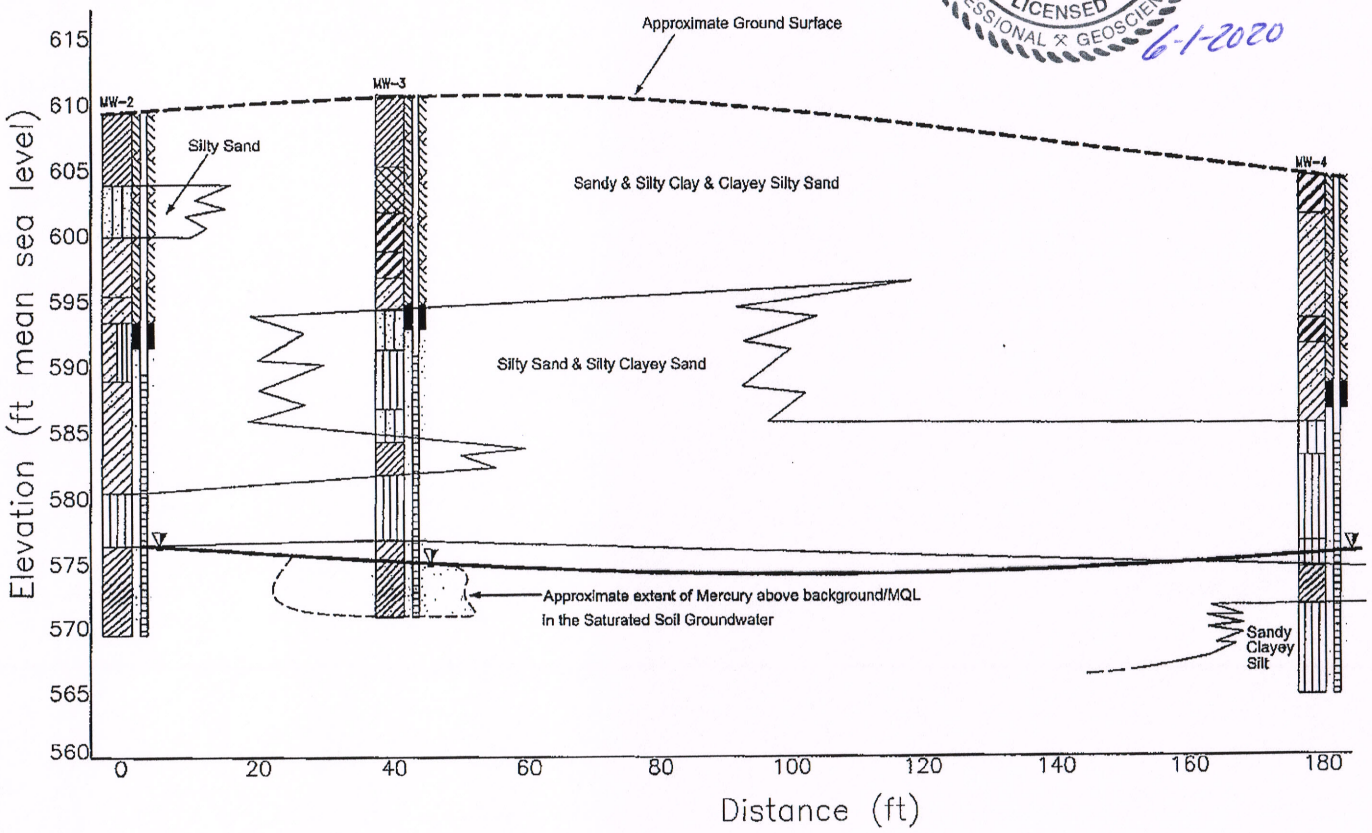
DATE: January 16, 2007

FILENAME: L:\TX\Tyler Pipe\APAR\Fig 4C-2.dwg

DRAWN BY: SJW/KTC

DRAFTED BY: SJW/TDW

FIGURE: VI.A-12



Notes: 1. Water levels measured August 18, 2006.

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

LEGEND:

- Sandy Clay
- Silty Clay
- Silty Sand
- Clayey Silty Sand
- Sandy Clayey Silt
- Silty Sand and Clayey Sand
- Water Table

GEOLOGIC CROSS-SECTION B-B'

SLUDGE DISPOSAL AREA
MCWANE INC. FACILITY
SWAN, TEXAS

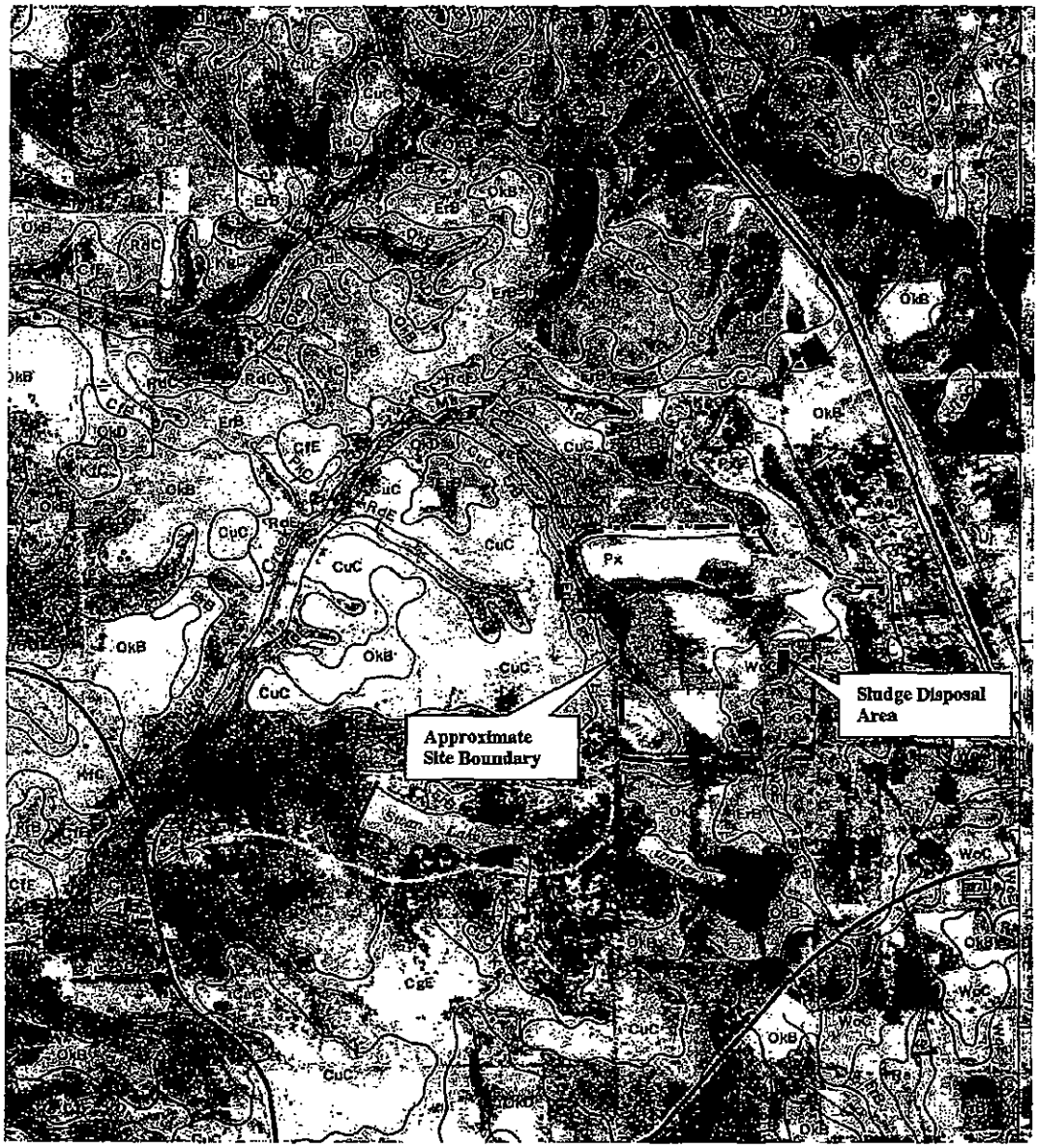
DATE: January 16, 2007

FILENAME: L:\TX\Tyler Pipe\APAR\Fig A4.dwg

DRAWN BY: SJW/KTC

DRAFTED BY: SJW/TDW

FIGURE: VI.A-13



Source: United States Department of Agriculture. Soil Conservation Service. Soil Survey of Smith County, Texas. Sheet number 20.

The Carel Corporation *Providing Environmental, Ground-Water and Waste Management Service* *136 Pecan Street, Keller, TX 76248* *(817) 337-0112*	**Tyler Pipe Facility** **Sludge Disposal Area** **Compliance Plan Application Part II** **Site Specific Information** **Soil Map**	**FIGURE** VI.A-14

Attachment VI.A-1
Monitor Well Installation Diagrams and Boring Logs

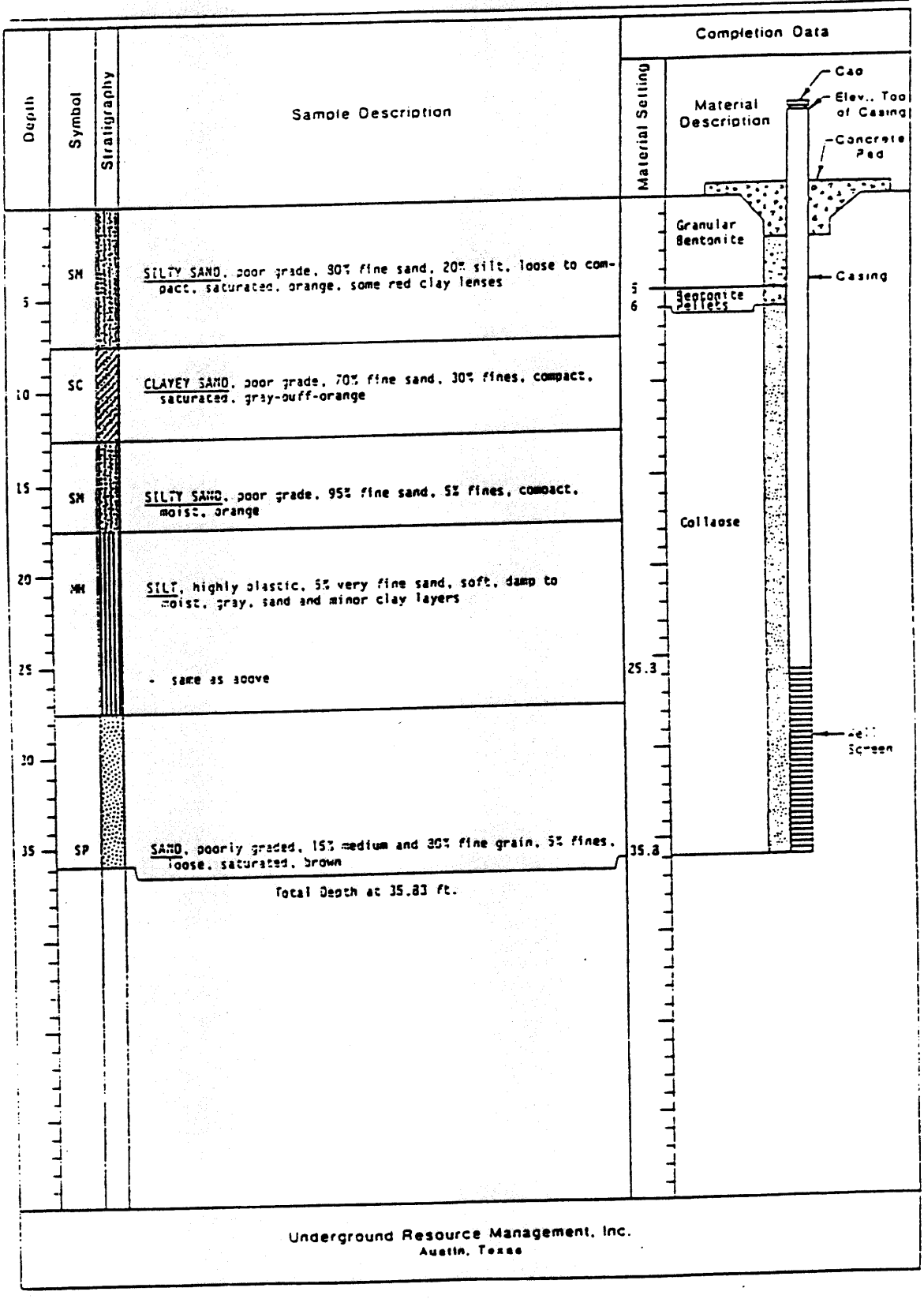
Monitor Well Installation

Client: Tyler Pipe Industries Job No.: J81-833 Date Drilled: 9-22-81 Well No.: 1

Site: Solid Waste Landfill Elevation: Pad 77.41 ft. Top of PVC Casing

Total Depth: 35.83 ft. Casing Size & Type: 2" I.D. Schedule 80 PVC Screen Size: 0.010 Slot PVC

Comments:



MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

CLIENT: TYLER PIPE INDUSTRIES, INC.

LOCATION: TYLER, TEXAS

WELL NO. MW-1

PROJECT NO. 79992.691

COMPLETION DATE: 4-25-96

DRY AUGERED 0 TO 36.5 FT

WASH BORED X TO X FT

DRILLING FLUID: N/A

MATERIALS:

#BAGS OF CEMENT 4

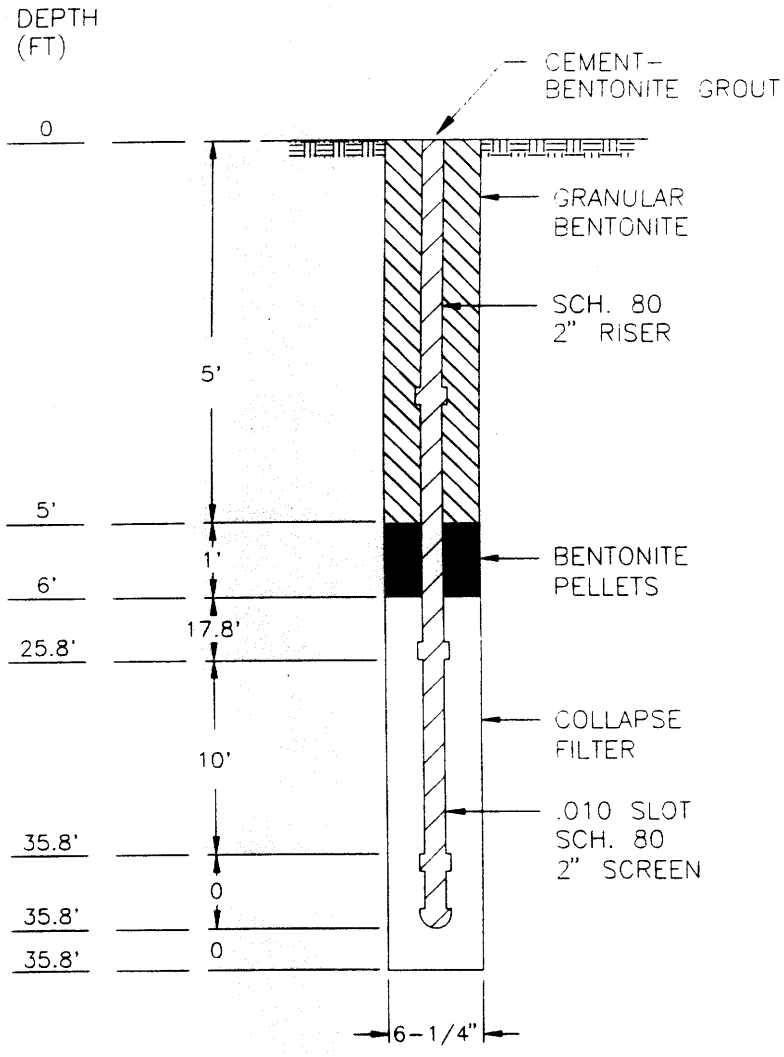
#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

WELL PAD REMOVED WITH BULLDOZER, UNABLE TO PULL CASING.
WELL GROUTED TO SURFACE USING TREMIE METHOD.

Monitor Well Installation

Client: Tyler Pipe Industries Job No.: 881-833 Date Drilled: 9-23-81 Well No.: 2

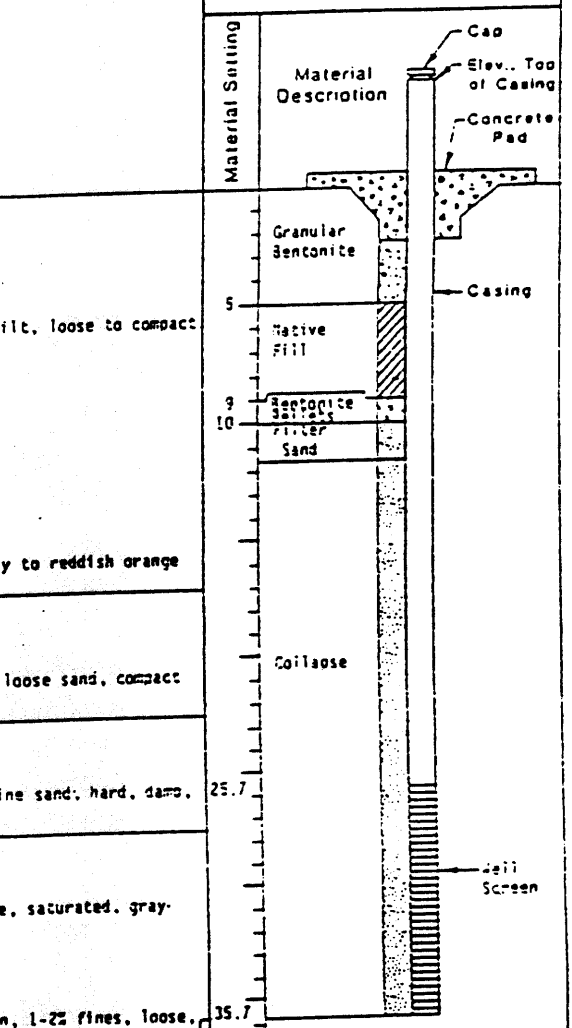
Site: Solid Waste Landfill Elevation: Pad 71.1 ft. Top of PVC Casing

Total Depth: 35.75 ft. Casing Size & Type: 2" I.D. Schedule 80 PVC Screen Size: 0.010 Gauge PVC

Comments:

Depth	Symbol	Stratigraphy	Sample Description
5	SP		SAND, uniform fine to medium grain, <5% silt, loose to compact saturated, orange
10			- same as above, with 3-5% gravel
15	SP		SAND, uniform fine, loose, saturated, gray to reddish orange
20	SC		CLAYEY SAND, poorly graded, 10-15% clay, loose sand, compact sandy clay, saturated, brown
25	MH		CLAYEY SILT, highly plastic, 2-3% very fine sand, hard, damp, gray
30	SP		SAND, uniform fine to medium grain, loose, saturated, gray
35	SP		SAND, poorly graded, fine to medium grain, 1-2% fines, loose, saturated, green
40			Total Depth at 35.75 ft.

Completion Data



Underground Resource Management, Inc.
Austin, Texas

MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

CLIENT: TYLER PIPE INDUSTRIES, INC.

LOCATION: TYLER, TEXAS

WELL NO. MW-2

PROJECT NO. 79992.691

COMPLETION DATE: 4-24-96

DRY AUGERED 0 TO 37 FT

WASH BORED X TO X FT

DRILLING FLUID: X

MATERIALS:

#BAGS OF CEMENT 4

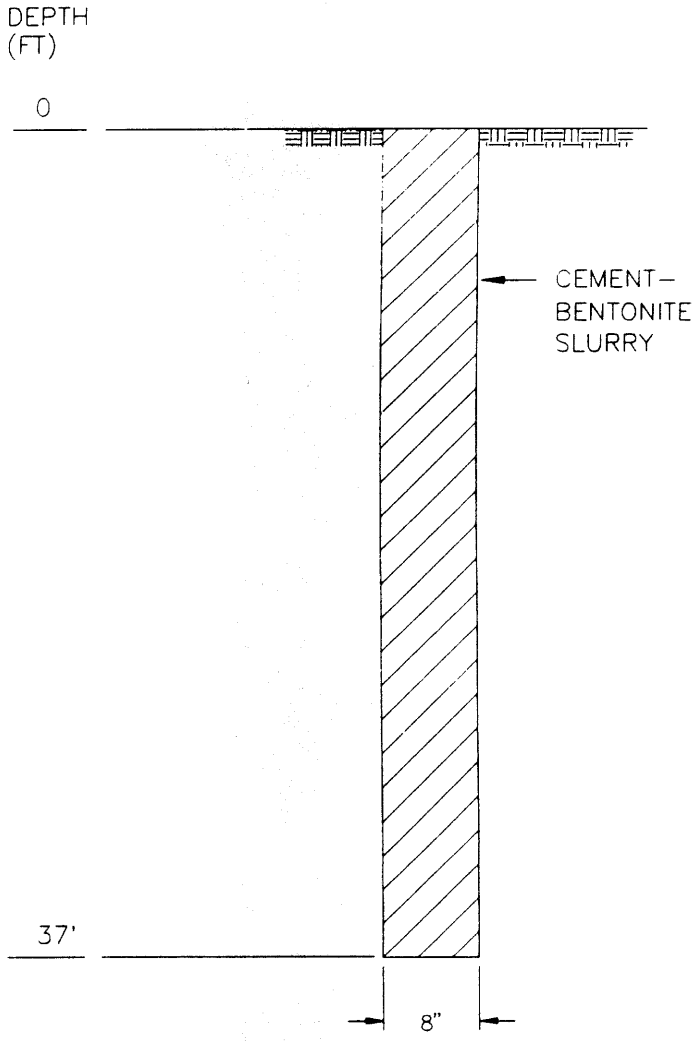
#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

WELL PAD REMOVED WITH BULLDOZER. TOTAL CASING PULLED, WELL GROUTED TO SURFACE USING TREMIE METHOD (NO GROUT ENCOUNTERED).

Monitor Well Installation

Client: Tyler Pipe Industries Job No.: 381-811 Date Drilled: 9-21-81 Well No.: 1

Site: Solid Waste Landfill Elevation: Pad 65.42 ft Top of PVC Casing

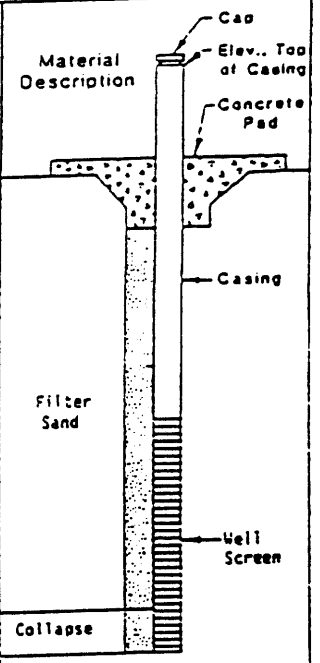
Total Depth: 20.5 ft Casing Size & Type: 2" I.D. Schedule 30 PVC Screen Size: 0.010 Gauge PVC

Comments:

Depth	Symbol	Stratigraphy	Sample Description
5	SP		SAND, poorly graded, mostly fine grain, 2-4% fines, loose, saturated, orange
10	GC		CLAYEY GRAVEL, poor grading, 85% pea size gravel, 2-5% fine sand, 10-13% fines, loose, saturated, red
15	SP		SAND, uniform fine grain, 2-3% fines, loose, saturated, orange to brown
20	MH		SANDY SILT, highly plastic, 5-10% fine sand, soft, saturated, green
25			Total Depth at 20.5 ft.

Completion Data

Material Setting	Material Description
10.5	Filter Sand
20.5	Collapse



Underground Resource Management, Inc.
Austin, Texas

MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

CLIENT: TYLER PIPE INDUSTRIES, INC.

LOCATION: TYLER, TEXAS

WELL NO. MW-3

PROJECT NO. 79992.691

COMPLETION DATE: 4-24-96

DRY AUGERED 0 TO 22 FT

WASH BORED X TO X FT

DRILLING FLUID: X

MATERIALS:

#BAGS OF CEMENT 4

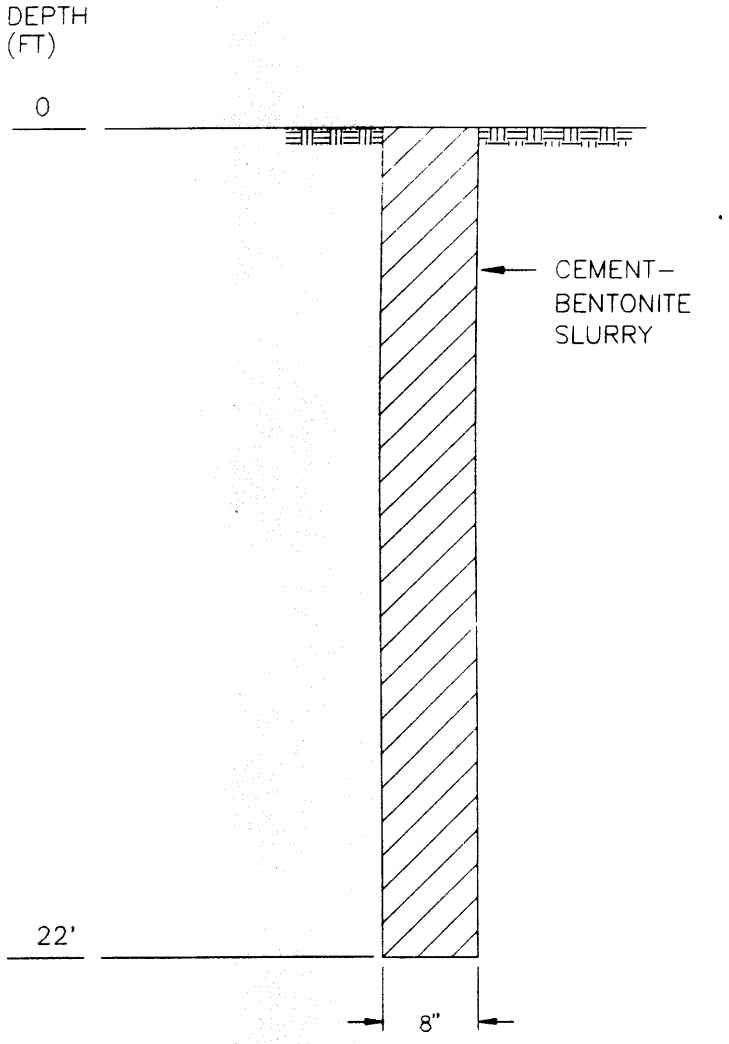
#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

WELL PAD REMOVED WITH BULLDOZER, TOTAL CASING PULLED, WELL GROUTED TO SURFACE USING TREMIE METHOD (NO GROUT ENCOUNTERED). 1-1/4" STINGER USED TO STAY CENTERED

Monitor Well Installation

Client: Tyler Pipe Industries Job No.: 381-833 Date Drilled: 9-24-81 Well No.: 1

Site: Solid Waste Landfill Elevation: Pad 117.31 ft Top of PVC Casing

Total Depth: 55.58 ft. Casing Size & Type: 2" I.D., Schedule 80 PVC Screen Size: 0.010 Gauge PVC

Comments:

Depth	Symbol	Stratigraphy	Sample Description
			SANDSTONE
	SC		CLAYEY SAND, poor grade, fine grain, 10-20% fines, compact, moist, red
10			- same as above
			- same as above, except buff and orange
20			- same as above, except orange
	CH		SANDY CLAY, highly plastic, 2-3% gravel, 10-15% fine sand, very stiff, moist, brown clay, red sand and gravel
30			- same as above, except no gravel
	SP		SAND, poorly graded, fine grain, 2-3% fines, compact, moist to saturated, orange
40	MH		SILT, highly plastic, 2-3% very fine sand, soft, moist, gray, sulfur smelling smoke
	SP		SAND, uniform fine grain, loose, saturated, red
50			- same as above, except green
	ML		SILT, highly plastic, stiff, moist, gray
60			Total Depth at 55.58 ft.

Completion Data

Material Setting	Material Description
	Cap
	Elev., Top of Casing
	Concrete Pad
	Casing
	Native Fill
30	Granular bentonite
32	bentonite pellets
34	
	Filter Sand
45.5	Collapse
	Well Screen
55.5	

Underground Resource Management, Inc.
Austin, Texas

MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

CLIENT: TYLER PIPE INDUSTRIES, INC.

LOCATION: TYLER, TEXAS

WELL NO. MW-4

PROJECT NO. 79992.691

COMPLETION DATE: 4-24-96

DRY AUGERED 0 TO 57 FT

WASH BORED X TO X FT

DRILLING FLUID: X

MATERIALS:

#BAGS OF CEMENT 8

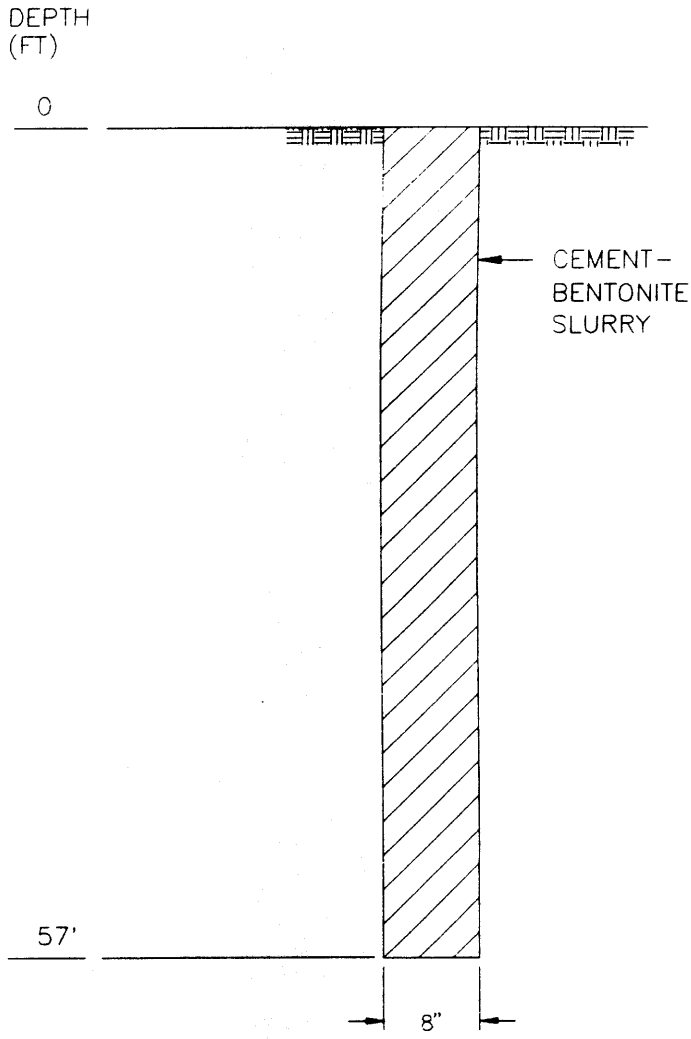
#BAGS OF BENTONITE 2

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

WELL PAD REMOVED WITH BULLDOZER, TOTAL CASING PULLED. WELL GROUTED TO SURFACE USING TREMIE METHOD (NO GROUT ENCOUNTERED). ALLOWED TO SETTLE FOR 24 HRS. BEFORE TOP-OFF
1-1/4" STINGER USED TO STAY CENTERED

THE ORIGINAL BORING LOG AND WELL INSTALLATION REPORT
CAN NOT BE LOCATED FOR MONITOR WELL MW-33A

MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

WELL NO. MW-33A

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-23-96

DRY AUGERED 0 TO 45 FT

WASH BORED X TO X FT

DRILLING FLUID: N/A

MATERIALS:

#BAGS OF CEMENT 8

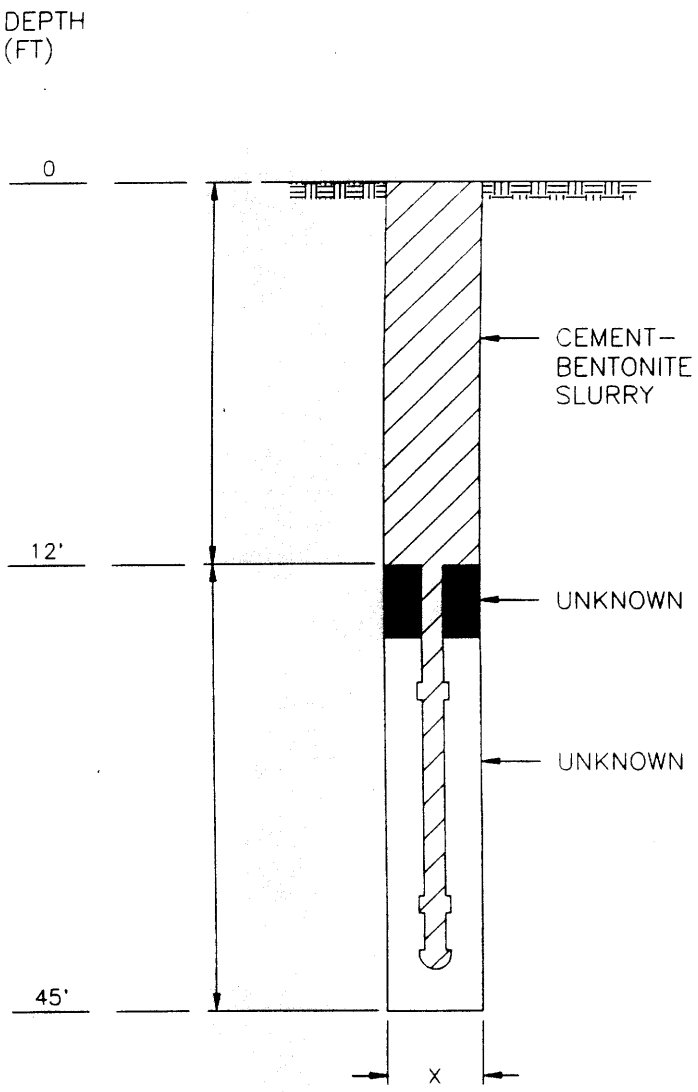
#BAGS OF BENTONITE 2

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

BULLDOZER USED TO REMOVE CONCRETE PAD, APPROX. 12" OF RISER WAS PULLED. UNABLE TO PULL REMAINING RISER AND SCREEN. ATTEMPT WAS MADE. REMAINDER OF WELL WAS GROUTED TO SURFACE USING TREMIE METHOD. GROUT WAS ALLOWED TO SETTLE FOR 24 HRS. THEN TOPPED OFF. TERMINATED AUGER AT 45' DUE TO INABILITY TO STAY CENTERED ON HOLE.

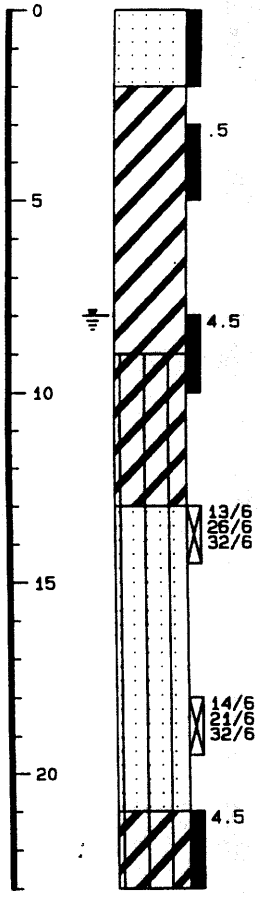
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-1D
File No.: 79992691
Date : 4-26-96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 10 ft. Water at 8 ft; Caving at ft.
Wash Bored 10 to 23 ft. Water at ft. after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Loose red CLAYEY SAND (SC)		1142
		Soft yellow orange gravel, sand CLAY (CH)		1146
				1155
		Hard yellow orange, red, gray, SILTY CLAY (CH), saturated sand partings minor gravel and organics. -ironstone seam @ 12'		
		Medium dense, gray SILTY SAND (SM) saturated		1201
				1210
		Hard dark gray SILTY CLAY (CL) -dry, silt partings		1250

Bottom @ 23'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-1D

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-26-96

DRY AUGERED 0 TO 10 FT

WASH BORED 10 TO 23 FT

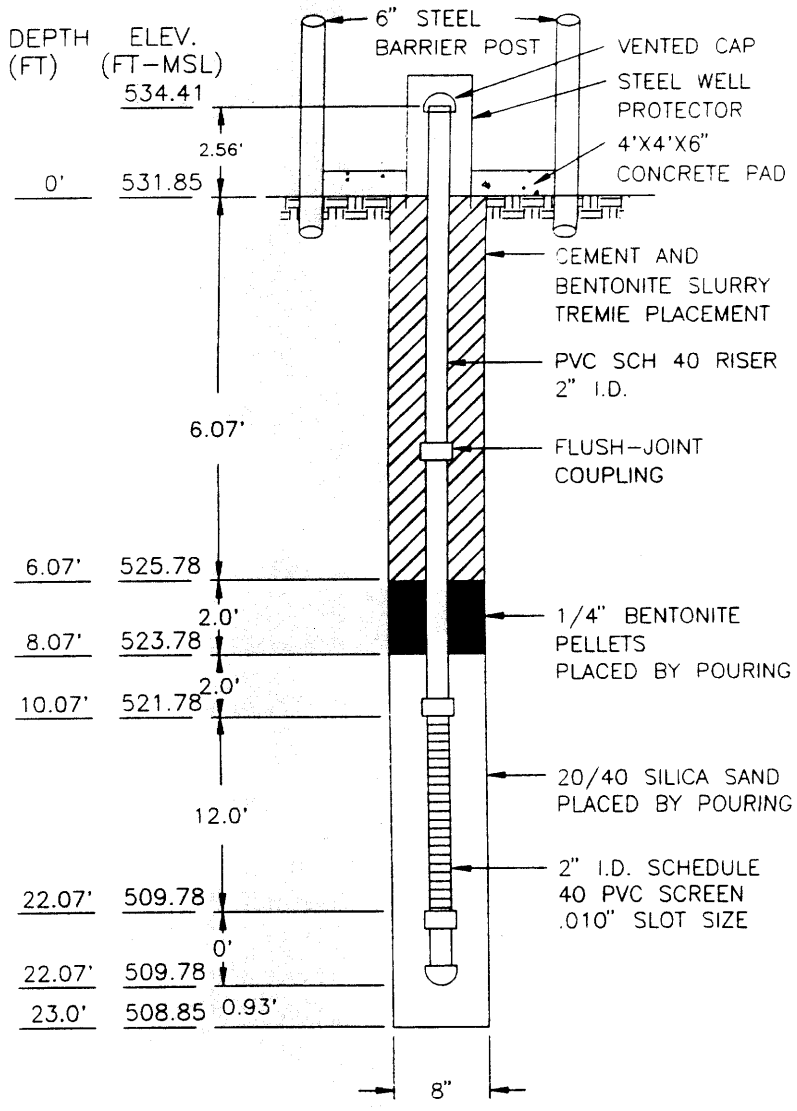
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT .3

#BAGS OF BENTONITE .25

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 5.0

CENTRALIZER YES X NO

DEPTH 9 ft.

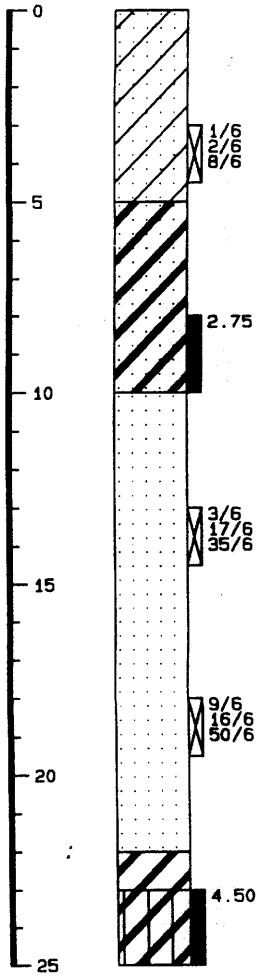
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-2D
File No.: 79992691
Date : 4-26-96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 2 ft. Water at ft; Caving at ft.
Wash Bored 2 to 25 ft. Water at ft: after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Loose red CLAYEY SAND (SC)		1507
		Stiff tan and gray SANDY CLAY (CL)		1517
		Sand @ 10'		
		Dense light & red SAND (SP) -wet		1532
		Very dense dark gray SAND (SP)		
		CLAY (CH) @ 22'		
		Hard dark gray SILTY CLAY (CL) -dry		

Bottom @ 25'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-2DA

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-26-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 14.89 FT

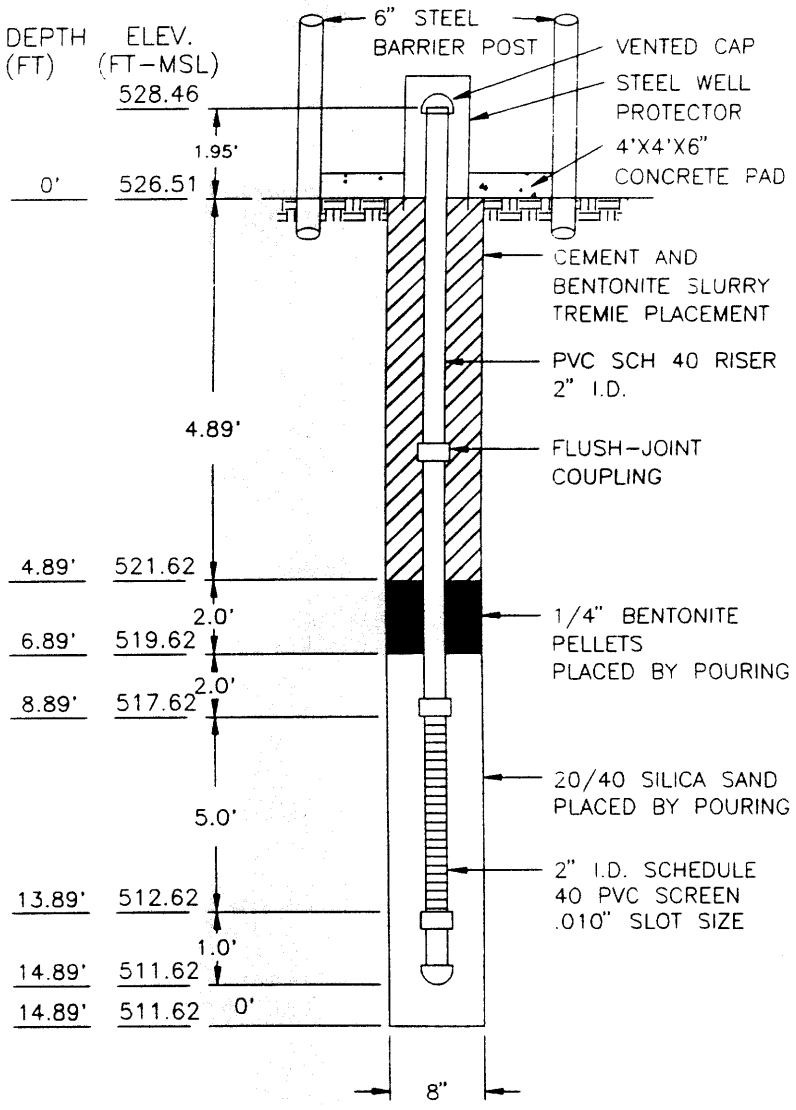
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 1

#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 2

CENTRALIZER YES X NO _____

DEPTH 7 ft.

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT WELL NO. MW-2DB

CLIENT: TYLER PIPE INDUSTRIES, INC. PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-30-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 24.26 FT

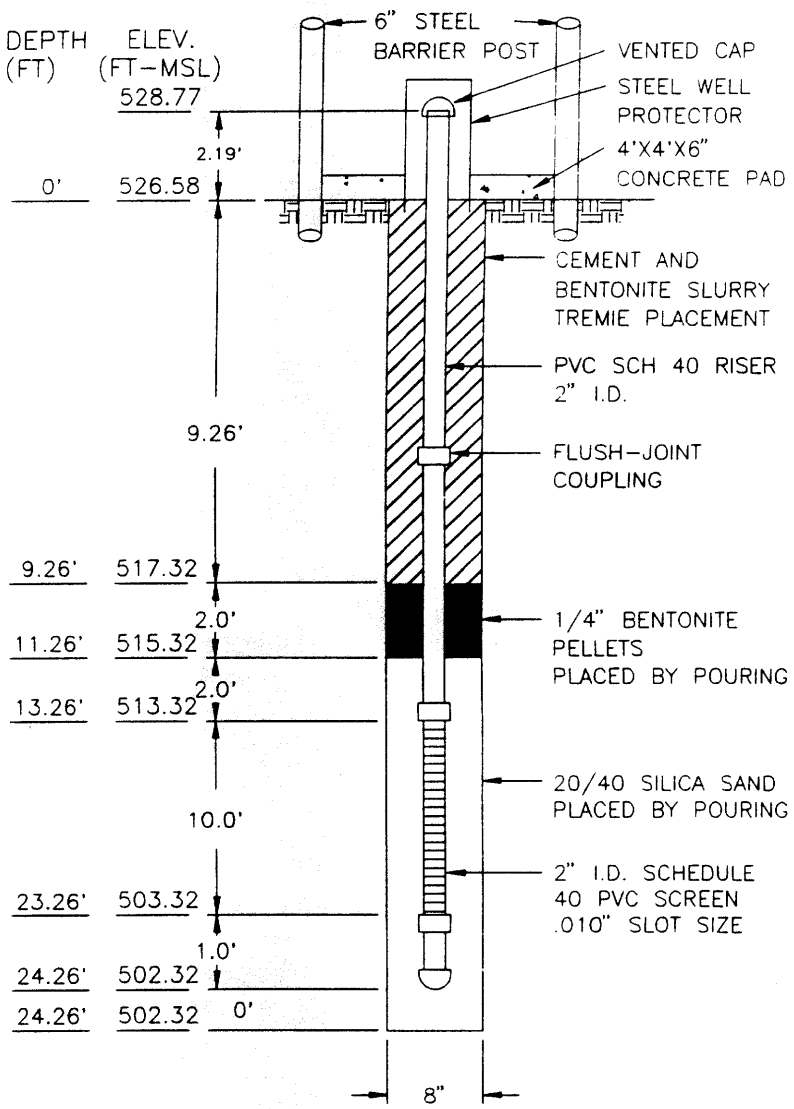
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 2

#BAGS OF BENTONITE .25

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 12 ft.

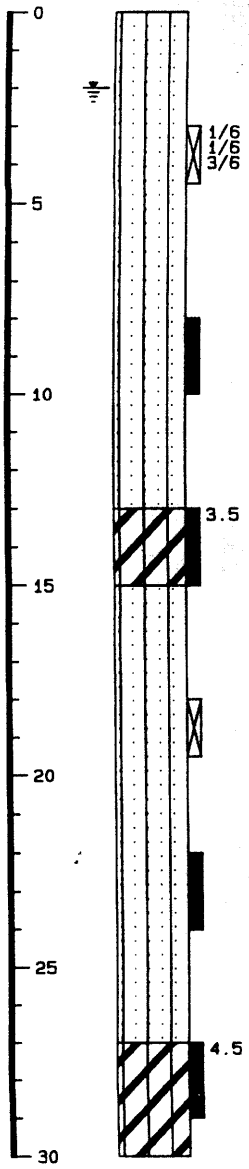
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-3D
File No.: 79992691
Date : 4-26-96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 2 ft. Water at 2 ft; Caving at ft.
Wash Bored 2 to 30 ft. Water at ft. after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Loose gray SILTY SAND (SM), organics		0955
		-dense red gravelly SAND (SP)		1005
		Stiff gray, red, yellow orange SILTY CLAY (CL), minor Fe-nodules		1012
		Medium dense yellow orange SILTY SAND (SM)		1020
		Dense dark gray SILTY SAND (SM) -w/clay & lignite seams		1030
		Hard SILTY CLAY (CL) -dry, w/silt partings		1037

Bottom @ 30'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-3DA

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 5-1-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 10 FT

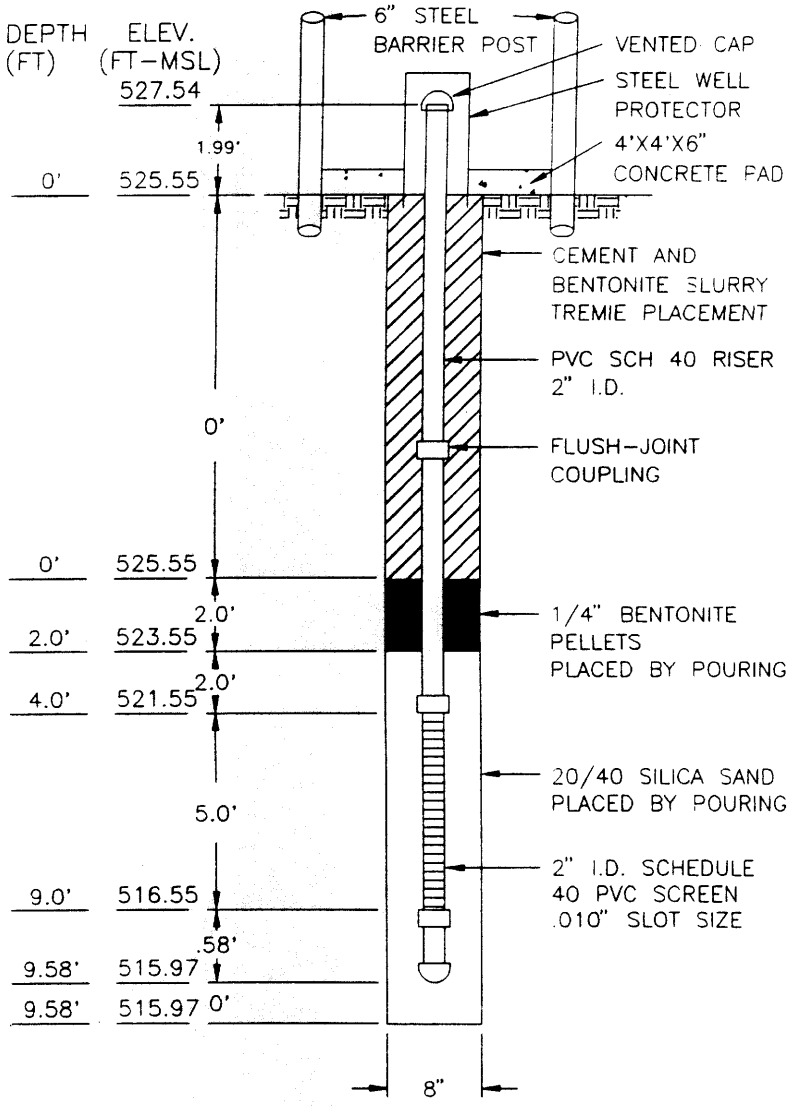
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 0

#BAGS OF BENTONITE 0

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 2

CENTRALIZER YES X NO _____

DEPTH 3 ft.

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-3DB

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 5-1-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 19.31 FT

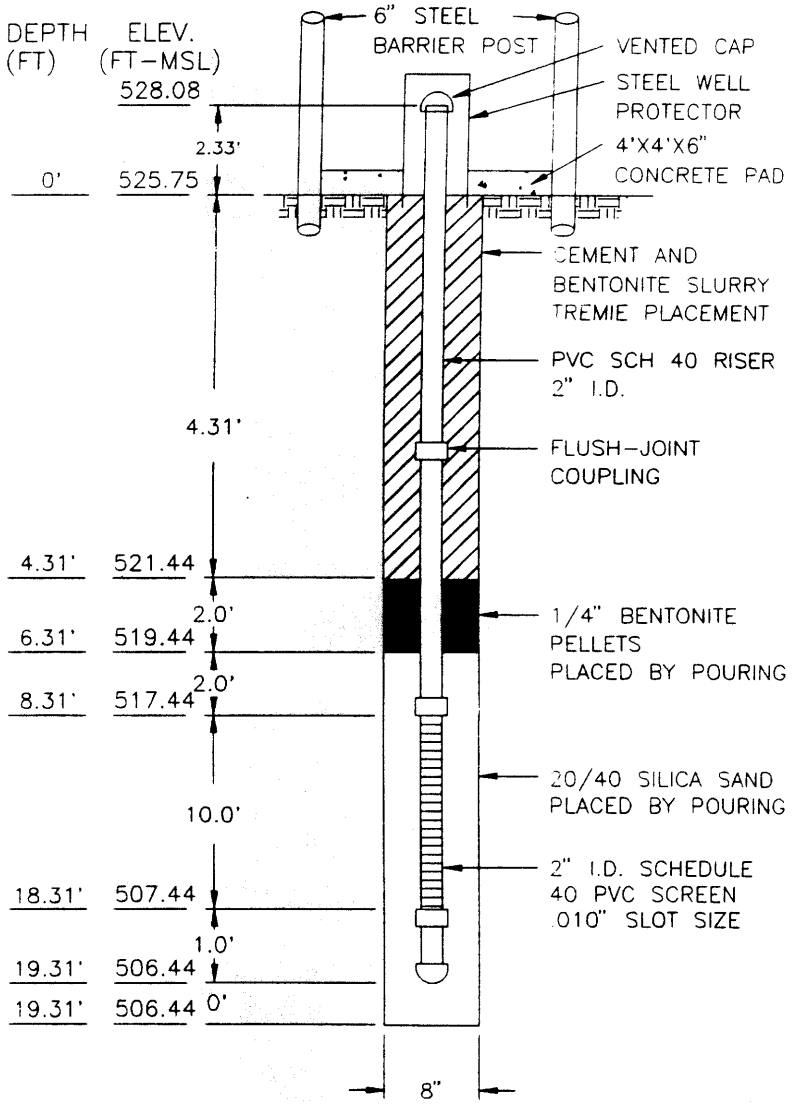
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-9-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 1

#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 7 ft.

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-3DC

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-30-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 29.48 FT

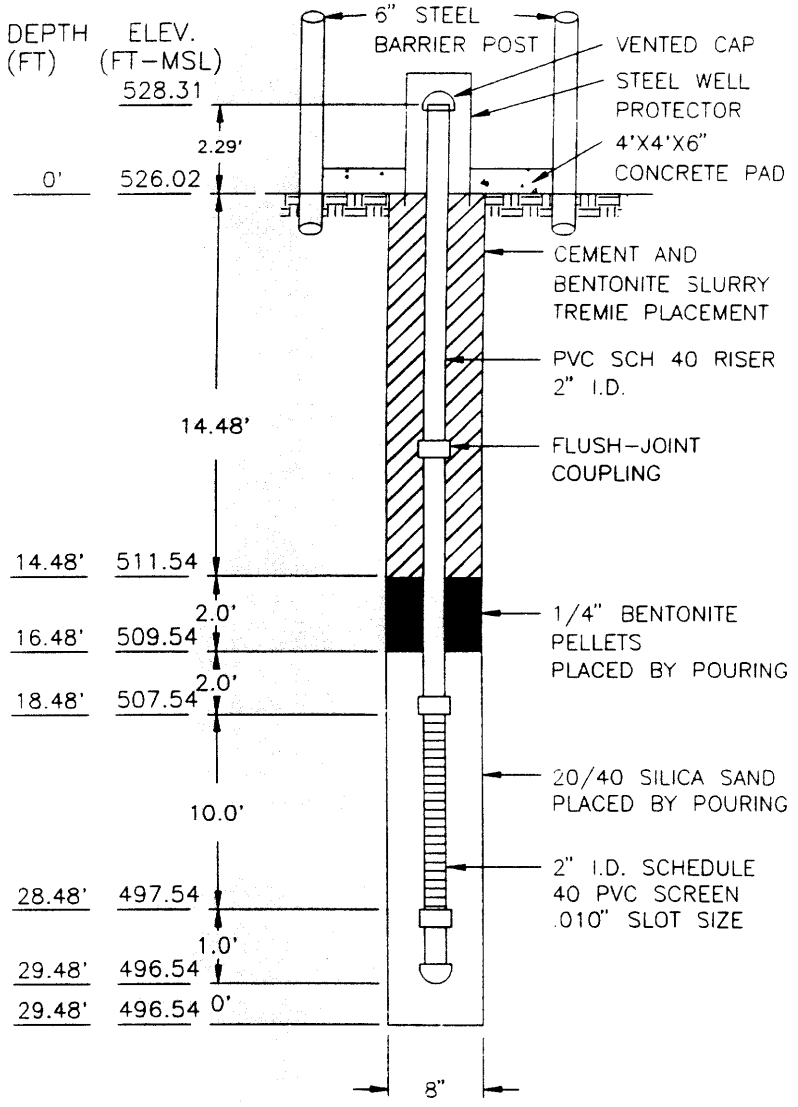
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 4

#BAGS OF BENTONITE .5

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 17 ft.

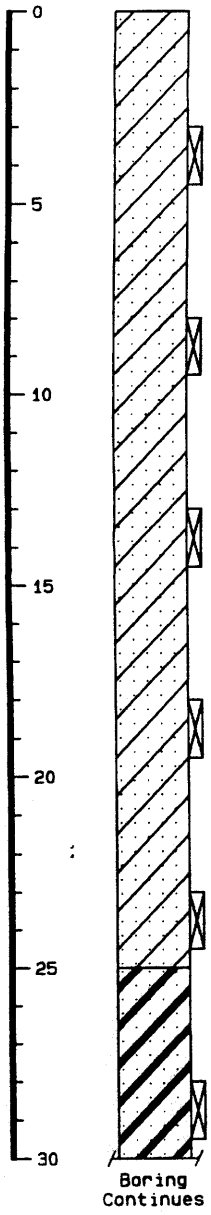
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-4U
File No.: 79992691
Date : 4/23/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 32 ft. Water at 34 ft; Caving at ft.
Wash Bored 32 to 71.5 ft. Water at ft. after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Dense red gray CLAYEY SAND (SC) -moist, fine-grained		
				0850
				0900
		Dense red yellow orange gray CLAYEY SAND (SC)		
		Dense yellow orange gray CLAYEY SAND (SC)		0906
		Medium dense yellow orange gray CLAYEY SAND (SC) -mottled clay clasts		0917
		-moist		0925
		Stiff gray yellow orange SANDY CLAY (CL) Fe-nodules, moist		
				0933

Bottom @ 72'

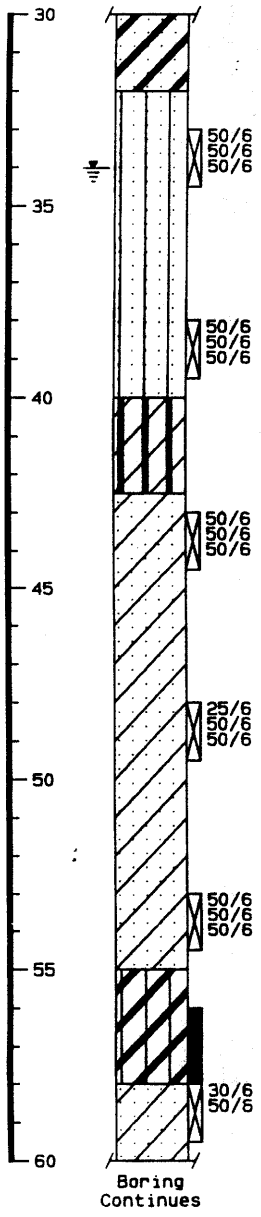
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-4U
File No.: 79992691
Date : 4/23/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 32 ft. Water at 34 ft; Caving at ft.
Wash Bored 32 to 71.5 ft. Water at ft. after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Very dense gray brown SILTY SAND (SM), saturated		0945
		-saturated		1020
		Soft gray CLAYEY SILT (ML)		
		Very dense gray brown yellow CLAYEY SAND (SC), saturated, Fe-nodules		1040
		Very dense dark gray CLAYEY SAND (SC)		1055
		Very dense tan CLAYEY SAND (SC) -w/clay seams @ 53' -no recovery		1120
		Hard gray to dark gray SILTY CLAY (CL), silt laminations, dry		1135
		Very dense gray CLAYEY SAND (SC) -saturated, silt laminations		1150

Bottom @ 72'

LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-4U
File No.: 79992691
Date : 4/23/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 32 ft. Water at 34 ft; Caving at ft.
Wash Bored 32 to 71.5 ft. Water at ft. after

ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
60				
	50/6 50/6	Very dense dark gray CLAYEY SAND (SC) -saturated		1215
65				
		Hard gray dark gray brown SILTY CLAY (CL), organics		1330
70				1345

Bottom @ 72'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-4UA

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-24-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 41 FT

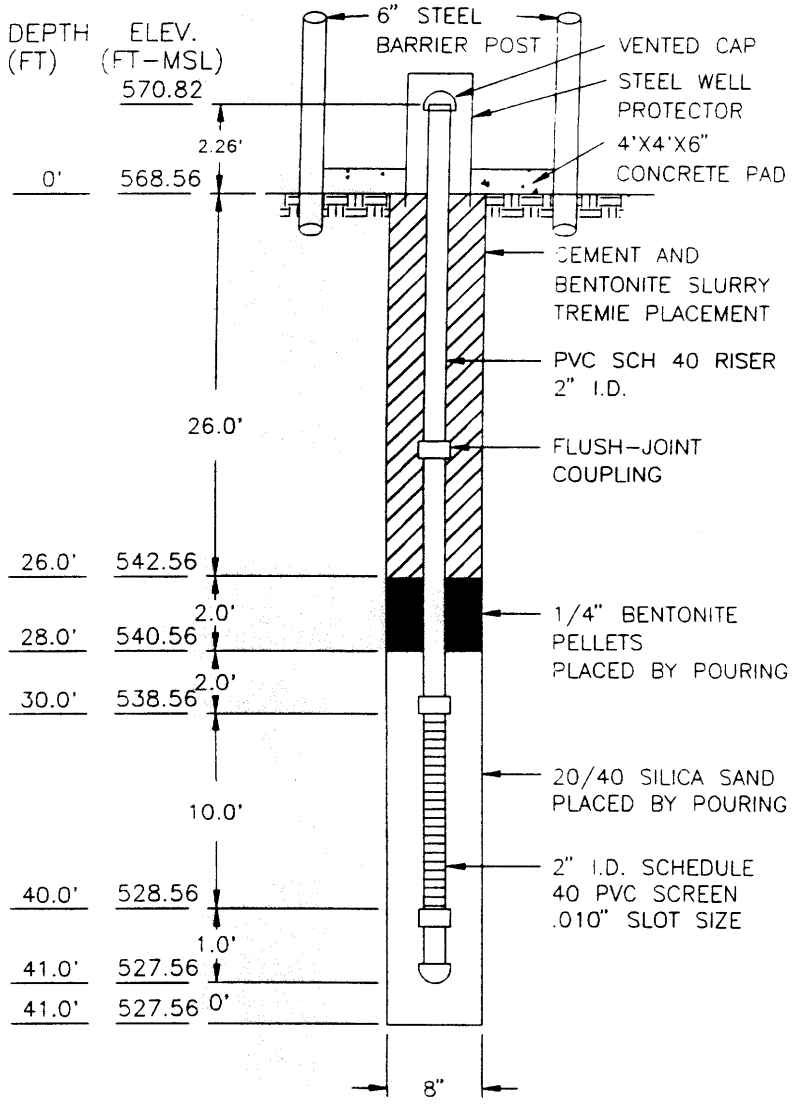
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-9-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 5

#BAGS OF BENTONITE .5

#BKTS OF BENT PELLETS .

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES x NO _____

DEPTH 29 ft.

79992691\2691-016 18:42 06/20/96

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-4UB

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-25-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 51.26 FT

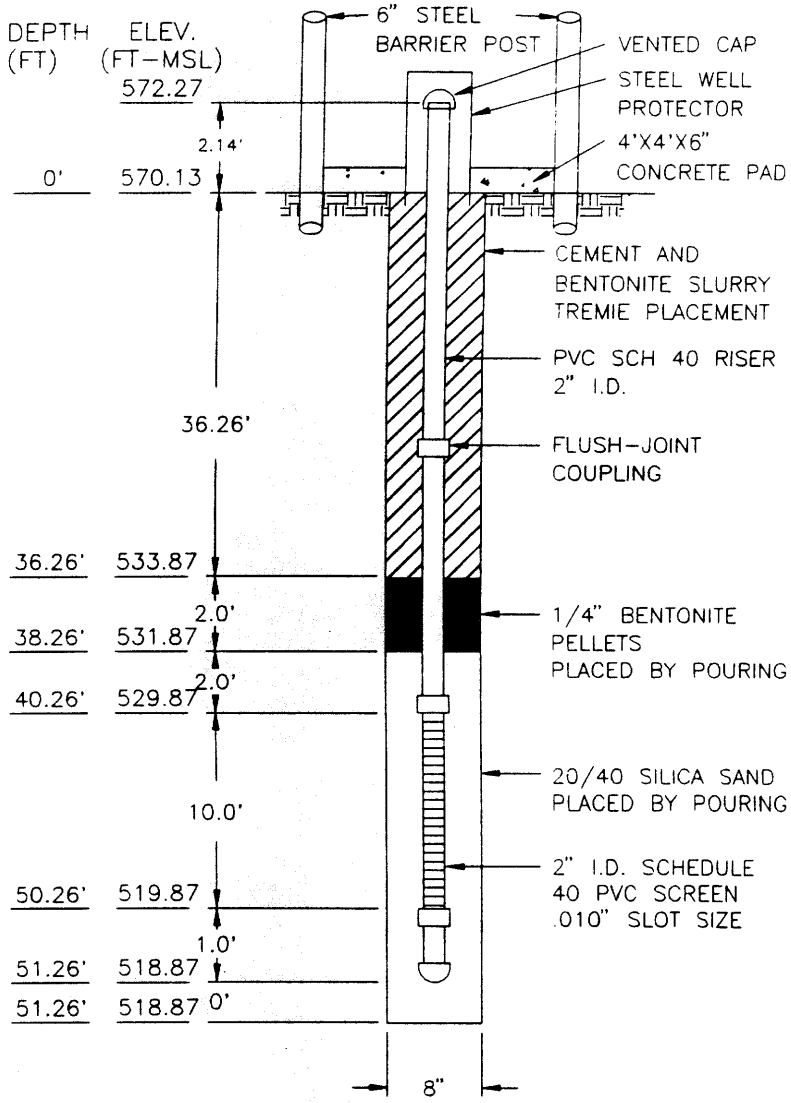
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-9-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 7

#BAGS OF BENTONITE 6

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 39 ft.

79992691\2691.017 18:44 06/21/96

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-4UC

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-24-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 60.63 FT

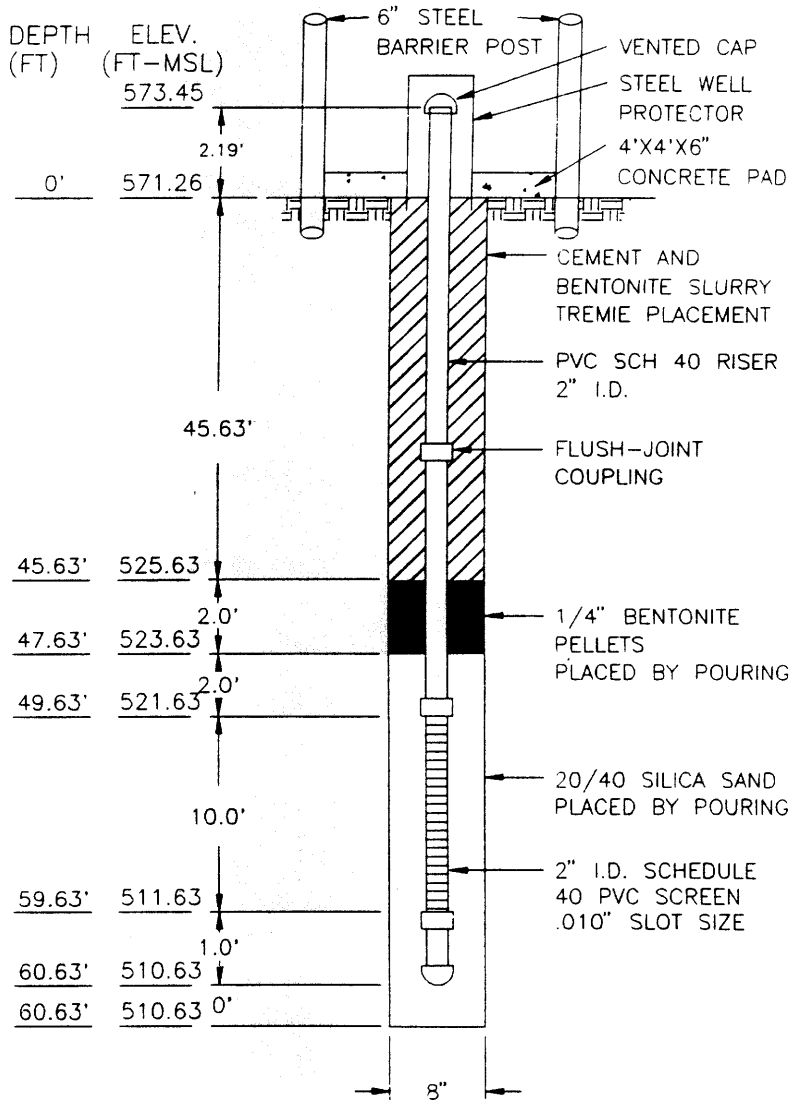
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-8-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 8

#BAGS OF BENTONITE .75

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 49 ft.

79992\691\2691-018 18:47 06/20/96

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-4UD

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-23-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 69.70 FT

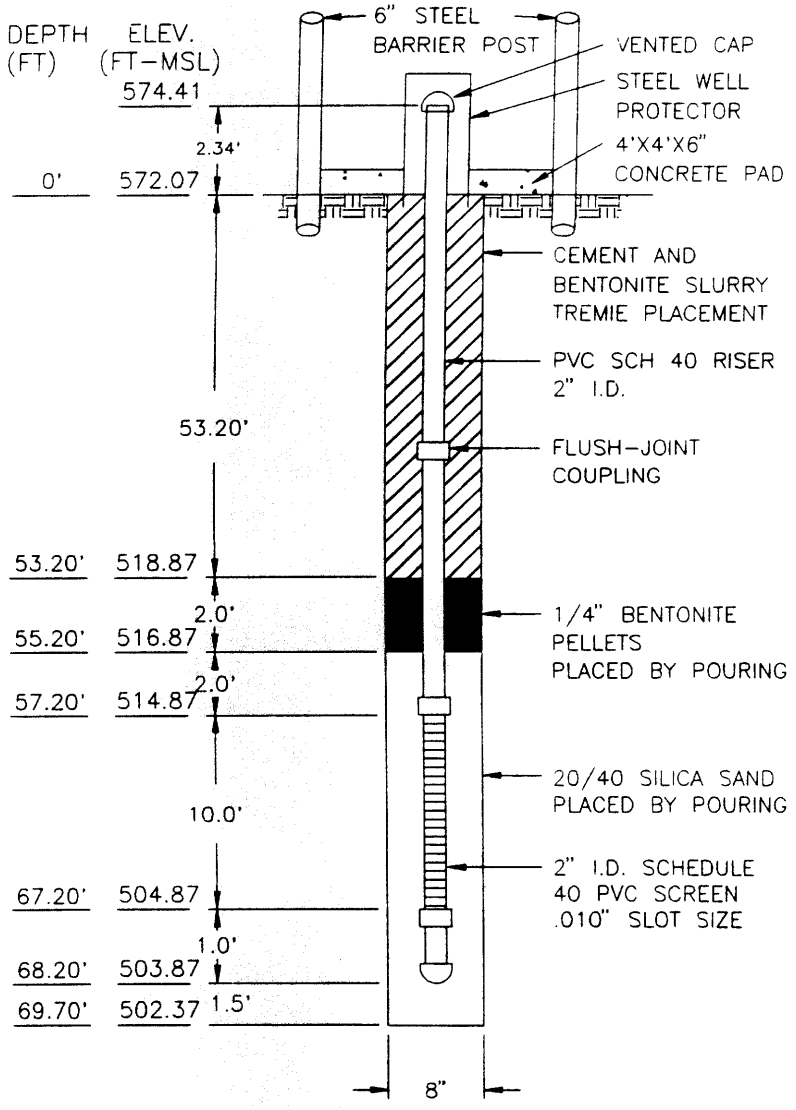
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-8-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 10

#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 58 ft.

79992\691\1691-010 18:50 06/20/96

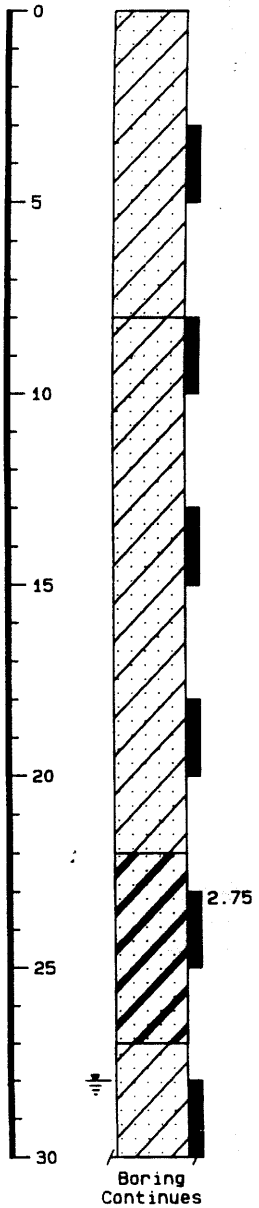
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-5U
File No.: 79992691
Date : 4/25/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 27 ft. Water at 28 ft; Caving at ft.
Wash Bored 27 to 61 ft. Water at ft. after



ELEV / DEPTH	Description	OVM Headspace (ppm)	Sample Time
	Medium dense CLAYEY SAND (SC) -sand layers, Fe-nodules		0905
	Medium dense yellowish orange CLAYEY SAND -sand seams, Fe-nodules		0915
	-sand seams, Fe-nodules		0925
	-dry		0932
	Stiff light brown yellow orange SANDY CLAY (CL) -w/sandy clasts		0940
	Medium dense light brown gray yellow orange CLAYEY SAND (SC) saturated		0950

Bottom @ 61'

LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-5U
File No.: 79992691
Date : 4/25/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 27 ft. Water at 28 ft; Caving at ft.
Wash Bored 27 to 61 ft. Water at ft. after

ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
30		Medium dense light brown, gray yellow orange CLAYEY SAND (SC), saturated		
35	4.50	Hard tan, yelllow orange SANDY CLAY (CL) silty sand pockets		1044
40	4.25	Very stiff dark gray SILTY CLAY (CL)		1103
45	3.25	Very stiff dark gray SANDY CLAY (CL)		1156
		SAND @ 46'		
50	50/6	Very dense dark gray SAND (SP)		1209
55	50/6	Very dense grey brown SILTY SAND (SM)		1220
		Hard dark gray SILTY CLAY (CL)		
60	31/6 37/6 50/6			1235
	Boring Continues			

Bottom @ 61'

LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-5U
File No.: 79992691
Date : 4/25/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 27 ft. Water at 28 ft; Caving at ft.
Wash Bored 27 to 61 ft. Water at ft. after

ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
60		Hard dark gray SILTY CLAY (CL)		

Bottom @ 61'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-5UA

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-26-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 36.52 FT

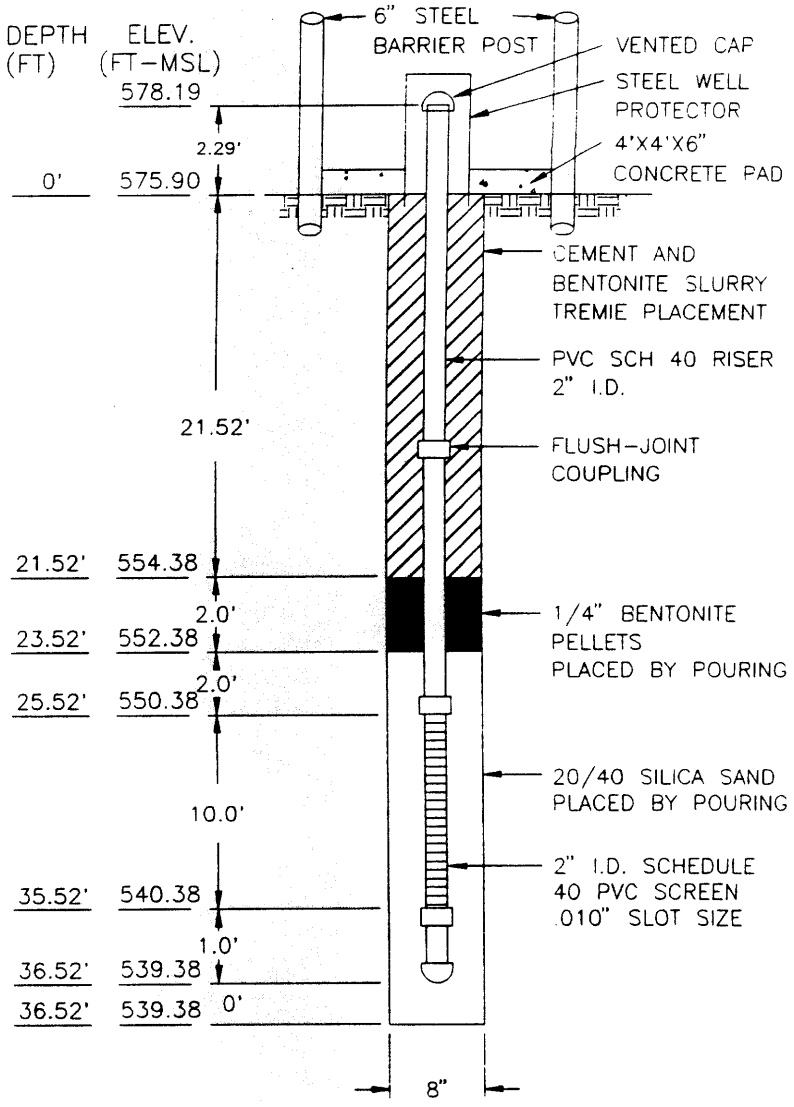
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-7-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 4

#BAGS OF BENTONITE 5

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 24 ft.

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-5UB

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-30-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 49.36 FT

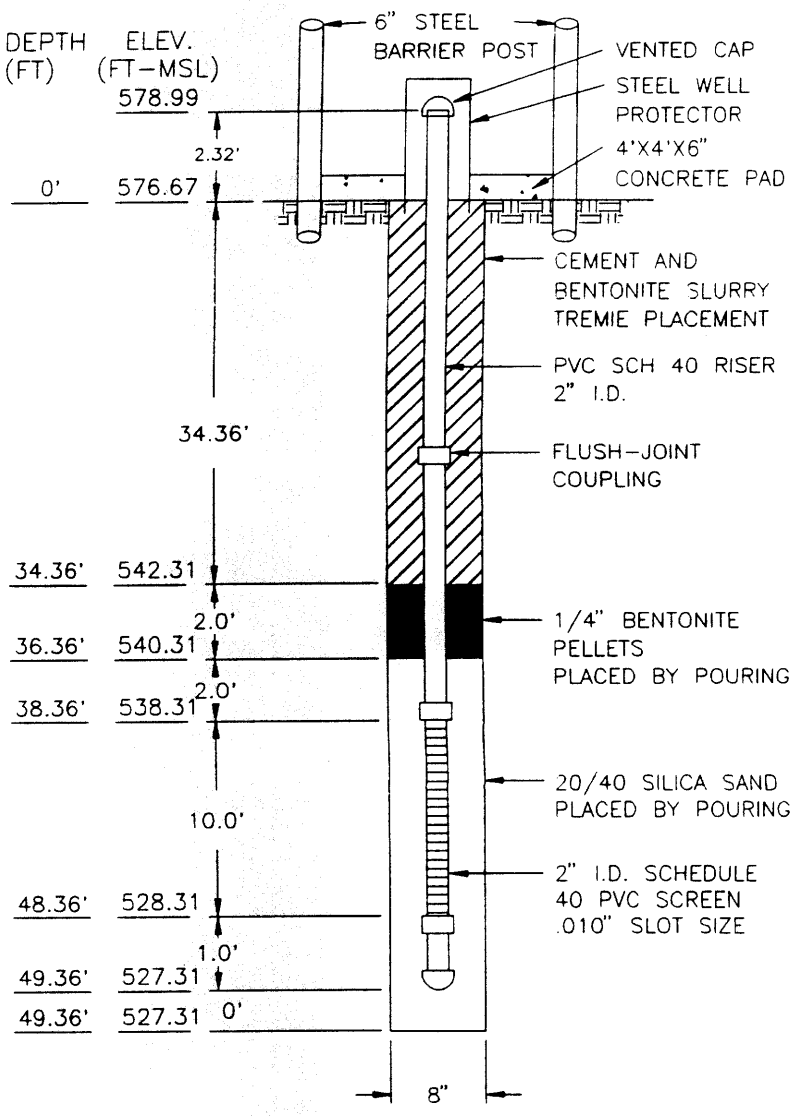
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-7-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 7

#BAGS OF BENTONITE .6

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 37 ft.

79992691\2691-021 18:55 06/20/96

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-5UC

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-25-96

DRY AUGERED 0 TO 27 FT

WASH BORED 27 TO 58.03 FT

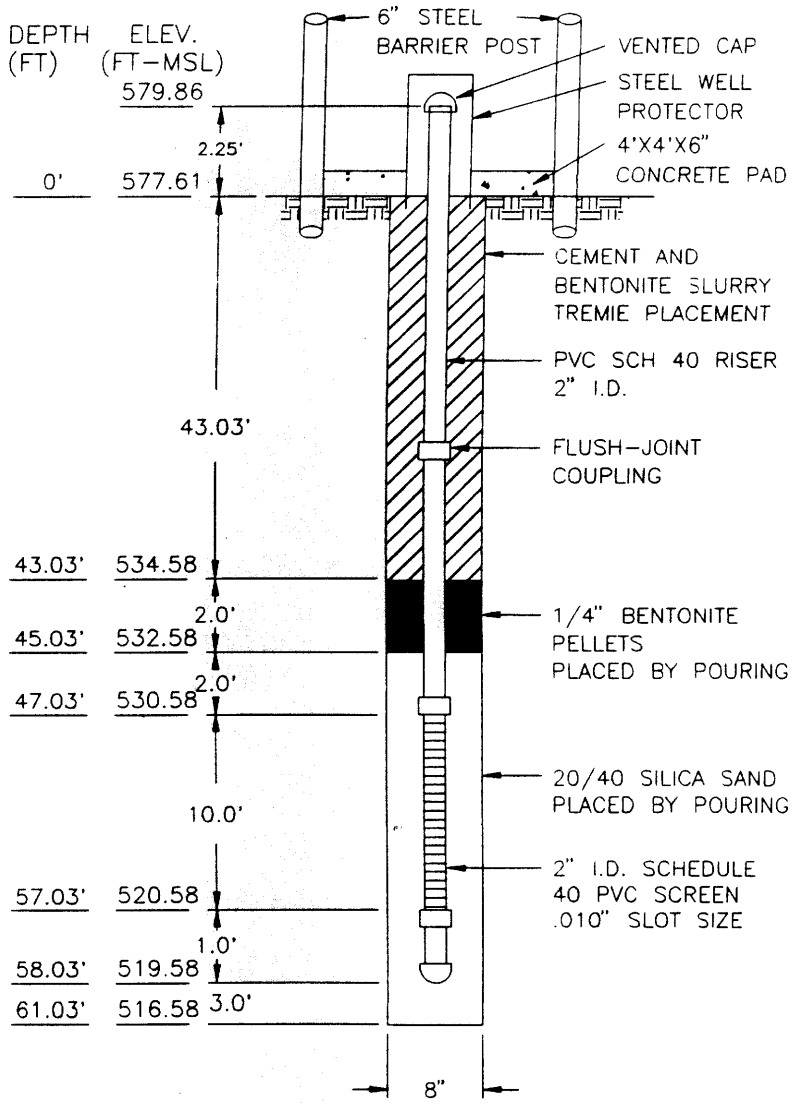
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-7-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 8

#BAGS OF BENTONITE .75

#BKTS OF BENT. PELLETS

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO

DEPTH 46 ft.

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ENVIRONMENTAL LOG

Client: Tyler Pipe Landfill

Project No: E 1930-04 **Phase** **Task**

Well No. MW-1

Location Swan, Texas

Surface Elev.

Depth Feet	Sampler	Overburden/Lithologic Description
0		**Ground Surface**
		SANDY FAT CLAY(CH) medium stiff; dark red (2.5YR 4/8) and reddish gray (2.5YR 7/1); moist; no odor; roots common @ 0-0.5'
		SANDY LEAN CLAY(CL) medium stiff; strong brown (7.5YR 5/6); moist; no odor
5		--strong brown (7.5YR 5/6) and yellowish red (5YR 5/8); 5% recovery
		SILTY SAND(SM) medium dense; reddish yellow (7.5YR 6/6) and light gray (7.5YR 7/1); moist; no odor; very fine-grained sand; few thin fat clay layers
10		--50% recovery
		--brownish yellow (10YR 6/6) and light gray (7.5YR 7/1)
		--80% recovery; iron ore layer @ 13.2'
15		CLAYEY SILTY SAND(SC) very dense; strong brown (7.5YR 5/6); moist; no odor; fine-grained sand
		SILTY SAND(SM) dense; brownish yellow (10YR 6/6) and light gray (7.5YR 7/1); moist; no odor; very fine-grained sand; few thin fat clay layers; few iron ore layers
20		--brownish yellow (10YR 6/6) and light gray (7.5YR 7/1), and dark red (2.5YR 3/6); 90% recovery
		--4" fat clay layer @ 19'
		--5" iron ore layer @ 20'
		--100% recovery; 4" fat clay layer @ 23.2'
25		SILTY FAT CLAY(CH) very stiff; dark bluish gray (2 Gley 4/5PB); moist; no odor
30		CLAYEY SILT(ML) dense; dark bluish gray (2 Gley 4/5PB); moist; no odor
		--very dense; 1' silt stone @ 31'
		--dense
35		--50% recovery; moisture content increasing
		--clay content increasing
		--100% recovery
40		SILTY FAT CLAY(CH) very stiff; dark bluish gray (2 Gley 4/5PB); moist; no odor
		Bottom of Boring @ 40'

FID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
			0	T.O.C. Elev.
			5	
			10	
			15	
			20	
			25	
			30	
			35	
			40	

Driller Chris Loftin

Logged By Jeanie Odom

Drilling Started 3/17/04

Drilling Completed 3/17/04

Construction Completed

Development Completed

Type of Well

Drilling Method H.S.A.

Borehole Diameter 8.25"

Well Casing 2" **Dia.** 0.0' **to** 20.0'

Casing Type PVC Sch. 40

Well Screen 2" **Dia.** 20.0' **to** 40.0'

Screen Type Slotted

Slot Size 0.010"

Grout Type

Bentonite Seal 16-18'

Filter Pack Qty. 18-40'

Filter Pack Type 20/40 Sand

Static Water Level

Notes: Dry and open while drilling and upon completion

ENVIRONMENTAL LOG

Client: Tyler Pipe Landfill

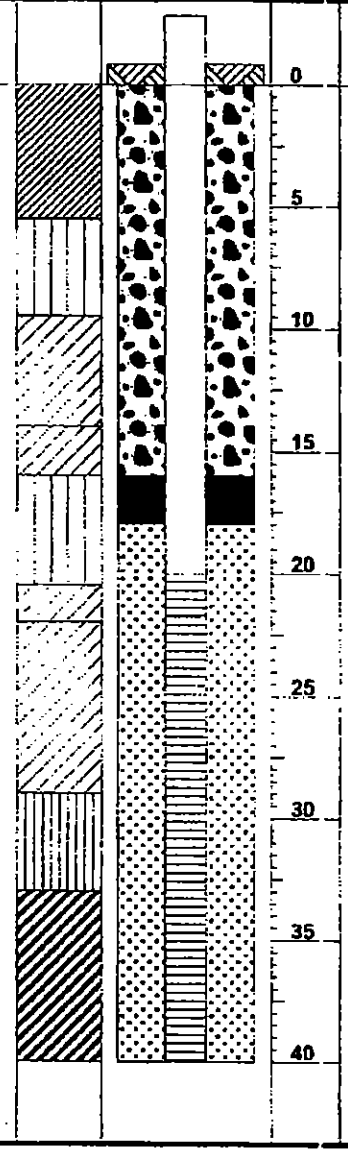
Project No: E 1930-04 **Phase** **Task**

Well No. MW-2

Location Swan, Texas

Surface Elev.

Depth Feet	Sampler	Overburden/Lithologic Description
0		**Ground Surface**
		SILTY LEAN CLAY(CL) medium stiff; red (10R 4/8); moist; no odor; roots common @ 0-0.5'
		–reddish yellow (5YR 6/8)
5		–soft; 30% recovery
		SILTY SAND WITH FAT CLAY LAYERS(SM) loose; reddish yellow (7.5YR 6/6) and light gray (7.5YR 7/1); moist; no odor; very fine-grained sand
10		–50% recovery
		CLAYEY SAND WITH FAT CLAY LAYERS(SC) medium dense; red (10R 4/8) and dark yellowish brown (10YR 4/6) moist; no odor; very fine-grained sand; few iron ore layers
15		CLAYEY SILTY SAND(SC) medium dense; yellowish brown (10YR 5/8); moist; no odor; very fine-grained sand; 100% recovery
		SILTY SAND AND CLAYEY SAND(SM-SC) dense; red (10R 4/8) and reddish yellow (7.5YR 6/8); moist; no odor moderate amount of iron ore gravel
20		–1" iron ore layer @ 18.3'
		–100% recovery
		CLAYEY SILTY SAND(SC) very dense; strong brown (7.5YR 5/6); moist; fine-grained sand; no odor; 5" iron ore layer @ 21'
		CLAYEY SILTY SAND(SC) dense; brownish yellow (10YR 6/6) and light gray (7.5YR 7/1); moist; very fine-grained sand; no odor; 100% recovery
25		–few thin iron ore layers; (100% recovery); silt content increasing
30		CLAYEY SILT(ML) dense; strong brown (7.5YR 5/8) and light gray (7.5YR 7/1); moist; no odor; 100% recovery
		–brown (7.5YR 5/2)
35		SILTY FAT CLAY(CH) very stiff; dark bluish gray (2Gley 4/5PB); moist; no odor; 100% recovery
		–0.8' clayey silt @ 36'
		–silt content increasing
40		Bottom of Boring @ 40'



Well Construction Details

T.O.C. Elev.

Driller Chris Loftin	**Drilling Method** H.S.A.	**Bentonite Seal** 15-18'
Logged By Jeanie Odom	**Borehole Diameter** 8.25"	**Filter Pack Qty.** 18-40'
Drilling Started 3/18/04	**Well Casing** 2" **Dia.** 0.0' to 20.0'	**Filter Pack Type** 20/40 Sand
Drilling Completed 3/18/04	**Casing Type** PVC Sch. 40	**Static Water Level**
Construction Completed	**Well Screen** 2" **Dia.** 20.0' to 40.0'	
Development Completed	**Screen Type** Slotted	**Notes:** Dry and open while drilling and upon completion.
Type of Well	**Slot Size** 0.010"	
	Grout Type	

ENVIRONMENTAL LOG

Client: Tyler Pipe Landfill

Project No:E 1930-04 Phase Task

Well No. MW-3

Location Swan, Texas

Surface Elev.

Depth Feet	Sampler	Overburden/Lithologic Description
0		**Ground Surface**
		SILTY FAT CLAY(CL) medium stiff; red (10R 4/8); moist; no odor; fill
		--reddish yellow (5YR 6/8)
5		TRASH medium dense; black and white; moist; no odor; styrofoam @ 5.5'; sand (black and white); pieces of molding
10		SANDY FAT CLAY WITH IRON ORE GRAVEL (CH) soft; light brown (7.5YR 6/4) and yellowish red (10YR 5/6); 100% recovery; liner
		SANDY FAT CLAY WITH THIN IRON ORE LAYERS(CH) stiff; light brown (7.5YR 6/3) and reddish yellow (7.5YR 6/8); fill
15		CLAYEY SAND WITH FAT CLAY SEAMS(SC) medium dense; light brown (7.5YR 6/4) and reddish yellow (10YR 5/6); 70% recovery; moist; no odor; very fine-grained sand; fill
		SILTY SAND(SM) medium dense; dark grayish brown (10YR 4/2); moist; no odor; very fine-grained sand; roots common; fill
20		SANDY CLAYEY SILT(ML) medium dense; dark yellowish brown (10YR 4/4); moist; no odor; very fine-grained sand; fill
		--brownish yellow (10YR 6/8)
		--dry
25		SANDY SILT(SM) medium dense; brownish yellow (10YR 6/8), light gray (7.5YR 7/1), and yellowish red (10R 5/6); moist; no odor; very fine-grained sand; minor amount of roots; fill; 100% recovery
		SANDY LEAN CLAY(CL) medium stiff; brownish yellow (10YR 6/8) and yellowish red (10R 5/6); moist; no odor; minor amount of iron ore gravel
30		--brownish yellow (10YR 6/8), yellowish red (10R 5/6), and light gray (7.5YR 7/1)
		SANDY SILT(ML) medium stiff; light gray (7.5YR 7/1) and reddish yellow (5YR 6/8); moist; no odor; 100% recovery
35		SILTY FAT CLAY(CH) medium stiff; brown (7.5YR 5/2); moist; no odor; few thin iron ore layers
40		--silt content increasing @ 39'
		Bottom of Boring @ 40'

Depth Feet	FID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
					T.O.C. Elev.
0				0	
5				5	
10				10	
15				15	
20				20	
25				25	
30				30	
35				35	
40				40	

Driller Chris Loftin

Logged By Jeanie Odom

Drilling Started 3/18/04

Drilling Completed 3/18/04

Construction Completed

Development Completed

Type of Well

Drilling Method H.S.A.

Borehole Diameter 8.25"

Well Casing 2" Dia. 0.0' to 20.0'

Casing Type PVC Sch. 40

Well Screen 2" Dia. 20.0' to 40.0'

Screen Type Slotted

Slot Size 0.010"

Grout Type

Bentonite Seal 16-18'

Filter Pack Qty. 18-40'

Filter Pack Type 20/40 Sand

Static Water Leve

Notes: Dry and open while drilling and upon completion.

ENVIRONMENTAL LOG

Client: Tyler Pipe Landfill

Project No: E 1930-04 Phase Task

Well No. MW-4

Location Swan, Texas

Surface Elev.

Depth Feet	Sampler	Overburden/Lithologic Description
0		**Ground Surface**
		SANDY LEAN CLAY(CL) medium stiff; red (10R 4/8); moist; no odor; roots common @ 0-0.5'; fill
5		CLAYEY SAND(SC) medium dense; red (10R 4/6) and yellowish brown (10YR 5/8); moist; no odor; fill; with thin fat clay layers; 60% recovery
		–1" silty sand layer @ 6.2'; iron ore layer @ 6.3'
10		–4" silty sand layer @ 9.7'
		–2.5" silty sand layer @ 10.2'; 1" iron ore layer @ 10.7'
		SANDY FAT CLAY(CH) medium stiff; light gray (7.5YR 7/1) and yellowish brown (10YR 5/8); moist
15		CLAYEY SILTY SAND(SC) very dense; strong brown (7.5YR 5/6); moist; no odor; moderate amount of iron ore layers; moderate amount of fat clay layers (~1"); fine-grained sand; 100% recovery
		–6" silty sand layer @ 17'
20		SILTY SAND(SM) dense; brownish yellow (10YR 6/6); moist; no odor; very fine-grained sand; few iron ore layers and fat clay layers; 90% recovery
		SANDY SILT(ML) dense; reddish yellow (5YR 6/8) and light gray (7.5YR 7/1); moist; no odor; few iron ore layers
25		–brownish yellow (10YR 6/8) and light gray (7.5YR 7/1)
		–brown (7.5YR 5/2) and brownish yellow (10YR 6/8)
30		CLAYEY SILT(ML) dense; brown (7.5YR 5/2) and brownish yellow (10YR 6/8); moist; no odor
		–dark bluish gray (2 Gley 4/5PB)
		SILTY FAT CLAY(ML) very stiff; dark bluish gray (2 Gley 4/5 PB)
		–8" shale @ 32'
35		CLAYEY SANDY SILT(ML) dense; dark bluish gray (2 Gley 4/5PB); moist; no odor; 100% recovery
40		–100% recovery
		Bottom of Boring @ 40'

PID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
				T.O.C. Elev.
			0	
			5	
			10	
			15	
			20	
			25	
			30	
			35	
			40	

Driller Chris Loftin

Logged By Jeanie Odom

Drilling Started 3/18/04

Drilling Completed 3/19/04

Construction Completed

Development Completed

Type of Well

Drilling Method H.S.A.

Borehole Diameter 8.25"

Well Casing 2" Dia. 0.0' to 20.0'

Casing Type PVC Sch. 40

Well Screen 2" Dia. 20.0' to 40.0'

Screen Type Slotted

Slot Size 0.010"

Grout Type

Bentonite Seal 16-18'

Filter Pack Qty. 18-40'

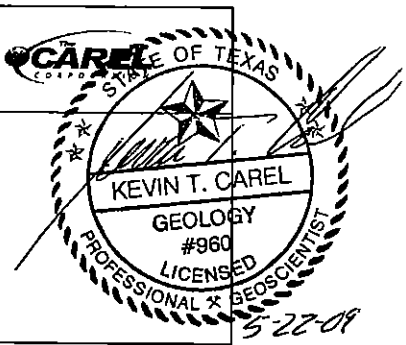
Filter Pack Type 20/40 Sand

Static Water Level

Notes: Dry and open while drilling and upon completion.

LOG OF BORING NO. EB-07-1

Project Description: McWane Inc. (Tyler Pipe Company) APAR



5-22-09

Location: Sludge Disposal Area

Surface El.: 611 feet
Completion Depth: 65 feet
Date Boring Started: 9/18/2007
Date Boring Completed: 9/18/2007

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION
0			Sandy CLAY with gravel (iron ore), dark reddish brown, roots near surface, iron staining, poorly consolidated, slightly moist, gradational contact, Grab soil sample collected at 0 to 1' bgs
5			Silty CLAY, dark reddish brown, moderately consolidated, slightly moist, Grab soil sample collected from 2 to 10' bgs
10			increasing moisture content at 9' bgs gradational contact
15			Silty SAND with some gravel (iron ore), light reddish brown, dry, poorly consolidated, sand is fine grained and subrounded, Grab soil sample collected from 11 to 15' bgs gradational contact
20			CLAY, reddish brown, moderately consolidated, roots, dry to slightly moist, Grab soil sample collected from 15 to 19' bgs sharp contact
25			Silty SAND, dark gray, poorly consolidated, dry, sand is fine grained and subrounded, sharp contact, Grab soil sample collected from 19 to 20' bgs
30			Silty CLAY, dark brown, dry, poorly consolidated, some fine grained sand present, Grab soil sample collected from 20 to 25' bgs reddish brown at 22.5' bgs gradational contact Grab soil sample collected from 25 to 30' bgs
35			CLAY with iron nodule gravel fragments, moderately consolidated, some very fine grained sand seams present, dry gradational contact Saturated soils unit approximately 30-40' bgs, Grab soil sample collected from 30-40' bgs
40			Silty CLAY, light gray with abundant reddish yellow iron staining, slightly moist less silt at 34' bgs sharp contact
45			CLAY, dark gray, moderately consolidated to very well consolidated, slightly moist, Grab soil sample collected from 40 to 45' bgs Thin 4" wet angular gravel layer at 42.5' bgs sharp contact
50			Silty SAND with some clay and gravel, dark gray, slightly moist to dry, poorly consolidated, sand is very fine grained and subrounded, gravel is angular, Grab soil sample collected from 45 to 49' bgs gradational contact
55			Sandy CLAY, dark gray, slightly moist, moderately consolidated to very well consolidation, sand is very fine grained, friable from 50' to 54' bgs, Grab soil sample collected from 50 to 54' bgs, Grab soil sample collected from 55 to 60' bgs, Grab soil sample collected from 60 to 61' bgs very well consolidation from 54' to 55' bgs friable from 55' to 58' bgs moderately consolidated from 58' to 60' bgs
60			wet at 60' bgs gradational contact
65			SAND, light gray, wet, poorly consolidated (loose), Sparta Formation (uppermost groundwater bearing unit), Grab soil sample collected from 61 to 65' bgs
70			

Drilling Contractor: Groundwater Monitoring
Drilling Method: HSA
Sampling Method: Continuous
Geologist/Engineer: Wimmer/Carel
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
9/18/07	60.00

Remarks: Exploratory boring drilled approximately 10' east of sludge disposal area well MW-3, bgs - below ground surface, listed surface elevation is approximate; 8 1/4" diameter boring

MONITOR WELL BORING WITH LOGO TPIPE.GPJ CAREL.GDT 5/8/09

LOG OF BORING NO. EB-07-1
PAGE 1 of 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level after drilling.
▼ Water level at end of drilling.

LOG OF MONITOR WELL NO. MW-5

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: Sludge Disposal Area

Surface El.: 606.67 feet
Completion Depth: 40 feet
Date Boring Started: 9/18/2007
Date Boring Completed: 9/18/2007

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			Sandy CLAY, tan, roots near surface, poorly consolidated, dry, Grab soil sample collected from 0 to 5' bgs gradational contact		Concrete from surface to 2' bgs
5			CLAY, reddish brown with iron staining, moderately consolidated, slightly moist, gradational contact		
10			Silty CLAY, reddish brown with iron staining, poorly consolidated, slightly moist, Grab soil sample collected from 5 to 10' bgs gradational contact		Cement bentonite grout from surface to 24.4' bgs
15			Silty SAND, light brown to tan with iron staining, poorly consolidated, slightly moist, sand is fine grained and subrounded, Grab soil sample collected from 11 to 15' bgs gravel size iron fragments at 15' bgs and 16' bgs gradational contact		
20					
25			Sandy CLAY, light brown to tan grading to reddish brown with depth, iron staining present, poorly consolidated, slightly moist, sand is fine grained and subrounded, Grab soil sample collected from 17 to 21' bgs sharp contact		Hydrated bentonite seal from 24.4' bgs to 26.8' bgs 12/20 Sand filter pack from 26.8' bgs to 40' bgs
30			GRAVEL with some clay, dark brown, wet, gravel is angular, Grab soil sample collected from 21 to 24' bgs gradational contact sharp contact		
35			Silty CLAY with some minor very fine grained sand, light gray with iron staining, moderately consolidated, moist, Grab soil sample collected from 24 to 25' bgs		0.01" Slotted screen from 30' bgs to 40' bgs
40			CLAY, dark gray with iron staining, very good consolidation, moist to wet from 25' bgs to 30' bgs, Grab soil samples collected from 25 to 30' bgs and 30 to 40' bgs moist from 30' bgs to 40' bgs, Soil Samples collected from 30-40': 0.032 mg/kg moderately consolidated at 35' bgs		
45					
50					
55					
60					
65					
70					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring
Drilling Method: HSA
Sampling Method: Continuous
Geologist/Engineer: Wimmer/Carel
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
11/7/07	26.03

Remarks: Well dry following installation / bgs - below ground surface; 8 1/4 inch borehole

MW WITH WELL DETAILS AND LOGO TPIPE.GPJ CAREL.GDT 5/8/08

LOG OF MONITOR WELL NO. MW-5
PAGE 1 of 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

MONITORING WELL DATA SHEET

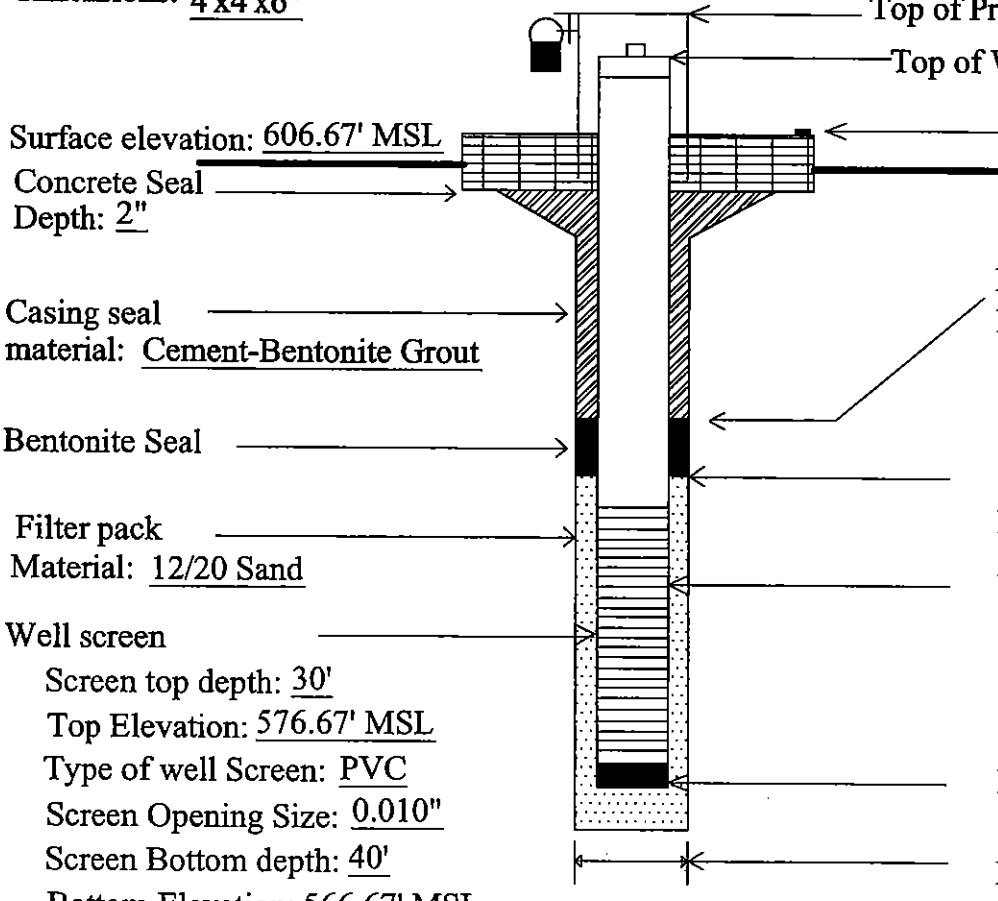
Permitee or Site Name: McWane Inc. Facility
Permit No.: HW-50141-000
County: Smith County
Monitor Well I.D. No.: MW-5
Date of Monitor Well Installation: 9/18/2007
Date of Monitor Well Development: 11/07/2007
Well Location: Northing: 6854296
Easting: 2932293
Monitor Well Groundwater Gradient
Gradient: Upgradient: X Downgradient: _____
Monitor Well Driller Name: Roddy Qualls
License No.: 3121

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Notes:
- Report all depths from Surface Elevation and all Elevations relative to Mean Sea Level (MSL), to the nearest hundredth of a foot.
- Diameter of boring should be at least 4 inches larger than diameter of well casing.
- Use flush screw joint casing only, 2" diameter or larger, with o-rings or PTFE tape in joints (4-inch diameter recommended).
- Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Kevin T. Carel / Steven J. Wimmer
Static Water Level Elevation (with respect to MSL) after Well Development: 580.64' MSL
Name of Geologic Formation(s) in which Well is completed: Sparta Formation

Type of locking device: Padlock
Type of Well Casing Protection: 4"x4"x5' Steel Casing
Concrete surface pad dimensions: 4'x4'x6"



Top of Protective Collar Elevation: 610.21' MSL
Top of Well Casing Elevation: 609.80' MSL
Surveyors Pin Elevation: 606.84' MSL
Surface elevation: 606.67' MSL
Concrete Seal Depth: 2"
Casing seal material: Cement-Bentonite Grout
Bentonite Seal Top Depth: 24.4' Elevation: 582.27' MSL
Bentonite Seal
Filter Pack Top Depth: 26.8' Elevation: 579.87' MSL
Filter pack Material: 12/20 Sand
Well casing
Type: PVC
Size (diameter): 2"
Schedule or Thickness: Sch. 40
Well screen
Screen top depth: 30'
Top Elevation: 576.67' MSL
Type of well Screen: PVC
Screen Opening Size: 0.010"
Screen Bottom depth: 40'
Bottom Elevation: 566.67' MSL
Bottom Cap Depth: 40'
Borehole Diameter: 8 1/4"

LOG OF MONITOR WELL NO. OW-6

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 606.63 feet
Completion Depth: 60 feet
Date Boring Started: 2/20/2008
Date Boring Completed: 2/20/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			SANDY CLAY, tan, roots near surface, poorly consolidated, dry		Concrete from surface to 2' bgs
			CLAY, reddish brown with iron staining, moderately consolidated, slightly moist		
5			SILTY CLAY, reddish brown with iron staining, poorly consolidated, slightly moist		
10			SILTY SAND, light brown to tan with iron staining, poorly consolidated, slightly moist, sand is fine grained and subrounded		
15			SANDY CLAY, light brown to tan grading to reddish brown with depth, iron staining present, poorly consolidated, slightly moist, sand is fine grained and subrounded		
20			GRAVEL with some clay, dark brown, wet, gravel is angular		Bentonite grout from 2' bgs to 45' bgs
25			SILTY CLAY with some minor very fine grained sand, light gray with iron staining, moderately consolidated, moist		
			CLAY, dark gray with iron staining, very good consolidation, moist to wet from 25' bgs to 30' bgs		
30			Saturated soils unit approximately 30 to 40' bgs		
35					
40					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations

Date	Depth
2/20/08	54.00

Remarks: 8 1/4 diameter boring with 2" diameter casing and screen

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

LOG OF MONITOR WELL NO. OW-6

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 606.63 feet
Completion Depth: 60 feet
Date Boring Started: 2/20/2008
Date Boring Completed: 2/20/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			SILTY CLAY, dark gray to black, some Fe stains, damp		
45			SILTY SAND, dark gray, very fine like silt, moderately sorted, slightly damp, Sparta Formation (uppermost groundwater bearing unit), Grab soil sample collected from 44 to 55' bgs		Hydrated bentonite seal from 45' to 47' bgs 12/20 silica sand filter pack from 47' bgs to 60' bgs
50					
55			SILTY SAND, light gray, very fine like silt, moderately to well sorted, wet, Grab soil sample collected from 55 to 60' bgs		▽ 0.01" Slotted screen from 50' to 60' bgs
60					Bottom Cap
65					
70					
75					
80					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
2/20/08	54.00

Remarks: 8 1/4 diameter boring with 2" diameter casing and screen

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-6
PAGE 2 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

MONITORING WELL DATA SHEET

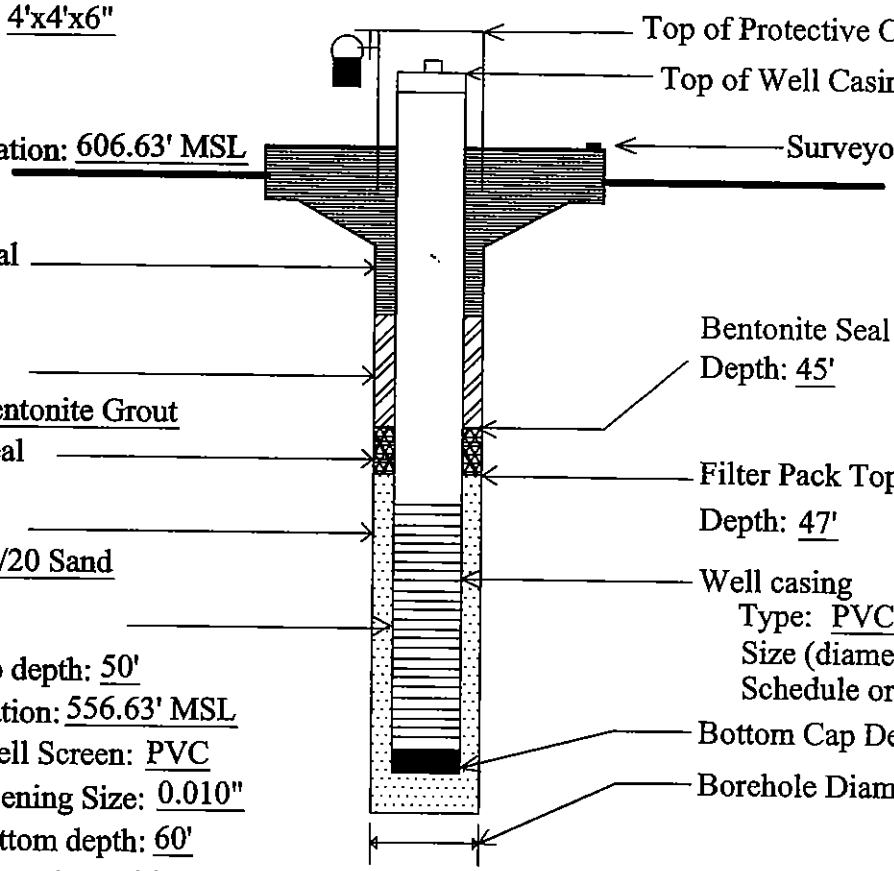
Permitee or Site Name: McWane Inc. (Tyler Pipe Company)
MSW Permit No.: N/A
County: Smith County
Monitor Well I.D. No.: OW-6
Date of Monitor Well Installation: 02/20/2008
Date of Monitor Well Development: 03/19/2008
Well Location: Northing: 6,854,288.3
Easting: 2,932,293.1
Monitor Well Groundwater Gradient
Gradient: Upgradient: X Downgradient: _____
Monitor Well Driller Name: Roddy Qualls
License No.: 3121

Notes:

- Report all depths from Surface Elevation and all Elevations relative to Mean Sea Level (MSL), to the nearest hundredth of a foot.
- Diameter of boring should be at least 4 inches larger than diameter of well casing.
- Use flush screw joint casing only, 2" diameter or larger, with o-rings or PTFE tape in joints (4-inch diameter recommended).
- Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Mike Hull
Static Water Level Elevation (with respect to MSL) after Well Development: 567.89' MSL
Name of Geologic Formation(s) in which Well is completed: Sparta Formation

Type of locking device: Padlock
Type of Well Casing Protection: 4"x4"x3.5" Steel Casing
Concrete surface pad dimensions: 4'x4'x6"



Top of Protective Collar Elevation: 610.25' MSL
Top of Well Casing Elevation: 609.87' MSL
Surface elevation: 606.63' MSL
Surveyors Pin Elevation: 606.57' MSL
Concrete Seal Depth: 2.0'
Bentonite Seal Top Depth: 45' Elevation: 561.63' MSL
Casing seal material: Bentonite Grout
Bentonite Seal
Filter Pack Top Depth: 47' Elevation: 559.63' MSL
Filter pack Material: 12/20 Sand
Well casing
Type: PVC
Size (diameter): 2"
Schedule or Thickness: Sch. 40
Well screen
Screen top depth: 50'
Top Elevation: 556.63' MSL
Type of well Screen: PVC
Screen Opening Size: 0.010"
Screen Bottom depth: 60'
Bottom Elevation: 546.63' MSL
Bottom Cap Depth: 60'
Borehole Diameter: 8 1/4"

TCEQ-10308

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

LOG OF MONITOR WELL NO. OW-7

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 603.04 feet
Completion Depth: 70 feet
Date Boring Started: 2/20/2008
Date Boring Completed: 2/20/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			SANDY CLAY, light brown, very fine to silt		Concrete from surface to 2' bgs
			Grab soil sample collected from 0-5' bgs		
5			SANDY CLAY, red-orange, very fine to silt, slightly moist Grab soil sample collected from 5-10' bgs		
			CLAY, red-brown gravel @10', brown, poorly sorted, very fine gravel sub-angular to angular		
10			Grab soil sample collected from 10-15' bgs		
			SILT, red-brown, slightly moist to damp		
			SILT, yellow-orange, tan		
15			Grab soil sample collected from 15-17' bgs		
			Grab soil sample collected from 17-20' bgs		
			SILTY CLAY, brown, with gravel, angular, slightly damp		
20			Grab soil sample collected from 20-23' bgs		
			Grab soil sample collected from 23-25' bgs		
			SILTY CLAY, gray brown, with some Fe stain (limonite), slightly moist Grab soil sample collected from 25-30' bgs		Bentonite grout from 2' bgs to 55' bgs
25					
30			Grab soil sample collected from 30-35' bgs; Saturated Soils unit approximately 30 to 40' bgs		
			CLAY, silty, dark gray		
			LIMESTONE, white, 3" thick		
			SILTY SAND, gray black (dark orange), well sorted, slightly moist (damp) Grab soil sample collected from 35-40' bgs		
35					
40					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
2/20/08	57.00

Remarks: 8 1/4 diameter boring with 2" diameter casing and screen

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-7
PAGE 1 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▽ Water level at end of drilling.
▼ Water level after drilling.

LOG OF MONITOR WELL NO. OW-7

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 603.04 feet
Completion Depth: 70 feet
Date Boring Started: 2/20/2008
Date Boring Completed: 2/20/2008

Depth, feet	Material Description	Monitor Well Construction Details
	Grab soil sample collected from 40-45' bgs SILTY SAND, gray black (dark orange), well sorted, slightly moist (damp)	
45	Grab soil sample collected from 45-50' bgs CLAY, slightly silty, dark gray	
50	Grab soil sample collected from 50-53' bgs	
	Grab soil sample collected from 53-58' bgs SILTY SAND, dark gray to gray black, silt to very fine sandstone, slightly moist	
55	SILTY CLAY, dark gray, damp	Hydrated bentonite seal from 55' to 57' bgs
	SILTY SAND, light gray, wet to moist, Sparta Formation (uppermost groundwater bearing unit) Grab soil sample collected from 58-60' bgs	12/20 silica sand filter pack from 57' bgs to 70' bgs
60	Grab soil sample collected from 60-65' bgs SANDY SILT, very fine to silt, light gray to medium gray, wet to free water	
65	Some shale interbedding at the bottom Grab soil sample collected from 65-70' bgs	0.01" Slotted screen from 60' to 70' bgs
70		Bottom Cap
75		
80		

Monitor Well Description

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
2/20/08	57.00

Remarks: 8 1/4 diameter boring with 2" diameter casing and screen

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-7
PAGE 2 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

MONITORING WELL DATA SHEET

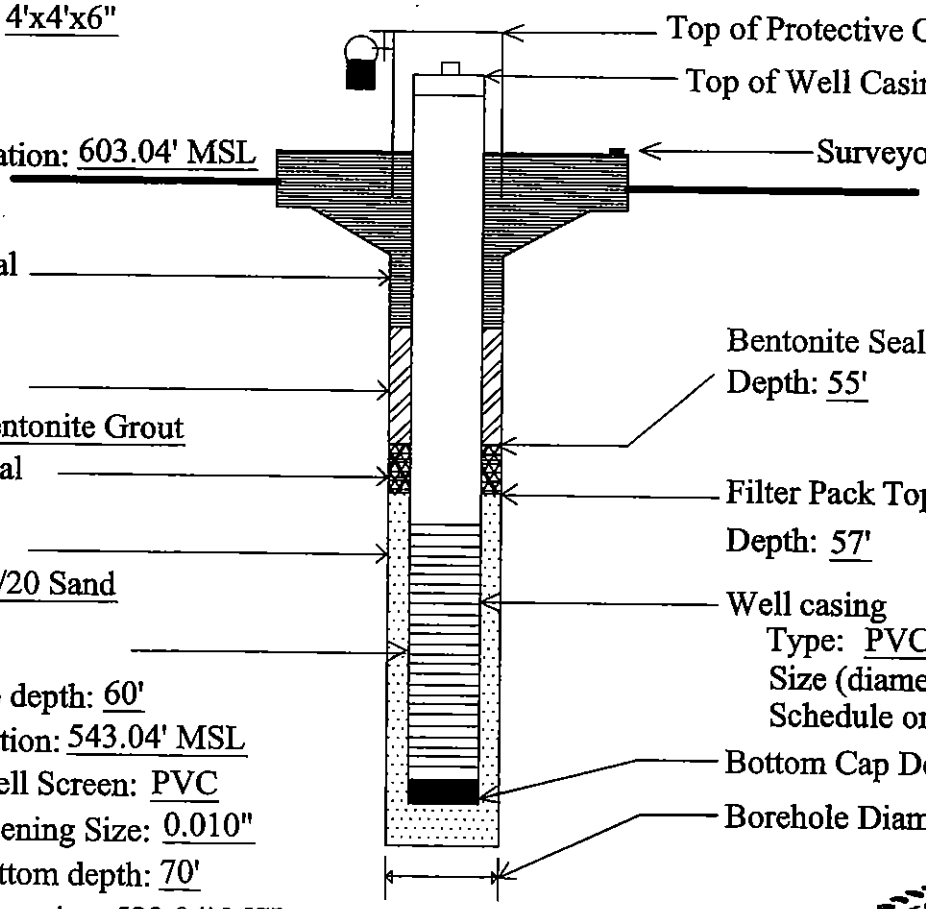
Permitee or Site Name: McWane Inc. (Tyler Pipe Company)
MSW Permit No.: N/A
County: Smith County
Monitor Well I.D. No.: OW-7
Date of Monitor Well Installation: 02/20/2008
Date of Monitor Well Development: 03/19/2008
Well Location: Northing: 6,854,056.1
Easting: 2,932,101.7
Monitor Well Groundwater Gradient
Gradient: Upgradient: ____ Downgradient: X
Monitor Well Driller
Name: Roddy Qualls
License No.: 3121

Notes:

- Report all depths from Surface Elevation and all Elevations relative to Mean Sea Level (MSL), to the nearest hundredth of a foot.
- Diameter of boring should be at least 4 inches larger than diameter of well casing.
- Use flush screw joint casing only, 2" diameter or larger, with o-rings or PTFE tape in joints (4-inch diameter recommended).
- Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Mike Hull
Static Water Level Elevation (with respect to MSL) after Well Development: 565.36' MSL
Name of Geologic Formation(s) in which Well is completed: Sparta Formation

Type of locking device: Padlock
Type of Well Casing Protection: 4"x4"x3.8" Steel Casing
Concrete surface pad dimensions: 4'x4'x6"



Top of Protective Collar Elevation: 606.59' MSL
Top of Well Casing Elevation: 606.13' MSL
Surface elevation: 603.04' MSL
Surveyors Pin Elevation: 603.07' MSL
Concrete Seal Depth: 2.0'
Bentonite Seal Top Depth: 55' Elevation: 548.04' MSL
Casing seal material: Bentonite Grout
Bentonite Seal
Filter Pack Top Depth: 57' Elevation: 546.04' MSL
Filter pack Material: 12/20 Sand
Well casing
Type: PVC
Size (diameter): 2"
Schedule or Thickness: Sch. 40
Well screen
Screen top depth: 60'
Top Elevation: 543.04' MSL
Type of well Screen: PVC
Screen Opening Size: 0.010"
Screen Bottom depth: 70'
Bottom Elevation: 533.04' MSL
Bottom Cap Depth: 70'
Borehole Diameter: 8 1/4"

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-08

TCEQ-10308

LOG OF MONITOR WELL NO. OW-8

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 609.21 feet
Completion Depth: 75 feet
Date Boring Started: 2/21/2008
Date Boring Completed: 2/21/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			SANDY CLAY with gravel (iron ore), dark reddish brown, roots near surface, iron staining, poorly consolidated, slightly moist, gradational contact		Concrete from surface to 2' bgs 8" Surface casing from 0 to 50' bgs
5			SILTY CLAY, dark reddish brown, moderately consolidated, slightly moist		
10			SILTY SAND with some gravel (iron ore), light reddish brown, dry, poorly consolidated, sand is fine grained and subrounded		
15			CLAY, reddish brown, moderately consolidated, roots, dry to slightly moist		
20			SILTY SAND, dark gray, poorly consolidated, dry, sand is fine grained and subrounded, sharp contact		
			SILTY CLAY, dark brown, dry, poorly consolidated, some fine grained sand present		
25			CLAY with iron nodule gravel fragments, moderately consolidated, some very fine grained sand seams present, dry		
30			Saturated Soils unit approximately 30-40' bgs		Bentonite grout from 2' to 60' bgs
			SILTY CLAY, light gray with abundant reddish yellow iron staining, slightly moist		
35					
40					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
2/19/08	64.00

Remarks: 12 1/4" diameter boring with inner 8" surface casing; 2" diameter casing inside 7" diameter boring

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-8
PAGE 1 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

LOG OF MONITOR WELL NO. OW-8

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 609.21 feet
Completion Depth: 75 feet
Date Boring Started: 2/21/2008
Date Boring Completed: 2/21/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
45			CLAY, dark gray, moderately consolidated to very well consolidated, slightly moist		
50			SILTY SAND with some clay and gravel, dark gray, slightly moist to dry, poorly consolidated, sand is very fine grained and subrounded, gravel is angular		
55			SILTY CLAY, dark gray to grey-black Grab soil sample collected from 50-55' bgs		
60			Grab soil sample collected from 55-58' bgs Grab soil sample collected from 58-60' bgs SILTY CLAY, dark gray, very fine sandstone like silt, moderately sorted		Hydrated bentonite seal from 60' to 62' bgs
65			wet @ 63' Grab soil sample collected from 60-63' bgs Grab soil sample collected from 63-65' bgs SILTY SAND, light gray, very fine - silt, moderate-well sorted, wet, Sparta Formation (uppermost groundwater bearing unit) Grab soil sample collected from 65-70' bgs		▽ 12/20 silica sand filter pack from 62' to 75' bgs
70			SILTY SANDSTONE, light gray, very fine - silt, some clay, wet		0.01" Slotted screen from 65' to 75' bgs
75			Silty clay @ bottom Grab soil sample collected from 65-70' bgs		Bottom Cap
80					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

5-22-09

Drilling Contractor:	Groundwater Monitoring Inc.
Drilling Method:	HSA
Sampling Method:	Continuous/Cuttings
Geologist/Engineer:	Mike Hull
Project No.:	08-08-47

Groundwater Observations	
Date	Depth
2/19/08	64.00

Remarks: 12 1/4" diameter boring with inner 8" surface casing; 2" diameter casing inside 7" diameter boring

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-8
PAGE 2 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

MONITORING WELL DATA SHEET

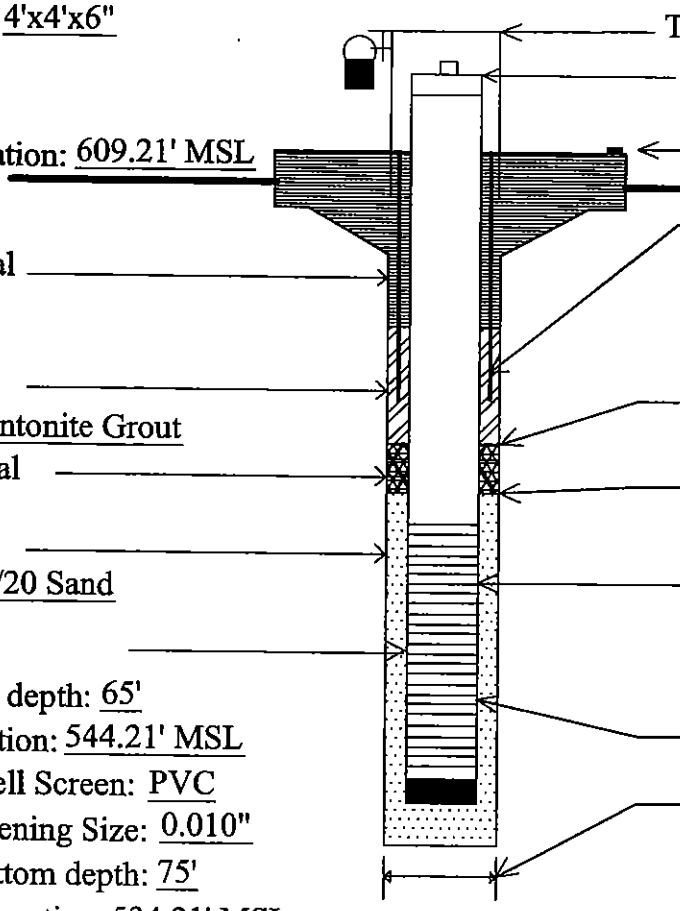
Permitee or Site Name: McWane Inc. (Tyler Pipe Company)
MSW Permit No.: N/A
County: Smith County
Monitor Well I.D. No.: OW-8
Date of Monitor Well Installation: 02/21/2008
Date of Monitor Well Development: 03/19/2008
Well Location: Northing: 6,854,159.0
Easting: 2,931,999.3
Monitor Well Groundwater Gradient
Gradient: Upgradient: ____ Downgradient: X
Monitor Well Driller
Name: Roddy Qualls
License No.: 3121

Notes:

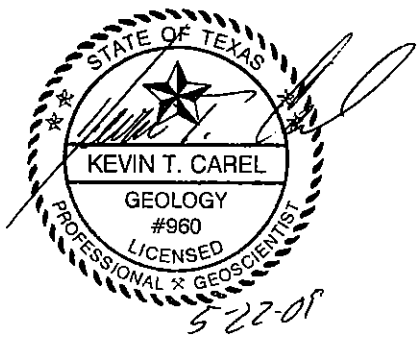
- Report all depths from Surface Elevation and all Elevations relative to Mean Sea Level (MSL), to the nearest hundredth of a foot.
- Diameter of boring should be at least 4 inches larger than diameter of well casing.
- Use flush screw joint casing only, 2" diameter or larger, with o-rings or PTFE tape in joints (4-inch diameter recommended).
- Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Mike Hull
Static Water Level Elevation (with respect to MSL) after Well Development: 562.46' MSL
Name of Geologic Formation(s) in which Well is completed: Sparta Formation

Type of locking device: Padlock
Type of Well Casing Protection: 4"x4"x4" Steel Casing
Concrete surface pad dimensions: 4'x4'x6"



Top of Protective Collar Elevation: 612.62' MSL
Top of Well Casing Elevation: 612.33' MSL
Surface elevation: 609.21' MSL
Surveyors Pin Elevation: 609.27' MSL
Surface casing 0-50' bgs
Type: PVC
Size (diameter): 8" from 0-50' bgs
Schedule or Thickness: Sch. 40
Concrete Seal
Depth: 2.0'
Casing seal material: Bentonite Grout
Bentonite Seal
Bentonite Seal Top
Depth: 60' Elevation: 549.21' MSL
Filter Pack Top
Depth: 62' Elevation: 547.21' MSL
Filter pack
Material: 12/20 Sand
Well casing
Type: PVC
Size (diameter): 2"
Schedule or Thickness: Sch. 40
Well screen
Screen top depth: 65'
Top Elevation: 544.21' MSL
Type of well Screen: PVC
Screen Opening Size: 0.010"
Screen Bottom depth: 75'
Bottom Elevation: 534.21' MSL
Bottom Cap Depth: 75'
Borehole Diameter: 12 1/4" from 0-50' bgs
7" from 50-75' bgs



5-22-08

TCEQ-10308

Appendix VI.B.

Facility Groundwater

PROFESSIONAL GEOLOGIST CERTIFICATION STATEMENT

Facility Groundwater Report (Appendix VI.B)
Tyler Pipe Permit Renewal Application

General Site Information

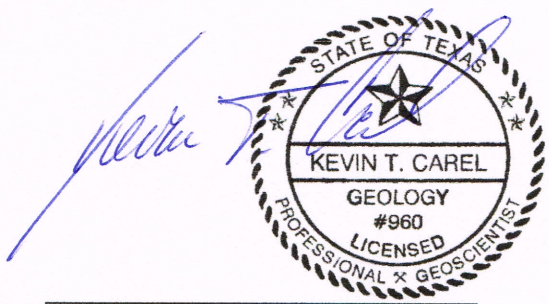
Facility: McWane, Inc. (Tyler Pipe Company)

Site Location: 11910 County Road 492, Tyler, Texas 75706

TCEQ Registration No.: 30140

Professional Geologist Certification Statement

I, Kevin T. Carel, am a licensed professional geoscientist in the State of Texas (license number 960) and a qualified groundwater scientist as defined in 30 TAC §330.3. I have reviewed the Facility Groundwater Report (which was originally prepared by others) and supporting data contained herein. Where necessary, I have updated the report to correct errors and make it current as of the date of my signature below. The only warranty made by me in connection with this document is that I have used that degree of care and skill ordinarily exercised under similar conditions by reputable members of my profession, practicing in the same or similar locality. No other warranty, expressed nor implied, is intended.



Signature: _____

Kevin T. Carel, P.G.
No. 960-Texas

Date: 6-1-2020

Firm/Address: The Carel Corporation
136 Pecan Street
Keller, Texas 76248
Texas Geoscience Firm # 50137

Professional Geologist Certification Disclaimer

Facility Groundwater (Appendix VI.B.)

Permit Renewal Application
McWane, Inc. (Tyler Pipe Company) - Tyler, Texas
July 2009

The *Facility Groundwater Report* presented herein was compiled from information and drawings developed by others and previously provided to and approved by the Texas Commission on Environmental Quality (TCEQ) and/or its predecessor agency, the Texas Natural Resource Conservation Commission (TNRCC) within various assessment reports, permit renewal applications, and permit modification requests. Whereas RMT, Inc. contributed to the development and compilation of the descriptive text (which was conducted under my supervision), none of the included drawings was originally developed by RMT, Inc. As such, the professional geologist certification provided herein is exclusive of any of the figures presented.

Laurence R. Lew, P.G.
Senior Consultant
RMT, Inc.

Corporate Texas Geosciences Registration
No. 50292

Appendix VI.B.
Facility Groundwater

A description of the groundwater conditions that characterize the area in the vicinity of the Tyler Pipe facility is presented herein. A map of the overall facility is provided as ***Figure VI.B-1***.

1. Regional Aquifers

Three principal ground-water aquifers are in the region - the Carrizo-Wilcox Aquifer, the Queen City Sand Aquifer, and the Sparta Sand Aquifer. They receive the vast majority of their groundwater recharge from rainwater infiltrating into the formation in their respective outcrop areas. The lower aquifers receive some recharge from the overlying formation and from streams crossing the outcroppings.

The Carrizo-Wilcox aquifer is stratigraphically the lowest of the three aquifers and is the largest, most productive, and the least sensitive to land management practices. The water quality ifs generally very good; however, iron is present in moderate amounts and the content of dissolved solids increases with depth. The principal direction of groundwater flow is to the east and southeast from the western recharge area. Deviation from the principal direction of flow occurs near the recharge area in the southeast corner of the county where groundwater moves to the northwest because of synclinal structure of the bedrock.

The Queen City Sand Aquifer has a limited supply of suitable water because the water is generally acidic and has a high iron content. The aquifer is recharges from its extensive outcrop area throughout the county. Groundwater primarily moves north to the Sabine River in the northern half of the county or south to the Neches River in the southern half. The aquifer feeds numerous springs and creeks throughout the county.

The Sparta Sand Aquifer is stratigraphically the uppermost of the three principal aquifers. It is the least extensive, occurring mostly in the central part of the county. The groundwater from this aquifer has been heavily developed for domestic use because it is good quality water and can be reached at very shallow depths. The movement of groundwater is generally southeast toward the city of Tyler or to local springs and streams. A search was conducted for a regional water table contour map of the Sparta Aquifer, but one could not be located.

The differences in water quality, aquifer transmissivity, and water level measurements of these three aquifers, indicates they are distinct hydrogeologic units and therefore not hydraulically connected.

2. Groundwater Conditions

The groundwater conditions for each hazardous waste management unit requiring post-closure care are discussed below.

- **Landfill**

  The uppermost aquifer at the landfill has been defined as Stratigraphic Unit I of the Sparta Formation. This unit is approximately 30 feet thick, and is located between 485 to 514 feet above mean sea level (MSL). It consists of a silty sand, interbedded with clayey silt and silty clay. This unit extends from ground surface to depths of approximately 21-68 feet below ground surface (BGS). It is a water table or unconfined water bearing unit. The lower confining unit consists of a hard, dark gray brown, silty clay.

  A water table surface map was prepared for the aquifer from measured groundwater elevations and is presented as ***Figure VI.B-2***. A water elevation representative of each monitoring well cluster was used for creating the map. The water table map indicates groundwater flow to the southwest, which corresponds to the southwest sloping topography at the site. The depth to water below ground surface measured ranges from 2.72 feet in MW-2D-A in the west part of the site to 66.53 feet in MW-4U-D in the northeast portion of the site. The depth of the landfill is unknown, but has been estimated to range from 0 to 10 feet. Therefore, the depth to water below the facility is estimated to be from 2.7 to 56.5 feet. Historic maximum and minimum static water levels measured between June 1996 and 2019 range from 565.6 feet MSL in MW-5U-A to 517.4 in MW-3D-C.

  Hydraulic gradients were calculated perpendicular to the equipotential flow lines for each monitoring event. Groundwater gradients measured between monitor wells ranged from 0.0160 ft/ft to 0.0132 ft/ft toward the southwest. Groundwater velocity values, based on a hydraulic conductivity of 0.33 ft/day and an effective porosity of 0.3 range from 0.015 to 0.018 feet/day (Parsons, 1997).

  The natural topography, subsurface geology, and stratigraphic gradients will act to control groundwater flow direction and velocity, and therefore any contaminants moving in the upper transmissive zone. Contaminants in the landfill will move southwest, towards an unnamed tributary of Chinquapin Creek at an approximate rate of 5.5 to 6.6 feet per year. Vertical migration of contaminants will be restricted by the lower confining unit (Parsons, 1997).

  According to the Texas Water Development Board, in outcrop areas and for a few miles in the subsurface, groundwater is usually fresh, with an average concentration of 300 milligrams per liter of total dissolved solids; however, water quality deteriorates with depth (below about 2,000 feet), where groundwater has an average concentration of 800 milligrams per liter of total dissolved solids. Excess iron concentrations are common throughout the aquifer.

- **Sludge Disposal Area**

  The saturated soil zone underlying the sludge disposal area (SDA) is encountered at approximately 30 feet BGS. Primary water recharge in this zone is from precipitation via infiltration through soil. Water level elevations in the saturated soil zone are typically 30-40 feet below ground surface. The existing quality of groundwater from the saturated soils zone underlying the SDA can be described as predominantly acidic with a historic pH range of 2.91 to 6.81 standard units. The direction of water flow in the saturated soil zone is generally to the west. The average hydraulic gradient is 0.02 ft/ft and the hydraulic conductivity for the saturated soils zone is on average 6.79 x 10-6 cm/sec. The average effective porosity was estimated to be 10 percent based on the lithology of the units in which the sludge disposal area wells are completed (silt and clay). The estimated groundwater velocity (with flow direction) for the saturated soils zone in the SDA is 0.004 ft/day (Carel, 2009).

  The uppermost water-bearing unit underlying the facility has been defined as silty sand, silty sandstone, sandy silt and silt units within the Sparta Formation. The depth to the uppermost water-bearing zone (Sparta Formation) underlying the SDA is approximately 44 to 65 feet BGS. The average thickness of the uppermost water bearing zone is approximately 15 feet with a variation of plus or minus 5 feet based on the lithologic logs of the observation wells. In some areas within the landfill property, the uppermost water-bearing unit is separated from the saturated soil zone by the interbedded clayey silt, silty clay and clay. However, there may be a hydraulic connection between these units due to potential discontinuity of the interbeddings. Hence, the uppermost water bearing unit is defined as having a semi-confined condition, particularly beneath the SDA area. Groundwater flow in the uppermost groundwater bearing unit is generally toward the south, as shown on ***Figure VI.B-3***.

  The existing quality of groundwater from the saturated soils zone underlying the SDA can be described as predominantly acidic with a historic pH range of 2.91 to 6.81 standard units. Groundwater monitor well MW-4 is the most acidic; whereas, MW-5 is the least acidic. The chemical quality of groundwater from the Sparta Sand Aquifer is generally good though high iron and low pH values are not uncommon. Indeed, the pH values of the water from the Sparta Aquifer range from 3.7 to 6.6 standard units (TWC, 1963).

  The Texas Water Commission (TWC) report further explains that "wells completed within the Sparta section which do not reach the base of the aquifer are relatively free of iron and have a pH of 5.5 to 6.6 standard units". The lower range of pH values in the SDA wells is below the range reported by the TWC. However, the SDA is excavated into soils belonging to the WoC (Wolfpen) Series (Carel, 2007). According to the Soil Survey of Smith County (SCS, 1993), the Wolfpen subsoil ranges from slightly acidic to strongly acidic. Therefore, it is plausible to conclude the acidity of

the Wolfpen Series contributes to the lower pH values in the shallow, saturated zone SDA wells.

The existing quality of groundwater from the uppermost groundwater bearing unit underlying the SDA can also be described as predominantly acidic. Prior to sampling, observed pH values in OW-6, OW-7, and OW-8 during a March 2008 groundwater sampling event were 4.80, 5.50, and 6.04 standard units, respectively. Each of the observed pH values is within the range of pH values reported by the TWC as listed in the above paragraph.

3. Description of the Detection Monitoring Program

Descriptions of the groundwater detection monitoring systems that have been established for the closed hazardous waste units at the Tyler Pipe facility are presented herein.

- **Landfill**

  The detection monitoring system for the closed landfill is comprised of the following wells (the locations of these monitor wells are identified on ***Figure VI.B-4***):

  - *Background/Upgradient*: MW-4U-A, MW-4U-B, MW-4U-C, MW-4U-D, MW-5U-A, MW-5U-B, and MW-5U-C
  - *Point-of Compliance*: MW-1D, MW-2D-A, MW-2D-B, MW-3D-A, MW-3D-B, MW-3D-C, MW-20, and MW-21

  The background wells are positioned to determine the background (unaffected) water quality and the point of compliance wells are positioned to provide samples that represent the quality of groundwater passing the point of compliance. The groundwater monitoring network consists of a sufficient number of wells installed at depths that allow for detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer.

  During the year immediately following the first year of detection monitoring (and during each subsequent year) each detection monitoring well has been (will be) sampled and analyzed to determine the concentration of each detection monitoring parameter that has been established for the closed landfill. The detection monitoring parameters whose concentrations are determined through laboratory analysis include *cadmium*, *chromium*, *lead*, and *zinc*. In addition, *pH* and *specific conductance* are measured in the field within each well during each monitoring event. These detection monitoring parameters were selected based on materials historically placed in the landfill, which consisted of dewatered sludge from the north and south treatment facilities at the plant.

  During the detection monitoring program that has been conducted for the landfill during the active life of the unit and during the post-closure period conducted through

2009, groundwater samples were collected from each well for analysis during the first 30 days of the first and third quarters (*i.e.*, on a semiannual basis). Concentrations of each parameter were determined in *four* sample collected from each well during each semiannual monitoring event.

For each upgradient (background) and each downgradient (point-of-compliance) monitor well, the determination of an statistically significant increase (SSI) in the concentration of each detection monitoring parameter over the background value will continue to be conducted through a comparison of the detection monitoring parameter concentration values obtained during each semiannual event to the background values established during the first year of sampling. This comparison will be conducted within the first 90 days of the calendar quarter during which the groundwater samples are collected.

Detection monitoring constituents are statistically evaluated using a tolerance interval approach. The use of tolerance limits assumes that the background data are normally distributed with at least three, and preferably eight or more, observations. Comparisons are made on an inter-well basis, in which concentrations from point of compliance wells are compared to statistical limits (e.g. tolerance limits) computed from the pooled concentrations of background wells for a specific parameter. The background pool for the closed landfill consists of data collected from background wells MW-4U-A, MW-4U-B, MW-4U-C, MW-4U-D, MW-5U-A, MW-5U-B and MW-5U-C from June 1996 through the most recent sampling event excluding outliers.

Parametric tolerance limits are computed using the following equation:

$$TL = X + KS$$

Where:

TL = the tolerance limit;

X = the mean of the background observations;

K = The 2-tailed normal tolerance factor(s) for a 95-percent confidence; and,

S = the standard deviation of the background observations.

Initial evaluations proceed according to the following scheme: If less than 15-percent of the background data are non-detects, one-half of the laboratory reporting limit will be substituted for individual points. If more than 15-percent but less than 50-percent of the background data are below detection, the mean and standard deviation are adjusted according to the method of Cohen or Aitchison prior to the analysis. If more than 50-percent of the background data are below the detection limit, or when the background data do not exhibit a normal/transform normal distribution, a non-

parametric tolerance limit is applied. A non-parametric tolerance interval generally sets the upper statistical limit as the highest value from the background data. Where two-tailed tests are applied (e.g. pH), the lower tolerance limit is generally set as the lowest background value.

The concentrations determined for point of compliance wells (MW-1D, MW-2D-A, MW-2D-B, MW-3D-A, MW-3D-B, MW-3D-C, MW-20, and MW-21) are compared to the calculated tolerance limits. Concentrations that exceed the upper tolerance limit are considered to be initial statistical exceedances. Statistical evaluations of pH are completed under a two-tailed test, which have both an upper and lower tolerance limit. Values that fall outside the bounds of the tolerance interval (the upper or lower limit) are considered to be initial statistical exceedances.

If a potential SSI above the background value is indicated for a detection monitoring parameter during a semiannual sampling event, the well(s) from which the groundwater sample exhibiting the potential SSI will be resampled and analyzed for only the parameter(s) that resulted in the potential SSI. Should the resample results verify the SSI, Tyler Pipe will notify the Executive Director of the TCEQ within seven (7) days and comply with all other requirements of 30 TAC 335.164(7) and (8). These requirements include either (1) conducting Appendix IX analyses and developing a permit modification request to incorporate a Compliance Monitoring Program or (2) developing a demonstration that the SSI resulted from error or from a source other than the RCRA-regulated unit.

- **Sludge Disposal Area**

  The SDA is currently under a Compliance Monitoring Program since an SSI above background was indicated in 2007 within the downgradient (point-of-compliance) wells during the initial phase of the post-closure period. However, it was subsequently determined that former wells MW-1 through MW-5 are screened in saturated soils and were not completed in a legitimate groundwater-bearing unit. As a result, monitor wells OW-6 (upgradient), OW-7 (downgradient), and OW-8 (downgradient) were installed in 2008 and are currently identified as the compliance monitoring system for the SDA. The locations of these monitor wells are shown on ***Figure VI.B-5***.

  At the present time, a detection monitoring program for the SDA is not applicable as this unit is currently in compliance monitoring (see "Section XI – Compliance Plan" of this permit renewal application). Should the SDA fulfill all compliance monitoring program requirements and revert back to detection monitoring, Tyler Pipe will develop a permit modification request for the purpose of re-instating a detection monitoring program for the SDA. The sampling, analytical, statistical evaluation, and reporting procedures required under a detection monitoring program for the SDA will be provided at the time of the permit modification request (and will be similar to those procedures currently being conducted at the closed landfill).

4. Groundwater Sampling and Analysis Plan

The groundwater sampling and analysis plan (GWSAP) that has been developed for Tyler Pipe for the groundwater *detection monitoring program* that is currently being conducted for the closed landfill (NOR Unit No. 001) and the *compliance monitoring program* currently being conducted for the closed sludge disposal area (NOR Unit No. 082) is provided in ***Attachment VI.B-1***.

References

Carel, 2007 — *Class 3 Permit Modification Request – Tyler Pipe Company*. Carel Corporation, Keller, Texas, February 2007.

Carel, 2009 — *Affected Property Assessment Report - Tyler Pipe Company*. Carel Corporation, Keller, Texas, May 2009.

EPA, 1989 — *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance*, U.S. EPA, April 1989.

Parsons, 1997 — *Permit Renewal Application – Tyler Pipe Company*. Parsons Engineering Science, Inc., Tyler, Texas, 1997.

SCS, 1993 — *Soil Survey of Smith County, Texas*. Soil Conservation Service, United States Department of Agriculture, 1993.

TWC, 1963 — *Availability and Quality of Groundwater in Smith County, Texas*. Bulletin 6302, Texas Water Commission, Austin, Texas, 1963.

TWDB, 2020 — Sparta Aquifer webpage, https://www.twdb.texas.gov/groundwater/aquifer/minors/sparta.asp

Figures

P:\NRM\2001\70_Enviro\SPCC_Revisions\Figures\Landfill SPCC 8.dwg on 4/29/2008 – 11:42am

BENHAM
an SAIC company

The Benham Companies, LLC
infrastructure & environment
3700 W. Robinson, Suite 200
Norman, Oklahoma 73072
(405) 321-3895
www.benham.com

FIGURE TITLE	Facility Map
DOCUMENT TITLE	
CLIENT	TYLER PIPE COMPANY
LOCATION	SMITH COUNTY, TEXAS

DATE	4/29/2008
SCALE	NONE
DESIGNED BY	WLT
APPROVED BY	WLT
DRAWN BY	WLT

PROJECT NUMBER
4100401001
FIGURE NUMBER
VI.B-1

N

GRAPHIC SCALE

0 50 100 150 200 250 FEET

MW 33-A
MW 5U-C
MW 5U-B
MW 5U-A
MW 50-D
MW 4U-B
MW 4U-A
MW 4U-C
MW 20
MW 21
MW 31-D
MW 3
MW 2D-B
MW 2D-A
MW 1D
MW 2
MW 1
MW 32-D
MW-3D-C
MW 3D-B
MW 3D-A

530 534 538 542 546 550

528

3+00 5+00 7+00 9+00 11+00

TBM 1 ELEVATION=569.23
TBM 2 ELEVATION=572.76
TBM 3 ELEVATION=570.05
TBM 4 ELEVATION=565.43
TBM 5 ELEVATION=550.71
TBM 6 ELEVATION=536.87
TBM 7 ELEVATION=548.81
TBM 8 ELEVATION=552.74
TBM 9 ELEVATION=558.42
TBM 10 ELEVATION=567.07
TBM 11 ELEVATION=574.17
TBM 12 ELEVATION=583.66

MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.56
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

* INDICATES EXISTING MONITOR WELLS ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

• MW xx Monitoring Well Location

○ TBM xx Benchmark Location

⊕ MW xx Abandoned Monitoring Well

○ ALUMINUM DISC SET IN STEEL PIPE W/PROTECTIVE POST BARRIERS

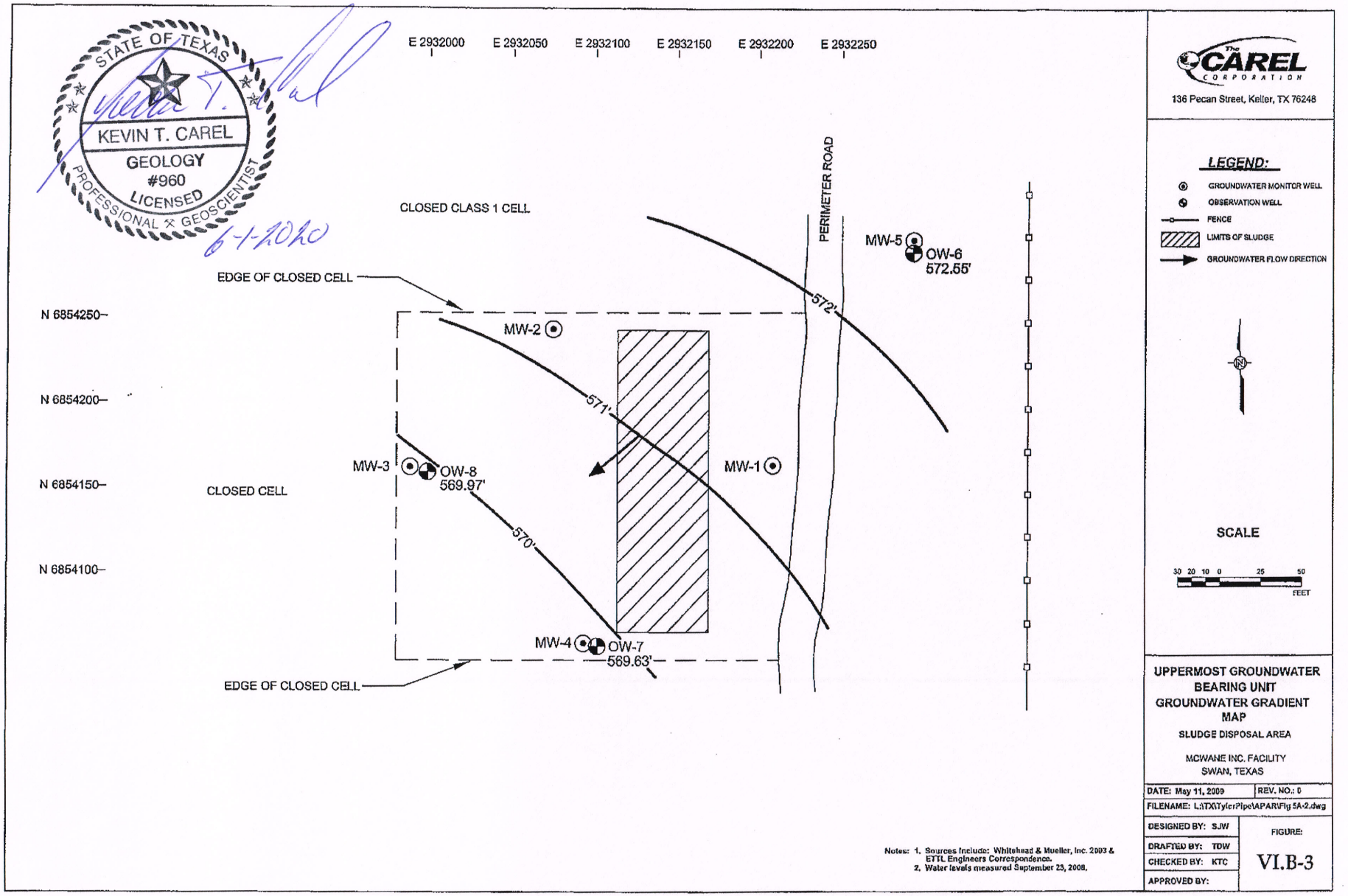
TYLER PIPE INDUSTRIES, INC.

Figure VI.B-2

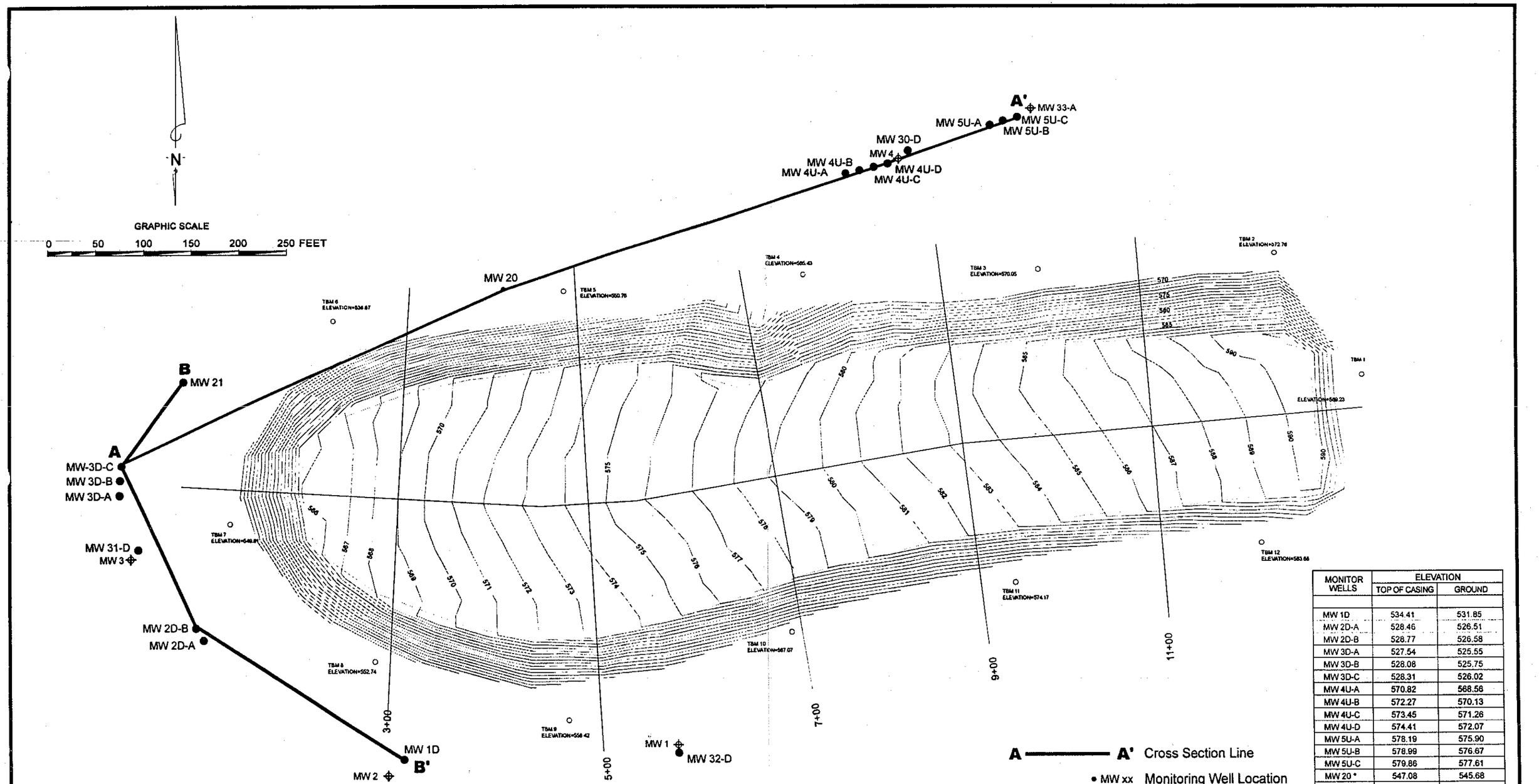
Water Table Surface – Landfill

PARSONS ENGINEERING SCIENCE, INC.

120_0024



Notes: 1. Sources Include: Whitehead & Mueller, Inc. 2003 & ETTL Engineers Correspondence.
2. Water levels measured September 23, 2008.



MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.56
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

* INDICATES EXISTING MONITOR WELLS ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

A —— A' Cross Section Line

• MW xx Monitoring Well Location

○ TBM xx Benchmark Location

⊕ MW xx Abandoned Monitoring Well

○ ALUMINUM DISC SET IN STEEL PIPE W/PROTECTIVE POST BARRIERS

TYLER PIPE INDUSTRIES, INC.

CLASS I HAZARDOUS WASTE LANDFILL

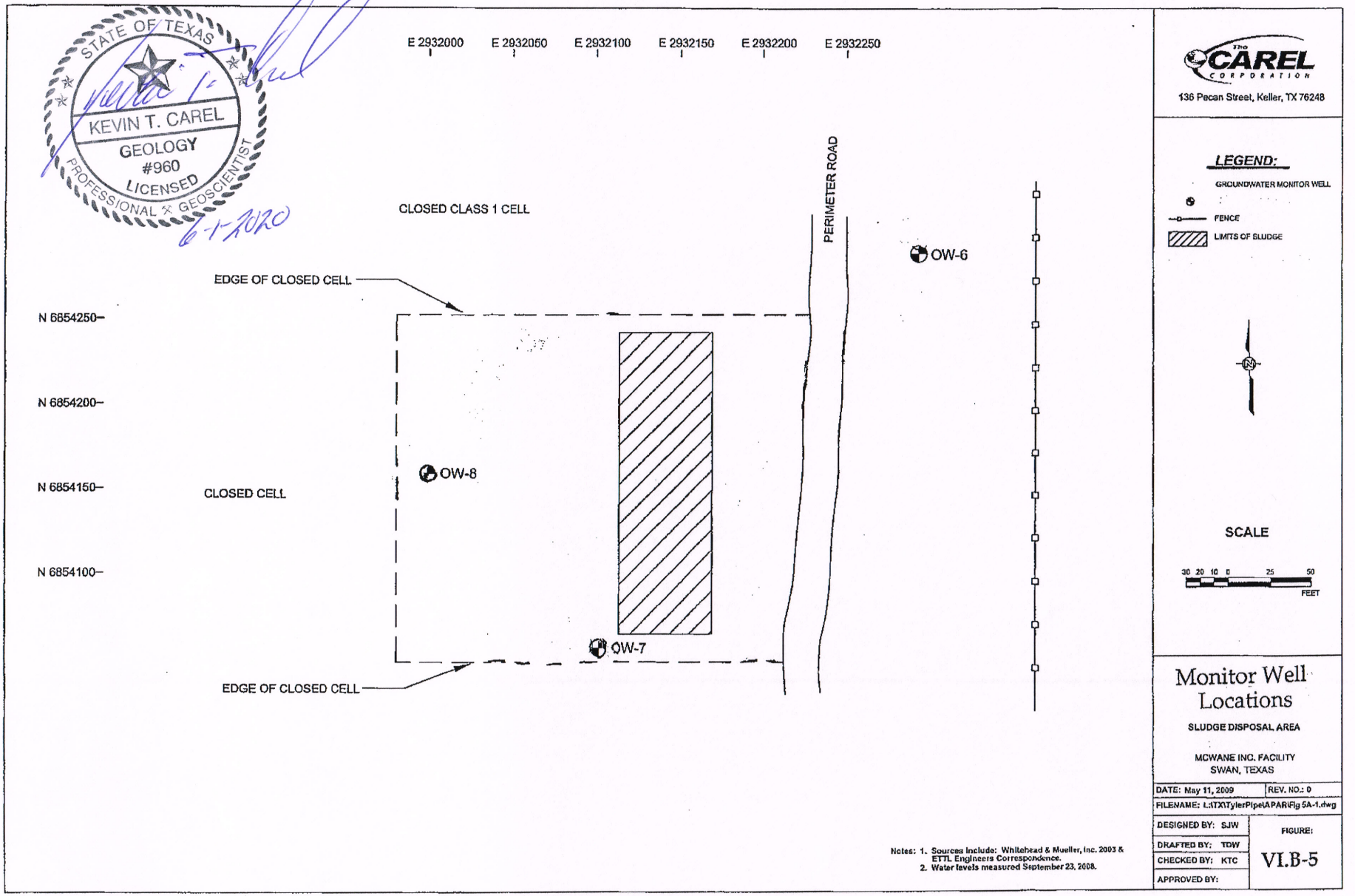
Figure VI.B-4

Monitor Well Locations

Landfill

PARSONS ENGINEERING SCIENCE, INC.

120_0012



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020

The CAREL Corporation
136 Pecan Street, Keller, TX 76248

LEGEND:

- GROUNDWATER MONITOR WELL
- FENCE
- LIMITS OF SLUDGE

SCALE

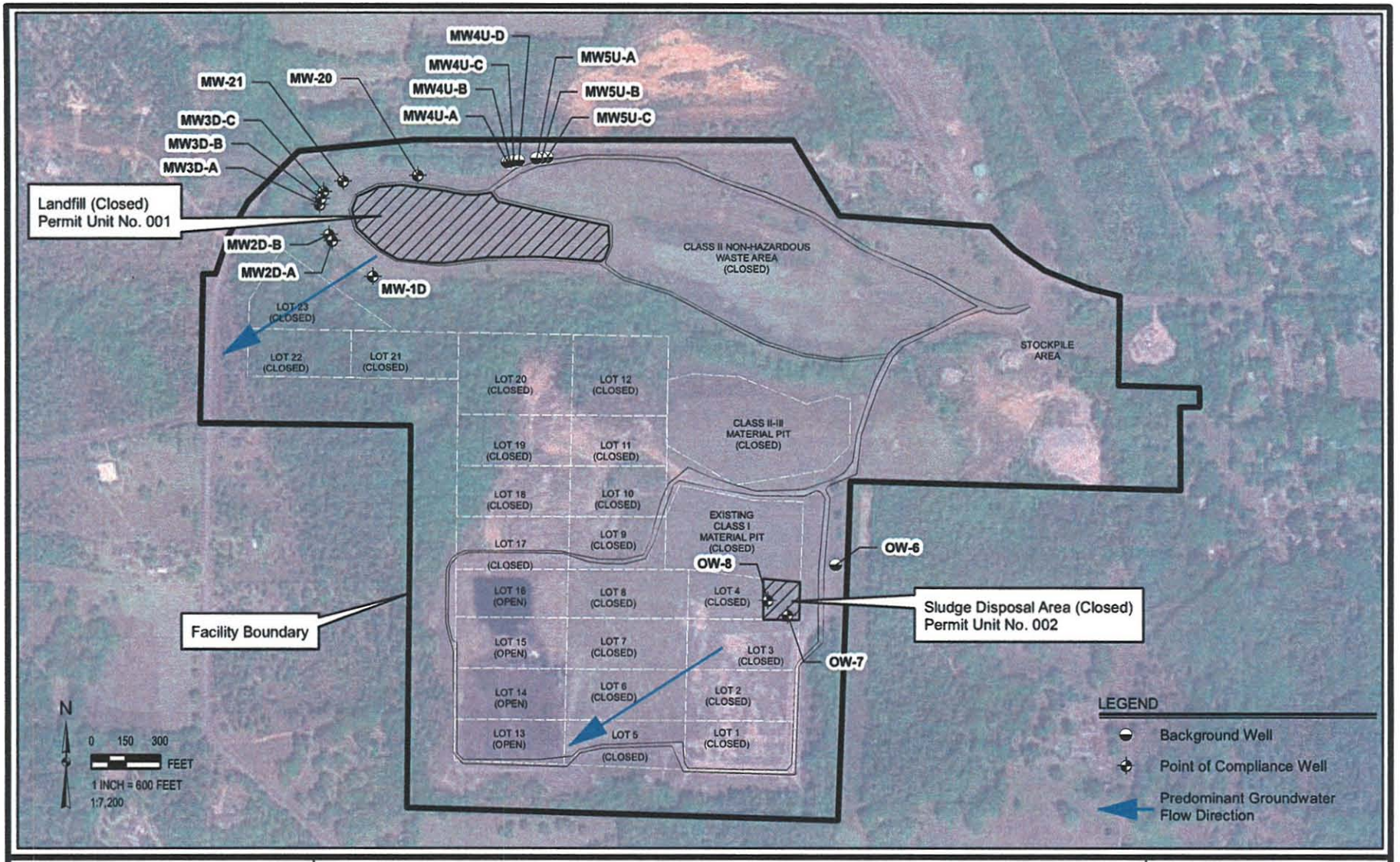
30 20 10 0 25 50
FEET

Monitor Well Locations

SLUDGE DISPOSAL AREA

MCWANE INC. FACILITY
SWAN, TEXAS

DATE: May 11, 2009	REV. NO.: 0
FILENAME: L:\TX\TylerPipe\APAR\Fig 5A-1.dwg	
DESIGNED BY: SJW	FIGURE:
DRAFTED BY: TDW	VI.B-5
CHECKED BY: KTC	
APPROVED BY:	



RMT
744 Heartland Trail
Madison, WI 53717 - 1934
P.O. Box 8923
Madison, WI 53708 - 8923
Phone: 608-831-4444
Fax: 608-831-3334

FIGURE VI.B-6
FACILITY GROUNDWATER MAP

MCWANE, INC. (TYLER PIPE COMPANY)
TYLER, TEXAS

DRAWN BY:	S S WILSON
APPROVED BY:	B PAULES
PROJ. NO.:	00-07749.26
FILE NO.:	077492602_GW
DATE:	JANUARY 2010

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Attachment VI.B-1
Groundwater Sampling and Analysis Plan for Closed Landfill

GROUNDWATER SAMPLING

AND ANALYSIS PLAN

CLOSED LANDFILL FACILITY UNIT

AND

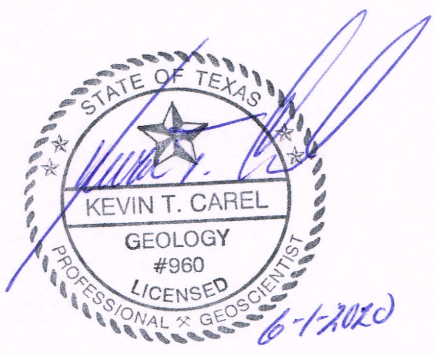
SLUDGE DISPOSAL AREA

MCWANE INC.

TYLER, TEXAS

PERMIT NO. HW-50141-000

EPA ID NO. TXD066349770



Prepared November 2004

Revised July 2007

Revised July 23, 2012

Revised June 2020

Prepared by

The CAREL CORPORATION

136 Pecan Street
Keller, Texas 76248

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1.0 INTRODUCTION

This Groundwater Sampling and Analysis Plan (GWSAP) has been developed by McWane Inc. (Tyler Pipe Company) to provide operational procedures and statistical evaluation methods to conduct groundwater monitoring at our closed landfill facility unit (CLFU) and Sludge Disposal Area (SDA) in Tyler, Texas. It conforms to the operational requirements for a groundwater monitoring system as specified in our Solid Waste Permit Number HW-50141 and is consistent with current Environmental Protection Agency (EPA) and Texas Commission on Environmental Quality (TCEQ) sampling protocol. No deviations from these procedures will be made without prior approval by McWane Inc. and the TCEQ.

1.1 MONITORING WELL STATUS

Each of the monitoring wells at the CLFU are currently in detection monitoring. Groundwater monitoring in the CLFU will be conducted in accordance with this GWSAP, TCEQ regulations, and the facility permit.

Each of the monitoring wells at the SDA are currently in compliance monitoring. Groundwater monitoring in the SDA will be conducted in accordance with this GWSAP, TCEQ regulations, and the SDA Compliance Plan.

2.0 GROUNDWATER SAMPLING FREQUENCY AND ANALYTICAL PARAMETERS

Any new monitoring wells will be sampled quarterly during the first year of detection or compliance monitoring to establish the concentration of each detection and/or compliance monitoring parameter. Existing monitor wells are sampled semi-annually. Monitoring well locations are provided on Figures 1 and 2. A typical monitoring well construction diagram is provided on Figure 3. Table 1 presents the sampling schedule and general analytical requirements for all monitoring wells. Table 2 details analytical testing methodology.

3.0 GROUNDWATER SAMPLING PROTOCOL

This section presents sampling procedures and equipment specifications for conducting groundwater sampling at McWane Inc. Included are procedures for conducting well inspections, groundwater gauging, pre-sample purging, interwell sampling order and sample capture.

3.1 WELL INSPECTIONS

Prior to conducting groundwater level measurements, the integrity of each monitoring well will be inspected to assess conditions that could impact groundwater sample quality. This will include inspecting the well casing and concrete pad for cracks or fissures; determining that the well cap is securely closed and locked; and checking for any signs of damage caused by vandalism, animals, or equipment, etc. It will also include noting the proximity of the well to potential sources of surface contaminations such as waste piles, roads or runoff areas that could impact groundwater quality. All observations will be recorded in the groundwater sample log sheet that will be completed for each well (see example in Attachment A).

3.2 GROUNDWATER LEVEL MEASUREMENTS

Prior to well purging, groundwater level measurements to establish groundwater flow for the site. Groundwater level measurements at each event shall proceed from upgradient to downgradient wells unless contamination is known to be present. If contamination is known to be present, measurements will proceed from the generally least to most contaminated wells, to minimize the potential for any cross-contamination. Interwell measurements will also be conducted over a short enough time period to avoid temporal variations in water level.

An electronic measuring probe will be used to measure the depth to groundwater for each well. All measurements will be made to the nearest hundredth foot and will be referenced to a measuring point scored on top the each well casing. This same measuring point will be used for all subsequent groundwater measurements for each well.

3.3 TOTAL DEPTH MEASUREMENTS

The total well depth of CLFU detection monitoring wells with dedicated pumps shall be measured when pumps are removed for maintenance. At a minimum, the detection monitoring wells with dedicated pumps will be checked for siltation every three (3) years. The measured total depths shall be compared to the total depth recorded on the well construction log. Should an analysis of the measured and the recorded total depth reveal that a well is silted in, actions necessary to enable the well to function properly shall be performed (redevelopment, replacement, etc.). The aforementioned procedures are per Permit Provision VI.D.2.d(4).

The total well depth of SDA compliance monitoring wells with dedicated pumps shall be measured when: 1) pumps are removed for maintenance; or 2) the groundwater production rate of the dedicated pump decreases by 25% from the initial production rate when the pump was installed. The measured total depth shall be compared to the total depth recorded on the well construction log. Should a comparison of the measured and recorded total depth reveal that greater than 20% of the well screen has been silted in, actions necessary to enable the well to function properly shall be performed (redevelopment, replacement, etc.). The aforementioned procedures are per Permit Provision XI.F.3.d(4).

3.4 GROUNDWATER PURGING

All monitoring wells will be purged prior to sampling to help assure a representative sample of native groundwater is collected for laboratory analysis. Interwell purging at each event shall proceed from upgradient to downgradient wells unless contamination is known to be present. If contamination is known to be present, interwell purging will be collected from the generally least to most contaminated wells, to minimize the potential for any cross-contamination. Purge procedures are discussed in Section 3.5 of this GWSAP.

Dedicated Bladder Pumps. McWane Inc. has installed dedicated bladder pumps in each of its monitor wells to accomplish groundwater purging and sampling. Use of dedicated pumps will help reduce the possibility of cross contamination during sampling and will reduce the risk of inadvertent contaminants entering the well during any sampling event.

Groundwater purging will be accomplished by connecting a portable oiless air compressor or bottled compressed nitrogen to the input portal of the well cap and adjusting purge rates using an in-line controller device.

All data collected during each sampling event will be recorded on a groundwater sample log sheet (see example in Attachment A) that will be completed for each well and will include the following information at a minimum: initial depth to water; measured well depth or depth to bladder pump;; purge rate; total purge time; purge volume; measurements of purge fluid pH, specific conductance and temperature; well inspection information; and any other pertinent information.

In the event that a dedicated pump is found to be inoperative and a portable pump or bailer was used to purge the well, samples will be collected by means of a new disposable bailer. Sampling procedures for disposable bailers are described in the following section.

Non-Dedicated Equipment

In the event of a non-operative dedicated pump, the pump and tubing apparatus will be removed for repairs or replacement, and the well will be purged by means of either a disposable bailer or a portable pump until such time the pump is repaired/replaced and rededicated to the well.

Equipment:

- Non-dedicated pump/bailer
- Pump controller (if required)
- Generator or other power source/driving mechanism for pumps / appropriate disposable string or rope for bailer, downrigger (optional)
- New disposable tubing
- New disposable gloves of appropriate material (nitrile).
- Graduated pail or other appropriate container.
- Field parameter measurement device(s)

- Container for laboratory grade, non-phosphate soap/organic-free water solution
- Container for organic-free water rinse

Operating Instructions (Specific operating instructions vary depending on the type of portable pump used. The steps listed below are generalized procedures.):

- Don a new pair of gloves.
- Cleanse portable pump/bailer with a non-phosphate, laboratory grade detergent solution followed by an organic-free water rinse. Sufficient water should be passed through a non-dedicated pump to ensure proper cleansing.
- Attach new disposable tubing to pump or new disposable string to bailer.
- Insert pump and tubing/bailer into well.
- Start the portable pump by the appropriate method and adjust flow to desired rate / initiate removal of water from well with bailer. Ensure bailer and string do not touch ground during purging.

When purging with a bailer, introduce bailer into water column slowly (i.e. do not "drop" into water column) to avoid agitation of water in the well and immediate formation area.

Non-dedicated equipment will be constructed of chemically inert materials, and will be decontaminated at each well with a non-phosphate detergent followed with an organic-free water rinse. Additional cleaning procedures will be performed as deemed necessary.

Rate of discharge and volume purged will be checked periodically with a graduated bucket and/or timer. Field parameter (temperature, pH, and specific conductivity) measurements will be recorded after each well volume of water removed during purging.

3.5 PURGE VOLUME

Detection and compliance monitoring wells may be sampled using either Low Flow Purging, Three Well Volume Purging, or an equivalent method as necessary to complete the groundwater sampling event. Dedicated pumps have been installed in groundwater monitoring

wells at the site and will be used to purge and sample the wells. The method of well purging is discussed below.

3.5.1 Low Flow Purging

Low-flow purging may be performed using dedicated sampling pumps. Well purging will be conducted at a rate of approximately 100 milliliters per minute until a minimum of two (2) pump and tubing volumes have been removed and stabilization of field parameters is achieved. The minimum criteria for low-flow purging and sampling is determined by the parameter stabilization provided in Section 3.5.3. Field parameters include temperature, specific conductivity, pH, and turbidity.

Measurements will be recorded on the field data sheet every three to five minutes. Water level measurement will also be taken every three to five minutes and recorded on the field data sheet. An initial decrease in water level may be expected due to pump and tubing evacuation, however, no subsequent continuous drawdown is to be expected.

In the event the stabilization requirements listed in Section 3.5.3 are not met in a particular well(s) during low flow purging, the well(s) will be purged a minimum of three (3) well volumes of water and until stabilization of field parameters is achieved or until dryness if occurring prior to three (3) well volumes. Monitoring of temperature, pH, conductivity, and turbidity will be performed after each well volume and prior to sampling. Measurements will be recorded on Field Data Sheets (see Appendix A) or equivalent form.

3.5.2 Three Well Volume Purging

Three well volume purging may be conducted using dedicated sampling pumps. Wells will be purged a minimum of three (3) well volumes of water and until stabilization of field parameters is achieved or until dryness if occurring prior to three (3) well volumes. Parameter stabilization is defined in Section 3.5.3. Monitoring of temperature, pH, conductivity, and turbidity will be performed after each well volume and prior to sampling. Measurements will be recorded on Field Data Sheets (see Appendix A) or equivalent form.

3.5.3 Parameter Stabilization

Parameter stabilization will be defined as:

- Specific Conductivity = ± three (3) percent for three (3) consecutive measurements
- pH = ± 0.1 standard pH units for three (3) consecutive measurements
- Temperature = ± three (3) percent for three (3) consecutive measurements
- Turbidity = ± ten (10) percent for three (3) consecutive measurements unless the turbidity is below ten (10) NTU. Three (3) consecutive turbidity measurements below ten (10) NTU will be considered stable.

3.6 DURATION AND ORDER OF GROUNDWATER SAMPLING EVENT

Groundwater sampling in detection and compliance monitoring wells should occur immediately following low-flow purging. In the event a well(s) is purged of three well volumes or to dryness, sampling in the well(s) should commence within 24 hours of purging or after groundwater has reached 90% of prepurge levels. For wells that recharge slowly, however, groundwater sampling may commence as soon as sufficient groundwater is available for sampling. Once groundwater sampling begins, interwell sampling should be conducted within the shortest time frame practical to avoid temporal changes in water chemistry.

Analytical results from the most recent groundwater sampling event will be reviewed to establish the order of interwell sampling. Monitor well sampling at each event shall proceed from upgradient to downgradient wells unless contamination is known to be present. If contamination is known to be present, samples will be collected from the generally least to most contaminated wells, to minimize the potential for any cross-contamination. Samples will be collected and containerized according of the volatility of the requested analyses. A specific collection order per TCEQ guidance (TNRCC, 1994) is as follows:

- Field Parameters
- Volatile Organics
- Metals
- Inorganics

3.7 SAMPLE COLLECTION

McWane Inc. has established groundwater sampling procedures using dedicated pumps in order to provide representative samples of the groundwater. A single sample will be collected at each monitor well location.

Dedicated Bladder Pumps. McWane Inc. has installed dedicated bladder pumps on each of its monitor wells to accomplish groundwater purging and sampling. Use of these pumps will greatly reduce the possibility of cross contamination during any sampling event and will reduce the risk of inadvertent contaminants entering the well during any sampling event.

Non-Dedicated Equipment. In the event that a dedicated pump is inoperative and the dedicated pump and tubing apparatus have been pulled for replacement or repair, the sample will be collected by means of a new disposable bailer as per the following procedure:

a. Remove non-operative or non-dedicated purge equipment from well.
b. Attach new string to a new disposable bailer.
c. Insert bailer into well. Do not "drop" bailer into water column to avoid agitation of water.

Remove bailer from well and slowly pour water from bailer directly into required sample containers in accordance with the sample collection order described in Section 3.6. Repeat as necessary to collect sufficient sample for analysis. Ensure bailer and string do not touch the ground during sampling.

All excess water generated during sample collection will be temporarily stored in appropriately labeled drums and/or tanks. The drums and/or tanks will be transported to the Tyler Pipe Company Water Treatment Plant where disposal will be conducted according to EPA and State environmental guidelines.

3.8 FIELD INSTRUMENTS AND MEASUREMENTS

Water Level Indicator(s) – Water level indicator(s) will be decontaminated prior to initial site arrival by hand washing the sensor probe and entire length of tape in a laboratory grade non-phosphate detergent followed by rinsing with organic-free water. While the tape is reeled back onto the carrying spool, the tape and probe will be wiped down with a clean dry paper towel.

Field Parameter (Temperature, pH, Specific Conductivity, Turbidity) Measuring Device(s) – Field parameter measuring device(s) will be decontaminated by hand washing the sample cells in a laboratory grade non-phosphate detergent followed by rinsing with organic-free water. Meters will then be checked for proper calibration and operation as per the manufacturer's instructions. A two (2) point calibration shall be utilized for pH. Any malfunctioning meters will be replaced prior to packing.

In the case of equipment failure, at least one back-up instrument will be in the sample crew's possession. If a back-up instrument is not available, or fails in addition to the primary equipment, sampling should not proceed until the proper equipment is made available.

3.9 SAMPLE CONTAINER, PRESERVATION AND HOLDING TIMES

Table 3 presents sample container requirements, preservation requirements and maximum hold times that will be observed during the sampling program. The requirements are specific to the metals being analyzed and are consistent with current EPA protocol

Sample labels will be completed in the field with indelible ink and will include the following information at a minimum:

- Sample designation number
- Well number
- Site identification
- Required analysis

- Chemical preservatives added
- Date
- Time
- Signature or initials of person conducting sampling

4.0 SAMPLE STORAGE AND TRANSPORT

Samples will be placed on ice immediately after collection and labeling. Dry ice will not be used. Ice chest lids will remain closed as much as possible to shield against chemical alteration due to exposure to ultraviolet light. Regardless of shipment method, all samples will be delivered to the analytical laboratory within 24 to 48 hours of collection.

The lid and drain plug of the cooler will be secured with tape prior to shipment as a deterrent to premature opening. A custody seal will also be attached across the door seal to allow the detection of tampering during sample shipment. Analytical laboratory personnel will document the integrity of the custody seal upon receipt of the cooler.

4.1 DOCUMENTATION

This section presents all documentation that will be prepared in support of each groundwater sampling event.

4.2 FIELD RECORDS

Documentation of all instrument calibrations, surface conditions, well conditions and any repairs made to wells, a record of all field measurements such as well depths, groundwater depths, purge volumes and times; and a record of field tests such as pH, conductivity and temperature will be maintained in the field. All pertinent field information is recorded on Attachment A or an equivalent form, see Section 4.3.

4.3 FIELD DATA SHEETS

A groundwater sampling field data sheet (see example in Attachment A) will be completed for each well during each sampling event. The log sheet will contain information on purge volumes and purge times, purging and sampling techniques, a record of all field measurements and field tests, descriptions of water sample appearance (clarity, color, etc.), information on site conditions and any observations made in the field. The data sheet will also include the names and signatures of the sampling team.

4.4 CHAIN-OF-CUSTODY DOCUMENTATION

Chain-of-Custody (COC) documentation will be prepared to document all changes in sample possession beginning with the field sampler and ending with the analytical laboratory. A separate COC will accompany each ice chest. The COC documentation will accompany the samples at all times and individuals relinquishing and receiving samples will sign their name and note the date and time of sample transfer.

Chain-of-custody documentation will include the following applicable data:

- Field sample number and site name;
- Date and time sample taken;
- Date sample submitted to the laboratory;
- Sample taken by (signature)
- Information describing source of sample and sample itself;
- Remarks:
- Preservation technique;
- Number and type of shipping containers;
- Sample containers (number, type, condition, seal inscription)
- Signature of persons relinquishing and obtaining custody of samples.

5.0 DECONTAMINATION

This section presents decontamination procedures that will be used for all reusable sampling equipment and sample containers, if used.

5.1 REUSABLE SAMPLING EQUIPMENT

McWane Inc. plans to use disposable, single-use sampling equipment (gloves, etc.) and dedicated sampling equipment to the maximum extent possible to avoid the potential for cross contamination between sampling points. All single-use sampling equipment will be discarded after initial use. All reusable sampling equipment i.e., field meters will be properly decontaminated before and after each use according to the following procedures.

Nitrile or latex gloves will be worn during decontamination and sampling procedures. A new pair of gloves will be worn between each sampling point. Equipment decontamination will take place so that fluids will be collected and disposed of with other fluids from the purging operation.

The first step in the cleaning process will be a thorough rinsing of reagent-grade water. This will be followed by a phosphate-free soap and reagent-grade water mixture scrub. Equipment scrubbing will take place with the use of cleaning brushes or new paper towels. The soap and water scrub will be followed with a thorough reagent-grade water rinse. This rinse will continue until all visible evidence of soap is gone. A final rinse will be performed utilizing reagent-grade water.

6.0 QUALITY ASSURANCE AND QUALITY CONTROL

McWane Inc. plans to utilize the services of a contract laboratory to conduct all analytical work with the exception of field measurements. Field measurements will be conducted in the field. The contract laboratory will meet quality assurance and quality control (QA/QC) standards detailed in Test Methods for Evaluating Solid Waste Physical/Chemical Methods (EPA Pub. No.

SW-846) and the specific methods referenced by this plan. Sample handling procedures will be documented by the use of a chain of custody form.

All laboratory data generated after June 30, 2008 will be produced by a lab accredited by the TCEQ or the laboratory and data shall meet an exemption. The laboratory's accreditation will include the field of accreditation (matrix, method, analyte) for the data being submitted to the agency.

All data generated by the contract laboratory will meet the requirements of TRRP and TRRP-13 Guidance.

7.0 PURGE WATER AND SOLID WASTE MANAGMENT

All liquid waste generated during sampling activities including purge water and spent decontamination fluids will be temporarily stored in drums and/or tanks. All drums and/or tanks will be clearly labeled showing their contents, date filled and site contact information. The drums will be transported to the Tyler Pipe Company Water Treatment Plant where disposal will be conducted according to EPA and State environmental guidelines. A purge water manifest shall be filled out each sampling event.

All solid waste generated during sampling activities (i.e., disposable gloves, paper towels, etc.) will be placed into plastic garbage bags. Based on prior analytical knowledge the solid waste will be disposed of at a municipal landfill.

8.0 HEALTH AND SAFETY

It is the responsibility of the field sampling staff to be aware of any potential safety hazards and take all necessary mitigating actions. Potential hazards basically include any normal slip, trip, and fall dangers. The members of the sampling team will take measures to avoid direct skin contact with the withdrawn groundwater. Nitrile or latex disposable gloves will be worn by all personnel directly involved in the sampling process. The gloves will be discarded in plastic trash bags after

evacuation of each well. The consumption of food, beverages or cigarettes will not be allowed on-site during any sampling event.

9.0 STATISTICAL METHODS – DETECTION MONITORING

McWane Inc. will use the Tolerance Intervals method as described in EPA Publication No. EPA 530-R-09-007, "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-, March 2009; to determine when a statistically significant change (SSC) in groundwater quality has occurred.

This will involve comparing compliance well analytical results to the tolerance intervals calculated using appropriate back ground data that has been corrected for outliers. These comparisons will occur for all detection monitoring wells within 60 days of collection of the last sample from a given sampling event unless QA/QC procedures show that data is unacceptable and re-analysis or re-sampling must be performed (Permit Provision VI.D.4.a). In such cases, the Executive Director will be notified as soon as it becomes apparent that the 60 day time limit will not be met.

If a determination is made that any downgradient value exceeds the tolerance limit, a statistically significant change in groundwater quality will be reported to the Executive Director. Prior to reporting this change, however, a resampling event may be conducted to confirm this information.

In accordance with TAC § 335.164.7 (F), the owner /operator may demonstrate that a statistically significant change in groundwater quality is the result of a source other than the regulated unit, such as error in sampling, analysis, statistical evaluation, or natural variation in the groundwater. In such cases, the owner/operator must:

- Notify the Executive Director in writing within seven days that the owner/operator intends to make a demonstration.

- Submit a report, within 90 days, to the Executive Director that demonstrates that a source other than the regulated unit caused the contamination or that the contamination was a result from error in sampling, analysis, or evaluation.
- Submit to the Executive Director, within 90 days, an application for a permit amendment or modification to make any changes to the detection monitoring program at the facility.
- Continue to monitor ground water in accordance with the detection monitoring program at the facility.

9.1 DETECTION MONITORING REPORTING FREQUENCY

Detection groundwater monitoring reports shall be submitted on an annual basis and contain applicable information listed in Permit Provision VI.G. The annual detection monitoring report shall be submitted by March 1st of each year in accordance with Permit Provision II.B.10. All data will be submitted in a manner consistent with TCEQ Quality Control and Assurance Project Plan for Monitoring and Measurements Activities Relating to RCRA and UIC (TCEQ QAPP) and will be maintained at the facility record.

10.0 COMPLIANCE MONITORING DATA EVALUATION

No statistical analysis will be used for compliance monitoring wells. Rather, comparison of sampling data directly to groundwater protection standards (GWPS) will be applied. These comparisons will occur for all compliance monitoring wells within 60 days of collection of the last sample from a given sampling event unless QA/QC procedures show that data is unacceptable and re-analysis or re-sampling must be performed (Permit Provision XI.F.3.b). In such cases, the Executive Director will be notified as soon as it becomes apparent that the 60 day time limit will not be met. Table 1 of this GWSAP lists the compliance monitoring parameters and their respective GWPS. The aforementioned information is also located in the facility Compliance Plan (Permit Provision XI).

If a determination is made that any compliance monitoring parameter exceeds its GWPS, the exceedance will be reported to the Executive Director within seven days of the determination

per 30 TAC §335.165(8)(A). Additionally, a verification resample will be collected within 30 days of the determination. Should the verification resample results confirm the presence of a compliance monitoring parameter at levels greater than its GWPS, the following steps may be followed:

In accordance with 30 TAC §335.165(9), the owner /operator may demonstrate that a GWPS exceedance is the result of a source other than the regulated unit, such as error in sampling, analysis, or natural variation in the groundwater. In such cases, the owner/operator must:

- Notify the Executive Director in writing within seven days that the owner/operator intends to make a demonstration.
- Submit a report, within 90 days, to the Executive Director that demonstrates that a source other than the regulated unit caused the GWPS exceedance or that the GWPS exceedance was a result from error in sampling, analysis, or evaluation.
- Submit to the Executive Director, within 90 days, an application for a permit amendment or modification to make any changes to the compliance monitoring program at the facility.
- Continue to monitor groundwater in accordance with the compliance monitoring program at the facility.

In the event the regulated unit is determined to be the source of the GWPS exceedance the owner/operator must perform the following in accordance with 30 TAC §335.165(8)(B):

- Submit an investigation report, within 180 days, to the Executive Director to establish a corrective action program meeting the requirements of 30 TAC §335.166.

10.1 COMPLIANCE MONITORING REPORTING FREQUENCY

Compliance groundwater monitoring reports shall be submitted on a semi-annual basis and contain applicable information listed in Compliance Plan Table VII of the facility Permit.

11.0 REFERENCES

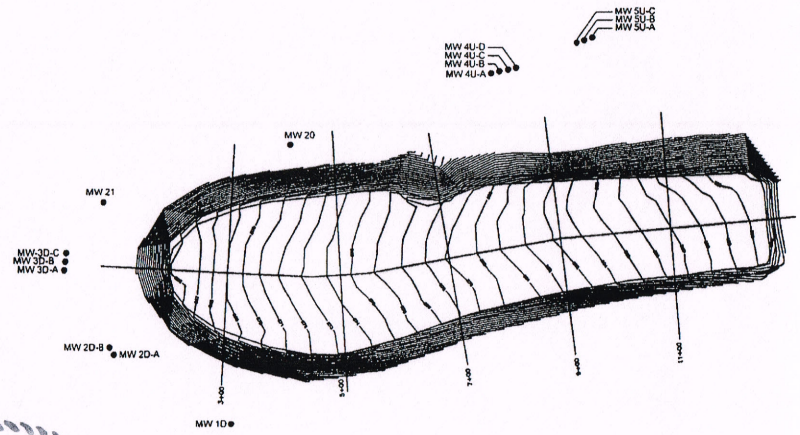
McWane, Inc. (Tyler Pipe Company) Permit, Issued December 14, 2010. Hazardous Waste Permit No. 50141, EPA ID No. TXD066349770, ISWR No. 30140.

Texas Natural Resources Conservation Commission (TNRCC), 1994. TNRCC Technical Guidance Municipal Solid Waste Division Guidelines for Preparing a Groundwater Sampling and Analysis Plan (GWSAP).

U.S. Environmental Protection Agency, November 1986. Test Methods for Evaluating Solid Waste – Physical/Chemical Methods, Third Edition (revised), SW-846. Office of Solid Waste and Emergency Response, Washington, D.C.

U.S. Environmental Protection Agency (EPA). March 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance. EPA 530-R-09-007.

Figures



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

6-1-2020

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

LEGEND:

● MONITOR WELL LOCATION

N

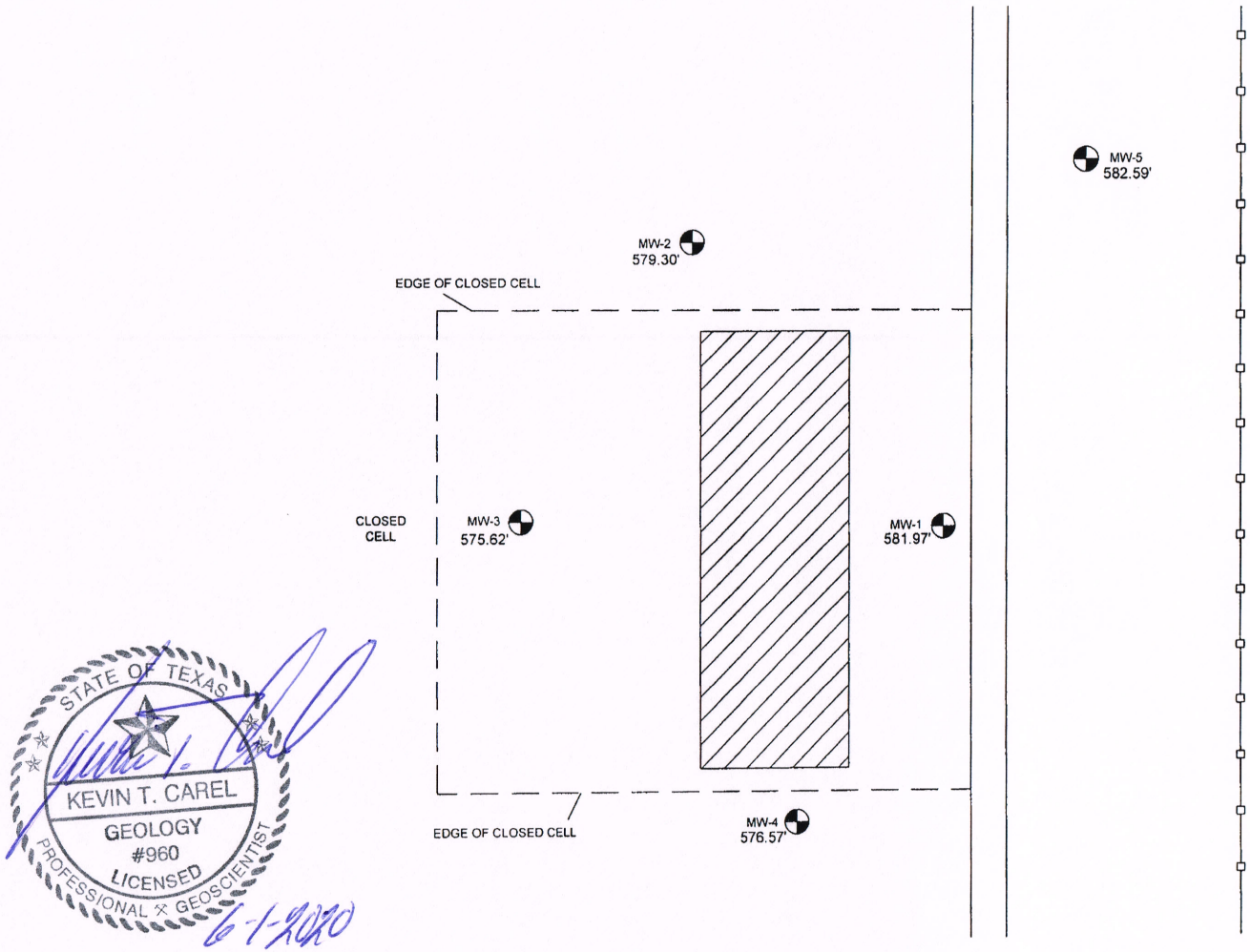
SCALE:

0 100 200
FEET

CLOSED LANDFILL SITE MAP

MCWANE INC. FACILITY
CLASS I HAZARDOUS WASTE LANDFILL
Tyler, Texas

DATE: June 2020	REV. NO.:
FILENAME: R:\TEXAS\Tyler Pipe\GWSAP\2020\TylerPipe.dwg	
DESIGNED BY:	FIGURE:
DRAFTED BY:	1
CHECKED BY:	
APPROVED BY:	



STATE OF TEXAS
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PROFESSIONAL GEOSCIENTIST

6-1-2020

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

LEGEND:

- MONITOR WELL LOCATION
- FENCE
- LIMITS OF SLUDGE

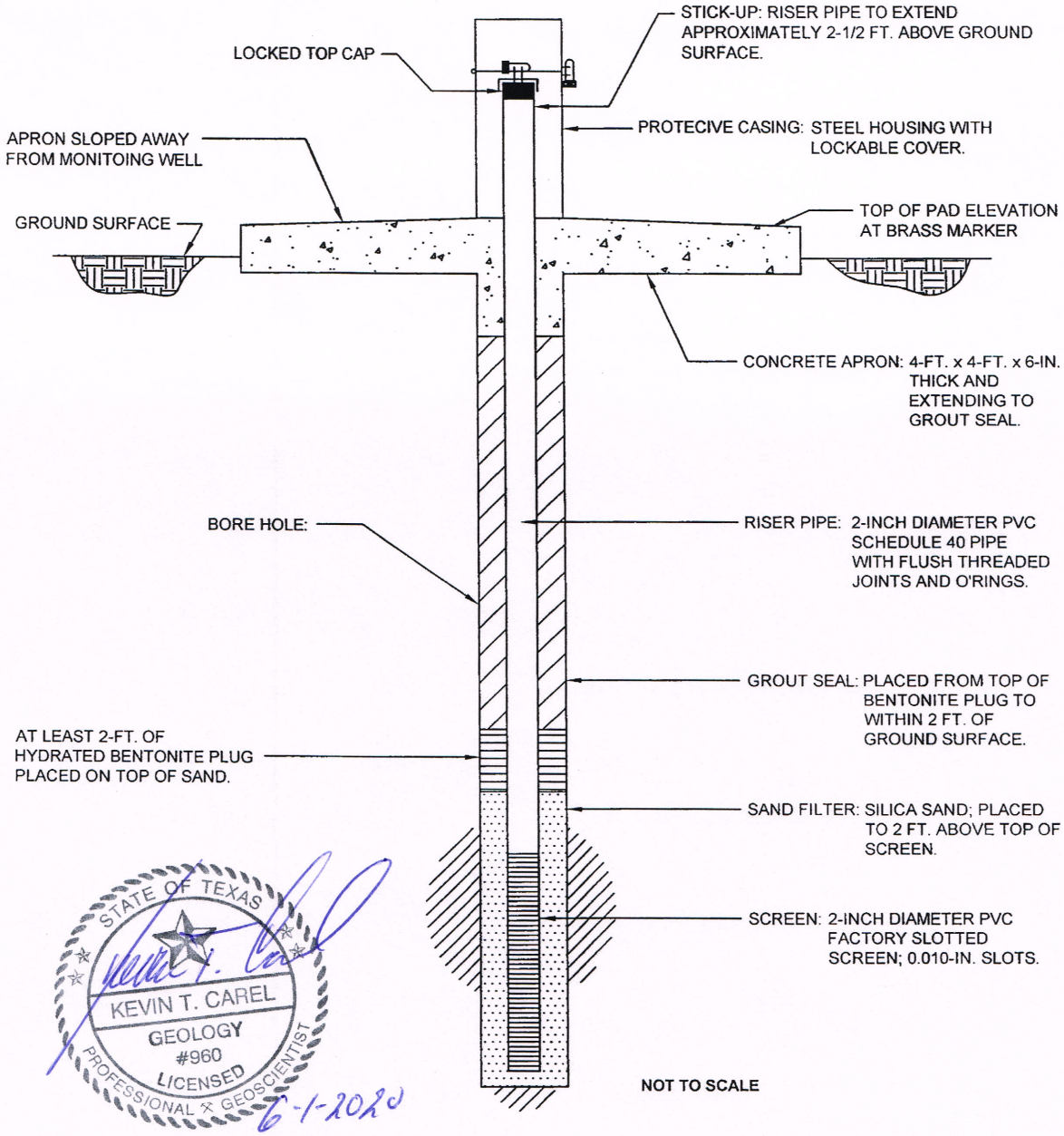
SCALE

30 20 10 0 30 60
FEET

SLUDGE DISPOSAL AREA SITE MAP

MCWANE INC. FACILITY
Tyler, Texas

DATE: June 2020	REV. NO.:
FILENAME: L:\TX\TylerPipe\SDA Map.dwg	
DESIGNED BY:	FIGURE:
DRAFTED BY:	
CHECKED BY:	2
APPROVED BY:	



STATE OF TEXAS
KEVIN T. CAREL
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PROFESSIONAL GEOSCIENTIST

6-1-2020

The Carel Corporation *Providing Environmental, Ground-Water and Waste Management Services* *136 Pecan Street, Keller, TX 76248*	**NEW MONITORING WELL CONSTRUCTION DIAGRAM** **TYLER PIPE LANDFILL** **TYLER, TEXAS**	DATE: June 2020 FILENAME: G:\Templates\Well Detail.dwg DRAWN BY: DRAFTED BY: FIGURE: 3

Tables

Permit No. HW-50141-000

McWane, Inc. (Tyler Pipe Company)

GWSAP TABLE 1

PERMIT TABLE VI.B.3.c

MCWANE, INC.

GROUNDWATER DETECTION MONITORING PARAMETERS

Closed Landfill Well No(s) 1D, 2D-A, 2D-B, 3D-A, 3D-B, 3D-C,4U-A, 4U-B, 4U-C, 4U-D, 5U-A, 5U-B, 5U-C, MW-20, MW-21

Parameter	Sampling Frequency[1]	Detection Limits[2] (ppm)
Cadmium	Semi-Annually	0.0002
Chromium	Semi-Annually	0.002
Lead	Semi-Annually	0.001
Zinc	Semi-Annually	0.003
pH	Semi-Annually	Not applicable
Specific conductance	Semi-Annually	Not applicable

[1]Detection Sampling Frequency
[2]Laboratory Specific Practical Quantitation Limit
All units in parts per million

GROUNDWATER COMPLIANCE MONITORING PARAMETERS

Sludge Disposal Area Well No(s) OW-6, OW-7, and OW-8

Parameter	Sampling Frequency[1]	Detection Limits[2] (ppm)	GWPS[3] ($^{GW}GW_{ing}$)
Cadmium	Semi-Annually	0.0002	0.005
Chromium	Semi-Annually	0.002	0.005
Lead	Semi-Annually	0.001	0.015
Mercury	Semi-Annually	0.003	0.0002
Zinc	Semi-Annually	0.005	0.020
pH	Semi-Annually	Not applicable	Not applicable
Specific conductance	Semi-Annually	Not applicable	Not applicable

[1]Compliance Sampling Frequency
[2]Laboratory Specific Practical Quantitation Limit
[3]Groundwater Protection Standard

GWSAP TABLE 2

ANALYTICAL METHODS

MCWANE, INC.

PERMIT PARAMETERS

Parameter	Analytical Method[1,2]	PQL[3]
Cadmium	SW-846 6010 or 6020 EPA Method 200.7 or 200.8	0.0002 mg/L
Chromium	SW-846 6010 or 6020 EPA Method 200.7 or 200.8	0.002 mg/L
Lead	SW-846 6010 or 6020 EPA Method 200.7 or 200.8	0.001 mg/L
Mercury	SW-846 7470	0.0002 mg/L
Zinc	SW-846 6010 or 6020 EPA Method 200.7 or 200.8	0.003 mg/L
pH	measured in field	not applicable
Specific Conductance	measured in field	not applicable

[1]40 Code of Federal Regulations 264, Appendix IX (SW 846) latest revision.

[2]Analyses will be performed using the above listed methods or an equivalent or better EPA-approved method.

[3]Laboratory Specific Practical Quantitation Limit

NOTE: All metals are total analysis. Samples are not to be filtered prior to analysis.

TABLE 3

SAMPLE CONTAINER
AND PRESERVATION REQUIREMENTS
MCWANE, INC.

Parameter Group	Container Size	Number of Containers	Container Material	Holding Time	Preservation
Metals	250 ml	1	Polyethylene	180 days	4°C,HNO_3 to pH <2

ATTACHMENT A
GROUNDWATER SAMPLING FIELD DATA SHEET

McWane Inc. (Tyler Pipe)

Hazardous Waste Landfill (Unit 001)
Smith County, Texas
Permit No. HW-50141-000

GROUNDWATER SAMPLING FIELD DATA SHEET

Well Number: MW-
Project Number: 20-01-02

Project: 1st '20 S/A GME
Personnel: _____

Date: _____
Weather Conditions: _____ Air Temp: _____

WELL DATA:

Casing Diameter: _____ (in) ☐ PVC ☐ Other: _____
DEPTH TO: Static Water Level (WL): _____ (ft)
DATUM: ☐ Top of Well Casing ☐ Top of Protective Casing ☐ Other: _____
CONDITION: Is well clearly labeled? ☐ Yes ☐ No
Is prot. casing in good cond.? (not bent or corroded) ☐ Yes ☐ No
Is concrete pad intact? (not cracked or frost heaved) ☐ Yes ☐ No-
Is padlock functional? ☐ Yes ☐ No Is inner casing intact? ☐ Yes ☐ No
Is inner casing properly capped and vented? ☐ Yes ☐ No Reference Point Present? ☐ Yes ☐ No

PURGE DATA: Low-Flow Purging Used? ☐ Yes ☐ No

METHOD: ☐ Bladder Pump ☐ Bailer ☐ Other: _____ {if no – Water Standing in Well _____ (gal)
MATERIALS: Type of Pump: QED Well Wizard To be Purged _____ (gal)
Tubing: ☐ Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field-Cleaned
PROCEDURES: Pump & Tubing Vol.: _____(ml) Pumping Rate: _____ (ml/min)
CALIBRATION: pH Meter Model: _____ Meter S/N: _____ Time: _____
Cond. Meter Model: _____ Meter S/N: _____ Time: _____

TIME SERIES DATA:

Time:							
Cum. Volume Removed (ml)	Start						
Temp. (°C):	---						
pH (s.u.):	---						
Spec. Cond. (µmhos/cm):	---						
Turbidity (NTU):	---						
Water Level (ft.)	---						
Other:	---						

SAMPLING DATA:

Sample Collection Time: _____
Water Level at Time of Sample: _____
METHOD: ☐ Bladder Pump ☐ Bailer ☐ Other: _____
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field-Cleaned ☐ Disposable
APPEARANCE: ☐ Clear Turbid (NTU): _____Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: Temp. (°C):_____pH (s.u.):_____Spec. Cond. (µmhos/cm): _____
☐ Background ☐ Detection ☐ Assessment ☐ Quarterly ☐ Other

REMARKS:_____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature:_____ Date:_____

VII. Closure and Post-Closure Plans

Provide all Part B responsive information in Appendix VII. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

For multiple units provide an include all Part B responsive information in a separate Appendix for each unit.

Submit a full closure plan and post-closure plan, if applicable, which contains all the information required by 30 TAC 335.8, 335.169, 335.172, 335.174, 335.177, 335.178, 335.551-335.569, 30 TAC Chapter 350, 40 CFR 264.112, 264.118, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.575, 264.601, 264.603, 264.1102, 270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(2) & (3), and 270.26(c)(16) where applicable. The owner of property on which an existing disposal facility is located must also submit documentation that a notation has been placed in the deed to the facility that will in perpetuity notify any potential purchasers of the property that the land has been used to manage hazardous wastes and its use is restricted (see 30 TAC 335.5). For hazardous waste disposal units that were closed before submission of the application, the applicant should submit documentation to show that plats and notices required under 40 CFR 264.116 and 264.119 have been filed.

A. Closure -RESERVED

B. Closure Cost Estimate (including contingent closure) [30 TAC 335.178, 40 CFR 264.142]

RESERVED

C. Post-closure

This section applies to owners or operators of all hazardous waste disposal facilities. This section also applies to certain waste piles, tanks and surface impoundments from which the owner or operator intends to remove wastes at closure but which are required to have contingent post-closure plans.

For Landfills, and Waste Piles, Surface Impoundments, and Tanks Closed as a Landfill

1. Provide as-built plans and specifications for the final cover system, individually for each unit that is sealed, signed and dated by a licensed professional engineer with current Texas registration along with the Registered Engineering Firm's name and Registration Number would satisfy this requirement; Other as-built plans and specifications for the unit may be submitted upon request.

2. Complete the following tables, as applicable:

   a. Complete Table V.G.1 - Landfills and list the landfills (and number of cells, if applicable) covered by this application. List the waste(s) managed in each unit and the rated capacity or size of the unit. If wastes are segregated in some manner, list the cell number in which wastes are placed next to each waste type.

   b. Table V.G.3. - Landfill Liner System and specify the type of liner used for the landfill.

   c. Table V.G.4. - Landfill Leachate Collection System used for the landfill.

   d. Table V.E.1 - Waste Piles and list the waste piles covered by this application. List the waste managed in each unit and the rated capacity or size of the unit.

   e. Table V.E. 3 - Waste Pile Liner System and specify the type of containment/liner

system.

f. Table V.D.1 - Surface Impoundments and list the surface impoundments, covered by this application, to be permitted. List the waste(s) managed in each unit and the rated capacity or size of each unit.

g. Table V.D. 6. - Surface Impoundment Liner System for each surface impoundment to be permitted.

h. Table V.C. Tanks and Tank Systems.

Post-closure care of each hazardous waste management unit must continue for 30 years after the date of completing closure of the unit and must consist of monitoring and reporting of the groundwater monitoring systems in addition to the maintenance and monitoring of waste containment systems. Continuation of certain security requirements may be necessary after the date of closure. Post-closure use of property on or in which hazardous waste remains after closure must never be allowed to disrupt the integrity of the containment system. In addition, submit the following information.

1. The post-closure care plan for a landfill or of a surface impoundment, waste pile, miscellaneous unit, or tank system closed with wastes or waste constituents left in place, or closed under a contingent closure plan, must demonstrate compliance with 30 TAC 335.174(b).

2. The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure period; and

3. A discussion of the future use of the land associated with each unit.

4. For landfills, surface impoundments, waste piles, and land treatment areas closed under interim status, submit the required documentation of 40 CFR 270.14(b)(14).

5. Landfills, surface impoundments, waste piles and land treatment areas that received hazardous wastes after July 26, 1982 or for which closure was certified after January 26, 1983 must be included in post-closure care plans unless they have been determined to have closed by removal equivalent to the closure standards in 40 CFR 264 Subpart G. If such a demonstration has been made pursuant to 40 CFR 270.1(c)(5), but an equivalency determination has not been made, please submit a copy of the demonstration documentation. If an equivalency determination has been made pursuant to 40 CFR 270.1(c)(6), applicant should submit a copy of the determination. Complete Table VII.C.5. - Land-Based Units Closed Under Interim Status for all land based units closed under interim status.

D. Post-closure Cost Estimate [40 CFR 264.144]

This section regarding post-closure cost estimate applies to owners or operators of all hazardous waste disposal facilities, except state and federal agencies, and certain waste piles, tank systems, and surface impoundments from which the owner or operator intends to remove wastes at closure, but which are required to have contingent closure and post-closure plans. A detailed estimate, in current dollars, of the annual cost of monitoring and maintenance of the facility in accordance with the applicable post-closure regulations must be included in the report. The TCEQ has published Technical Guideline No. 10 for calculating post-closure costs, which should be consulted. Costs should be developed in detail for 30 years of post-closure care activities to be conducted by a third party, for each applicable unit.

1. The applicant should submit details of item costs and number of each item for off-site disposal of leachate and bailed monitor well water, labor and supervision, monitor well sampling and analyses, inspection and repair of the cap(s), mowing and re-seeding of the vegetative cover, maintaining site security, etc. Provide an itemized cost estimate on Table VII.D. - Unit Post-Closure Cost Estimate for complete, third party permitted facility post-closure care.

2. As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

3. Total annual cost of post-closure care for the facility including costs of contingent post-closure care should be multiplied by 30 years.

E. Closure and Post-Closure Cost Summary

Please Complete Table VII.E.1. - Permitted Unit Closure Cost Summary

Please Complete Table VII.E.2. - Permitted Unit Post-Closure Cost Summary

Table VII.B. - Unit Closure Cost Estimate

Task	Cost
(Name of permitted unit, e.g., Tank TK-1)	
Verbal description of task (waste amount generated x disposal cost/unit amount)	
Verbal description of task (waste amount generated x disposal cost/unit amount)	
Verbal description of task (waste amount generated x disposal cost/unit amount)	
Verbal description of task (waste amount generated x disposal cost/unit amount)	
Other tasks (such as labor, lab analysis, transportation, certifications, etc.)	
Other tasks	
Subtotal	
Contingency (10% minimum)	
Total Unit Closure Cost	

Table VII.C.5. - Land-Based Units Closed Under Interim Status

N.O.R.Unit No.	Unit Description [1, 2]	Date of Receipt of Last Waste[3]	Date of Closure Certification[3]
001	Landfill, hazardous waste	March 1, 1994	March 9, 1995
008	Surface tank, north plant clarifier	November 8, 1988	April 4, 1990
012	Surface impoundment, north plant emergency treatment lagoon	November 8, 1988	April 4, 1990
013	Surface impoundment, south plant emergency spill basin	November 8, 1988	April 4, 1990
014	Surface impoundment, south plant emergency treatment lagoon	November 8, 1988	April 4, 1990
015	Surface impoundment, north plant drying bed cell (east)	November 8, 1988	April 4, 1990
016	Surface impoundment, north plant drying bed cell (west)	November 8, 1988	April 4, 1990
017	Surface impoundment, north plant cooling pond	November 8, 1988	April 4, 1990
018	Surface impoundment, south plant cooling pond	November 8, 1988	April 4, 1990
024	Surface impoundment, north plant primary settling basin	November 8, 1988	April 4, 1990
025	Surface impoundment, north plant emergency settling basin	November 8, 1988	April 4, 1990

1. Indicates a unit for which a 40 CFR 264 closure equivalency determination has been requested pursuant to 40 CFR 270.1(c)(5).
2. Indicates a unit for which a 40 CFR 264 closure equivalency determination has been made pursuant to 40 CFR 270.1(c)(6).
3. Enter month, day, and year.

Table VII.D. - Unit post-Closure Cost Estimate

Task	Cost
Landfill (NOR Unit No. 001)	
Groundwater Detection Monitoring: Sampling: Two events/year Analytical: Two events/year x 15 wells + 2 QA/QC samples	$9,329.00
Cap Inspections and Maintenance: Inspections: 12 events/year Maintenance: One event/year	$7,114.00
Recordkeeping and Reporting: Records: 12 events/year Reporting: Two reports/year	$5,000.00
Verbal description of task (waste amount generated x disposal cost/unit amount)	
General Maintenance of Vegetative Cover $3,337 Well Maintenance/Replacement/Abandonment $3,597	$6,934.00
Engineering, Fees, Oversight $10,133 Certification of Post Closure $8,000	18,133
Subtotal	46,510
Contingency (10% minimum)	$4,651.00
Total Unit Closure Cost	51,161

Task	Cost
Sludge Disposal Area (NOR Unit No. 082)	
Groundwater Compliance Monitoring: Sampling: Two events/year Analytical: Two events/year x 3 wells + 2 QA/QC samples	$2,466.00
Cap Inspections and Maintenance: Inspections: 12 events/year Maintenance: One event/year	$1,037.00
Recordkeeping and Reporting: Records: 12 events/year Reporting: Two reports/year	$5,000.00
Verbal description of task (waste amount generated x disposal cost/unit amount)	
General Maintenance of Vegetative Cover $1,029 Well Maintenance/Replacement/Abandonment $793	$1,822.00

Task	Cost
Engineering, Fees, Oversight $5,135 Certification of Post Closure $385	$5,520.00
Subtotal	15,845
Contingency (10% minimum)	$1,585.00
Total Unit Closure Cost	17,430

The estimates listed above were derived from the following sources:

Table VII.E.1. - Permitted Unit Closure Cost Summary

Existing Unit Closure Cost Estimate	
Unit	Cost
NOT APPLICABLE - SEE TABLE VII.E.2	
Total Existing Unit Closure Cost Estimate[1]	

Proposed Unit Closure Cost Estimate	
Unit	Cost
NOT APPLICABLE - SEE TABLE VII.E.2	

As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

Table VII.E.2. - Permitted Unit Post-Closure Cost Summary

Existing Unit Closure Cost Estimate	
Unit	Cost
Landfill (NOR Unit No. 001)	$255,805.00
Sludge Disposal Area (NOR Area No. 082)	$226,590.00
Total Existing Unit Closure Cost Estimate[1]	$482,395.00

Proposed Unit Closure Cost Estimate	
Unit	Cost

1. As units are added or deleted from these tables through future permit amendments or modifications, the remaining itemized unit costs should be updated for inflation when re-calculating the revised total cost in current dollars.

Appendix VII.C.

Post-Closure

Appendix VII.C.
Post-Closure

The post-closure plan presented herein has been developed for two facility hazardous waste management (HWM) units located at the Tyler Pipe plant in Smith County, Texas that were closed as landfills with waste in place under cover systems. These two facility HWM units are identified as follows:

- Landfill: NOR Unit No. 001
- Sludge Disposal Area: NOR Unit No. 082

The locations of these closed HWM units are depicted on the facility map that is provided as ***Figure VII.C-1***. This post-closure plan was developed in accordance with 40 Code of Federal Regulations (CFR) §264.117-120 and §264.310 (closure and post-closure for landfills).

Pursuant to the requirements of 40 CFR 264.118, Tyler Pipe is providing the following information for the facility and current person to contact during the post-closure period for the subject HWM units:

- Facility Name and Location: McWane, Inc. (Tyler Pipe Company)
  11721 US Highway 69 North
  Tyler, Texas 75706

- Facility Contact: Scott Harris
  Environmental Manager
  (903) 882-2687 (office)
  scott.harris@tylerpipe.com

Background Information

- **Landfill**
  This HWM unit is located in the northwest quadrant of the Tyler Pipe facility approximately one-half mile west of the main plant area. The closed landfill is surrounded by a county road, low-density residential areas, and undeveloped agricultural areas. The closed landfill is located immediately adjacent to an intermittent tributary to Chinquapin Creek and is about 3,750 feet from Swan Lake. The closed landfill encompasses an area of approximately eight acres (waste volume of 720,000 cubic yards) and received both hazardous and non-hazardous wastes during its active life.

The cover system over the closed landfill is comprised of a four-foot thick low-permeability soil liner component (bentonite amended clay-rich soil), a six-inch sand drainage layer, a one-foot thick layer of soil fill material, and six inches of overlying topsoil. The cover system design specifications and construction followed the guidelines in Construction Quality Assurance for Hazardous Waste Landfill Disposal Facilities (US EPA, July 1986, EPA/530-SW-086-031).

This HWM unit was certified closed in 1995 in accordance with the specifications in the approved closure plan incorporated by reference into Permit No. HW-50141 (and is currently in post-closure care). Documentation of the closure certification is provided in ***Attachment VII.C-1***.

- **Sludge Disposal Area**
  This solid waste management unit (SWMU) comprises 0.6 acres (waste volume of 1,500 cubic yards) and is located in the southeast quadrant of the plant. The sludge disposal area was constructed in the 1970s and was utilized for the disposal of sludge that resulted from the dewatering of wastewater from foundry emission stack scrubbers. The sludge disposal area was decommissioned in 1989 and the sludge that was left in place contains cadmium, lead, and zinc.

  This unit was subsequently backfilled and a vegetative cap was established, and the sludge disposal area was incorporated as a HWM unit into Permit No. HW-50141 through a Class 2 permit modification request in 2003. The sludge disposal area was certified closed in 2003 (and is also currently in post-closure care). Documentation of the closure certification is provided in ***Attachment VII.C-1***.

  However, releases of hazardous constituents to groundwater were indicated in 2007. Consequently, a compliance monitoring program was established for this HWM unit through a Class 3 permit modification request in 2008.

Post-Closure Groundwater Monitoring

The closed landfill is currently under a post-closure groundwater *detection* monitoring program since no releases of hazardous constituents to groundwater above background levels have ever been indicated for this HWM unit. The closed sludge disposal area is currently under a post-closure groundwater *compliance* monitoring program as a result of the releases of hazardous constituents to groundwater above background levels that were identified for this HWM unit. Details of these post-closure groundwater monitoring programs are provided herein.

- **Landfill**

  The post-closure detection monitoring system for the closed landfill is comprised of the following wells (the locations of these monitor wells are identified on ***Figure VII.C-2***):

  – *Background/Upgradient*: MW-4U-A, MW-4U-B, MW-4U-C, MW-4U-D, MW-5U-A, MW-5U-B, and MW-5U-C

  – *Point-of Compliance*: MW-1D, MW-2D-A, MW-2D-B, MW-3D-A, MW-3D-B, MW-3D-C, MW-20, and MW-21

  The post-closure detection monitoring parameters whose concentrations are determined through laboratory analysis include *cadmium*, *chromium*, *lead*, and *zinc*. In addition, *pH* and *specific conductance* are measured in the field within each well during each monitoring event. These detection monitoring parameters were selected based on materials historically placed in the landfill, which consisted of dewatered sludge from the north and south treatment facilities at the plant.

  During the detection monitoring program that has been conducted for the landfill during the active life of the unit and during the post-closure period conducted through 2009, groundwater samples were collected from each well for analysis during the first 30 days of the first and third quarters (*i.e.*, on a semiannual basis). Concentrations of each parameter were determined in four samples collected from each well during each post-closure semiannual monitoring event as authorized by Provision VI.D.3.a of Permit No. 50141.

  For each upgradient (background) and each downgradient (point-of-compliance) monitor well, the determination of an SSI in the concentration of each detection monitoring parameter over the background value (which was determined at the time of the initiation of detection monitoring utilizing four independent samples from each background well) will continue to be conducted through a comparison of the detection monitoring parameter concentration values obtained during each semiannual event to statistical limits. This comparison will be conducted within the first 60 days from the date groundwater samples are collected.

  Detection monitoring constituents are statistically evaluated using a tolerance interval approach. The use of tolerance limits assumes that the background data are normally distributed with at least three, and preferably eight or more, observations. Comparisons are made on an inter-well basis, in which concentrations from point of compliance wells are compared to statistical limits (e.g. tolerance limits) computed from the pooled concentrations of background wells for a specific parameter. The background pool for the closed landfill consists of data collected from background wells MW-4U-A, MW-4U-B, MW-4U-C, MW-4U-D, MW-5U-A, MW-5U-B and MW-5U-C from June 1996 through the most recent sampling event excluding outliers.

Parametric tolerance limits are computed using the following equation:

$$TL = X + KS$$

Where:

TL = the tolerance limit;
X = the mean of the background observations;
K = The 2-tailed normal tolerance factor(s) for a 95-percent confidence; and,
S = the standard deviation of the background observations.

Initial evaluations proceed according to the following scheme: If less than 15-percent of the background data are non-detects, one-half of the laboratory reporting limit will be substituted for individual points. If more than 15-percent but less than 50-percent of the background data are below detection, the mean and standard deviation are adjusted according to the method of Cohen or Aitchison prior to the analysis. If more than 50-percent of the background data are below the detection limit, or when the background data do not exhibit a normal/transform normal distribution, a non-parametric tolerance limit is applied. A non-parametric tolerance interval generally sets the upper statistical limit as the highest value from the background data. Where two-tailed tests are applied (e.g. pH), the lower tolerance limit is generally set as the lowest background value.

The concentrations determined for point of compliance wells (MW-1D, MW-2D-A, MW-2D-B, MW-3D-A, MW-3D-B, MW-3D-C, MW-20, and MW-21) are compared to the calculated tolerance limits. Concentrations that exceed the upper tolerance limit are considered to be initial statistical exceedances. Statistical evaluations of pH are completed under a two-tailed test, which have both an upper and lower tolerance limit. Values that fall outside the bounds of the tolerance interval (the upper or lower limit) are considered to be initial statistical exceedances.

If a potential SSI above the background value is indicated for a detection monitoring parameter during a semiannual sampling event, the well(s) from which the groundwater sample exhibiting the potential SSI will be resampled and analyzed for only the parameter(s) that resulted in the potential SSI. Should the resample results verify the SSI, Tyler Pipe will notify the Executive Director of the TCEQ within seven (7) days and comply with all other requirements of 30 TAC 335.164(7) and (8). These requirements include either (1) conducting Appendix IX analyses and developing a permit modification request to incorporate a Compliance Monitoring Program or (2) developing a demonstration that the SSI resulted from error or from a source other than the RCRA-regulated unit.

- **Sludge Disposal Area**

  The post-closure compliance monitoring system for the closed sludge disposal area is comprised of the following wells (the locations of these monitor wells are shown on ***Figure VII.C-3***):

- *Background/Upgradient*: OW-6
- *Point-of Compliance*: OW-7 and OW-8

The post-closure compliance monitoring parameters whose concentrations are determined through laboratory analysis include *cadmium*, *chromium*, *lead*, *mercury*, and *zinc*. These compliance monitoring parameters were selected based on materials historically placed in the landfill, which consisted of dewatered sludge from the north and south treatment facilities at the plant, and the releases to groundwater indicated in 2007.

Tyler Pipe proposes to collect groundwater samples from each well for analysis during the first 30 days of the first and third quarters (*i.e.*, on a semiannual basis). Concentrations of each parameter will be determined in one sample collected from each well during each semiannual monitoring event.

For each upgradient (background) and each downgradient (point-of-compliance) monitor well, the determination of an exceedence of groundwater protection standard (GWPS) values will be conducted through a comparison of the compliance monitoring parameter concentration values obtained during each semiannual event to the GWPS values established in the Compliance Plan. The GWPS values proposed by Tyler Pipe for the compliance monitoring parameters are the risk-based levels established for a Class 1 groundwater resource under the Texas Risk Reduction Program (TRRP) and are identified as follows: *cadmium* (0.005 mg/L), *chromium* (0.1 mg/L), *lead* (0.015 mg/L), mercury (0.002 mg/L), and *zinc* (7.3 mg/L). This comparison of analytical results to these proposed GWPS values will be conducted within the first 90 days of the calendar quarter during which the groundwater samples are collected.

If an exceedence of a GWPS value is indicated for any compliance monitoring parameter during a semiannual sampling event, the well(s) from which the groundwater sample exhibiting the exceedence will be resampled and analyzed for only the parameter(s) that resulted in the exceedence. Should the resample results verify the exceedence, Tyler Pipe will notify the Executive Director of the TCEQ within seven (7) days and either (1) prepare a permit modification request to initiate a corrective action program for the sludge disposal area or (2) develop a demonstration that the GWPS exceedence resulted from error or from a source other than the RCRA-regulated unit.

Post-Closure Inspection and Maintenance

Inspections will be conducted at the closed landfill and the closed sludge disposal area pursuant to the requirements of 40 CFR §264.15(b), §264.33, and §264.303 and will be performed on a monthly basis in accordance with the following (see next page):

Facility Unit	*Possible Error, Malfunction, or Deterioration*	*Frequency of Inspection*
Landfill	• **Cover system (such as subsidence, ponding on the cap, erosion, damage to cap or vegetation)** • **Monitoring well condition (such as missing cover, missing locks, deteriorates seals, etc.)** • **Warning sign damage** • **Fence damage** • **Electronic gate malfunction** • **Stormwater run-on** • **Drainage ditch blockage**	**monthly**
Sludge Disposal Area	• **Cover system (such as subsidence, ponding on the cap, erosion, damage to cap or vegetation)** • **Monitoring well condition (such as missing cover, missing locks, deteriorates seals, etc.)** • **Warning sign damage** • **Fence damage** • **Electronic gate malfunction** • **Stormwater run-on** • **Drainage ditch blockage**	**monthly**

These identified monthly inspections will be conducted to ensure the integrity of the cover systems over these units and to identify any damage requiring maintenance or re-seeding. Monitor wells will be inspected for any damage to pads or casings. All warning signs will be observed for placement and clarity. The perimeter fencing and electronic gates will also be inspected and repaired if necessary. Structures intended to prevent stormwater run-on and to convey stormwater runoff will also be inspected and repaired/cleaned as necessary.

Post-Closure Recordkeeping and Reporting

Inspection checklists and maintenance reports for the closed landfill and closed sludge disposal area will be retained throughout the post-closure care period. Records will be maintained in Tyler Pipe's environmental file and made part of the facility operating record. Records will be provided to authorized local, state, and federal personnel upon request.

Groundwater monitoring results obtained and inspection/maintenance activities conducted during each year of the post-closure care period will be documented within annual reports. An *Annual Groundwater Detection Monitoring Report* will be developed for the closed landfill and submitted to the TCEQ during the first quarter of the following year. Similarly, an *Annual Compliance Monitoring Program Report* will be developed for the closed sludge disposal area and submitted to the TCEQ during the first quarter of the following year. These reports will provide (but not necessarily limited to) the following information:

- A statement whether an SSI or and exceedence of the GWPS occurred in any well during the previous calendar year and the status of respective programs;
- Results of all monitoring, testing, and analytical work obtained or prepared, groundwater monitoring data, statistical calculations, graphs, and drawings;
- Groundwater flow rate and direction;
- Contour maps of piezometric water levels; and
- Recommendations for changes to each respective program.

Figures

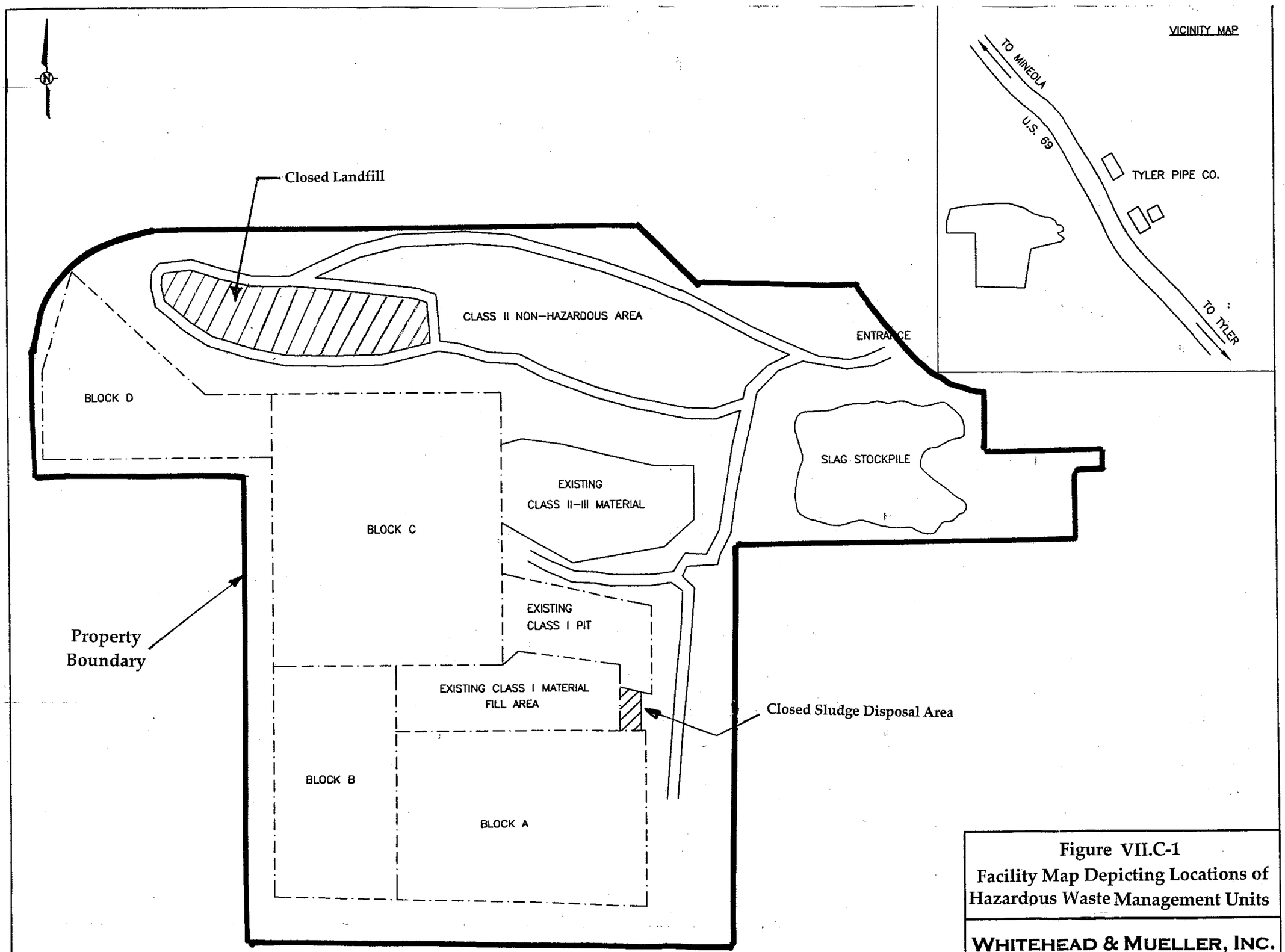
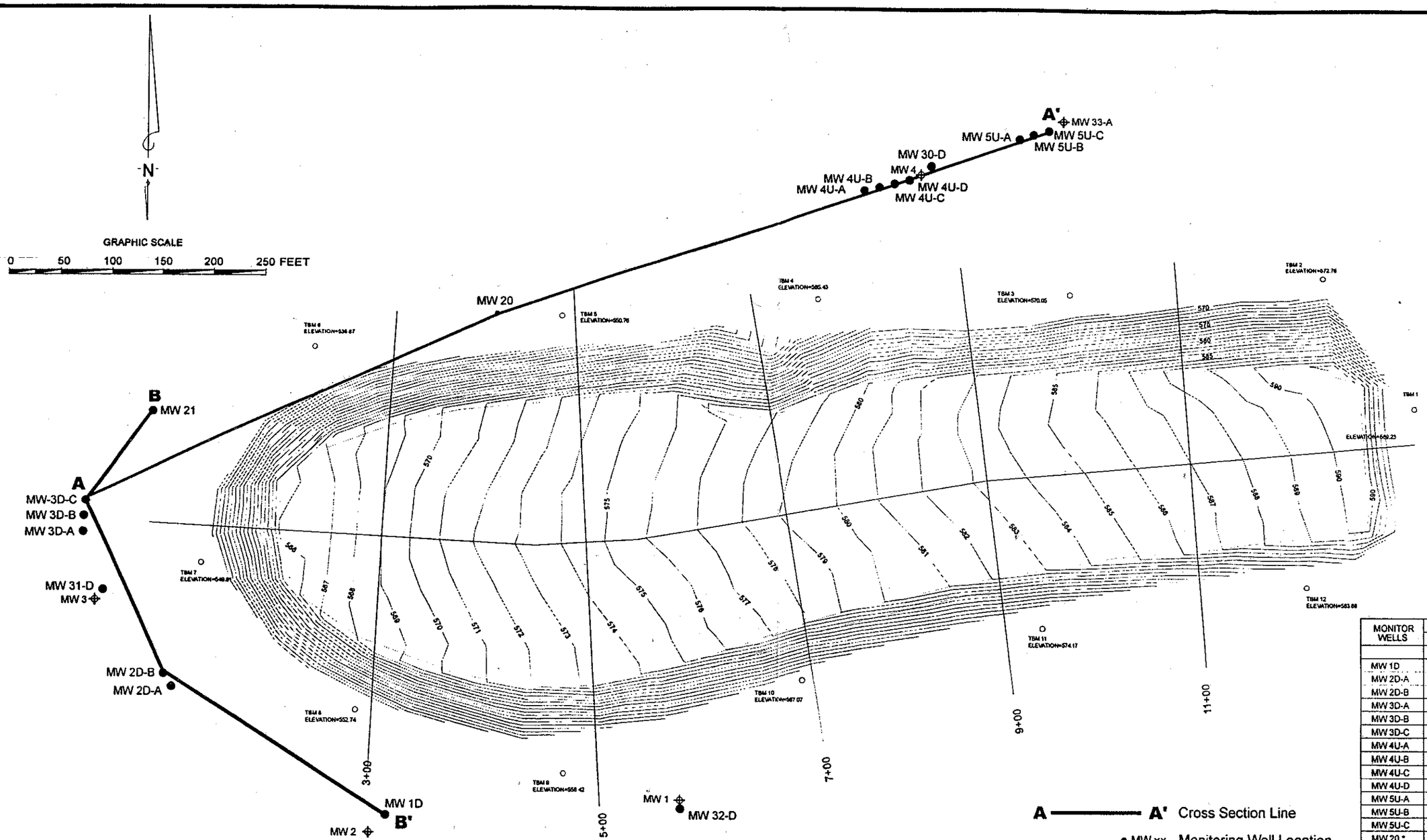


Figure VII.C-1
Facility Map Depicting Locations of Hazardous Waste Management Units

WHITEHEAD & MUELLER, INC.



MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.56
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

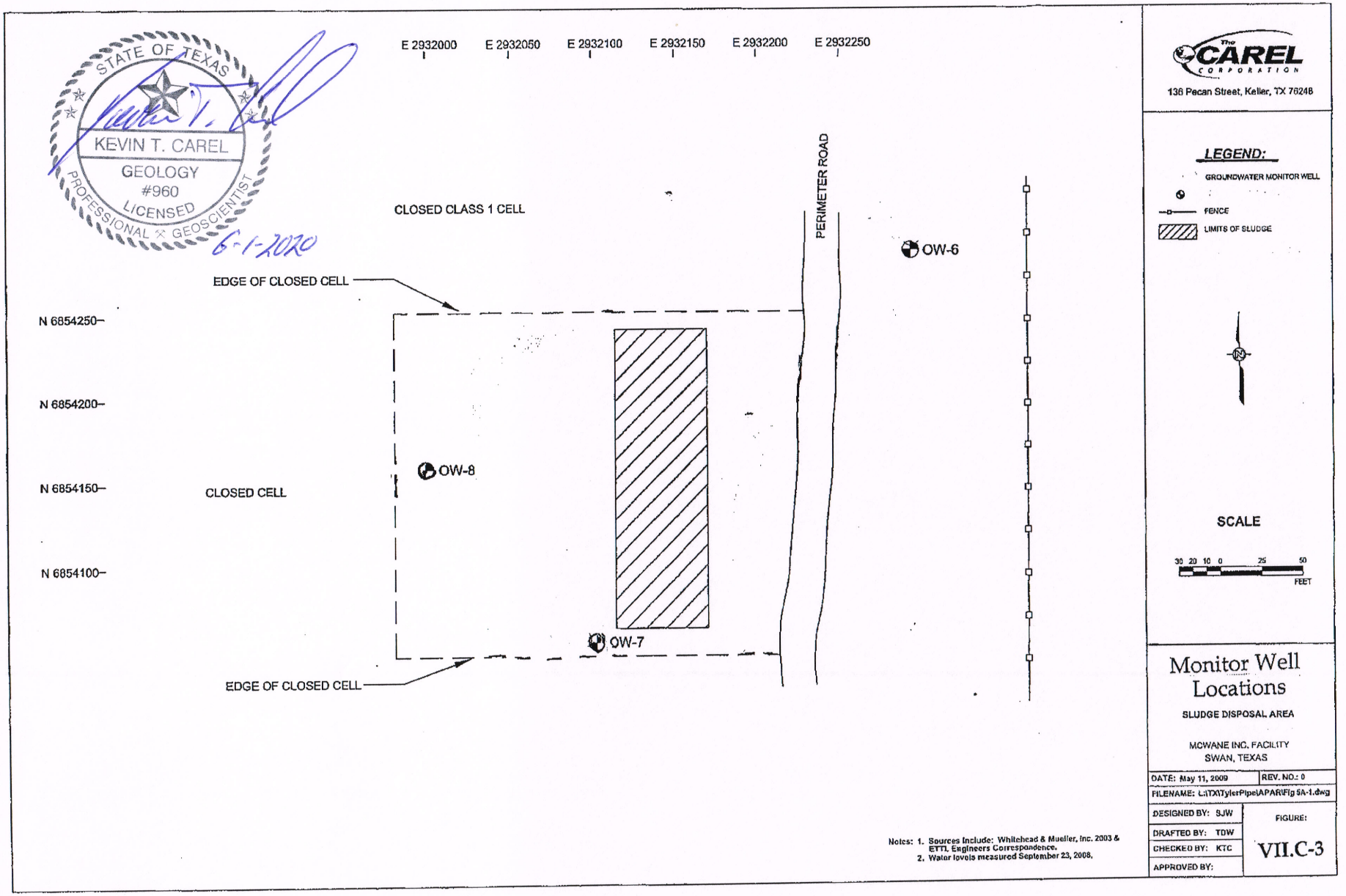
* INDICATES EXISTING MONITOR WELLS ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

TYLER PIPE INDUSTRIES, INC.
CLASS I HAZARDOUS WASTE LANDFILL

Figure VII.C-2
Monitor Well Locations
Landfill

PARSONS ENGINEERING SCIENCE, INC.

120_0012



Notes: 1. Sources Include: Whitehead & Mueller, Inc. 2003 & ETTL Engineers Correspondence.
2. Water levels measured September 23, 2008.

Attachment VII.C-1
Closure Certification Documentation

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 10, 2003

Mr. Pete Aldred
Tyler Pipe Industries
Highway 69 North
P.O. Box 2027
Tyler, Texas 75710

RE: Solid Waste Management Unit - Inactive Sludge Disposal Area
Tyler Pipe Industries - Swan, Texas
TCEQ Solid Waste Registration No. 30140
TCEQ Hazardous Waste Permit HW-50141

Dear Mr. Aldred:

Upon review of available information, the Texas Commission on Environmental Quality (TCEQ) Corrective Action Section considers the Inactive Sludge Disposal Area closed. All future groundwater monitoring at this unit will be under the RCRA post-closure care detection monitoring program in the above permit.

Questions concerning this letter should be directed to me at (512) 239-0613 or KiCook@tceq.state.tx.us. When responding by mail, please submit an original and one copy of all correspondence and reports to the Corrective Action Section at Mail Code MC-127 with an additional copy submitted to the TCEQ Region 5 Office in Tyler. The TCEQ Solid Waste Registration Number and Unit Description should be referenced in all submittals.

Sincerely,

Kititke Johnson Cook, EIT

Kititke Johnson Cook, E.I.T., Project Manager
Team III, Corrective Action Section
Remediation Division

KJC/kjc

cc: Waste Program Manager, TCEQ Region 5 Office - Tyler

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

March 9, 1995

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Wayne D. Turney, C.P.G.
Environmental Geologist
Tyler Pipe Industries, Inc.
P. O. Box 2027
Tyler, Texas 75710-2027

Re: Closure Certification
Landfill Site
Tyler Pipe Industries, Inc. - Tyler
Solid Waste Registration Number 30140

Dear Mr. Turney:

The Texas Natural Resource Conservation Commission (TNRCC) has received your Landfill Cap Construction and Closure Certification Report, which states that the final cap construction and closure of the above referenced facility unit has been completed.

We have completed our review of the cap construction and closure certification report dated February 15, 1995, and it appears that the referenced landfill was closed in accordance with the specifications in the approved closure plan and the terms and conditions of permit No. HW-50141. A TNRCC inspector may review your certification documents and conduct a closure inspection of the site, as well.

There is a continuing obligation of persons associated with any facility to ensure that both municipal and industrial hazardous/solid wastes are managed in a manner which does not cause the discharge or imminent threat of discharge of waste into or adjacent to waters in the state, a nuisance, or the endangerment of the public health and welfare as required by 30 Texas Administrative Code (TAC) §335.4. If the actual closure fails to comply with these requirements, the burden remains on Tyler Pipe Industries, Inc. - Tyler, to take any necessary authorized action to correct such conditions.

Questions regarding this matter should be directed to Enoch Johnbull at (512) 239-6617, mail code MC 130.

Sincerely,

Chris Peckham

Chris Peckham, Supervisor
Facility Team I
Permits Section
Industrial and Hazardous Waste Division

CSP/ETJ/etj

cc: TNRCC Region 5 Office - Tyler
Financial Assurance Section, Fiscal Management Division
Data Control Team, Waste Evaluation Section
Leslie Bell, Permit Applications Team

Appendix VII.D.

Post-Closure Cost Estimate

Appendix VII.D.
Post-Closure Cost Estimate

A detailed breakdown of the estimated costs for conducting post-closure care for the closed *landfill* (NOR Unit No. 001) and the closed *sludge disposal area* (NOR Unit No. 082) at the Tyler Pipe facility is presented herein.

Landfill

The closed landfill (NOR Unit No. 001) has been in post-closure care since closure certification was approved by the TNRCC, the predecessor agency to the TCEQ, in March 1995 (*i.e.*, 25 years). As such, this hazardous waste management (HWM) unit has only 5 years remaining of the RCRA-specified 30-year post-closure period. Therefore, the post-closure cost estimate provided herein is based on third-party costs over a 5-year period.

- **Groundwater Detection Monitoring**
  The detection monitoring system for the closed landfill is comprised of a total of 15 monitor wells (7 upgradient wells and 8 downgradient wells). These wells will be sampled on a *semiannual* basis during the remaining 5 years of the post-closure period, with one groundwater sample to be collected from each well for laboratory analysis of the following detection monitoring parameters: *cadmium*, *chromium*, *lead*, and *zinc*.

- **Cap Inspections and Maintenance**
  Post-closure inspections will be conducted on a monthly basis at the closed landfill pursuant to the requirements of 40 CFR §264.15(b), §264.33, and §264.303. These monthly inspections will be conducted to ensure the integrity of the cover system over this unit and to identify any damage requiring maintenance or re-seeding. Monitor wells will be inspected for any damage to pads or casings. All warning signs will be observed for placement and clarity. The perimeter fencing and electronic gates will also be inspected and repaired if necessary. Structures intended to prevent stormwater run-on and to convey stormwater runoff will also be inspected and repaired/cleaned as necessary.

- **Recordkeeping and Reporting**
  Inspection checklists and maintenance reports for the closed landfill will be retained throughout the post-closure care period. Records will be maintained in Tyler Pipe's environmental file and made part of the facility operating record. Records will be provided to authorized local, state, and federal personnel upon request. Groundwater monitoring results obtained and inspection/maintenance activities conducted during each year of the post-closure care period will be documented within the *Annual Groundwater Detection Monitoring Report* that will be submitted to the TCEQ during the first quarter of the following year.

The annual cost breakdown for post-closure care of the closed ***landfill*** is presented in the following table.

Activity	Task	Units	No. of Units	Unit Cost	Subtotal
Groundwater Monitoring	Sampling and Laboratory Analysis (15 wells plus QA/QC samples)	lump	1	$9,329	$9,329
Cap Inspections and Maintenance	Inspect Cover, Fence, Wells, Drainage Structures	lump	1	$7,114	$7,114
	Maintenance and Repairs				
Recordkeeping and Reporting	Annual Groundwater Detection Monitoring Report	lump	1	$5,000	$5,000
Other	General Maintenance of Vegetative Cover	lump	1	$3,337	$3,337
Other	Well Maintenance/Replacement/Abandonment	lump	1	$3,597	$3,597
Other	Engineering, Fees, Oversight	lump	1	$10,133	$10,133
Other	Certification of Post Closure	lump	1	$8,000	$8,000
				Annual Subtotal	$46,510
				10% Contingency	$4,651
				Annual Total	$51,161
				Post-Closure Total (5 yrs)	**$255,805**

Sludge Disposal Area

The closed sludge disposal area (NOR Unit No. 076) has been in post-closure care since closure certification was approved by the TCEQ in September 2003 (*i.e.*, 17 years). As such, this HWM unit has only 13 years remaining of the RCRA-specified 30-year post-closure period. Therefore, the post-closure cost estimate provided herein is based on third-party costs over a 13-year period.

- **Groundwater Compliance Monitoring**
  The compliance monitoring system for the closed sludge disposal area is comprised of a total of 3 monitor wells (1 upgradient wells and 2 downgradient wells). These wells will be sampled on a *semiannual* basis during the remaining 13 years of the post-closure period, with one groundwater sample to be collected from each well for laboratory analysis of the following detection monitoring parameters: *cadmium*, *chromium*, *lead*, *mercury*, and *zinc*.

- **Cap Inspections and Maintenance**
  Post-closure inspections will be conducted on a monthly basis at the closed sludge disposal area pursuant to the requirements of 40 CFR §264.15(b), §264.33, and §264.303. These monthly inspections will be conducted to ensure the integrity of the cover system over this unit and to identify any damage requiring maintenance or re-seeding. Monitor wells will be inspected for any damage to pads or casings. All warning signs will be observed for placement and clarity. The perimeter fencing and electronic gates will also be inspected and repaired if necessary. Structures intended to prevent stormwater run-on and to convey stormwater runoff will also be inspected and repaired/cleaned as necessary.

- **Recordkeeping and Reporting**
  Inspection checklists and maintenance reports for the closed sludge disposal area will be retained throughout the post-closure care period. Records will be maintained in Tyler Pipe's environmental file and made part of the facility operating record. Records will be provided to authorized local, state, and federal personnel upon request. Groundwater monitoring results obtained and inspection/maintenance activities conducted during each year of the post-closure care period will be documented within the *Semiannual Compliance Monitoring Program Reports*.

The annual cost breakdown for post-closure care of the closed ***sludge disposal area*** is presented in the following table.

Activity	Task	Units	No. of Units	Unit Cost	Subtotal
Groundwater Monitoring	Sampling and Laboratory Analysis (3 wells plus QA/QC samples)	lump	1	$2,466	$2,466
Cap Inspections and Maintenance	Inspect Cover, Fence, Wells, Drainage Structures	lump	1	$1,037	$1,037
	Maintenance and Repairs				
Recordkeeping and Reporting	Semiannual Compliance Monitoring Reports	lump	1	$5,000	$5,000
Other	General Maintenance of Vegetative Cover	lump	1	$1,029	$1,029
Other	Well Maintenance/Replacement/Abandonment	lump	1	$793	$793
Other	Engineering, Fees, Oversight	lump	1	$5,135	$5,135
Other	Certification of Post Closure	lump	1	$385	$385
				Annual Subtotal	$15,845
				10% Contingency	$1,585
				Annual Total	$17,430
				Post-Closure Total (13yrs)	**$226,590**

Permit Renewal Application

Hazardous Waste Permit No. HW-50141
Solid Waste Registration No. 30140

McWane, Inc. (Tyler Pipe Company)
Tyler, Texas

June 2020

PART B APPLICATION

Section VIII: Financial Assurance

Section IX: Releases and Corrective Action

Section XI: Compliance Plan

Section XI: Permit Application Fee

VOLUME 3

Permit Renewal Application

Hazardous Waste Permit No. HW-50141
Solid Waste Registration No. 30140

McWane, Inc. (Tyler Pipe Company)
Tyler, Texas

June 2020

PART B APPLICATION

VOLUME 3

SECTION XI: COMPLIANCE PLAN

- **Instructions**
- **Table XI.A.1 – Facility History for Waste Management Units**
- **Table XI.E – General Information**
- **Table XI.E.1 – Corrective Action Program Cost Estimate**
- **Table XI.E.2.e – Groundwater Monitoring Cost Estimate**
- **Table XI.E.3 – Financial Assurance Summary**
- **Appendix XI.A – Site Specific Information**
- **Appendix XI.B – Hazardous Constituents in Groundwater and Groundwater Protection Standards (GWPS)**
- **Appendix XI.C – Compliance Monitoring Program**
- **CP Table I – Waste Management Units and Area Subject to Groundwater Corrective Action and Compliance Monitoring**
- **CP Table II – Solid Waste Management Units and/or Areas of Concern for which Corrective Action Applies Pursuant to 30 TAC Section 335.167**
- **CP Table III – Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard**
- **CP Table IIIA – Corrective Action Program Table of Indicator Parameters and the Groundwater Protection Standard**
- **CP Table IV – Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Quantitation Limits**
- **CP Table IVA – Compliance Monitoring Program Table of Detected Hazardous Constituents and the Groundwater Protection Standard**
- **CP Table V – Designation of Wells**
- **CP Table VI – Compliance Period for RCRA-Regulated Units**
- **CP Table VII – Reporting Requirements**
- **CP Table VIII – Compliance Schedule**
- **CP Table IX – Description of Uppermost Aquifer**

SECTION XII: PERMIT APPLICATION FEE

- **Instructions**
- **Table XII.A – Hazardous Waste Units (For Application Fee Calculations)**
- **Table XII.B – Hazardous Waste Permit Application Fee Worksheet**

VOLUME 3

VIII. Financial Assurance

Provide all Part B responsive information in Appendix VI. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

A. Financial Assurance Information Requirements for all Applicants (30 TAC Chapter 37, Subchapter P, 305.50(a)(4)(A-E), 335.152(a)(6) and 335.179)

1. Financial Assurance for Closure

An owner or operator must establish financial assurance for the closure of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

2. Financial Assurance for Post-Closure Care (applicable to disposal facilities and contingent post-closure care facilities only)

An owner or operator subject to post-closure monitoring or maintenance requirements must establish financial assurance for the post-closure care of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Please refer to 30 TAC Chapter 37, Subchapter P for the financial assurance requirements for post-closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

3. Financial Assurance for Corrective Action

An owner or operator must establish financial assurance for corrective action of the facility no later than 60 days after the permit or order requiring the corrective action financial assurance is signed by the executive director or commission [30 TAC Section 37.31(b)]. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for closure and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision and indicate below the type of financial assurance mechanism to cover corrective action for the

facility.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving permit transfers, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

4. Liability Requirements (not required for post-closure care)

All owners or operators must establish financial assurance for third party sudden liability coverage of the facility no later than 60 days prior to the first receipt of waste [30 TAC Section 37.31(a)]. Owners or operators of disposal facilities must establish financial assurance for third party sudden and nonsudden liability coverage of the facility no later than 60 days prior to the first receipt of hazardous waste. Please refer to 30 TAC Chapter 37, Subchapter P, for the financial assurance requirements for liability coverage, and provide a signed statement from an authorized signatory per 30 TAC 305.44 regarding how the owner or operator will comply with this provision.

If a financial mechanism has been obtained, provide a copy of the mechanism.

For applications involving a permit transfer, the new owner or operator must provide a financial assurance mechanism (in original form) satisfactory to the TCEQ executive director. Prior to the executive director issuing the permit modification transferring the permit, the new owner or operator must provide proof of financial assurance in compliance with 30 TAC Section 305.64 (g) and Chapter 37, Subchapter P.

B. Applicant Financial Disclosure Statements for a new permit, permit amendment, or permit modification, or permit renewal (30 TAC 305.50(a)(4))

Refer to the Supplemental Technical Information Guidance for Applicants Subject to Financial Capability Requirements, included in Section VIII.B., and the requirements listed below as you complete this section.

1. Provide information required in 30 TAC 305.50(a)(4), as applicable to the application request.

2. Complete Table VIII.B. if requesting capacity expansion or new construction.

3. For new commercial hazardous waste management facility applications, a written statement signed by an authorized signatory per 30 TAC 305.44 explaining how the applicant intends to provide emergency response financial assurance per 30 TAC 305.50(a)(12)(C) or (D).

4. For renewal applications with no capacity expansion, please complete and submit the attached Financial Disclosure Letter.

Information for Applicants Subject to Financial Capability Requirements

Certain applications involving Hazardous Waste facilities are subject to review of the applicant's financial ability to construct, operate, and/or close the facility, perform post-closure care and corrective action at the facility in accordance with State law as specified in

Section 361.085 of the Texas Health and Safety Code. TCEQ refers to these reviews as financial capability reviews. This document summarizes and clarifies the information required in an application to meet the TCEQ requirements of 30 Texas Administrative Code (TAC) 305.50.

Information requirements vary depending on the type of financial information available to applicants, primarily whether audited financial statements are available as well as the type of application submitted. For each scenario described below, financial information must be provided for the specific applicant.

I. New Facilities, Facility Expansions and Permit Transfers

A. Publicly traded Entities

1. Securities and Exchange Commission (SEC) Form 10-Ks

   This portion of the requirement calls for the two most recent 10-K reports filed.

2. SEC Form 10-Q

   This portion of the requirement calls for a copy of the most recent quarterly report.

3. Explanation statement

   This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure care, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met. (ie. which financial assurance mechanism is or will be used).

4. Construction capital cost estimates

   This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

B. Privately held entities with audited financial statements

1. Audited financial statements

   This portion of the requirement calls for complete copies of the audited financial statements for each of the most recent two fiscal years. If an audit has not been completed for one of the previous two years, a complete copy of the fiscal year end financial statement and federal tax return may be substituted in lieu of the audit not performed. The tax return must be certified by original signature of an authorized signatory as being a "true and correct copy of the return filed with the Internal Revenue Service." Financial statements must be prepared consistent with generally accepted accounting principles and include a balance sheet, income statement, cash flow statement, notes to the financial statement, and an accountant's opinion letter.

2. Quarterly financial statement

   This portion of the requirement calls for a complete copy of the most current quarterly financial statement prepared consistent with generally accepted accounting principles. Internally prepared statements are satisfactory.

3. Supplementary information statement

   This portion of the requirement calls for a written statement detailing the information that would normally be found in SEC's Form 10-K including descriptions of the business and its operations; identification of any affiliated relationships; credit agreements and terms; any legal proceedings involving the applicant; contingent liabilities; and significant accounting policies.

4. Construction capital cost estimates

   This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

5. Explanation statement

   This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure care, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

C. Entities without audited financial statements or entities choosing not to provide the information listed above

1. Financial Plan

   This portion of the requirement calls for a financial plan (including balance sheets listing assets, liabilities and capital accounts) sufficiently detailed to clearly demonstrate that the applicant will be in a position to readily secure financing for construction, operation, and closure, post-closure, and corrective action if the permit is issued. At least 3 balance sheets should be included as of: a) approximately the date of the permit application, b) 12 months after any construction is completed (or assumption of operational control for a permit transfer), and c) 24 months after any construction is completed (or assumption of operational control for a permit transfer).

2. Letters of opinion

The submitted financial plan must be accompanied by original letters of opinion from two financial experts, not otherwise employed by the applicant, who have the demonstrated ability to either finance the facility or place the required financing. If the permit action sought involves construction of a new facility or expansion of an existing facility, the opinion letters must certify that financing is obtainable within 180 days of permit approval and include the time schedule contingent upon permit finality for securing the financing as well as certify the financial plan is reasonable. Even if the application does not involve a facility or capacity expansion, the opinion letters must certify that the financial plan is reasonable. Only one opinion letter from a financial expert, not otherwise employed by the applicant, is required if the letter renders a firm commitment to provide all the necessary financing.

Letters of opinion are usually issued by investment or commercial bankers but there could be additional sources. Applicants are encouraged to verify the adequacy of the credentials of their chosen financial expert with TCEQ's financial assurance unit prior to a formal engagement. Financial experts should describe their qualifications and disclose their independence from the applicant and/or any entity or person affiliated with the applicant.

3. Operating and cash flow statement

This portion of the requirement calls for a written detail of the annual operating costs of the facility and a projected cash flow statement including the period of construction and first two years of operation. The cash flow statement must demonstrate the financial resources to meet operating costs, debt service, and provide financial assurance for closure, post-closure care, and liability coverage requirements. A list of the assumptions made to forecast cash flow must also be provided.

4. Explanation statement

This portion of the requirement calls for a statement addressing how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

5. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

D. Entities with a resolution from a governing body approving or agreeing to approve the issuance of bonds to satisfy financial assurance requirements (e.g. a city or county)

1. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC30 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage

financial assurance requirements of Chapter 37, Subchapter P will be met (ie. which financial assurance mechanism is or will be used).

2. Certified copy of the resolution from the governing body.

3. Certification by the governing body of passage of the resolution.

II. Permit Renewals

Complete the Financial Disclosure Letter letter with applicable information inserted into the parentheses. *Note that additional information must be provided if requested by TCEQ.*

Table VIII.B. - Estimated Capital Costs

Task	Cost
Site preparation, fencing, paving, curbing, lighting, roadways	
Foundations, buildings, other structures, utilities and connections, drainage system, HVAC system, electrical system, wastewater system	
Process and control equipment	
Auxiliary equipment, including but not limited to exhaust hoods fans, ducting, pumps, piping, conveyors, stacks, storage tanks, process tanks, waste disposal facilities, pollution control equipment, and fire protection system	
Process integration and instrumentation	
Emergency response equipment	
Transportation equipment	
Office equipment	
Engineering design, supervision, overhead	
Construction expenses including permits, insurance, temporary facilities, and clean-up	
Contractor's fees and overhead	
Contingency	
Total Unit Closure Cost	

June 1, 2020

Mr. Robert Patton, Jr.
Manager, Industrial and Hazardous Waste Permits Section
Texas Commission on Environmental Quality
Building F, MC 130
12100 Park 35 Circle
Austin, Texas 78753

Re: Financial Disclosure Letter for McWane, Inc. (Tyler Pipe Company)
Permit Renewal
Hazardous Waste Permit No. 50141 / Compliance Plan No. N/A
Industrial Solid Waste Registration No. 30140
EPA ID No. TXD066349770
RN 102679867 ; CN 602243313

Dear Mr. Patton:

This letter is furnished to you in response to financial disclosure requirements as applicable under Texas Health and Safety Code Section 361.085 and Title 30, Texas Administrative Code (30 TAC), Section 305.50 to provide assurance that McWane, Inc. (Tyler Pipe Company) has sufficient financial resources.

In keeping with the above law and rule requirements I hereby certify that McWane, Inc. (Tyler Pipe Company) is adequately capitalized and has sufficient financial resources to operate, close, provide post-closure care for and perform corrective action for the above-referenced facility in a safe manner, and in compliance with the permit and all applicable rules.

McWane, Inc. (Tyler Pipe Company) currently provides, as financial assurance mechanism as set out in 30 TAC, Chapter 37, Subchapter C to meet McWane, Inc. (Tyler Pipe Company)'s financial assurance obligations the following :

Letter of Credit

I am authorized to make these statements on behalf of McWane, Inc. (Tyler Pipe Company). I understand that the TCEQ may request additional information as part of their review.

Sincerely,

Greg Simmons

Greg Simmons, General Manager

Appendix VIII.A.

Financial Assurance Information

Appendix VIII.A.
Financial Assurance Information

Documentation that McWane, Inc. (Tyler Pipe Company) has established financial assurance for closure and post-closure care of the facility pursuant to 30 Texas Administrative Code (TAC) Chapter 37 is provided herein.

201 MILAN PARKWAY, 1ST FLOOR, BIRMINGHAM, AL 35211.
S.W.I.F.T. UPNBUS44XXX
PHONE (866)828-6928 FAX (205)420-6019

DATE: OCTOBER 25, 2019

L/C NUMBER: 78311813
AMENDMENT NUMBER: 00

BENEFICIARY:
TEXAS COMMISSION ON ENVIRONMENTAL
QUALITY (TCEQ)
P.O. BOX 13087
ATTN:FINANCIAL ASSURANCE UNIT
MARK STOEBNER, MC-184
AUSTIN, TX 78711-3087

OPENER:
MCWANE, INC.
P.O. BOX 43327
ATTN: MELANIE WILLIAMSON
BIRMINGHAM, AL 35243

WE HAVE AMENDED THE CAPTIONED LETTER OF CREDIT AT THE OPENER'S REQUEST.

TERMS AND CONDITIONS AS AMENDED:

EXPIRATION DATE AMENDED TO: MARCH 26, 2021.

THIS AMENDMENT MUST BE ATTACHED TO AND BECOME AN INTEGRAL PART OF THE ORIGINAL CREDIT. ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

SINCERELY,

_____
(AUTHORIZED SIGNATURE)

REGIONS®

1900 5TH AVENUE NORTH, 22ND FLR, BIRMINGHAM, ALABAMA 35203
S.W.I.F.T. UPNBUS44MIA TELEX 6737871 UPBMIA
PHONE (866)828-6928 FAX (205)264-6027

DATE: JUNE 17, 2010

L/C NUMBER: 78311813
AMENDMENT NUMBER: 012

BENEFICIARY:
TEXAS COMMISSION ON ENVIRONMENTAL
QUALITY (TCEQ)
P.O. BOX 13087
AUSTIN, TX 78711-3087

OPENER:
TYLER PIPE COMPANY, A DIVISION OF
MCWANE, INC
P.O. BOX 43327
ATTN: GLENDA BURSON
BIRMINGHAM, AL 35243

WE HAVE AMENDED THE CAPTIONED LETTER OF CREDIT AT THE REQUEST OF THE OPENER.

AMENDED TERMS AND CONDITIONS:

AMOUNT INCREASED BY: USD $199,102.00
NEW BALANCE: USD $964,000.00

THIS AMENDMENT MUST BE ATTACHED TO AND BECOME AN INTEGRAL PART OF THE ORIGINAL CREDIT. ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

SINCERELY,

(AUTHORIZED SIGNATURE)

Appendix VIII.B.

Financial Disclosure Statements

Appendix VIII.B.
Financial Disclosure Statements

Since McWane, Inc. issued a Letter of Credit through a bank (see Appendix VIII.A) to demonstrate sufficient financial assurance resources, the subject financial disclosure statements are not required to be submitted herein.

IX. Releases from Solid Waste Units and Corrective Action

Provide all Part B responsive information in Appendix IX. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

The Texas Solid Waste Disposal Act, 30 TAC 335.167, 40 CFR 270.14(d) and Section 3004(u) of the Hazardous and Solid Waste Amendments of 1984 (HSWA) *require that each hazardous waste management permit application review shall address corrective action for all releases of hazardous waste and hazardous constituents* listed in 40 CFR 261, Appendix VIII, 40 CFR Part 264, Appendix IX, and/or other constituents of concern from any solid waste management unit (SWMU) and/ or Areas of Concern (AOCs) at a facility, regardless of the time at which waste was placed in such unit[2]. For the purposes of HSWA Corrective Action, a SWMU may include, but is not limited to, any landfill, surface impoundment, land treatment unit, waste pile, underground injection well, incinerator, boiler, industrial furnace, tank, container storage area, drip pad, containment building, miscellaneous unit; any units exempt from hazardous waste permitting requirements, such as wastewater treatment units, elementary neutralization units, totally enclosed treatment units, waste recycle/reuse units, and 90-day accumulation time units; or process units or areas which may have routine and/or systematic releases to the environment (e.g., process drainage ditches or product storage tanks). Current EPA interpretation of this requirement has resulted in a Corrective Action process that begins with a RCRA Facility Assessment (RFA) to determine if corrective action is necessary.

[2]For the purposes of HSWA Corrective Action, a SWMU may include, but is not limited to, any landfill, surface impoundment, land treatment unit, waste pile, underground injection well, incinerator, boiler, industrial furnace, tank, container storage area, drip pad, containment building, miscellaneous unit; any units exempt from hazardous waste permitting requirements, such as wastewater treatment units, elementary neutralization units, totally enclosed treatment units, waste recycle/reuse units, and 90-day accumulation time units; or process units or areas which may have routine and/or systematic releases to the environment (e.g., process drainage ditches or product storage tanks).

The first step in the RFA is the development of a Preliminary Review (PR) from all available documentation for a facility (including but not limited to all facility documents, Part A, and Part B of the permit application, TCEQ correspondence files and inspection reports, etc.). The PR compiles available information on every SWMU and/or AOC that has ever existed at the facility. A unit checklist is completed for each SWMU and/ or AOC. On a unit-by-unit basis, the PR may recommend no further action for:

- well-designed and well-managed units
- units that have not managed hazardous wastes or wastes containing hazardous constituents;
- units already under corrective action by enforcement order; or
- units scheduled to be addressed in a compliance plan.

In addition, the unit checklists are summarized in a *Facility Checklist.* If there is a known release or potential for a release of hazardous waste or hazardous constituents from a unit/area, the PR may recommend a *RCRA Facility Investigation* (RFI), or an *Affected Property Assessment* (APA), if 30 TAC Chapter 350, Texas Risk Reduction Program (TRRP) applies, to determine the extent of the release for future corrective action, or stabilization as an appropriate and immediate corrective action.

The second step is a *Visual Site Inspection* (VSI) of the entire facility. The RFA is the combination of the PR and VSI documentation and any sample results. The RFA process should be scheduled so as to be completed during the latter stages of the Technical Review process or no later than one month in advance of the preparation of an initial draft permit for the facility. The RFA includes recommendations for whether further investigation or corrective action is warranted.

The requirements for an RFI or any other corrective action will be included in the permit, in the associated compliance plan which is mandatory for facilities with known groundwater contamination, or pursuant to 40 CFR 270.14(d)(3), the applicant may be required to start the RFI or other corrective action before the permit is issued. The RFI shall comply with all the applicable items contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994, unless an alternate investigation approach is approved by the Executive Director. An RFI workplan may typically include a soil boring program, installation of monitoring wells, and sampling and analysis for 40 CFR 261 Appendix VIII and 40 CFR 264 Appendix IX hazardous constituents for surface soils, subsurface strata, surface water, groundwater, and/or air.

The permittee shall perform the RFI or APA and report the results. Corrective Action under 30 TAC Chapter 350 consists of an APA, determination of protective concentration levels, selection of a remedy standard (if necessary), development and implementation of a response action (if necessary), and submittal of required report according to 30 TAC Chapter 350.

If the RFI report indicates releases of hazardous waste or hazardous constituents for SWMUs and/or AOCs that have been grandfathered under 30 TAC Chapter 335 Subchapters A and S, Corrective Action shall consists of, if necessary, Interim Corrective Measures, *Baseline Risk Assessment* (BLRA)/*Corrective Measures Study* (CMS) Report, and *Corrective Measures Implementation* (CMI).

For grandfathered SWMUs and/or AOCs, the permittee may continue to complete the Corrective Action requirements under 30 TAC Chapter 335, Subchapter A and S, provided the permittee complies with the notification and schedule requirements pursuant to 30 TAC 335.8 and 350.(2)(m).

This report shall evaluate the risk, identify and evaluate corrective measure alternatives, and recommend appropriate corrective measure(s) to protect human health and the environment. The BLRA/CMS Report shall address all of the applicable items in 30 TAC 350, 30 TAC 335 Subchapter S, and the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994.

Upon approval of the BLRA/CMS Report by the TCEQ, the permittee shall submit a CMI Workplan to address all of the items for CMI Workplan contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994. For projects conducted under TRRP, the risk assessment process shall be addressed in the *Affected Property Assessment Report* (APAR), and the evaluation of corrective measures shall be

conducted as part of the remedy standard selection process provided in the *Response Action Plan* (RAP). If the CMI or RAP does not propose a permanent remedy, then a CMI Workplan or RAP shall be submitted as part of a new compliance plan application or as a modification/ amendment application to an existing compliance plan. The workplan or RAP shall contain detailed final engineering design, monitoring plans, and schedules necessary to implement the selected remedy. Implementation of the corrective measures shall be addressed through a new and/or a modified/amended compliance plan. Upon installation of a corrective action system based upon the approved CMI Workplan or RAP, the permittee shall submit a CMI Report or RAP which includes as-built drawings of the corrective action system. To report the progress of the corrective measures, the permittee shall submit periodic CMI Progress Reports or Response Action Effectiveness Reports to the TCEQ in accordance with the schedule specified in the compliance plan. Upon completion of the corrective action requirements, the permittee shall submit CMI Report or Response Action Completion Reports for review and approval.

Please note that the applicant/permittee may perform voluntary corrective action, stabilization, or "interim measures" at any time prior to or during the RFA/RFI/CMS/CMI or the APAR/RAP process without prior TCEQ approval. The TCEQ strongly supports these actions when undertaken to mitigate releases or reduce or minimize exposure and releases to human health and the environment.

A. Preliminary Review Checklists

For Applications for a New Hazardous Waste Permit:

- For all facility Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs), complete the accompanying forms entitled "Preliminary Review Facility Checklist" and "Preliminary Review Unit Checklist". Make additional copies as necessary.

For Applications for a Renewal/Amendment/Modification of an Existing Hazardous Waste Permit:

- Update the Preliminary Review Facility Checklist to include any newly identified SWMUs and/or AOCs that were not incorporated into the previous permit issuance (new, amendment, modification, or renewal), and to update the status of all previously identified SWMUs or AOCs which are incorporated into the existing permit under either Section IX - Corrective Action for Solid Waste Management Units, or Section XI - Compliance Plan. Status updates should include notes regarding whether the SWMU or AOC has been incorporated into a compliance plan, has received approval of no further action (NFA), has had changes in its corrective action status, or has had other determinations issued by the TCEQ. Include the date of the status change in the updated checklist;
- Complete the Preliminary Review Unit Checklists for any newly identified SWMUs or AOCs that were not incorporated into the previous permit issuance (new, amendment, modification, or renewal);
- Update the status on the Preliminary Review Unit Checklists for all previously identified SWMUs or AOCs that had not yet received TCEQ approval of NFA at the time of the previous permit issuance;
- Provide copies of the letters from the TCEQ approving NFA or other determinations that were issued since the previous permit issuance;
- For previously identified SWMUs and/or AOCs which are incorporated into the existing permit and are included in Section XI - Compliance Plan of this application, you may forego filling out the Preliminary Review Unit Checklists for these units. Briefly note on the Preliminary Review Facility Checklist that the SWMUs or AOCs are addressed in

Section XI. Provide the location where the SWMU's and addressed in Section XI. ; or

- If all previously identified SWMUs and/or AOCs reached NFA status at or before the last permit issuance you may forego filling out the Preliminary Review Unit Checklists, indicate Not Applicable, and provide a brief explanation of the facts.

Complete Preliminary Review Facility Checklist (located in attachments)

Instructions for Preliminary Review Unit Checklist

Preliminary Review Facility Checklist

Preliminary Review Unit Checklist

Appendix IX.A.

Preliminary Review Checklists

Table of Contents

- Preliminary Review Unit Checklists (continued)
  - NOR #035 (Tank)
  - NOR #036 (Waste Treatment Unit)
  - NOR #037 (Landfill)
  - NOR #038 (Tank)
  - NOR #039 (Container Storage Area)
  - NOR #040 (Tank)
  - NOR #041 (Tank)
  - NOR #042 (Tank)
  - NOR #043 (Container Storage Area)
  - NOR #044 (Tank)
  - NOR #045 (Tank)
  - NOR #046 (Tank)
  - NOR #047 (WWTP)
  - NOR #048 (Container Storage Area)
  - NOR #049 (WWTP)
  - NOR #050 (Septic Tank/Drain Field)
  - NOR #051 (Container Storage Area)
  - NOR #052 (Container Storage Area)
  - NOR #053 (Container Storage Area)
  - NOR #054 (Waste Pile)
  - NOR #055 (Container Storage Area)
  - NOR #056 (Container Storage Area)
  - NOR #057 (Container Storage Area)
  - NOR #058 (Container Storage Area)
  - NOR #059 (Container Storage Area)
  - NOR #060 (Container Storage Area)
  - NOR #061 (Container Storage Area)
  - NOR #062 (Container Storage Area)
  - NOR #063 (Container Storage Area)
  - NOR #064 (Container Storage Area)
  - NOR #065 (Waste Pile)
  - NOR #066 (Waste Pile)
  - NOR #067 (Container Storage Area)
  - NOR #068 (Waste Pile)
  - NOR #069 (Container Storage Area)
  - NOR #070 (Waste Pile)
  - NOR #071 (Container Storage Area)
  - NOR #072 (Container Storage Area)

- Preliminary Review Unit Checklists (continued)
  - NOR #073 (Drip Pads)
  - NOR #074 (Container Storage Area)
  - NOR #075 (Tank)
  - NOR #076 (Container Storage Area)
  - NOR #077 (Container Storage Area)
  - NOR #078 - Reserved
  - NOR #079 (Surface Impoundment)
  - NOR #080 - Reserved
  - NOR #081 (Container Storage Area)
  - NOR #083 (Incinerator)

- Appendices
  - Appendix IX.B-I Facility and SWMU Location Maps
  - Appendix IX.B-II Wastes Managed (Facility Notice of Registration)
  - Appendix IX.B-III Evidence of Release
  - Appendix IX.B-IV Pollutant Dispersal Pathways

Preliminary Review Facility Checklist

Facility:	McWane, Inc. (Tyler Pipe Company)	City	Tyler, Texas
ISW Reg. No:	30,140	Date	June 2020
Permit No.	50,141	Reviewer:	
EPA ID No.	TXD066349770		

A. Waste Management Units:

RCRA Regulated Units:

NOR. No.	Description	Status
001	Landfill	Post-closure care
082	Sludge Disposal Area	Post-closure care
	Remove Last Row	Add Row

Solid Waste Management Units:

NOR. No.	Description	Status
002	Miscellaneous storage container	Closure pending
003	Landfill (southeast corner of plant)	Closed
004	Landfill (northeast corner of plant)	Closed
005	Landfill (formerly part of NOR 001)	Closed
006	Landfill (formerly part of NOR 001)	Closed
007	Landfill (formerly part of NOR 001)	Closed
008	Surface tank (north clarifier)	Closed
009	Surface tank (south clarifier)	Active (WWT)
010	Tank (Mason-Dixon sludge holding tank #1)	Closed
011	Tank (Thickner tank)	Active (WWT)
012	Surface impoundment (north plant emergency treatment lagoon)	Closed

NOR. No.	Description	Status
013	Surface impoundment (south plant emergency spill basin)	Closed
014	Surface impoundment (south plant emergency treatment lagoon)	Closed
015	Surface impoundment (north plant drying bed cell, east)	Closed
016	Surface impoundment (north plant drying bed cell, west)	Closed
017	Surface impoundment (north plant cooling pond)	Closed
018	Surface impoundment (south plant cooling pond)	Closed
019	Surface tank	Closed
020	Surface tank	Closed
021	Subsurface tank	Closed
022	Subsurface tank	Closed
023	Distillation/solvent recovery (solvent still)	Inactive
024	Surface impoundment (north primary settling basin)	Closed
025	Surface impoundment (north emergency settling basin)	Closed
026	Surface tank (Mason-Dixon plant, hot coat treatment tank)	Inactive
027	Surface tank (for garage waste oil)	Active
028	Tank (Mason-Dixon recycle clarifier flashmixer)	Closed
029	Surface tank (dissolved metals clarifier)	Closed
030	Surface tank (recycle clarifier)	Closed
031	Surface tank (overflow and plant make-up)	Closed
032	Surface tank (non-hazardous process water SWWTF, north)	Active (WWT)
033	Surface tank (non-hazardous process water SWWTF, south)	Active (WWT)

NOR. No.	Description	Status
034	Surface tank (non-hazardous process water SWWTF, re-circulating pump tank)	Active (WWT)
035	Surface tank (backwash reservoir tank)	Closed
036	Waste treatment unit (MD stabilization building)	Active (WWT)
037	West landfill	Active
038	Tank (Mason-Dixon sludge holding tank #2)	Closed
039	Container storage area (print shop)	Inactive
040	Tank (Mason-Dixon plant dual media filters)	Closed
041	Surface tank (SWWTF flashmixer)	Active (WWT)
042	Tank (glycol recycling unit)	Active (recycle unit)
043	Miscellaneous storage container (fines mixing unit)	Active
044	Surface tank (Mason-Dixon sludge holding tank #3)	Active (WWT)
045	Surface tank (Mason-Dixon sludge holding tank #4)	Active (WWT)
046	Surface tank (Mason-Dixon sludge holding tank #5)	Closed
047	WWTP (Mason-Dixie belt filter press)	Closed
048	Container storage area (container storage building, previously referred to as NOR 023)	Active (<90 days)
049	WWTP (SWTP belt filter press)	Active
050	Septic tank/Drain field	Active
051	Container storage area (dispensary storage area)	Active
052	Miscellaneous storage container (plant refuse picked up by Olympic trash haulers)	Active
053	Container storage area (north plant storage bin building)	Closed
054	Waste pile (north plant storage bin building)	Closed

NOR. No.	Description	Status
055	Container storage area (south plant storage area)	Closed
056	Container storage area (Gustin-Bacon storage area)	Inactive
057	Container storage area (south plant production finishing storage area)	Inactive
058	Container storage area (south plant west offices storage area)	Closed
059	Container storage area (ABC core room storage area - east)	Inactive
060	Container storage area (north plant shipping - east)	Active
061	Container storage area (north plant shipping - north)	Active
062	Container storage area (moldmaster storage area - east)	Inactive
063	Container storage area (fitting shipping yard - east)	Active
064	Container storage area (north plant shipping - inside)	Active
065	Waste pile (foundry sand and construction debris)	Active
066	Waste pile (north plant charge bay - south)	Active
067	Container storage area (SP bubbling pot slag)	Active
068	Waste pile (wood debris)	Active
069	Container storage area mill room (weekly roll-off)	Active
070	Waste pile (slag from Cupola and electric furnaces and holding ladles)	Active
071	Miscellaneous storage container (sludge from north plant Akers lift station)	Active
072	Miscellaneous storage container (sludge generated from the industrial garage truck wash bay)	Active
073	Drip pads (Mason-Dixon plant dewater roll-off)	Active
074	Miscellaneous storage container (SP Cupola bag house roll-off)	Active
075	Tank (SP impact building return sand system storage silo)	Inactive

NOR. No.	Description	Status
076	Container storage area	Active
077	Container storage area (north plant charge bay - scrap iron storage)	Active
078	(Reserved)	
079	Surface impoundment (south plant charge bay - scrap iron storage)	Inactive
080	(Reserved)	
081	Miscellaneous storage container (staging area for various roll-off containers to be shipped off-site)	Active
083	Incinerator	Active
	Remove Last Row	Add Row

B. Reviewed Documents

RCRA:

Part A ☒

Part B ☒

Permit ☒

CERCLA:

Inspection Reports:	None
Enforcement Actions	None
Exposure Infomation	None
Other Infomation:	None

C. Summary:

Facility investigations have been on-going and any potential sites have been recommended for no actions at this time.

D. Recommended Action::

Complete any other facility investigations of potential areas of concern.

Preliminary Review Facility Checklist

Facility:	McWane, Inc. (Tyler Pipe Company)	City	Tyler, Texas
ISW Reg. No:	30,140	Date	June 2020
Permit No.	50,141	Reviewer:	
EPA ID No.	TXD066349770		

Waste Management Unit(s):

A. NOR No.:	001
B. Description:	Landfill (process code D80)
C. Dates of Operation:	unknown-1995
Wastes Managed:	0512319H, 05233101 (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste landfill, closed (in place) with cap, currently under post-closure care (detection monitoring)
Recommended Action:	No action required at this time
A. NOR No.:	082
B. Description:	Sludge Disposal Area (process code D80)
C. Dates of Operation:	1979-2003
Wastes Managed:	0512319H (D006, D008)
Evidence of Release:	Cadmium, lead, and zinc detected in groundwater above background levels downgradient of unit in 2007
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste surface impoundment, closed (in place) as a landfill with cap, currently under post-closure care (compliance monitoring)
Recommended Action:	Soil and groundwater investigation conducted in 2008, Affected Property Assessment Report (APAR) pursuant to the Texas Risk Reduction Program (TRRP) was submitted to the TCEQ in June 2009, permit with Compliance Plan issued December 15, 2010, unit currently undergoing Compliance Monitoring.

A. NOR No.:	002
B. Description:	Miscellaneous Storage Container (process code S01)
C. Dates of Operation:	unknown-present
Wastes Managed:	0519211H (D001)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste storage container (not a land-based unit), closure (clean) pending
Recommended Action:	No action required at this time
A. NOR No.:	003
B. Description:	Landfill (process code D80)
C. Dates of Operation:	unknown
Wastes Managed:	05424092, 05033192, 05043192, 05053192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste landfill, closed (in place) with cap
Recommended Action:	No action required at this time
A. NOR No.:	004
B. Description:	Landfill (process code D80)
C. Dates of Operation:	unknown
Wastes Managed:	05424092, 05033192, 05043192, 05053192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste landfill, closed (in place) with cap
Recommended Action:	No action required at this time
A. NOR No.:	005

B. Description:	Landfill (process code D80)
C. Dates of Operation:	unknown
Wastes Managed:	05033192, 05043192, 05053192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste landfill, closed (in place) with cap
Recommended Action:	No action required at this time
A. NOR No.:	006
B. Description:	Landfill (process code D80)
C. Dates of Operation:	unknown-1993
Wastes Managed:	271460, 05424092, 05033192, 05043192, 05053192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste landfill, closed (in place) with cap
Recommended Action:	No action required at this time
A. NOR No.:	007
B. Description:	Landfill (process code D80)
C. Dates of Operation:	unknown-1992
Wastes Managed:	05093111 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste landfill, closed (in place) with cap
Recommended Action:	No action required at this time
A. NOR No.:	008
B. Description:	Tank (process code T01)

C. Dates of Operation:	unknown-1990
Wastes Managed:	0520115H, 0512319H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	009
B. Description:	Tank (process code T01)
C. Dates of Operation:	1972-present
Wastes Managed:	05003922, 05061152, 05671151, 05061152, 108000, 271460 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), active
Recommended Action:	No action required at this time
A. NOR No.:	010
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0512319H, 0520115H, 0521319H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed 3-5-2014
Recommended Action:	No action required at this time
A. NOR No.:	011
B. Description:	Tank (process code T01)
C. Dates of Operation:	1972-present

Wastes Managed:	05003922, 0505061152, 05683191, 271460 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), active
Recommended Action:	No action required at this time
A. NOR No.:	012
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1990
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	013
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1990
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	014
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1990
Wastes Managed:	0512319H, 0520115H (D006, D008)

Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	015
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1990
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	016
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1990
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	017
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1990
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None

Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	018
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1990
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	019
B. Description:	Tank (process code S02)
C. Dates of Operation:	unknown-1993
Wastes Managed:	05072061 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste storage tank, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	020
B. Description:	Tank (process code S02)
C. Dates of Operation:	unknown-1993
Wastes Managed:	05072061 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater

Summary:	Non-hazardous waste storage tank, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	021
B. Description:	Tank (process code S02)
C. Dates of Operation:	unknown-1993
Wastes Managed:	05072061 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste storage tank, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	022
B. Description:	Tank (process code S02)
C. Dates of Operation:	unknown-1993
Wastes Managed:	05072061 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste storage tank, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	023
B. Description:	Tank (process code T04)
C. Dates of Operation:	unknown-2010
Wastes Managed:	0009104H, 0010211H, 0536211H, 0537210H, 0538203H, 0571101H, 0572210H, 0581001H, 00066031, 00081011, 05334971, 173880 (D001, D002, F002, F003, F005)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater

Summary:	Formerly hazardous waste distillation/solvent recovery unit, RCRA exempt (recycling unit), inactive solvent still waste not managed at this unit since August 2010
Recommended Action:	No action required at this time
A. NOR No.:	024
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1993
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	025
B. Description:	Surface Impoundment (process code T02)
C. Dates of Operation:	unknown-1993
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment impoundment, closed (clean)
Recommended Action:	No action required at this time
A. NOR No.:	026
B. Description:	Tank (process code T01)
C. Dates of Operation:	unknown-1993
Wastes Managed:	0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
	Hazardous waste treatment tank (not a land-based

Summary:	unit), inactive
Recommended Action:	No action required at this time
A. NOR No.:	027
B. Description:	Tank (process code S02)
C. Dates of Operation:	unknown-present
Wastes Managed:	05072061, 40812191, 05061152, 05072061 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste storage tank (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	028
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0520115H, 0512319H, 05683191 (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed
Recommended Action:	No action required at this time
A. NOR No.:	029
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0520115H, 0512319H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed

Recommended Action:	No action required at this time
A. NOR No.:	030
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0520115H, 0512319H, 05683191 (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed
Recommended Action:	No action required at this time
A. NOR No.:	031
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0520115H, 0512319H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed
Recommended Action:	No action required at this time
A. NOR No.:	032
B. Description:	Tank (process code T01)
C. Dates of Operation:	1972-present
Wastes Managed:	05061152 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), active
Recommended Action:	No action required at this time

A. NOR No.:	033
B. Description:	Tank (process code T01)
C. Dates of Operation:	1972-present
Wastes Managed:	05061152 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), active
Recommended Action:	No action required at this time
A. NOR No.:	034
B. Description:	Tank (process code T01)
C. Dates of Operation:	1972-present
Wastes Managed:	05061152 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), active
Recommended Action:	No action required at this time
A. NOR No.:	035
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0520115H, 05061152 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed
Recommended Action:	No action required at this time
A. NOR No.:	036

B. Description:	Waste Treatment Unit (process code T04)
C. Dates of Operation:	unknown-present
Wastes Managed:	0009104H, 40172971, 40293191, 4034319H, 40463191, 40654891, 40704091, 4078319H, 40883192, 0518310H, 40143192, 05153101, 4018307H, 4030319H, 4037319H, 40504961, 4066319H, 4072319H, 40793192, 4016104H, 4004606H, 40194941, 4005219H, 40353191, 0521319H, 40263191, 40313191, 4039319H, 40514061, 40673191, 4073319H, 40853192, 4006203H, 4036319H, 40072031, 4038319H, 4009104H, 40422011, 40103191, 40113191, 40123191, 40131191, 05751041, 40273191, 4032319H, 40403191, 40613191, 40683191, 40754891, 40865041, 40083191, 4028319H, 40333191, 40453102, 4062319H, 40694092, 40773191, 4087319H, 0512319H, 41113961, 4112117H, 4093202H, 4110119H, 41151191 (D001, D002, D003, D006, D008, D009, D018)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment building (not a land-based unit), RCRA exempt (<90-day), active
Recommended Action:	No action required at this time
A. NOR No.:	037
B. Description:	Landfill (process code D80)
C. Dates of Operation:	unknown-present
Wastes Managed:	05133082, 05293072, 05413042, 40793192, 40883192, 05003922, 05243192, 05303192, 05424092, 40553042, 40803192, 40895192, 05033192, 05253192, 05329012, 40694092, 40763192, 40823192, 05043192, 05353102, 40603042, 40833192, 05053192, 05273192, 40853192, 00066031, 05263191, 05404891, 05683191, 40263191, 40273191, 40293191, 40313191, 40333191, 40403191, 40493011, 40673191, 40633191, 40683191, 40754891, 40584791, 40645191, 05093111, 40654891, 40704091, 40773191, 05683191, 40613191, 05103072, 4073319H, 4062319H, 0537210H, 05315112, 4072319H, 40353191, 05061152, 0521319H, 4030319H, 4032319H, 05113921, 05394891, 4036319H, 0538203H, 4066319H, 4078319H, 4034319H, 4037319H, 40483012, 40943042, 05285112, 05764032, 4038319H, 40905122, 4028319H, 4039319H (non-hazardous)

Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste landfill, active
Recommended Action:	No action required at this time
A. NOR No.:	038
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0512319H, 0520115H, 0521319H, 05003922, 940080, 05683191, 40593902 (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed
Recommended Action:	No action required at this time
A. NOR No.:	039
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	unknown-2010
Wastes Managed:	0570119H, 05144091, 00012991 (D003)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste container storage area (not a land-based unit), RCRA exempt (<90-day), inactive
Recommended Action:	No action required at this time
A. NOR No.:	040
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0518310H, 0520115H, 05671151, 05061152 (D006, D008)
Evidence of Release:	None

Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed
Recommended Action:	No action required at this time
A. NOR No.:	041
B. Description:	Tank (process code T01)
C. Dates of Operation:	1972-present
Wastes Managed:	05061152 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), active
Recommended Action:	No action required at this time
A. NOR No.:	042
B. Description:	Tank (process code T01)
C. Dates of Operation:	unknown-present
Wastes Managed:	05342961, 05353102 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste treatment tank (not a land-based unit), RCRA exempt (recycling), active
Recommended Action:	No action required at this time
A. NOR No.:	043
B. Description:	Storage Container (process code T04)
C. Dates of Operation:	1988-present
Wastes Managed:	05103072 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater

Summary:	Non-hazardous waste treatment container (not a land-based unit), UIC Permit, active
Recommended Action:	No action required at this time
A. NOR No.:	044
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-present
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), active
Recommended Action:	No action required at this time
A. NOR No.:	045
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-present
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), active
Recommended Action:	No action required at this time
A. NOR No.:	046
B. Description:	Tank (process code T01)
C. Dates of Operation:	1988-2014
Wastes Managed:	0512319H, 0520115H (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste treatment tank (not a land-based unit), RCRA exempt (WWT), closed

Recommended Action:	No action required at this time
A. NOR No.:	047
B. Description:	WWTP (process code T04)
C. Dates of Operation:	1988-2014
Wastes Managed:	0512319H, 0520115H, 05113921, 40593902 (D006, D008)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste belt filter press (not a land-based unit), RCRA exempt (WWT), closed
Recommended Action:	No action required at this time
A. NOR No.:	048
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	1972-present
Wastes Managed:	00076961, 0009104H, 05133082, 0573219H, 05751041, 0579209H, 4020003H, 4056308H, 0002604H, 0003103H, 0005602H, 00066031, 00081011, 0010211H, 0011101H, 0012101H, 05744031, 05772091, 4041606H, 4043207H, 40446061, 41051191, 4103219H, 4104210H, 41061191, 41022191, 4109319H, 4107203H, 41083191 (D001, D002, D009, D010, D011, D018, D022, D035, F001, F003, F005)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Hazardous waste storage building (not a land-based unit), active, RCRA exempt (<90-day)
Recommended Action:	No action required at this time
A. NOR No.:	049
B. Description:	WWTP (process code T04)
C. Dates of Operation:	unknown-present
Wastes Managed:	05003922 (non-hazardous)

Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste belt filter press (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	050
B. Description:	Septic Tank/Drain Field
C. Dates of Operation:	1997-present
Wastes Managed:	None
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	100% physical treatment only (adsorption/absorption/ separation/stripping/dewatering), active
Recommended Action:	No action required at this time
A. NOR No.:	051
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	1997-present
Wastes Managed:	05783192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	052
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-present
Wastes Managed:	40929992, 40159992 (non-hazardous)
Evidence of Release:	None

Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	053
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	unknown-2004
Wastes Managed:	05413042, 05033192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), closed
Recommended Action:	No action required at this time
A. NOR No.:	054
B. Description:	Waste Pile (process code S03)
C. Dates of Operation:	unknown-2004
Wastes Managed:	05033192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste pile (not a land-based unit), closed
Recommended Action:	No action required at this time
A. NOR No.:	055
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	unknown-2004
Wastes Managed:	05033192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater

Summary:	Non-hazardous waste container storage area (not a land-based unit), closed
Recommended Action:	No action required at this time
A. NOR No.:	056
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-2010
Wastes Managed:	40214882 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), inactive
Recommended Action:	No action required at this time
A. NOR No.:	057
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-2015
Wastes Managed:	05253192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), inactive
Recommended Action:	No action required at this time
A. NOR No.:	058
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-2016
Wastes Managed:	05033192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), closed

Recommended Action:	No action required at this time
A. NOR No.:	059
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-2015
Wastes Managed:	05253192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), inactive
Recommended Action:	No action required at this time
A. NOR No.:	060
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-present
Wastes Managed:	05043192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	061
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-present
Wastes Managed:	04214882 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time

A. NOR No.:	062
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-2015
Wastes Managed:	05033192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), inactive
Recommended Action:	No action required at this time
A. NOR No.:	063
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-present
Wastes Managed:	40214882 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	064
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-present
Wastes Managed:	05043192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	065

B. Description:	Waste Pile (process code S03)
C. Dates of Operation:	2002-present
Wastes Managed:	05043192, 05033192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste pile (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	066
B. Description:	Waste Pile (process code S03)
C. Dates of Operation:	2004-present
Wastes Managed:	40533082, 05053192, 40523081, 05243192, 05033192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste pile (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	067
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2004-present
Wastes Managed:	40553042 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	068
B. Description:	Waste Pile (process code S03)

C. Dates of Operation:	2004-present
Wastes Managed:	40214882 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste pile (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	069
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2005-present
Wastes Managed:	40584891 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	070
B. Description:	Waste Pile (process code S03)
C. Dates of Operation:	2005-present
Wastes Managed:	05413042 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste pile (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	071
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2002-present

Wastes Managed:	40895192, 40645191 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	072
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2005-present
Wastes Managed:	00066031 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	073
B. Description:	Drip Pads (process code S05)
C. Dates of Operation:	2006-present
Wastes Managed:	40763192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste pile (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	074
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2006-present
Wastes Managed:	40613191, 41143031, 4078319H, 41013911, 40883192, 40773191 (non-hazardous)

Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	075
B. Description:	Tank (process code S02)
C. Dates of Operation:	2006-2015
Wastes Managed:	05033192 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste storage silo (not a land-based unit), RCRA exempt (other), inactive
Recommended Action:	No action required at this time
A. NOR No.:	076
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2006-present
Wastes Managed:	None
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	This unit is used as a storage area, totes of materials stored until used on-site, located under roof
Recommended Action:	No action required at this time
A. NOR No.:	077
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2008-present
Wastes Managed:	05293072 (non-hazardous)
Evidence of Release:	None

Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	078
B. Description:	(Reserved)
C. Dates of Operation:	
Wastes Managed:	
Evidence of Release:	
Pollutant Dispersal Pathways:	
Summary:	
Recommended Action:	
A. NOR No.:	079
B. Description:	Surface Impoundment (process code S04)
C. Dates of Operation:	2008-2015
Wastes Managed:	05293072 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste surface impoundment, inactive
Recommended Action:	No action required at this time
A. NOR No.:	080
B. Description:	(Reserved)
C. Dates of Operation:	
Wastes Managed:	
Evidence of Release:	
Pollutant Dispersal Pathways:	

Summary:	
Recommended Action:	
A. NOR No.:	081
B. Description:	Container Storage Area (process code S01)
C. Dates of Operation:	2008-present
Wastes Managed:	05153101, 05223191, 05263191, 05404891, 40263191, 40273191, 40293191, 40313191, 40333191, 40353191, 40403191, 40463191, 40472191, 40493011, 40584891, 40613191, 40645191, 40673191, 40683191, 40704091, 40754891, 40773191, 41013911, 0521319H, 41143031, 40913191, 4095304H, 41163191, 41134042 (non-hazardous)
Evidence of Release:	None
Pollutant Dispersal Pathways:	Surface soils, subsurface soils, groundwater
Summary:	Non-hazardous waste container storage area (not a land-based unit), active
Recommended Action:	No action required at this time
A. NOR No.:	083
B. Description:	Incinerator (process code T03)
C. Dates of Operation:	2016-present
Wastes Managed:	41143031, 40214882
Evidence of Release:	None
Pollutant Dispersal Pathways:	Air, surface soils, subsurface soils, groundwater
Summary:	Air curtain incinerator used for the incineration of clean wood debris only
Recommended Action:	No action required at this time

Appendix IX.B-I

Facility and SWMU Location Maps

Appendix IX.B-I
Facility and SWMU Location Maps

The locations of the former hazardous waste management (HWM) units and former solid waste management units (SWMUs) at the Tyler Pipe facility that are identified in the "Preliminary Review Unit Checklists" are depicted on the maps provided herein.

TYLER PIPE
Division of McWane, Inc.

Rev	Description	Date	By
6			
5			
4			
3			
2			
1			

UNLESS OTHERWISE SPECIFIED
Allow 1/8" stock at machined surfaces
Drill holes to be drilled after fabrication
Centers for drilled holes ± 1/32"
1/8" Radius Typical
All welds to be 1/4" continuous fillet
Machine Decimal Tolerances ± .005"
Machined Fractional Tolerances ± 1/64"
Non-machined Tolerances ± 1/16"
Tolerances are not accumulative
AutoCAD-DWG

Ref. No.
Mat'l N/A
Patt No. N/A

McWane, Inc., (Tyler Pipe Co.)
Tyler, Texas
Appendix IX.B-I
Facility and SWMU Locations

Prj. #: 00-07749.23 | File. #: 0774923-1.dwg | Scale: 1"=200' | Date: July 2009

Appendix IX.B-II

Wastes Managed (Facility Notice of Registration)

Appendix IX.B-II
Wastes Managed (Facility Notice of Registration)

The most current notice of registration (NOR) for the Tyler Pipe facility (SWR No. 30140) dated 02/24/2020 is provided herein. The facility NOR identifies all wastes (previously and currently) generated at the facility and all waste management units (active and closed) at the facility. In addition, the NOR cross-references generated wastes to the unit(s) within which these wastes were managed. The NOR can be utilized to provide specific waste descriptions for the wastes code numbers that are listed in the "Preliminary Review Unit Checklists" for each hazardous waste management (HWM) unit and solid waste management unit (SWMU) located at the facility.

*** TEXAS COMMISSION ON ENVIRONMENTAL QUALITY ***
Notice of Registration
Industrial and Hazardous Waste

30140 TYLER PIPE

Solid Waste Registration Number: 30140 **EPA Id:** TXD066349770

Company Name: Tyler Pipe Company, A Division of McWane, Inc.
Site Name: TYLER PIPE
Site Location: 11721 US Highway 69 N, Tyler, TX
Primary Contact: HARRIS, SCOTT
Mailing Address: 11910 COUNTY ROAD 492
TYLER, TX 75706-5840

Region: 5
County: 212 SMITH
Land Type: Private
Title: ENVIRONMENTAL MANAGER
Site Street Address: 11721 US HIGHWAY 69 N
TYLER, TX 75706

Initial Registration Date: 04/25/1977
Last Amendment Date: 02/21/2020
Last Date NOR Computer update: 02/21/2020
Phone: 903-882-2687

Registration Status: Active
Registration Type: Generator Transporter
Generator Type: Industrial
Receiver Type:
Transporter Type:
Transport Wst Class:

Reporting Method: STEERS
Hazardous Waste Generation Status: Large Quantity Generator

Universal Waste Activity:
Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more):
Type(s) Managed:
Destination Facility for Universal Waste:

NAICS Code: 331511 Iron Foundries
Tax Identification #:
Handler Status:

Operator Information

Name: Tyler Pipe Company, A Division of McWane, Inc.
Phone: 903-882-5511
Address: 11910 COUNTY ROAD 492
TYLER, TX 75706-5840

Owner Information:

Name: Tyler Pipe Company, A Division of McWane, Inc.
Phone: 903-882-5511
Address: 11910 COUNTY ROAD 492
TYLER, TX 75706-5840

Billing Contact: **Title:** **Phone:**
Billing Address:
11910 COUNTY ROAD 492
TYLER, TX 75706-5840

Other Contact: Manager, Environmental **Role:** IHW: Owner Contact **Phone:** 903-882-5511
Mailing Address: 11910 COUNTY ROAD 492
TYLER, TX 75706-5840

As of 02/21/2020 - The next unassigned sequence number for WASTES is 4117 and
The next unassigned sequence number for UNITS is 084

30140 TYLER PIPE

**** WASTE INFORMATION ****

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

****** Active Wastes ******

05003922 2 Active 02/21/2020 On-site No No

Description from Generator: South wastewater treatment facility solids/south wastewater treatment facility belt filter press/1972.
Texas Form Code: 392 Nonhazardous dewatered air pollution control device sludge
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Landfill	037
Tank	011
Tank (surface)	009
Waste water treatment plant	049

05053192 2 Active 02/21/2020 On-site No No

Description from Generator: Waste shell core sands/molding line fitting operations/1955. Waste will berecycled off site by Ken Iverson Construction. Waste will be used for fineaggregatesubstitute for native sands in bound applications. Change of vendor notification sent to TCEQ on 2/13/08
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Landfill	037
Waste pile	066

05072061 1 Active 02/21/2020 On & Off No No

Description from Generator: Used oil/foundry operations/1935. Waste is recycled off site. Notificationsubmitted on 1-12-04. JDS
Texas Form Code: 206 Waste oil
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Tank (surface)	027

05133082 2 Active 02/21/2020 On & Off No No

Description from Generator: Paint Waste - Solid (Paint Cans)/Plant wide paint operations/1935.
Texas Form Code: 308 Empty or crushed metal drums or conainers
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Container storage area	048
Landfill	037

05153101 1 Active 02/21/2020 On & Off No No

Description from Generator: Oil absorbants & oil related wastes from foundry processes including but not limited to equipment leaks, grease, shop rags, hydraulic hoses, blanchard absorbent.
Texas Form Code: 310 Spent solid filters or adsorbents
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Miscellaneous storage containers	081
Waste Treatment Facility	036

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
****** Active Wastes ******						
0521319H	H	Active	02/21/2020	On-site	No	No

Description from Generator: Miscellaneous Heavy Metal Containing Solids / Plant Wide Operations includingBottom Drop Refractory/ NP Combustion Chamber Solids / 1988
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D006 D008
Current Management Units:

Landfill	037
Miscellaneous storage containers	081
Waste Treatment Facility	036

05223191 1 Active 02/21/2020 On-site No No

Description from Generator: Stabilized Miscellaneous Heavy Metal Containing Solids/90 Day Treatment/Storagein Containers/ 1988.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Miscellaneous storage containers	081

05243192 2 Active 02/21/2020 On & Off No No

Description from Generator: Sweeper material. Plant wide operations. 1935
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Landfill	037
Waste pile	066

05253192 2 Active 02/21/2020 On & Off No No

Description from Generator: Molding & finishing line baghouse fines. Plant wide operations / 1983
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Landfill	037

05273192 2 Active 02/21/2020 On & Off No No

Description from Generator: Waste refactory Material. Molten Iron Transfer Equipment/ 1935
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units:

Landfill	037

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
****** Active Wastes ******						
05303192	2	Active	02/21/2020	On & Off	No	No

Description from Generator: Used grinding wheels, sanding disks, and belts/plant wide operations / 1935
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Landfill 037

05342961	1	Active	02/21/2020	On & Off	No	No

Description from Generator: Used Glycols (Antifreeze). Plant wide equipment / 1935
Texas Form Code: 296 Ethylene glycol based antifreeze
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Tank 042

05413042	2	Active	02/21/2020	On-site	No	No

Description from Generator: Slag from Cuopla and Electric Furnaces and Holding Ladles
Texas Form Code: 304 Other "dry" ash, slag or thermal residue
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Container storage area 053
Landfill 037
Waste pile 070

05424092	2	Active	02/21/2020	On-site	No	No

Description from Generator: Coke Breeze (Fines)
Texas Form Code: 409 Other non-halogenated organic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Landfill 037

05783192	2	Active	02/21/2020	On & Off	No	No

Description from Generator: Dispensary Medical Waste
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Container storage area 051

40214882	2	Active	02/21/2020	On & Off	No	No

Description from Generator: Wood Debris. Waste is recycled off site. Pallets are reconditioned or Disposed in Tyler Pipe Landfill. Recycling notification submitted 3-29-04.
Texas Form Code: 488 Wood debris
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Incinerator 083
Waste pile 068

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
****** Active Wastes ******						
40223902	2	Active	02/21/2020	On-site	No	No

Description from Generator: Construction Debris - Concrete/Cement/Asphalt
Texas Form Code: 390 Nonhazardous concrete/cement/construction debris
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

40273191	1	Active	02/21/2020	On-site	No	No

Description from Generator: NP Combustion Chamber (Cupola) Solids - Non Haz.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP COMBUSTION CHAMBE
Current Management Units: Landfill 037
Miscellaneous storage containers 081
Waste Treatment Facility 036

40453102	2	Active	02/21/2020	On-site	No	No

Description from Generator: Used desicant from air dryer - activated alumina
Texas Form Code: 310 Spent solid filters or adsorbents
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): AIR DRYER DESICCATE
Current Management Units: Waste Treatment Facility 036

40514061	1	Active	02/21/2020	On-site	No	No

Description from Generator: Used plastic drums/containers
Texas Form Code: 406 Empty fiber or plastic containers
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): USED PLASTIC DRUMS C
Current Management Units: Waste Treatment Facility 036

40523081	1	Active	02/21/2020	On-site	No	No

Description from Generator: Used steel drums/containers egual to or greater than 55 gallons in size which are RCRA "empty".
Texas Form Code: 308 Empty or crushed metal drums or conainers
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): USED STEEL DRUMS CON
Current Management Units: Waste pile 066

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

****** Active Wastes ******

40533082 2 Active 02/21/2020 On-site No No

Description from Generator: Used 5 gallon or less metal containers which are RCRA "empty".
Texas Form Code: 308 Empty or crushed metal drums or conainers
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): USED 5 GALLON METAL
Current Management Units: Waste pile 066

4056308H H Active 02/21/2020 On & Off No No

Description from Generator: Aerosol cans from Maintenance/Paint Shop, painting, cleaning and coating activities
Texas Form Code: 308 Empty or crushed metal drums or conainers
EPA Form Code: W211 Paint thinner or petroleum distillates
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G06 Painting and coating
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): WASTE AEROSOL CANS
EPA Hazardous Waste Numbers: D001 D035 F001 F003 F005
Current Management Units: Container storage area 048

40584891 1 Active 02/21/2020 On-site No No

Description from Generator: Dip Asphalt and used lub oil dripping from product process equipment onto plastic liner coated with layer of absorbentmaterial.
Texas Form Code: 489 Petroleum contaminated solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): DIP ASPHALT WITH OIL
Current Management Units: Container storage area 069
Landfill 037
Miscellaneous storage containers 081

40613191 1 Active 02/21/2020 On & Off No No

Description from Generator: NP Cupola Baghouse Solids- Non-hazardous
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP CUPOLA BH DUST
Current Management Units: Container storage area 074
Landfill 037
Miscellaneous storage containers 081
Waste Treatment Facility 036

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

****** Active Wastes ******

40633191 1 Active 02/21/2020 On-site No No

Description from Generator: Electrical equipment / Capacitors non-PCB
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): ELECTRICAL EQUIPMENT
Current Management Units: Landfill 037

40654891 1 Active 02/21/2020 On-site No No

Description from Generator: Petroleum contaminated solids / Used oil Filters drained empty
Texas Form Code: 489 Petroleum contaminated solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): USED OIL FILTERS
Current Management Units: Landfill 037
Waste Treatment Facility 036

4066319H H Active 02/21/2020 On-site No No

Description from Generator: NP Escher cooler used to Cool of the hot air from the Cupola combustion chamber prior to entering thegas heat exchanger and baghouse. When this unitis cleaned out, the waste is generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): NP ESCHER COOLER
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: Landfill 037
Waste Treatment Facility 036

40683191 1 Active 02/21/2020 On-site No No

Description from Generator: North plant 40 Ton Electric Furnace Bag House
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP 40 TON FURNACE BH
Current Management Units: Landfill 037
Miscellaneous storage containers 081
Waste Treatment Facility 036

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

****** Active Wastes ******

4073319H H Active 02/21/2020 On & Off No No

Description from Generator: North Plant 40 Ton Electric Furnace Bag House
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): NP 40 TON FURNACE BH
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: Landfill 037
Waste Treatment Facility 036

4084319H H Active 02/21/2020 Off-site No No

Description from Generator: Bag house filter bags from filter change out - Hazardous
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): BAGHOUSE FILTER BAGS
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

40853192 2 Active 02/21/2020 On-site No No

Description from Generator: North Plant Cupola Baghouse Dust - Non-Hazardous
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP CUPOLA BH NON-HAZ
Current Management Units: Landfill 037
Waste Treatment Facility 036

4087319H H Active 02/21/2020 On-site No No

Description from Generator: Broken fluorescent and HID bulbs
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W320 Electrical Devices (lamps, thermostats,CRTs, etc.)
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): BROKEN BULBS
EPA Hazardous Waste Numbers: D009
Current Management Units: Waste Treatment Facility 036

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
****** Active Wastes ******						
40895192	2	Active	02/21/2020	On-site	No	No

Description from Generator: Akers sludge from North plant akers lift station placed in a de-watering rolloff
Texas Form Code: 519 Other inorganic sludges
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP AKERS SLUDGE
Current Management Units: Landfill 037
Miscellaneous storage containers 071

40913191	1	Active	02/21/2020	On-site	No	No

Description from Generator: Baghouse filters and dust from NP Akers baghouse.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP AKERS BH FILTERS
Current Management Units: Miscellaneous storage containers 081

40929992	2	Active	02/21/2020	On & Off	No	No

Description from Generator: General trash consisting of refuse such as plastic, cardboard, leather, cloth, packaging materials, office waste, and/orempty food containers.
Texas Form Code: 999 Class 2 plant trash
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): PLANT TRASH
Current Management Units: Miscellaneous storage containers 052

4093202H	H	Active	02/21/2020	On-site	No	No

Description from Generator: Aerosol residual liquids from the pucturing of aerosol cans in an aerosol can puncturing device.
Texas Form Code: 202 Halogenated (e.g., chlorinated) solvent
EPA Form Code: W202 Concentrated halogenated (e.g., chlorinated) solvent
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): AEROSOL RESIDUAL LQD
EPA Hazardous Waste Numbers: D001 D035 D039 F001 F005
Current Management Units: Waste Treatment Facility 036

41003011	1	Active	02/21/2020	Off-site	No	No

Description from Generator: Oil contaminated soils from Industrial Garage
Texas Form Code: 301 Soil contaminated with organics
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Company's Internal Code(s): OIL CONT SOILS IG
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
****** Active Wastes ******						
41013911	1	Active	02/21/2020	On-site	No	No

Description from Generator: NH Refractory waste from North Plant melt operations.
Texas Form Code: 391 Nonhazardous dewatered wastewater treatment sludge
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NH REFRACTORY WASTE
Current Management Units: Container storage area 074
Miscellaneous storage containers 081

41113961	1	Active	02/21/2020	On & Off	No	No

Description from Generator: Non-hazardous PCB Containing Electrical Equipment
Texas Form Code: 396 Nonhazardous electrical equipment/devices with >= 50 ppm and < 500 ppm
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NH-PCB CONT ELEC EQP
Current Management Units: Waste Treatment Facility 036

4112117H	H	Active	02/21/2020	On & Off	No	No

Description from Generator: Haz - Waste liquid mercury from decommissioned South Plant monitoring equipment. (One time shipment.)
Texas Form Code: 117 Waste liquid mercury
EPA Form Code: W117 Waste liquid mercury
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Source Code: G15 Process equipment change-out or discontinuation of equipment use
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): WASTE LIQUID MERCURY
EPA Hazardous Waste Numbers: D009
Current Management Units: Waste Treatment Facility 036

41134042	2	Active	02/21/2020	On-site	No	No

Description from Generator: NH Spent Carbon from the change out of the carbon filters at on-site waste water treatment plant.
Texas Form Code: 404 Spent carbon
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NH SPENT CARBON
Current Management Units: Miscellaneous storage containers 081

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

****** Active Wastes ******

41143031 1 Active 02/21/2020 On & Off No No

Description from Generator: Ash from the air curtain incinerator.
Texas Form Code: 303 Ash, slag or other residue from incineration of waste
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): ACI ASH
Current Management Units:

Container storage area	074
Incinerator	083
Miscellaneous storage containers	081

41151191 1 Active 02/21/2020 On-site No No

Description from Generator: NH - Liquid Asphalt Coating
Texas Form Code: 119 Other inorganic liquids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): LIQUID ASPHALT CTNG
Current Management Units:

Waste Treatment Facility	036

41163191 1 Active 02/21/2020 On-site No No

Description from Generator: NH Resin Spill Clean-Up - Resulted from South Plant demolition activity.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Company's Internal Code(s): RESIN SPILL CLEAN-UP
Current Management Units:

Miscellaneous storage containers	081

As of 02/21/2020, The next unassigned sequence number for WASTES is 4117

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
** No Longer Generated Wastes **						
00012991	1	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Waste photographic fixer/photography operations/1976.
Texas Form Code: 299 Nonhazardous photographic chemical waste (organic)
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

0002604H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Waste paint related material. Paintdip production finishing.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 604 Organic paint or ink sludge
EPA Form Code: W604 Paint or ink sludges, still bottoms in sludge form
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001
Current Management Units: None

0003103H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Mercuric Sulfate (Liquid Solution)/Laboratory Waste - COD Test/1973.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 103 Spent acid with metals
EPA Form Code: W103 Spent concentrated acid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G22 Laboratory analytical wastes (used chemicals)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D002 D009 D010
Current Management Units: None

0005602H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Still bottoms from solvent recovery/solvent distillation operations/ 1989.;Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 602 Still bottoms of non-halogenated solvents or other organic liquids
EPA Form Code: W604 Paint or ink sludges, still bottoms in sludge form
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G24 Solvent or product distillation recovery (sludge, waste)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: F003 F005
Current Management Units: None

00066031	1	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Waste oil and sludge. Industrial garage wash bay operation.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 603 Oily sludge
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
** No Longer Generated Wastes **						
00076961	1	Inactive	02/21/2020		No	No

Description from Generator: 08/13/15 - PGP - Waste managed as 05153101Waste grease/gear box cleaning operations/1993.; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 696 Grease
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

00081011	1	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Wastewater from Coating Process North Millroom; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 101 Aqueous waste with low solvents
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

0009104H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Spent Acid Solution from Isocure Scrubber. Notification that this waste isrecycled by "acid regeneration" was provided to the TCEQ on or about February 16, 2005.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 104 Spent acid without metals
EPA Form Code: W103 Spent concentrated acid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D002
Current Management Units: None

0010211H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Waste Paint Related Material North Millroom; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 211 Paint thinner or petroleum distillates
EPA Form Code: W211 Paint thinner or petroleum distillates
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G06 Painting and coating
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: F003 F005
Current Management Units: None

0011101H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: laboratory waste with potassium ferricyanide; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 101 Aqueous waste with low solvents
EPA Form Code: W101 Very dilute aqueous waste containing more than 99% water
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G22 Laboratory analytical wastes (used chemicals)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D003
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

0012101H H Inactive 02/21/2020 On & Off No No

Description from Generator: waste water from coating process; Due to change(s) in the product produced,this waste is no longer generated.
Texas Form Code: 101 Aqueous waste with low solvents
EPA Form Code: W101 Very dilute aqueous waste containing more than 99% water
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G01 Dip, flush or spray rinsing
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D011
Current Management Units: None

0013219H H Inactive 02/21/2020 Off-site No No

Description from Generator: waste photographic fixer; Due to waste minimization, ingredient changes orprocess changes this waste is no longer generated.
Texas Form Code: 219 Other organic liquids
EPA Form Code: W219 Other organic liquid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D010 D011
Current Management Units: None

0501203H H Inactive 02/21/2020 Off-site No No

Description from Generator: Spent Safety Kleen Solvent/Plant Wide Wash Stations/1980; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 203 Non-halogenated solvent
EPA Form Code: W203 Concentrated non-halogenated (e.g., non-chlorinated) solvent
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G01 Dip, flush or spray rinsing
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001 D006 D008 D018 D027 D035 D039 D040
Current Management Units: None

05033192 2 Inactive 02/21/2020 On-site No No

Description from Generator: Waste molding (green) Sand/molding line fittings operation/1935. Waste is being recycled by being used as fill material to create a greenfield area onplant property. Recycling notification submitted in October 2003. Waste will be recycled off site by Ken Iverson Construction. Waste will be used as;Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05043192 2 Inactive 02/21/2020 On-site No No

Description from Generator: Waste air set sands/molding line fittings/1960. Recycling notification, other,received 2/21/2000. Waste will be recycled off site by Ken Iverson Construction. Waste will be used for fine aggregate substitute for native sandsin bound applications. Recycling notification submitted June 2004. Notifica;Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

05061152 2 Inactive 02/21/2020 On-site No No

Description from Generator: South wastewater treatment facility - Wastewater discharged via outfall 001/Process Water (Treated)/1972.; The waste is exempted from regulation due to a new exemption from the definition of solid waste.
Texas Form Code: 115 Scrubber water
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05093111 1 Inactive 02/21/2020 On-site No No

Description from Generator: Asbestos/foundry equipment/1935
Texas Form Code: 311 Asbestos solids and debris
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05103072 2 Inactive 02/21/2020 On-site No No

Description from Generator: Grinding dust solids/ mold production- Same generation as waste stream 05253192; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 307 Metal scale, filings or scrap
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05113921 1 Inactive 02/21/2020 On-site No No

Description from Generator: Mason-Dixon Plant stabilized solids/October, 1988.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 392 Nonhazardous dewatered air pollution control device sludge
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

0512319H H Inactive 02/21/2020 On-site No No

Description from Generator: Mason-Dixon Plant Solids/Cupola Wet Scrubbers/June 1988. Waste inactivateddue to product change.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 5 Residual from on-site treatment, disposal or recycling of hazardous waste
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

05144091 1 Inactive 02/21/2020 On-site No No

Description from Generator: Photographic film (waste)/negatives from photography/1976. Waste inactivated due to source reduction.
Texas Form Code: 409 Other non-halogenated organic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

05174031 1 Inactive 02/21/2020 On & Off No No

Description from Generator: Used Tires/Plant and fleet operation/ 1935.
Texas Form Code: 403 Solids resins or polymerized organics
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

0518310H H Inactive 02/21/2020 On-site No No

Description from Generator: Used Mason-Dixon Dual Filter media/M-D dual Media Filters/June 1988 Wasteinactivated due to source reduction.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 310 Spent solid filters or adsorbents
EPA Form Code: W310 Filters, solid adsorbents, ion exchange resins and spent carbon
Origin Code: 5 Residual from on-site treatment, disposal or recycling of hazardous waste
Source Code: G23 Wastewater treatment (sludge, filter cake, etc.)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

0519211H H Inactive 02/21/2020 On & Off No No

Description from Generator: Waste solvents/painting operations/1935.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 211 Paint thinner or petroleum distillates
EPA Form Code: W211 Paint thinner or petroleum distillates
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001
Current Management Units: None

0520115H H Inactive 02/21/2020 On-site No No

Description from Generator: Mason Dixon Plant Wastewater Cupola Wet Scrubbers/1988; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 115 Scrubber water
EPA Form Code: W113 Other aqueous waste or wastewaters
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

05233101 1 Inactive 02/21/2020 On-site No No

Description from Generator: Stabilized Used Mason-Dixon Dual Filter Media/Dual Media Filters/1988.; Dueto change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 310 Spent solid filters or adsorbents
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

05263191 1 Inactive 02/21/2020 On & Off No No

Description from Generator: Glass Bead Blaster Fines Central Buildup 1971; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05285112 2 Inactive 02/21/2020 On & Off No No

Description from Generator: Air pollution control sludges. Plant wide operations 1972; Due to change(s)in the product produced, this waste is no longer generated.
Texas Form Code: 511 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05293072 2 Inactive 02/21/2020 On & Off No No

Description from Generator: Scrap metal. Plant wide operations / 1935
Texas Form Code: 307 Metal scale, filings or scrap
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Container storage area 077
Landfill 037

05315112 2 Inactive 02/21/2020 On & Off No No

Description from Generator: Hot coat / sand reclamation scrubber. Sludge North plant / 1975; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 511 Air pollution control device sludge (e.g., fly ash, wet scrubber sludge)
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05329012 2 Inactive 02/21/2020 On & Off No No

Description from Generator: Plant production refuse. Plant wide operations / 1935 Waste inactivated due to rule change.
Texas Form Code: 901
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Landfill 037

05334971 1 Inactive 02/21/2020 On & Off No No

Description from Generator: PCb containing electrical equipment. Plant wide operations. 1940 Waste inactivated due to product change.
Texas Form Code: 497 Electrical equipment/devices with >= 500 ppm PCBs
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

05353102 2 Inactive 02/21/2020 On & Off No No

Description from Generator: Used Glycol recycling unit filters Garage / 1992 Waste inactivated due tosource reduction.
Texas Form Code: 310 Spent solid filters or adsorbents
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: Landfill 037
Tank 042

0536211H H Inactive 02/21/2020 On & Off No No

Description from Generator: Used lacquer thinner. Construction shop. Waste inactivated due to sourcereduction.
Texas Form Code: 211 Paint thinner or petroleum distillates
EPA Form Code: W211 Paint thinner or petroleum distillates
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: F003 F005
Current Management Units: None

0537210H H Inactive 02/21/2020 On & Off No No

Description from Generator: Waste coating resins; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 210 Adhesives or epoxies
EPA Form Code: W210 Reactive or polymerizable organic liquids and adhesives
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001 F002
Current Management Units: None

0538203H H Inactive 02/21/2020 On & Off No No

Description from Generator: Waste Methyl Ethyl Ketone; Due to waste minimization, ingredient changes orprocess changes this waste is no longer generated.
Texas Form Code: 203 Non-halogenated solvent
EPA Form Code: W203 Concentrated non-halogenated (e.g., non-chlorinated) solvent
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: F005
Current Management Units: None

05394891 1 Inactive 02/21/2020 On & Off No No

Description from Generator: Used Heaf filters North plant / 1972; Due to waste minimization, ingredientchanges or process changes this waste is no longer generated.
Texas Form Code: 489 Petroleum contaminated solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

05404891 | 1 | Inactive | 02/21/2020 | | No | No

Description from Generator: Dryed cutback asphalt dip from NP hot dip, cold dip. Historically also utilized for SP Impact "cutback" dip operations & Cement lining.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 489 Petroleum contaminated solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05572031 | 1 | Inactive | 02/21/2020 | Off-site | No | No

Description from Generator: Used Safety-Kleen premium solvent; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 203 Non-halogenated solvent
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

0566203H | H | Inactive | 02/21/2020 | Off-site | No | No

Description from Generator: Safety Kleen Carburator Cleaner/Transportation & Industrial Garages/1980.;Due to waste minimization, ingredient changes or process changes this wasteis no longer generated.
Texas Form Code: 203 Non-halogenated solvent
EPA Form Code: W203 Concentrated non-halogenated (e.g., non-chlorinated) solvent
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D006 D007 D008 D018 D021 D027 D039 D040
Current Management Units: None

05671151 | 1 | Inactive | 02/21/2020 | On-site | No | No

Description from Generator: Treated Mason-Dixon Plant Wastewater - Discharge via Internal Outfall 101/CupolaWet Scrubbers/1988.Not generated , in a closed loop system; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 115 Scrubber water
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05683191 | 1 | Inactive | 02/21/2020 | | No | No

Description from Generator: Non-hazardous miscellaneous heavy metal containing solids/plant wide operations/1988; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
** No Longer Generated Wastes **						
0569203H	H	Inactive	02/21/2020	Off-site	No	No

Description from Generator: Pure Solve: Industrial Solvent Degreaser. Used to clean parts and tools.; Due to waste minimization, ingredient changes or process changes this wasteis no longer generated.
Texas Form Code: 203 Non-halogenated solvent
EPA Form Code: W203 Concentrated non-halogenated (e.g., non-chlorinated) solvent
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G01 Dip, flush or spray rinsing
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001
Current Management Units: None

0570119H	H	Inactive	02/21/2020	Off-site	No	No

Description from Generator: Potassium Ferrocyanide. This compound is used in the Direct Photometric Method Waste inactivated due to source reduction.
Texas Form Code: 119 Other inorganic liquids
EPA Form Code: W119 Other inorganic liquid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G22 Laboratory analytical wastes (used chemicals)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D003
Current Management Units: None

0571101H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Spray gun cleanup water; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 101 Aqueous waste with low solvents
EPA Form Code: W101 Very dilute aqueous waste containing more than 99% water
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G01 Dip, flush or spray rinsing
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: F005
Current Management Units: None

0572210H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Waste epoxy paint; Due to waste minimization, ingredient changes or processchanges this waste is no longer generated.
Texas Form Code: 210 Adhesives or epoxies
EPA Form Code: W210 Reactive or polymerizable organic liquids and adhesives
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G13 Cleaning out process equipment
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: F002 F003
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

0573219H H Inactive 02/21/2020 On & Off No No

Description from Generator: Non-Usable Gasoline/Diesel Mixture; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 219 Other organic liquids
EPA Form Code: W219 Other organic liquid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G32 Cleanup of spill residues
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001
Current Management Units: None

05744031 1 Inactive 02/21/2020 On & Off No No

Description from Generator: Waste Epoxy; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 403 Solids resins or polymerized organics
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05751041 1 Inactive 02/21/2020 On & Off No No

Description from Generator: Waste Acid Scrubber Solution; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 104 Spent acid without metals
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05764032 2 Inactive 02/21/2020 Off-site No No

Description from Generator: Used Tires - formally reported as Waste Code 05174031; Due to change(s) inthe product produced, this waste is no longer generated.
Texas Form Code: 403 Solids resins or polymerized organics
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

05772091 1 Inactive 02/21/2020 On & Off No No

Description from Generator: Spray gun cleanup water - Coating Facility; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 209 Organic paint, ink, lacquer, or varnish
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

0579209H H Inactive 02/21/2020 On & Off No No

Description from Generator: Spray Gun Clean Up and Stencil Ink(Coating Facility); Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 209 Organic paint, ink, lacquer, or varnish
EPA Form Code: W209 Paint, ink, lacquer, or varnish
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G01 Dip, flush or spray rinsing
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: F005
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

0581001H H Inactive 02/21/2020 On & Off No No

Description from Generator: Lab pack of old chemicals; One time shipment.
Texas Form Code: 001 Lab packs of old chemicals only
EPA Form Code: W001 Lab packs with no acute hazardous waste
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G22 Laboratory analytical wastes (used chemicals)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001 D002 D003
Current Management Units: None

4004606H H Inactive 02/21/2020 On & Off No No

Description from Generator: IPA/Heptane/Polymer Resin - 2 Phase (liquid/sludge/resin)/Deinventory and cleanTK-2200A Solvent Recovery Tank./04-15-99; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 606 Resins, tars or tarry sludge
EPA Form Code: W606 Resins, tars, polymer or tarry sludge
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G13 Cleaning out process equipment
NAICS Code: 325211 Plastics Material and Resin Manufacturing
EPA Hazardous Waste Numbers: D001
Current Management Units: None

4005219H H Inactive 02/21/2020 On & Off No No

Description from Generator: Tank Clean Out of Waste Isocure II LP 616.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 219 Other organic liquids
EPA Form Code: W219 Other organic liquid
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): WASTE ISOCURE II LP
EPA Hazardous Waste Numbers: D018
Current Management Units: None

4006203H H Inactive 02/21/2020 On & Off No No

Description from Generator: Waste, Solid Isocure, Acetone, and PPE Equipment. Tank and Line Clean-Out.;One time shipment.
Texas Form Code: 203 Non-halogenated solvent
EPA Form Code: W203 Concentrated non-halogenated (e.g., non-chlorinated) solvent
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): WASTE SOLID ISOCURE
EPA Hazardous Waste Numbers: D001
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
**** No Longer Generated Wastes ****						
40072031	1	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Waste Solid Isocure Resin, Hi-Sol Naptha and PPE Equipment.; One time shipment.
Texas Form Code: 203 Non-halogenated solvent
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): WASTE SOLID ISOCURE
Current Management Units: None

40083191	1	Inactive	02/21/2020	On-site	No	No

Description from Generator: Acid Scrubber Solids; Due to change(s) in the product produced, this wasteis no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): ACID SCRUBBER SOLIDS
Current Management Units: None

4009104H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Waste H2SO4 - Acid Scrubber; One time shipment.
Texas Form Code: 104 Spent acid without metals
EPA Form Code: W103 Spent concentrated acid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G02 Stripping and acid or caustic cleaning
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): WASTE H2SO4 - ACID S
EPA Hazardous Waste Numbers: D002
Current Management Units: None

40103191	1	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Excess/Unused Chemical: Non-Silica Parting Agent; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): EXCESS UNUSED CHEMIC
Current Management Units: None

40113191	1	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Emulsion-Based "Red Oxide" Dip Tank Sludge; Due to change(s) in the productproduced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): EMULSION-BASED RED
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

40123191 1 Inactive 02/21/2020 On & Off No No

Description from Generator: Brazing Flux; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): BRAZING FLUX
Current Management Units: None

40131191 1 Inactive 02/21/2020 On & Off No No

Description from Generator: Amine-Based Polymer Hardner; Due to waste minimization, ingredient changesor process changes this waste is no longer generated.
Texas Form Code: 119 Other inorganic liquids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): AMINE BASED POLYMER
Current Management Units: None

40143192 2 Inactive 02/21/2020 On & Off No No

Description from Generator: Unused Aqueous Based Core Wash; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): UNUSED AQUEOUS BASED
Current Management Units: None

40159992 2 Inactive 02/21/2020 On & Off No No

Description from Generator: Plant Trash
Texas Form Code: 999 Class 2 plant trash
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): PLANT TRASH
Current Management Units: None

4016104H H Inactive 02/21/2020 On-site No No

Description from Generator: Sulfuric acid cleaning solution from cleaning hydraulic oil system.; Due towaste minimization, ingredient changes or process changes this waste is nolonger generated.
Texas Form Code: 104 Spent acid without metals
EPA Form Code: W103 Spent concentrated acid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G01 Dip, flush or spray rinsing
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D002
Current Management Units: None

40172971 1 Inactive 02/21/2020 On-site No No

Description from Generator: PCB oil containing greater than 50 ppm and less than 500 ppm.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 297 Nonhazardous liquids with >= 50 ppm and < 500 ppm PCBs
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

4018307H H Inactive 02/21/2020 No No

Description from Generator: This waste is no longer generated.Waste Magnesium Shavings from Pattern Shop.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 307 Metal scale, filings or scrap
EPA Form Code: W307 Metal scale, filings or scrap (including metal drums)
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G05 Metal forming and treatment (pickling, heat treating, etc.)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001 D003
Current Management Units: None

40194941 1 Inactive 02/21/2020 On-site No No

Description from Generator: PCB containing debris generated during flushing of 40172971 from electricalequipment.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 494 Solids containing >= 50 ppm and < 500 ppm PCBs
Origin Code: 1 Generated on-site from a product process or service activity
Current Management Units: None

4020003H H Inactive 02/21/2020 On-site No No

Description from Generator: Mixed Lab-Pack Waste; Due to change(s) in the product produced, this wasteis no longer generated.
Texas Form Code: 003 Mixed lab packs
EPA Form Code: W001 Lab packs with no acute hazardous waste
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G22 Laboratory analytical wastes (used chemicals)
NAICS Code: 331511 Iron Foundries
EPA Hazardous Waste Numbers: D001 D002 D009 D022
Current Management Units: None

4023393H H Inactive 02/21/2020 Off-site No No

Description from Generator: Waste Hexamethylenetetramine (Core Wash) - No Longer Used; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 393 Catalyst waste
EPA Form Code: W319 Other inorganic solids
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): WASTE HEXAMETHYLENET
EPA Hazardous Waste Numbers: D001
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
** No Longer Generated Wastes **						
4024319H	H	Inactive	02/21/2020	Off-site	No	No

Description from Generator: Solid Debris from Equipment/Controller Mercury Removal; Hazardous waste currently being managed under Universal Waste rules.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Source Code: G19 Other one-time or intermittent processes
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SOLID DEBRIS HG REMO
EPA Hazardous Waste Numbers: D009
Current Management Units: None

4025117H	H	Inactive	02/21/2020	Off-site	No	No

Description from Generator: Mercury removed from epuipment/controller; Hazardous waste currently beingmanaged under Universal Waste rules.
Texas Form Code: 117 Waste liquid mercury
EPA Form Code: W117 Waste liquid mercury
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Source Code: G15 Process equipment change-out or discontinuation of equipment use
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): MERCURY REMOVED FROM
EPA Hazardous Waste Numbers: D009
Current Management Units: None

40263191	1	Inactive	02/21/2020	On-site	No	No

Description from Generator: SP Combustion Chamber (Cupola) Solids - Non Haz.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SP COMBUSTION CHAMBE
Current Management Units: None

4028319H	H	Inactive	02/21/2020		No	No

Description from Generator: Waste is currently being managed under waste code 0521319H.NP Combustion Chamber (Cupola) Solids - Haz.; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): NP COMBUSITON CHAMBE
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
** No Longer Generated Wastes **						
40293191	1	Inactive	02/21/2020	On-site	No	No

Description from Generator: SP Take Off (Cupola) Solids - Non Haz.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SP TAKE-OFF SOLIDS
Current Management Units: None

4030319H	H	Inactive	02/21/2020	On-site	No	No

Description from Generator: SP Take-Off (Cupola) Solids - Haz.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SP TAKE-OFF SOLIDS
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

40313191	1	Inactive	02/21/2020		No	No

Description from Generator: NP Take-Off (Cupola) Solids - Non Haz.; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP TAKE-OFF SOLIDS
Current Management Units: None

4032319H	H	Inactive	02/21/2020		No	No

Description from Generator: Waste is currently being managed under waste code 0521319H.NP Take-Off (Cupola) Solids - Haz.; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): NP TAKE-OFF SOLIDS
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

40333191	1	Inactive	02/21/2020	On-site	No	No

Description from Generator: SP Seperator Solids - Non Haz.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SP SEPERATOR SOLIDS
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

4034319H H Inactive 02/21/2020 On-site No No

Description from Generator: SP Seperator Solids - Haz.; Due to change(s) in the product produced, thiswaste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SP SEPERATOR SOLIDS
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

40353191 1 Inactive 02/21/2020 On-site No No

Description from Generator: NP Seperator (Cupola) Solids - Non Haz.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP SEPERATOR SOLIDS
Current Management Units: Miscellaneous storage containers 081

4036319H H Inactive 02/21/2020 On-site No No

Description from Generator: NP Separator Solids - Haz.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): NP SEPARATOR SOLIDS
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

4037319H H Inactive 02/21/2020 On-site No No

Description from Generator: SP Cupola Scrubber Pit Solids - Haz.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SP CUPOLA SCRUBBER S
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

4038319H H Inactive 02/21/2020 On-site No No

Description from Generator: NP Cupola Scrubber Pit Solids - Haz.; Due to waste minimization, ingredientchanges or process changes this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): NP CUPOLA SCRUBBER S
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

4039319H H Inactive 02/21/2020 On-site No No

Description from Generator: Flashmixer Solids - Haz.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): FLASHMIXER SOLIDS
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

40403191 1 Inactive 02/21/2020 No No

Description from Generator: Duct/Equipment Clean-Out Cupola Abatment Equipment: Non Haz.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): DUCT EQUIPMENT CLEAN
Current Management Units: None

4041606H H Inactive 02/21/2020 On-site No No

Description from Generator: Waste Refined Tar - Obsolete Material; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 606 Resins, tars or tarry sludge
EPA Form Code: W606 Resins, tars, polymer or tarry sludge
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): WASTE REFINED TAR
EPA Hazardous Waste Numbers: D018
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
** No Longer Generated Wastes **						
40422011	1	Inactive	02/21/2020	On-site	No	No

Description from Generator: Waste Solvent Cleaner - Obsolete Material; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 201 Concentrated solvent-water solution
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): WASTE SOLVENT CLEANE
Current Management Units: None

4043207H	H	Inactive	02/21/2020	On-site	No	No

Description from Generator: Waste Solvent Surfactant - Obsolete Material; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 207 Concentrated aqueous solution of other organics
EPA Form Code: W219 Other organic liquid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): WASTE SOLVENT SURFAC
EPA Hazardous Waste Numbers: D001
Current Management Units: None

40446061	1	Inactive	02/21/2020	On-site	No	No

Description from Generator: Waste Refined Tar (Non-Hazardous) - Obsolete material; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 606 Resins, tars or tarry sludge
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): WASTE REFINED TAR NH
Current Management Units: None

40463191	1	Inactive	02/21/2020		No	No

Description from Generator: 08/20/15 - PGP - Waste managed under WC 05153101.Used hoses - hydraulics system (water soluble oil 3-5%); A new hazardous waste determination has been performed on this waste.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): USED HOSES - HYDRAUL
Current Management Units: None

40472191	1	Inactive	02/21/2020	Off-site	No	No

Description from Generator: Waste Asphalt Dip - Obsolete Material; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 219 Other organic liquids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): WASTE ASPHALT DIP
Current Management Units: Miscellaneous storage containers 081

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
** No Longer Generated Wastes **						
40483012	2	Inactive	02/21/2020	On-site	No	No

Description from Generator: Soil/Dust containing organics and metals; Initial waste code determinationused in incorrect form and/or classification code or other mistake.
Texas Form Code: 301 Soil contaminated with organics
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SOIL DUST - ORGANICS
Current Management Units: None

40493011	1	Inactive	02/21/2020		No	No

Description from Generator: Soil/Dust containing organics and metals; One time shipment.
Texas Form Code: 301 Soil contaminated with organics
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SOIL DUST - ORGANICS
Current Management Units: None

40504961	1	Inactive	02/21/2020	On & Off	No	No

Description from Generator: PCB Containing Electrical Equipment containing greater than or equal to 50ppm and less than 500 ppm PCB's; Due to change(s) in the product produced,this waste is no longer generated.
Texas Form Code: 496 Electrical equipment/devices with >= 50 ppm and < 500 ppm PCBs
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): PCB CONTAINING ELECT
Current Management Units: None

40543112	2	Inactive	02/21/2020	Off-site	No	No

Description from Generator: Removal of vinyl-asbestos tile/adhesive from Bldg 507, 505 and Old Scale House.; One time shipment.
Texas Form Code: 311 Asbestos solids and debris
Origin Code: 7 From a corrective action or closure
Company's Internal Code(s): VINYL-ASBESTOS TILE
Current Management Units: None

40553042	2	Inactive	02/21/2020	On-site	No	No

Description from Generator: SP Bubbling Pot Slag-lime used to desulfurize furnace slag.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 304 Other "dry" ash, slag or thermal residue
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): BUBBLING POT SLAG
Current Management Units: None

40572062	2	Inactive	02/21/2020		No	No

Description from Generator: PCB oil containing less than 50 ppm. Removed oil from transformers and updated with upgraded oil.; One time shipment.
Texas Form Code: 206 Waste oil
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): PCB OIL
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
** No Longer Generated Wastes **						
40593902	2	Inactive	02/21/2020	On-site	No	No

Description from Generator: Nonhazardous concrete mixed with molding impact sand.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 390 Nonhazardous concrete/cement/construction debris
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): CONCRETE SLURRY
Current Management Units: None

40603042	2	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Old process of dropping hot slag into water which fractures it into small roundpellets. Process stopped approximately 15 yrs ago. Notification that this wasteis recycled on a trial basis in road construction was provided to the TCEQ on orabout February 16, 2005.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 304 Other "dry" ash, slag or thermal residue
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): POPCORN SLAG
Current Management Units: None

4062319H	H	Inactive	02/21/2020	On-site	No	No

Description from Generator: NP Cupola Baghouse Solids. Wet scrubber went away.; Due to change(s) in theproduct produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): NP CUPOLA BH SOLIDS
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

40645191	1	Inactive	02/21/2020		No	No

Description from Generator: Akers sludge from NP Akers lift station placed in a de-watering roll-off.; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 519 Other inorganic sludges
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): NP AKERS SLUDGE
Current Management Units: None

40673191	1	Inactive	02/21/2020	On-site	No	No

Description from Generator: South Plant 65 Ton Electric Furnace Bag house; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SP 65 TON FURNACE BH
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

40694092	2	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Valve OEM spray booth filters; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 409 Other non-halogenated organic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): VALVE OEM PAINT FILT
Current Management Units: None

40704091	1	Inactive	02/21/2020	On-site	No	No

Description from Generator: Core room Laempe machine pre scrubber filter; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 409 Other non-halogenated organic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): LAEMPE PRE SCRUBBER
Current Management Units: None

40714092	2	Inactive	02/21/2020	Off-site	No	No

Description from Generator: Core room Laempe core wash spray booth filters; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 409 Other non-halogenated organic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): CORE WASH SPRAY BOOT
Current Management Units: None

4072319H	H	Inactive	02/21/2020	On & Off	No	No

Description from Generator: South Plant 65 Ton Electric Furnace Bag House; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SP 65 TON FURNACE BH
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

4074319H	H	Inactive	02/21/2020		No	No

Description from Generator: Refractory material/Molton Iron transfers and holding. 08/31/16 - Waste being inactivated because it is currently managed under 0521319H.; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G13 Cleaning out process equipment
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): REFRACTORY HAZARDOUS
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

40754891 1 Inactive 02/21/2020 No No

Description from Generator: Rags used for oil leak clean up; A new hazardous waste determination has been performed on this waste.
Texas Form Code: 489 Petroleum contaminated solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): OIL RAGS
Current Management Units: None

40763192 2 Inactive 02/21/2020 On-site No No

Description from Generator: Cement slurry from Impact Millroom Cement Lining placed in a Dewatering roll-off; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): CEMENT LINING DEWATE
Current Management Units: None

40773191 1 Inactive 02/21/2020 On-site No No

Description from Generator: South Plant Cupola Bag House Dust - Non Hazardous; Due to change(s) in theproduct produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SP CUPOLA BH - NON H
Current Management Units: None

4078319H H Inactive 02/21/2020 On-site No No

Description from Generator: South Plant Cupola Bag House Dust - Hazardous; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SP CUPOLA BH - HAZ
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

40793192 2 Inactive 02/21/2020 On-site No No

Description from Generator: SP Impact Pouring Cooling Line Bag House Dust (IPCL); Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): IPCL BAG HOUSE DUST
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete
**** No Longer Generated Wastes ****						
40803192	2	Inactive	02/21/2020		No	No

Description from Generator: 08/27/15 - PGP - Product No Longer Used at Facility.Waste Free Flow material cleaned up for non use (disposal) after a spill; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 2 Result of spill clean-up, equipment decommissioning or emergency removal
Company's Internal Code(s): WASTE FREE FLOW MAT
Current Management Units: None

40812191	1	Inactive	02/21/2020	On & Off	No	No

Description from Generator: Used parts washer solvent sent for recycling; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 219 Other organic liquids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): USED PARTS WASHER SO
Current Management Units: None

40823192	2	Inactive	02/21/2020	On-site	No	No

Description from Generator: Waste Free Flow from non-usable material.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): WASTE FREE FLOW
Current Management Units: Landfill 037

40833192	2	Inactive	02/21/2020	On-site	No	No

Description from Generator: Non usable filter bags from bag houses.; Due to change(s) in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): BAG HOUSE FILTER BAG
Current Management Units: None

40865041	1	Inactive	02/21/2020		No	No

Description from Generator: Sludge from clean out of equipment at the Stabilization Bldg. (aka MD plant); A new hazardous waste determination has been performed on this waste.
Texas Form Code: 504 Other wastewater treatment sludge
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): MD SLUDGE
Current Management Units: None

40883192	2	Inactive	02/21/2020	On-site	No	No

Description from Generator: South Plant Cupola Baghouse Dust - Non-Hazarous (class 2); Due to change(s)in the product produced, this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SP CUPOLA BH NON-HAZ
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

40905122 2 Inactive 02/21/2020 No No

Description from Generator: Sediment from the cleanout of various sumps around the Tyler Pipe Facility; One time shipment.
Texas Form Code: 512 Sediment or lagoon dragout contaminated with organics
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SEDIMENT FROM SUMPS
Current Management Units: None

40943042 2 Inactive 02/21/2020 No No

Description from Generator: South Plant Melt Process Waste - Waste Generated From the Clean-Up of the Melt Process Equipment During Shutdown Activities of the South Plant.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 304 Other "dry" ash, slag or thermal residue
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SP MELT PROCESS WAST
Current Management Units: None

4095304H H Inactive 02/21/2020 No No

Description from Generator: Hazardous Waste Generated from the clean out of the SP South Baghouse after Plant Shutdown.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 304 Other "dry" ash, slag or thermal residue
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SP BAGHOUSE SHUTDOWN
EPA Hazardous Waste Numbers: D006 D008
Current Management Units: None

40965191 1 Inactive 02/21/2020 No No

Description from Generator: South Plant Spent Asphalt Cutback Coating Waste from the removal of the dip tank in the Impact Millroom.; One time shipment.
Texas Form Code: 519 Other inorganic sludges
Origin Code: 1 Generated on-site from a product process or service activity
Company's Internal Code(s): SP SPENT ASPHALT WST
Current Management Units: None

4097302H H Inactive 02/21/2020 No No

Description from Generator: Hazardous - Soil Sample Samples from filing from the Sampling of the Landfill; One time shipment.
Texas Form Code: 302 Soil contaminated with inorganics only
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SOIL SAMPLE SOLIDS
EPA Hazardous Waste Numbers: D008
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

4098119H H Inactive 02/21/2020 No No

Description from Generator: Hazardous Waste - Soil Sample Liquids / Sludges from the sampling at the Landfill.; One time shipment.
Texas Form Code: 119 Other inorganic liquids
EPA Form Code: W119 Other inorganic liquid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G09 Other production or service-related processes
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SOIL SAMPLE LQD
EPA Hazardous Waste Numbers: D006
Current Management Units: None

4099319H H Inactive 02/21/2020 No No

Description from Generator: Unused Product - Walroder Nitrocellulose; One time shipment.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): NITROCELLULOSE - UP
EPA Hazardous Waste Numbers: D001
Current Management Units: None

41022191 1 Inactive 02/21/2020 No No

Description from Generator: Out of date combustible petroleum based products.; One time shipment.
Texas Form Code: 219 Other organic liquids
Origin Code: 7 From a corrective action or closure
Company's Internal Code(s): OOD COMB PETROL PDCT
Current Management Units: None

4103219H H Inactive 02/21/2020 No No

Description from Generator: Flammable epoxies & resins.This waste was generated from the closure of the SP, unused and/or left over products.; One time shipment.
Texas Form Code: 219 Other organic liquids
EPA Form Code: W119 Other inorganic liquid
Origin Code: 7 From a corrective action or closure
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): FLMBL EPOX RES
EPA Hazardous Waste Numbers: D001 U055 U165 U188 U239 U404
Current Management Units: None

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Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

4104210H H Inactive 02/21/2020 No No

Description from Generator: Out of date epoxies & resins w/isocyanates. This waste was generated from the closure of the SP, unused and/or left over products.; One time shipment.
Texas Form Code: 210 Adhesives or epoxies
EPA Form Code: W119 Other inorganic liquid
Origin Code: 7 From a corrective action or closure
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): OOD EPOX RESN ISOC
EPA Hazardous Waste Numbers: D001 D003 U055
Current Management Units: None

41051191 1 Inactive 02/21/2020 No No

Description from Generator: Aqueous amine based products. This waste was generated from the closure of the SP, unused and/or left over products.; One time shipment.
Texas Form Code: 119 Other inorganic liquids
Origin Code: 7 From a corrective action or closure
Company's Internal Code(s): AQUEOUS AMINE PROD
Current Management Units: None

41061191 1 Inactive 02/21/2020 No No

Description from Generator: Out of date aqueous products. This waste was generated from the closure of the SP, unused and/or left over products.; One time shipment.
Texas Form Code: 119 Other inorganic liquids
Origin Code: 7 From a corrective action or closure
Company's Internal Code(s): OOD AQUEOUS PROD
Current Management Units: None

4107203H H Inactive 02/21/2020 No No

Description from Generator: Out of date flammable solvents. This waste was generated from the closure of the SP, unused and/or left over products.; One time shipment.
Texas Form Code: 203 Non-halogenated solvent
EPA Form Code: W203 Concentrated non-halogenated (e.g., non-chlorinated) solvent
Origin Code: 7 From a corrective action or closure
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): OOD FLAM SOLV
EPA Hazardous Waste Numbers: D001 D035 F003 F005
Current Management Units: None

41083191 1 Inactive 02/21/2020 No No

Description from Generator: Inorganic foundry products. This waste was generated from the closure of the SP, unused and/or left over products.; One time shipment.
Texas Form Code: 319 Other waste inorganic solids
Origin Code: 7 From a corrective action or closure
Company's Internal Code(s): INORGANICE FDRY PROD
Current Management Units: None

30140 TYLER PIPE

Texas Waste Code	Waste Class	Status	Date of Status	Managed Onsite/ Offsite	Radio-active	TCEQ Audit Complete

**** No Longer Generated Wastes ****

4109319H H Inactive 02/21/2020 No No

Description from Generator: Hazardous South Plant Cupola Scrubber Debris.; Due to waste minimization, ingredient changes or process changes this waste is no longer generated.
Texas Form Code: 319 Other waste inorganic solids
EPA Form Code: W319 Other inorganic solids
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G21 Air pollution control devices (baghouse dust, etc.)
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): SP CUP SCRUB DEBRIS
EPA Hazardous Waste Numbers: D006 D007 D008
Current Management Units: None

4110119H H Inactive 02/21/2020 No No

Description from Generator: Liquid Inorganic Foundry Products - Discarding off-specification or out-of-date chemicals.; One time shipment.
Texas Form Code: 119 Other inorganic liquids
EPA Form Code: W119 Other inorganic liquid
Origin Code: 1 Generated on-site from a product process or service activity
Source Code: G11 Discarding off-specification or out-of-date chemicals or products
NAICS Code: 331511 Iron Foundries
Company's Internal Code(s): LQ INORGNIC FDRY PRD
EPA Hazardous Waste Numbers: D002
Current Management Units: None

As of 02/21/2020, The next unassigned sequence number for WASTES is 4117

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**** UNITS AT THIS SITE MANAGING WASTE ****

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
001	Landfill	POST CLOSE CARE	07/28/1993	1 / NA	001	NA	01 RCRA permitted unit	YES / 06/24/1977

Description from Company: Closed 02/15/1995 and 09/10/2003
Wastes Previously Managed at Unit: 05233101 Stabilized Used Mason-

002	Miscellaneous storage containers	CLOSURE PENDING	07/28/1993	H / NA	NA	NA	06	YES /

Description from Company: Surface storage only
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 0519211H Waste solvents/painting

003	Landfill	CLOSED	06/01/1977	NA / NA	NA	NA	06	YES /

Description from Company: Southeast corner of plant

004	Landfill	CLOSED	06/01/1977	NA / NA	NA	NA	06	YES /

Description from Company: Northeast corner of plant

005	Landfill	CLOSED	06/01/1982	NA / NA	NA	NA	06	YES /

Description from Company: Formerly part of facility 001

006	Landfill	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES /

Description from Company: Formerly part of facility 001

007	Landfill	CLOSED	11/02/1992	NA / NA	NA	NA	06	YES /

Description from Company: Formerly part of facility 001

008	Tank (surface)	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES / 10/01/1986

Description from Company: North clarifier

009	Tank (surface)	ACTIVE		12 / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES / 10/01/1986

Description from Company: South clarifier
System Types: 120 Combination of chemical, biological, and/or physical treatment 129 Other treatment
Wastes Currently Managed at Unit: 05003922 South wastewater treatment
Wastes Previously Managed at Unit: 05671151 Treated Mason-Dixon Plant 05061152 South wastewater treatment

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
010	Tank	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Mason-Dixon sludge holding tank #1Unit inactive since pollution control changed from wet scrubber to bag house.
Wastes Previously Managed at Unit: 0520115H Mason Dixon Plant 0512319H Mason-Dixon Plant

011	Tank	ACTIVE		2 / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: thickner tank
Wastes Currently Managed at Unit: 05003922 South wastewater treatment

012	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES / 10/01/1986

Description from Company: North plant emergency treatment lagoon
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

013	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES / 10/01/1986

Description from Company: South plant emergency spill basin
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

014	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES / 10/01/1986

Description from Company: South plant emergency treatment lagoon
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

015	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES / 10/01/1986

Description from Company: NORTH PLANT DRYING BEDCELL (EAST) Cap: 9.1E6 GAL.

016	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES / 10/01/1986

Description from Company: NORTH PLANT DRYING BED CELL (WEST) Cap: 9.7E6 GAL.

017	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES / 10/01/1986

Description from Company: NORTH PLANT COOLING POND Cap: 6.87E6 GAL

018	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES /

Description from Company: SOUTH PLANT COOLING POND Cap: 5.45E6 GALFLOWTHROUGH TEATMENT SYSTEM FOR STORMWATER

30140 TYLER PIPE

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
019	Tank (surface)	CLOSED	06/01/1986	NA / NA	NA	NA	06	YES /
	Description from Company: Cap: 800 GAL.							
020	Tank (surface)	CLOSED	06/01/1986	NA / NA	NA	NA	06	YES /
	Description from Company: Cap: 800 GAL.							
021	Tank (sub-surface)	CLOSED	06/01/1986	NA / NA	NA	NA	06	YES /
	Description from Company: Cap: 10000 GAL.							
022	Tank (sub-surface)	CLOSED		NA / NA	NA	NA	06	YES /
	Description from Company: Cap: 8000 GAL.							
023	Distillation/Solvent recovery unit	INACTIVE	08/18/2010	1 / NA	NA	NA	11 RCRA Pmt Exempt - Recycling Unit	YES /
	Description from Company: Solvent StillWaste no longer managed in this SWMU.							
	System Types: 020 Solvents recovery							
	Wastes Previously Managed at Unit: 0538203H Waste Methyl Ethyl 0537210H Waste coating resins; Due 0010211H Waste Paint Related		0572210H Waste epoxy paint; Due to 0571101H Spray gun cleanup water; 0536211H Used lacquer thinner.		00066031 Waste oil and sludge. 00081011 Wastewater from Coating 0581001H Lab pack of old chemicals;		05334971 PCb containing electrical 0009104H Spent Acid Solution from	
024	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES /
	Description from Company: NORTH PRIMARY SETTLING BASIN Cap: 400000 GAL							
025	Surface impoundment	CLOSED	08/10/1993	NA / NA	NA	NA	06	YES /
	Description from Company: NORTH EMERGENCY SETTLING BASIN Cap: 200000 GAL							
026	Tank (surface)	INACTIVE	07/28/1993	NA / NA	NA	NA	06	YES /
	Description from Company: MASON-DIXON PLANT Cap: 4500 GAL.HOT COAT TREATMENT TANK							
027	Tank (surface)	ACTIVE		1 / NA	NA	NA	06	YES /
	Description from Company: USED FOR INDUSTRIAL GARAGE WASTE OIL Cap: 10000 GAL.							
	Wastes Currently Managed at Unit: 05072061 Used oil/foundry							
	Wastes Previously Managed at Unit: 40812191 Used parts washer solvent							

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
028	Tank	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Mason-Dixon Recycle Clarifier Flashmixer.Unit inactive since pollution control changed from wet scrubber to bag house.
Wastes Previously Managed at Unit: 0520115H Mason Dixon Plant

029	Tank (surface)	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Dissolved metals clarifierUnit inactive since pollution control changed from wet scrubber to bag house.
Wastes Previously Managed at Unit: 0520115H Mason Dixon Plant

030	Tank (surface)	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Recycle clarifierUnit inactive since pollution control changed from wet scrubber to bag house.
Wastes Previously Managed at Unit: 0520115H Mason Dixon Plant

031	Tank (surface)	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Overflow & plant make-upUnit inactive since pollution control changed from wet scrubber to bag house.
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 0520115H Mason Dixon Plant

032	Tank (surface)	ACTIVE		2 / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: NON-HAZARDOUS PROCESS WATER SWWTF (N) Cap: 250000 GAL
Wastes Previously Managed at Unit: 05061152 South wastewater treatment

033	Tank (surface)	ACTIVE		2 / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: NON-HAZARDOUS PROCESS WATER SWWTF (S) Cap: 250000 GAL
Wastes Previously Managed at Unit: 05061152 South wastewater treatment

034	Tank (surface)	ACTIVE		NA / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: NON-HAZARDOUS PROCESS WATER SWWTF RECIRCULATING PUMP TANK Cap: 36400 GAL

035	Tank (surface)	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Backwash reservoir tank nonhazardous process water Mason-Dixon plantUnit inactive since pollution control changed from wet scrubber to bag house.
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 0520115H Mason Dixon Plant

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
036	Waste Treatment Facility	ACTIVE		1 / NA	NA	NA	13 RCRA Pmt Exempt - Accumulation Time	YES /

Description from Company: MD STABILIZATION BLDG. 1 cu./yd. (Container trt.)

System Types: 110 Stabilization prior to land disposal at another site (encapsulation/stabilization/fixation)

Wastes Currently Managed at Unit:

41113961 Non-hazardous PCB
4112117H Haz - Waste liquid
4087319H Broken fluorescent and
40654891 Petroleum contaminated
40273191 NP Combustion Chamber
4093202H Aerosol residual liquids
4066319H NP Escher cooler used to
40514061 Used plastic
4073319H North Plant 40 Ton
0521319H Miscellaneous Heavy
40853192 North Plant Cupola
05153101 Oil absorbants & oil related
41151191 NH - Liquid Asphalt
40683191 North plant 40 Ton Electric
40453102 Used desicant from air
40613191 NP Cupola Baghouse

Wastes Previously Managed at Unit:

40263191 SP Combustion Chamber
4034319H SP Seperator Solids - Haz.;
4037319H SP Cupola Scrubber Pit
40704091 Core room Laempe
40313191 NP Take-Off (Cupola)
40103191 Excess/Unused Chemical:
4028319H Waste is currently being
40883192 South Plant Cupola
4005219H Tank Clean Out of Waste
40773191 South Plant Cupola Bag
4072319H South Plant 65 Ton
40131191 Amine-Based Polymer
4032319H Waste is currently being
4062319H NP Cupola Baghouse
4039319H Flashmixer Solids - Haz.;
40865041 Sludge from clean out of
40143192 Unused Aqueous Based
4009104H Waste H2SO4 - Acid
40194941 PCB containing debris
40083191 Acid Scrubber Solids; Due
40333191 SP Seperator Solids - Non
4030319H SP Take-Off (Cupola)
4078319H South Plant Cupola Bag
4036319H NP Separator Solids -
0009104H Spent Acid Solution from
40754891 Rags used for oil leak clean
40694092 Valve OEM spray booth
40293191 SP Take Off (Cupola)
4016104H Sulfuric acid cleaning
4110119H Liquid Inorganic Foundry
40403191 Duct/Equipment Clean-Out
4004606H IPA/Heptane/Polymer
40463191 08/20/15 - PGP - Waste
05751041 Waste Acid Scrubber
40793192 SP Impact Pouring Cooling
4038319H NP Cupola Scrubber Pit
40172971 PCB oil containing greater
0518310H Used Mason-Dixon Dual
40072031 Waste Solid Isocure Resin,
40123191 Brazing Flux; Due to
4006203H Waste, Solid Isocure,
40353191 NP Seperator (Cupola)
40504961 PCB Containing Electrical
4018307H This waste is no longer
40673191 South Plant 65 Ton Electric
40422011 Waste Solvent Cleaner -
40113191 Emulsion-Based "Red

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
037	Landfill	ACTIVE		1 / NA	NA	NA	06	YES / 06/24/1977

Description from Company: WEST LANDFILL

Wastes Currently Managed at Unit:

40273191 NP Combustion Chamber
05003922 South wastewater treatment
05253192 Molding & finishing line
40853192 North Plant Cupola
4073319H North Plant 40 Ton
05303192 Used grinding wheels,
0521319H Miscellaneous Heavy
40584891 Dip Asphalt and used lub
05243192 Sweeper material. Plant
40895192 Akers sludge from North
40683191 North plant 40 Ton Electric
40633191 Electrical equipment /
40613191 NP Cupola Baghouse
4066319H NP Escher cooler used to
05424092 Coke Breeze (Fines)
05053192 Waste shell core
05273192 Waste refactory Material.
05133082 Paint Waste - Solid (Paint
40654891 Petroleum contaminated
05413042 Slag from Cuopla and

Wastes Previously Managed at Unit:

40704091 Core room Laempe
4062319H NP Cupola Baghouse
0537210H Waste coating resins; Due
05315112 Hot coat / sand reclamation
40333191 SP Seperator Solids - Non
40263191 SP Combustion Chamber
40803192 08/27/15 - PGP - Product
4072319H South Plant 65 Ton
05033192 Waste molding (green)
05683191 Non-hazardous
40353191 NP Seperator (Cupola)
05061152 South wastewater treatment
4030319H SP Take-Off (Cupola)
40694092 Valve OEM spray booth
4032319H Waste is currently being
05043192 Waste air set sands/molding
40603042 Old process of dropping hot
40883192 South Plant Cupola
05113921 Mason-Dixon Plant
40793192 SP Impact Pouring Cooling
40403191 Duct/Equipment Clean-Out
05394891 Used Heaf filters North
4036319H NP Separator Solids -
0538203H Waste Methyl Ethyl
40553042 SP Bubbling Pot Slag-lime
40313191 NP Take-Off (Cupola)
40833192 Non usable filter bags from
00066031 Waste oil and sludge.
4078319H South Plant Cupola Bag
40645191 Akers sludge from NP
4034319H SP Seperator Solids - Haz.;
4037319H SP Cupola Scrubber Pit
40673191 South Plant 65 Ton Electric
40483012 Soil/Dust containing
40763192 Cement slurry from Impact
40293191 SP Take Off (Cupola)
40943042 South Plant Melt Process
05263191 Glass Bead Blaster Fines
05285112 Air pollution control
05764032 Used Tires - formally
40493011 Soil/Dust containing
40773191 South Plant Cupola Bag
4038319H NP Cupola Scrubber Pit
40905122 Sediment from the cleanout
40754891 Rags used for oil leak clean
4028319H Waste is currently being
05404891 Dryed cutback asphalt dip
4039319H Flashmixer Solids - Haz.;

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
038	Tank	CLOSED	03/05/2014	2H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Mason-Dixon sludge holding tank #2Unit inactive since pollution control changed from wet scrubber to bag house.

Wastes Previously Managed at Unit:

0512319H Mason-Dixon Plant
0520115H Mason Dixon Plant
40593902 Nonhazardous concrete

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
039	Container storage area	INACTIVE	08/18/2010	NA / NA	NA	NA	13 RCRA Pmt Exempt - Accumulation Time	YES /

Description from Company: Print shop
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
040	Tank	CLOSED	03/05/2014	1H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Mason-Dixon plant dual media filters.Unit inactive since pollution control changed from wet scrubber to bag house.
Wastes Previously Managed at Unit: 0518310H Used Mason-Dixon Dual; 05671151 Treated Mason-Dixon Plant; 0520115H Mason Dixon Plant

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
041	Tank (surface)	ACTIVE	12/22/1993	2 / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: South wastewater treatment facility. Flashmixer (9,000 gallons).
System Types: 129 Other treatment
Wastes Previously Managed at Unit: 05061152 South wastewater treatment

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
042	Tank	ACTIVE	12/22/1993	12 / NA	NA	NA	10 RCRA Permit exempt - Other	YES /

Description from Company: Glycol (antifreeze) recycling unit.
System Types: 129 Other treatment
Wastes Currently Managed at Unit: 05342961 Used Glycols (Antifreeze).

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
043	Miscellaneous storage containers	ACTIVE	09/28/1994	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Fines Mixing Unit
System Types: 100 Physical treatment only (adsorption/absorption/separation/stripping/dewatering)
Wastes Previously Managed at Unit: 05103072 Grinding dust solids/ mold

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
074	Container storage area	ACTIVE	03/14/2019	1 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: ROLL OFF CONTAINER STORAGE AREA
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 40613191 NP Cupola Baghouse; 41143031 Ash from the air curtain; 41013911 NH Refractory waste from
Wastes Previously Managed at Unit: 4078319H South Plant Cupola Bag; 40773191 South Plant Cupola Bag; 40883192 South Plant Cupola

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
075	Tank	INACTIVE	04/20/2015	2 / NA	NA	NA	10 RCRA Permit exempt - Other	YES /

Description from Company: SP Impact building return sand system storage silo
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 05033192 Waste molding (green)

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
076	Container storage area	ACTIVE	11/20/2006	NA / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: This unit will be used as a container storage area. Totes of material will be st ored until usage on site. The area is located North East of South Plant Cup ola. Area located under roof.

System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
077	Container storage area	ACTIVE	04/03/2008	NA / 2	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: North Plant Charge Bay - Scrap Iron storage

System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
079	Surface impoundment	INACTIVE	04/20/2015	NA / 2	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: South Plant charge Bay - scrap iron storage

System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Wastes Previously Managed at Unit: 05293072 Scrap metal. Plant wide

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
081	Miscellaneous storage containers	ACTIVE	04/03/2008	1 / NA	NA	NA	03 RCRA Permit Exempt<90 Day Storage	YES /

Description from Company: Staging area for various rolloff containers holding class 1 waste to be shipped off site.

System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Wastes Currently Managed at Unit:

41013911 NH Refractory waste from	40683191 North plant 40 Ton Electric	41143031 Ash from the air curtain	41163191 NH Resin Spill Clean-Up -
05153101 Oil absorbants & oil related	40584891 Dip Asphalt and used lub	05223191 Stabilized Miscellaneous	40273191 NP Combustion Chamber
40613191 NP Cupola Baghouse	0521319H Miscellaneous Heavy	40913191 Baghouse filters and dust	41134042 NH Spent Carbon from the

Wastes Previously Managed at Unit:

40263191 SP Combustion Chamber	40313191 NP Take-Off (Cupola)	4095304H Hazardous Waste	40704091 Core room Laempe
05404891 Dryed cutback asphalt dip	40645191 Akers sludge from NP	40754891 Rags used for oil leak clean	40493011 Soil/Dust containing
05263191 Glass Bead Blaster Fines	40773191 South Plant Cupola Bag	40403191 Duct/Equipment Clean-Out	40333191 SP Seperator Solids - Non
40293191 SP Take Off (Cupola)	40673191 South Plant 65 Ton Electric	40463191 08/20/15 - PGP - Waste	

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
082	Landfill	CLOSED	08/18/2010	NA / NA	002	NA	01 RCRA permitted unit	YES / 06/24/1977

Description from Company: Sludge disposal areaSWMU contains sludge that resulted from dewatering of wastewater from foundery emissionscrubber stacks. The sludge contained in SWMU consists of cadmium, lead, and zinc. The sludge characterized hazardous due to leachable cadimium and lead.Closed 02/15/1995 and 09/10/2003

System Types: 132 Landfill or surface impoundment that will be closed as landfill (to include on-site treatment and/or stabilization)

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
044	Tank (surface)	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Mason-Dixon Sludge Holding Tank # 3Unit inactive since pollution control changed from wet scrubber to bag house.

Wastes Previously Managed at Unit: 0512319H Mason-Dixon Plant 0520115H Mason Dixon Plant

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
045	Tank (surface)	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Mason-Dixon Sludge Holding Tank # 4Unit inactive since pollution control changed from wet scrubber to bag house.

Wastes Previously Managed at Unit: 0512319H Mason-Dixon Plant 0520115H Mason Dixon Plant

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
046	Tank (surface)	CLOSED	03/05/2014	H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Mason-Dixon Sludge Holding Tank # 5Unit inactive since pollution control changed from wet scrubber to bag house.
Wastes Previously Managed at Unit: 0512319H Mason-Dixon Plant 0520115H Mason Dixon Plant

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
047	Waste water treatment plant	CLOSED	03/05/2014	12H / NA	NA	NA	08 RCRA Permit exempt-waste water treatment unit	YES /

Description from Company: Mason-Dixon Belt Filter PressUnit inactive since pollution control changed from wet scrubber to bag house.
Wastes Previously Managed at Unit: 05113921 Mason-Dixon Plant 0512319H Mason-Dixon Plant 40593902 Nonhazardous concrete 0520115H Mason Dixon Plant

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
048	Container storage area	ACTIVE	01/15/1997	1 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Container Storage Building - Previously referred to as 023
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 05133082 Paint Waste - Solid (Paint 4056308H Aerosol cans from
Wastes Previously Managed at Unit: 0009104H Spent Acid Solution from 4103219H Flammable epoxies & 41061191 Out of date aqueous 4109319H Hazardous South Plant
4043207H Waste Solvent Surfactant - 4104210H Out of date epoxies & 41022191 Out of date combustible 0573219H Non-Usable
0010211H Waste Paint Related 4041606H Waste Refined Tar - 0002604H Waste paint related 4107203H Out of date flammable
00081011 Wastewater from Coating 4020003H Mixed Lab-Pack Waste; 00066031 Waste oil and sludge. 0012101H waste water from coating
0011101H laboratory waste with 0003103H Mercuric Sulfate (Liquid 05751041 Waste Acid Scrubber 0579209H Spray Gun Clean Up and
00076961 08/13/15 - PGP - Waste 05772091 Spray gun cleanup water - 0005602H Still bottoms from solvent 41083191 Inorganic foundry products.
41051191 Aqueous amine based 40446061 Waste Refined Tar (Non- 05744031 Waste Epoxy; Due to waste

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
049	Waste water treatment plant	ACTIVE	01/15/1997	2 / NA	NA	NA	06	YES /

Description from Company: SWTP Belt Filter Press
System Types: 100 Physical treatment only (adsorption/absorption/separation/stripping/dewatering)
Wastes Currently Managed at Unit: 05003922 South wastewater treatment

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
050	Septic Tank/Drain Field	ACTIVE	01/23/1997	NA / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company:
System Types: 100 Physical treatment only (adsorption/absorption/separation/stripping/dewatering)

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
051	Container storage area	ACTIVE	10/30/1997	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Dispensary Storage Area
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 05783192 Dispensary Medical Waste

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
052	Miscellaneous storage containers	ACTIVE	10/30/2002	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Plant refuse picked up by trash haulers
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 40929992 General trash consisting of
Wastes Previously Managed at Unit: 40159992 Plant Trash

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
053	Container storage area	CLOSED	05/23/2005	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: North Plant Storage Bin Building - Outside. Request to close unit received 5/23/05.
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 05413042 Slag from Cuopla and
Wastes Previously Managed at Unit: 05033192 Waste molding (green)

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
054	Waste pile	CLOSED	05/23/2005	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: North Plant Storage Bin Building. Request to close unit received 5/23/05.
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 05033192 Waste molding (green)

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
055	Container storage area	CLOSED	05/23/2005	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: South Plant Storage Area - West of Cupola. Request to close unit received 5/23/05.
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 05033192 Waste molding (green)

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
056	Container storage area	INACTIVE	08/18/2010	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Gustin-Bacon Storage Area - South
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
057	Container storage area	INACTIVE	04/20/2015	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: South Plant Production Finishing Storage Area - East
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
058	Container storage area	CLOSED	07/21/2016	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: South Plant West Offices Storage Area
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
059	Container storage area	INACTIVE	04/20/2015	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: ABC Core Room Storage Area - East
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
060	Container storage area	ACTIVE	10/30/2002	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: North Plant Shipping - East (Outside)
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 05043192 Waste air set sands/molding

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
061	Container storage area	ACTIVE	10/30/2002	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: North Plant Shipping - North (Outside)
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
062	Container storage area	INACTIVE	04/20/2015	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Moldmaster Storage Area - East
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 05033192 Waste molding (green)

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
063	Container storage area	ACTIVE	10/30/2002	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Fitting Shipping Yard - East
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
064	Container storage area	ACTIVE	10/30/2002	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: North Plant Shipping - Inside
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 05043192 Waste air set sands/molding

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
065	Waste pile	ACTIVE	10/30/2002	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Foundry sand & Construction Debris - Concrete/Cement/Asphalt Storage: East of Main plant fence. Leased from 2008 - 2012 to Ken Iverson Construction to reclaim foundry sand.
System Types: 039 Other recovery or reclamation for reuse including acid regeneration, organics recovery, etc. 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this
Wastes Previously Managed at Unit: 05043192 Waste air set sands/molding 05033192 Waste molding (green)

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
066	Waste pile	ACTIVE	01/29/2004	12 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: North Plant Charge Bay - South
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 40533082 Used 5 gallon or less metal 05053192 Waste shell core 40523081 Used steel 05243192 Sweeper material. Plant
Wastes Previously Managed at Unit: 05033192 Waste molding (green)

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
067	Container storage area	ACTIVE	06/30/2004	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: SP Bubbling Pot Slag-desulfurized furnace slag
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 40553042 SP Bubbling Pot Slag-lime

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Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
068	Waste pile	ACTIVE	12/08/2004	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Wood debris such as badly broken pallets, crates, trees and construction wood/de bris will be stored at the West Landfill. Recycled by shredding or compacti ng for compost material or other uses.
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 40214882 Wood Debris. Waste is

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
069	Container storage area	ACTIVE	01/19/2005	1 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Mill Room - a weekly rolloff stored under the Water Test Shed for clean-up of dr ied asphalt dip, oil absorbent and used oil dripped from chain on conveyor and under this conveyor.
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 40584891 Dip Asphalt and used lub

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
070	Waste pile	ACTIVE	02/16/2005	2 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Slag from Cupola and Electric Furnaces and Holding Ladles
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Currently Managed at Unit: 05413042 Slag from Cuopla and

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
071	Miscellaneous storage containers	ACTIVE	08/02/2005	12 / NA	NA	NA	10 RCRA Permit exempt - Other	YES /

Description from Company: Sludge from North Plant Akers lift station will be placed in a dewatering roll o ff.
System Types: 100 Physical treatment only (adsorption/absorption/separation/stripping/dewatering)
Wastes Currently Managed at Unit: 40895192 Akers sludge from North
Wastes Previously Managed at Unit: 40645191 Akers sludge from NP

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
072	Miscellaneous storage containers	ACTIVE	08/19/2005	1 / NA	NA	NA	10 RCRA Permit exempt - Other	YES /

Description from Company: Sludge generated from the Industrial Garage truck wash bay.
System Types: 132 Landfill or surface impoundment that will be closed as landfill (to include on-site treatment and/or stabilization)
Wastes Previously Managed at Unit: 00066031 Waste oil and sludge.

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
073	Drip pad	ACTIVE	01/27/2006	2 / NA	NA	NA	13 RCRA Pmt Exempt - Accumulation Time	YES /

Description from Company: Mason Dixon Plant Dewater roll-off stored on pad
System Types: 141 Storage, bulking, and/or transfer off site - no treatment/recovery, fuel blending or disposal at this site.
Wastes Previously Managed at Unit: 40763192 Cement slurry from Impact

Unit Number	Unit Type	Unit Status	Date of Status	Classes of Waste Managed in Unit Onsite / Offsite	Unit Permit Number	Unit # on Permit	Regulatory Status	Deed Recording Needed/Date
083	Incinerator	ACTIVE	09/21/2016	12 / NA	NA	NA	05 Non-Hazardous Regulated	YES /

Description from Company: Air Curtain Incinerator - used for the incineration of clean wood debris only. Located at North End of Facility.
System Types: 040 Incineration - thermal destruction other than use as a fuel
Wastes Currently Managed at Unit: 41143031 Ash from the air curtain 40214882 Wood Debris. Waste is

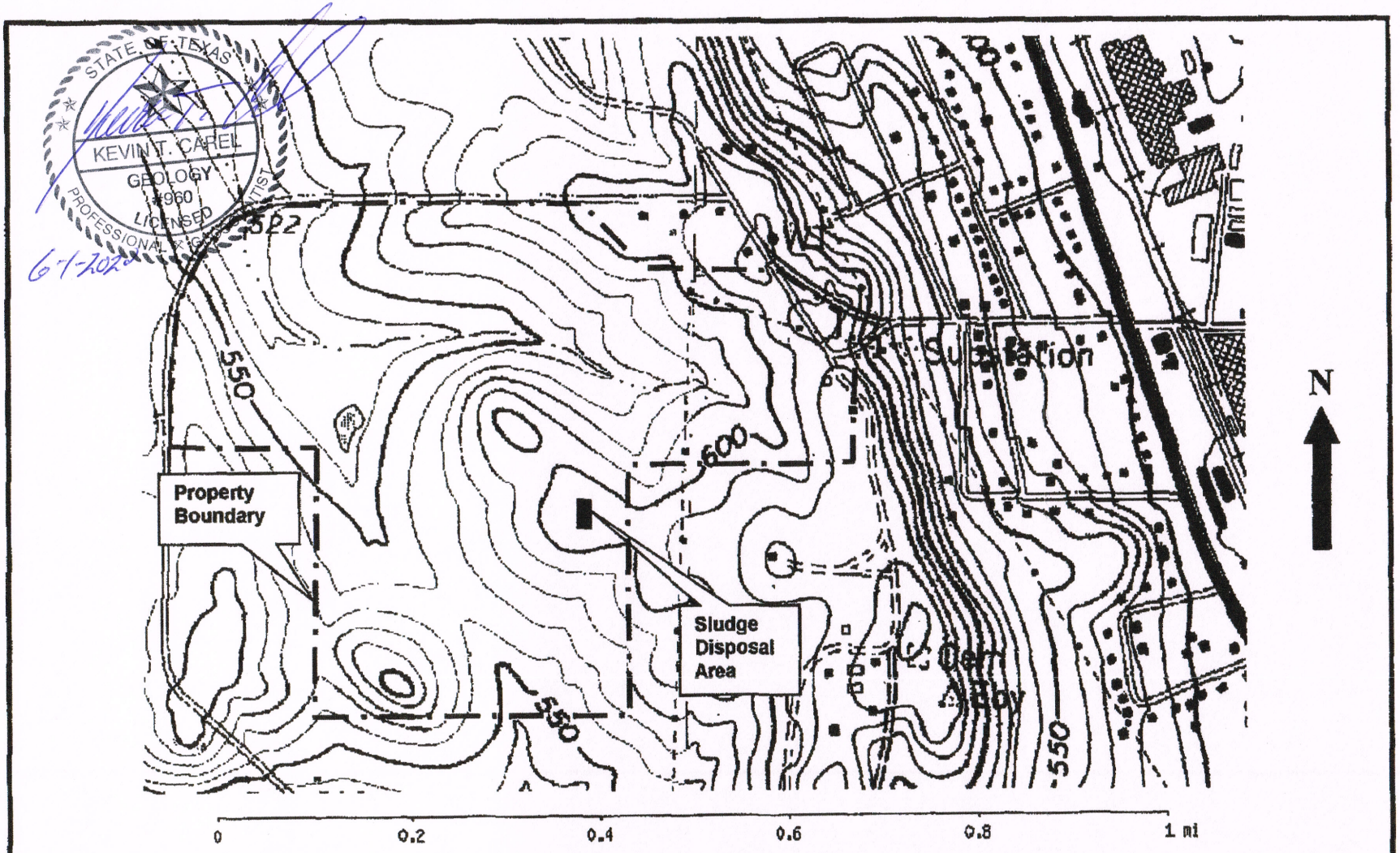
As of 02/21/2020, The next unassigned sequence number for UNITS is 084

Appendix IX.B-III

Evidence of Release

Appendix IX.B-III
Evidence of Release

Based on the results of the RCRA Facility Assessment (RFA), the RCRA Facility Investigation (RFI), and the Affected Property Assessment that have been conducted at the Tyler Pipe facility, evidence of a known release has only been documented for one hazardous waste management (HWM) unit. This HWM unit is a former solid waste management unit (SWMU) identified as the ***Sludge Disposal Area*** (NOR Unit No. 082). Descriptions and maps documenting the known release from this HWM unit are provided herein.



The Carel Corporation
Providing Environmental, Ground-Water and Waste Management Service

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Tyler Pipe Facility
Sludge Disposal Area Compliance Plan Application
Part II Site Specific information
7.5 Minute USGS Quadrangle Topographic Map
USGS Quadrangles Tyler North and Mount Sylvan, TX

FIGURE

VI.A-2

Chronology of Events

Updated June 2020

Date	Event
January 2012 - January 2020	Compliance monitoring has been conducted semiannually in OW-6, OW-7 and OW-8 since January 2012. To date none of the constituents of concern (cadmium, chromium, lead, mercury or zinc) have been detected above their respective compliance limit.
August 2010 – August 2011	Four (4) background monitoring events were conducted in wells OW-6, OW-7 and OW-8.
December 14, 2010	A revised facility permit was issued. The new permit removed former monitor wells MW-1 through MW-5 from the compliance monitoring program and added wells OW-6, OW-7 and OW-8.
April 2009 – May 2009	APAR completed and submitted to the TCEQ.
April 2, 2009	The TCEQ acknowledged receipt of the March 19, 2009 letter and approved the continuation of the APAR using Class 1 Groundwater PCLs for the uppermost groundwater unit underlying the SDA.
March 2009	The extent of the affected property was determined in March 2009. The affected property does not extend past the McWane Inc. (Tyler Pipe Company) facility property boundary. Thus, no notifications were submitted to other landowners.
March 19, 2009	A letter was submitted to the TCEQ indicating the facility would proceed with APAR using Class 1 Groundwater PCLs for the uppermost groundwater unit underlying the SDA.
March 4, 2009	The TCEQ rejected the conclusion in the Groundwater Classification Report that the uppermost groundwater bearing unit in the SDA was a Class 3 Groundwater Resource.
October 30, 2008	A Compliance Schedule and a Groundwater Classification Report were submitted to the TCEQ.
September 23-24, 2008	A field receptor survey was conducted per the APAR. No receptors were located within the 500 foot radius of the SDA boundary. However, surface water samples were collected from the nearest creek and lake and analyzed for mercury. Mercury was not detected in any of the surface water samples. A Jerome 431X Mercury Vapor Analyzer was used to measure the presence, or lack thereof, of mercury vapors within the well casing of SDA well MW-3. Mercury vapors were not detected in MW-3.
August 26, 2008	The revised facility permit and Compliance Plan was issued/approved by the TCEQ. The groundwater within the saturated soils of the sludge disposal area was determined to be a Class 3 Groundwater Resource.
March 17-20, 2008	Observation wells OW-6 through OW-11 were developed then sampled for mercury. Mercury was not detected in any of the observation wells.
February 18-21, 2008	Observation wells OW-6 through OW-11 were installed at the McWane Inc. (Tyler Pipe Company) facility to determine the vertical and horizontal extent of mercury impacted groundwater. Soil samples were collected from each boring and analyzed for mercury.
September 18, 2007	Background monitor well MW-5 was installed upgradient of the SDA. Additionally, an exploratory boring (EB-07-1) was drilled approximately 10 feet east of SDA well MW-3 in order to locate the uppermost groundwater bearing unit. Soil samples were collected from each boring and analyzed for mercury.
August 20, 2007	A meeting was conducted at the TCEQ office in Austin to discuss requirements of an APAR.
July 2, 2007	The TCEQ instructed the McWane Inc. (Tyler Pipe Company) facility to submit an APAR and install a background well in the SDA.
May 3, 2007	A public meeting was held to discuss the pending Class 3 Permit Modification request associated with the initiation of a compliance monitoring program in the SDA. No public comments or opposition were presented at the meeting
February 23, 2007	The McWane Inc. (Tyler Pipe Company) facility submitted a Class 3 Permit Modification Request to initiate Compliance Monitoring in the SDA.
August 8-10, 2006	Slug tests were conducted in SDA wells MW-1, MW-2, and MW-3. The slug test results confirmed that the SDA wells were not completed in the uppermost groundwater bearing unit; rather, the wells were completed in saturated soils. The results of the slug tests were provided to the TCEQ in a letter dated August 15, 2006.
July 19, 2006	A meeting was conducted at the TCEQ office in Austin to discuss the required Class 3 Permit Modification. The TCEQ instructed the facility to conduct slug tests in SDA wells to determine the Groundwater Resource Classification.

April 6, 2006	Split samples of mercury were collected from SDA groundwater well MW-3 and submitted to two separate laboratories for analysis. Mercury was confirmed and detected above the laboratory reporting limit from each laboratory. A Class 3 Permit Modification to start Compliance Monitoring in the SDA was initiated.
March 1, 2006	Constituents of Appendix IX of 40 CFR Part 264 were collected from SDA groundwater wells MW-2, MW-3, and MW-4 in response to statistically significant increases of zinc in MW-2, pH in MW-3, and zinc and pH in MW-4. Mercury was detected in MW-3. A verification resample event was scheduled for mercury in MW-3.

Conclusions and Recommendations

Assessment Results

According to 30 TAC §350.4.(a)(1), the definition of an affected property is "the entire area (i.e. on-site and off-site; including all environmental media) which contains releases of chemicals of concern at concentrations equal to or greater than the assessment level applicable for residential land use and groundwater classification." Monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 currently monitor groundwater in the sludge disposal area (SDA) at the McWane Inc. (Tyler Pipe Company) facility (see Figure A1). Groundwater monitoring is conducted on a semi-annual basis. Each of the aforementioned SDA wells is currently in compliance monitoring per Tables I and IV of the Compliance Plan contained in the facility permit issued August 26, 2008. Wells MW-1, MW-2, MW-3, MW-4, and MW-5 monitor the saturated soils unit underlying the SDA. The saturated soils are considered a Class 3 groundwater resource per Permit Provision XI.A.1 and Table IV of the Compliance Plan. The constituent of concern (COC) in the saturated soils of the SDA is mercury. Mercury has only been detected in SDA well MW-3 to date. Mercury in MW-3 has never exceeded its Protective Concentration Limit (PCL) ($^{GW}GW_{Class\ 3}$ = 0.2 mg/L) listed in Table IV of the Compliance Plan. Additional groundwater observation wells were installed in the uppermost groundwater bearing unit at the McWane Inc. (Tyler Pipe Company) facility as part of the APAR. Installation activities for groundwater observation wells OW-6 through OW-11 occurred February 18-21, 2008. The boring logs and well completion diagrams are provided in Appendix 2 of this APAR and the monitor well records are provided in Appendix 6 of this APAR. Observation groundwater monitoring wells OW-6, OW-7, and OW-8 were installed in the SDA to determine the flow direction in the uppermost groundwater bearing unit (Sparta Formation). Furthermore, OW-6, OW-7, and OW-8 were installed to determine the vertical extent of mercury impact in soils and groundwater. Observation wells OW-9, OW-10, and OW-11 were installed in the Sparta Formation hydraulically downgradient of the saturated soils in the SDA to ensure the area of groundwater mercury impact did not extend off the property boundary of the McWane Inc. (Tyler Pipe Company) facility. Groundwater samples were collected from OW-6 through OW-11 on March 19-20, 2009. Mercury was not detected (reporting limit = 0.005 mg/L) in any of the collected groundwater samples. Thus, it is concluded the vertical extent of mercury does not extend to the uppermost groundwater bearing unit nor does mercury extend to the property boundary. The uppermost groundwater bearing unit is assumed to be a Class 1 groundwater resource. Therefore, the PCL for mercury in the uppermost groundwater bearing unit is equal to its EPA maximum contaminant level (MCL) of 0.002 mg/L. Mercury in groundwater was not detected at concentrations equal to or greater than its assessment level (0.002 mg/L). Soil samples were collected during the drilling and installation of SDA well MW-5 and observation wells OW-6 through OW-11. Additionally, soil samples were collected from an exploratory boring (EB-07-1) which was drilled approximately 10 feet east of SDA well MW-3. Samples were collected when lithology changes were observed in a given boring. Mercury was detected at different intervals in each of the borings suggesting naturally occurring mercury exists in the subsurface. An average soil mercury concentration for the SDA saturated soils was calculated from concentrations observed in the borings of MW-5, OW-7, and EB-07-1. Mercury levels, which were not detected above the laboratory reporting limit, were included in the mean calculation by dividing the reporting limit in half. The average mercury concentrations from zero to 40 feet below ground surface (i.e. depth to bottom of saturated soils) were 0.020 mg/kg. Both the average mercury concentrations and the individual mercury detections from zero to 40 feet below ground surface (i.e. approximate depth to bottom of the saturated soils) did not exceed mercury's critical PCL ($^{GW}Soil_{Class3}$) concentration of 0.78 mg/kg in MW-5, OW-7, or EB-07-1. Further, the average mercury concentrations from zero to 40 feet below ground surface were below the Texas-Specific Mean Background Concentration of 0.04 mg/Kg as defined in 30 TAC §350.51(m). In conclusion, mercury in groundwater and soils did not exceed their respective assessment levels; therefore, per its definition, there is no affected property or PCL exceedence zone at the McWane Inc. (Tyler Pipe Company) SDA. No further response actions are recommended at this time.

EMCON conducted a RCRA Facility Investigation (RFI) per TCEQ (formerly TNRCC) instructions to determine the sludge extent in soils and groundwater in the sludge disposal area (SDA). The results of the

RFI were submitted to the TCEQ in November 1997. The sludge within the SDA is not present on the ground surface. Depth to the sludge in the SDA ranges from eight feet below ground surface to 16 feet below ground surface while the thickness of the sludge ranges from four feet to six inches (EMCON, 1997). The vertical extent of the sludge does not exceed 17 feet below ground surface. EMCON further concluded that "the soil within the SWMU generally conforms to requirements for landfill liner material as defined by the TNRCC Municipal Solid Waste Division's requirements for soil liners, and generally conform to the definition of "clay-rich soil" as described in Provision IV.B.1.a(2)(d) of the Permit". The soil liner/clay-rich soils and depth to sludge serve as physical controls to direct contact exposure, act as vapor barriers, and reduce infiltration of rainwater that may mobilize mercury deeper into the subsurface.

According to EMCON (1997), the SDA measures approximately 100 feet in width by 200 feet in length (approximately 0.46 acres) and the horizontal distribution of the sludge material is limited to an area approximately 180 feet north and south by 55 feet east and west (approximately 0.23 acres). The source area includes the sludge material (approximately 0.23 acres) and the area extending to SDA well MW-3 from the northwestern edge of the SDA (approximately 0.17 acres) for a combined total of approximately 0.40 acres. The source area is <0.5 acres and general land use of the SDA surrounding area is commercial. Therefore, Tier 1 commercial/industrial assessment levels were used for each analyzed environmental media (soil and groundwater) potentially affected by the source area per TCEQ Regulatory Guidance (RG-366/TRRP-12).

A 500 foot field receptor survey as measured from the boundary of the SDA was conducted on September 24, 2008. The surveyors concluded that no receptors occur within the 500 foot boundary of the SDA. However, the field surveyors did collect surface water samples from the nearest creek and lake hydraulically downgradient of the SDA as a conservative measure. Mercury was not detected (<0.002 mg/L) in any of the surface water samples. Furthermore, a Jerome 431X Mercury Vapor Analyzer was used to measure the presence or lack of mercury vapors within the well casing of SDA well MW-3. The mercury vapor result in MW-3 was 0.00 mg/m3. No further response actions are recommended at this time.

A survey of records on receptors available within one-half mile radius of the SDA was conducted per Section 2.3 of the APAR. Three water wells, an unnamed creek, and a portion of Eby Lake were within the one-half mile radius hydraulically downgradient of the SDA. Given the distance to each downgradient receptor, the low hydraulic conductivity of the saturated soils zone, and the lack of mercury in the uppermost groundwater bearing unit no further response actions are recommended at this time.

The SDA is located adjacent to and upgradient of an industrial solid waste (ISW) landfill. The SDA is wholly contained within contiguous land characterized by: graded areas, a functioning cap, and landfill access roads. The SDA is not accessible to the public due to fencing and a security gate located at the landfill entrance. No trees or bushes are present in the SDA or the surrounding industrial solid waste landfill; therefore, the area is not routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc. The Texas Parks and Wildlife Department (TPWD) was contacted to determine if the SDA serves as a valuable habitat, foraging area, or refuge for threatened or endangered species or if a similar but unimpacted habitat exists within a half-mile radius. Additionally, the TPWD was contacted to determine if the SDA is known to be located within one-quarter mile of sensitive environmental areas (e.g., rookeries, wildlife management areas, preserves). The TPWD provided element occurrence records and managed area records obtained from the Texas Natural Diversity Database (TXNDD). Available information listed in the TXNDD indicates the SDA does not serve as a valuable habitat, foraging area, or refuge for threatened or endangered species, is not located within a half-mile radius of a similar but unimpacted habitat, nor is the SDA within one-quarter mile of sensitive environmental areas. No further response actions are recommended at this time.

Prior to drilling activities associated with MW-5, EB-07-1, and OW-6 through OW-11, Dig Texas Excavation Safety System (TESS) was contacted to locate any underground utilities in the vicinity of the McWane Inc. (Tyler Pipe Company) facility and the SDA. Additionally, the City of Lindale Rule[1] was

[1] The public water supply near the McWane Inc. (Tyler Pipe Company) facility is provided by the City of Lindale Rule.

contacted to determine if any underground water lines or pipes were present in the subject area. Neither Dig TESS nor the city of Lindale Rule reported any underground utilities in the subject area. Given the Dig TESS results, mercury has only been detected in SDA well MW-3, and the affected unit is considered saturated soils, it is concluded that no underground utilities will be influenced by the SDA. No further response actions are recommended at this time.

Sections one through five and appropriate tables, figures, and appendices of the APAR are included in this submittal.

NAPL Discussion

Nonaqueous Phase Liquids (NAPLs) are immiscible (undissolved) hydrocarbons in the subsurface. Sludge disposal area wells MW-2, MW-3, and MW-4 were sampled for constituents of Appendix IX of 40 CFR Part 264 on March 1, 2006 due to statistically significant increases of zinc in MW-2, pH in MW-3, and zinc and pH in MW-4. The results of the March 1, 2006 groundwater sampling event were provided in a report dated March 31, 2006 (Carel Corp., 2006). The only detected constituents of Appendix IX of 40 CFR Part 264 were total zinc in MW-2, MW-3, and MW-4 and total mercury in MW-3. Total zinc and total mercury are not immiscible hydrocarbons. None of the listed immiscible hydrocarbons in Appendix IX of 40 CFR Part 264 were detected above laboratory reporting limits. Thus, NAPL do not apply in this situation.

Response Actions and Recommendations

Given the conclusions discussed above no further response actions are recommended. However, it is recommended that SDA wells MW-1, MW-2, MW-3, MW-4, and MW-5 remain in compliance monitoring and sampled on a semi-annual basis. Metals listed in Table IV of the facility Compliance Plan will continue to be compared to their respective PCLs. In the event one of the metals exceeds a PCL, the TCEQ will be notified and appropriate response actions will commence. Observation wells OW-6 through OW-11 were installed expressly for the Affected Property Assessment Report (APAR) and are not a part on the groundwater monitoring network. Therefore, it is recommended that OW-6 through OW-11 be decommissioned.

Attachment 2A. Tier 1 Exclusion Criteria Checklist

PART I. Affected Property Identification and Background Information

1) Provide a description of the specific area of the response action and the nature of the release. Include estimated acreage of the affected property and the facility property, and a description of the type of facility and/or operation associated with the affected property. Also describe the location of the affected property with respect to the facility property boundaries and public roadways.

The SDA is not considered an affected property; however, this checklist has been completed for informational purposes. The McWane Inc. (Tyler Pipe Company) manufacturing facility is located four miles north of Loop 323 on U.S. Highway 69 in Smith County, Texas. The McWane Inc. (Tyler Pipe Company) Landfill area is located approximately 0.33 miles west of the manufacturing facility off of Swan Lake Road. The landfill area is located on a 678-acre tract of land. The SDA area is located near the eastern boundary of the central portion of the landfill. According to EMCON (1997), the SDA measures approximately 100 feet in width by 200 feet in length (approximately 0.46 acres) and the horizontal distribution of the sludge material is limited to an area approximately 180 feet north and south by 55 feet east and west (approximately 0.23 acres). The SDA area was certified closed on September 10, 2003.

Attach available USGS topographic maps and/or aerial or other affected property photographs to this form to depict the affected property and surrounding area. Indicate attachments:

X Topo map ____ Aerial photo ____ Other (specify) _____

2) Identify environmental media known or suspected to contain chemicals of concern (COCs) at the present time. Check all that apply:

Known/Suspected COC Location	Based on sampling data?	
___ Soil <5 ft below ground surface	___ Yes	X No
X Soil >5 ft below ground surface	X Yes	___ No
X Groundwater	X Yes	___ No
___ Surface Water/Sediments	___ Yes	X No

Explain (previously submitted information may be referenced):

As previously stated, the sludge within the SDA is not present on the ground surface. Depth to the sludge in the SDA ranges from eight feet below ground surface to 16 feet below ground surface. Therefore, soil less than five feet below ground surface is not known to or suspected to contain mercury impact from the sludge. Soil samples were collected during the drilling and installation of SDA well MW-5 and observation wells OW-6 through OW-11. Additionally, soil samples were collected from an exploratory boring (EB-07-1) which was drilled approximately 10 feet east of SDA well MW-3. Samples were collected when lithology changes were observed in a given boring. Mercury was detected at different intervals in soil five feet below ground surface in each of the borings suggesting naturally occurring mercury exists in the subsurface. Mercury has only been detected in groundwater located in the saturated soils of SDA well MW-3. The saturated soils are considered a Class 3 groundwater resource and are not used as a potable water source. Mercury was not detected in the observation wells installed in the uppermost groundwater bearing unit which is assumed to be a Class 1 groundwater resource. The nearest body of surface water hydraulically downgradient of the facility is Eby/Swan Lake. Eby/Swan Lake is approximately 1,700 feet southwest of the southern boundary of the property line and approximately 3,400 feet southwest of the sludge disposal area. The amount of time it would take impacted groundwater from the sludge disposal area saturated soils to reach Eby/Swan Lake was determined to be 850,000 days (2,300 years) (Carel Corp., 2007). However, surface water samples were collected from Eby Lake and the creek connecting Eby Lake to Swan Lake as a conservative measure. Mercury was not detected (reporting limit = 0.002 mg/L) in any of the surface water samples. As a result, there are currently no potential adverse effects on surface water or sediment quality and contact with surface water or sediment is not a complete or reasonably anticipated to be complete exposure pathway.

3) Provide the information below for the nearest surface water body which has become or has the potential to

become impacted from migrating COCs via surface water runoff, air deposition, groundwater seepage, etc. Exclude wastewater treatment facilities and stormwater conveyances/impoundments authorized by permit. Also exclude conveyances, decorative ponds, and those portions of process facilities that are:

a. Not in contact with surface waters in the State or other surface waters which are ultimately in contact with surface waters in the State; and
b. Not consistently or routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc.

The nearest surface water body is 3,400 feet from the affected property and is named: Eby/Swan Lake

The water body is best described as a:

___ freshwater stream:
___ perennial (has water all year)
___ intermittent (dries up completely for at least 1 week a year)
___ intermittent with perennial pools
___ freshwater swamp/marsh/wetland
___ saltwater or brackish marsh/swamp/wetland
X reservoir, lake, or pond; approximate surface acres ~0.38 acres
___ drainage ditch
___ tidal stream ___ bay ___ estuary
___ other; specify

Is the water body listed as a State classified segment in Appendix C of the current Texas Surface Water Quality Standards; §307.1 - 307.10?

___ Yes Segment # _____ Use Classification: _____
X No

If the water body is not a State classified segment, identify the first downstream classified segment.

Name: Neches River Above Lake Palestine
Segment #: 0606
Use Classification: Recreation

As necessary, provide further description of surface waters in the vicinity of the affected property:

An intermittent, unnamed creek/channel is located in the 200 foot landfill buffer zone near the central portion of the landfill property. The intermittent, unnamed creek/channel flows to Eby Lake during periods of heavy rainfall. Eby Lake covers several acres of water and is primarily used for recreation. Eby Lake discharges to Swan Lake via an unnamed creek about 1000 feet long.

PART II. Exclusion Criteria and Supportive Information

Subpart A. Surface Water/Sediment Exposure

1) Regarding the affected property where a response action is being pursued under the TRRP, have COCs migrated and resulted in a release or imminent threat of release to either surface waters or to their associated sediments via surface water runoff, air deposition, groundwater seepage, etc.? Exclude wastewater treatment facilities and stormwater conveyances/impoundments authorized by permit. Also exclude conveyances, decorative ponds, and those portions of process facilities which are:

a. Not in contact with surface waters in the State or other surface waters which are ultimately in contact with surface waters in the State; and

b. Not consistently or routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc.

____ Yes __X__ No

Explain:

The nearest body of surface water hydraulically downgradient of the facility is Eby/Swan Lake. Eby/Swan Lake is approximately 1,700 feet southwest of the southern boundary of the property line and approximately 3,400 feet southwest of the sludge disposal area. The amount of time it would take impacted groundwater from the sludge disposal area saturated soils to reach Eby/Swan Lake was determined to be 850,000 days (2,300 years) (Carel Corp., 2007). However, surface water samples were collected from Eby Lake and the creek connecting Eby Lake to Swan Lake as a conservative measure. Mercury was not detected (<0.002 mg/L) in any of the surface water samples.

If the answer is yes to Subpart A above, the affected property does not meet the exclusion criteria. However, complete the remainder of Part II to determine if there is a complete and/or significant soil exposure pathway, then complete PART III - Qualitative Summary and Certification. If the answer is No, go to Subpart B.

Subpart B. Affected Property Setting

In answering "Yes" to the following question, it is understood that the affected property is not attractive to wildlife or livestock, including threatened or endangered species (i.e., the affected property does not serve as valuable habitat, foraging area, or refuge for ecological communities). (May require consultation with wildlife management agencies.)

1) Is the affected property wholly contained within contiguous land characterized by: buildings, landscaped area, functioning cap, roadways, equipment storage area, manufacturing or process area, other surface cover or structure, or otherwise disturbed ground?

__X__ Yes ____ No

Explain:

The SDA is located adjacent to and upgradient of an ISW landfill. The SDA is wholly contained within contiguous land characterized by: graded areas, a functioning cap, and landfill access roads. The SDA is not accessible to the public due to fencing and a security gate located at the landfill entrance. The TPWD was contacted to determine if the SDA serves as a valuable habitat, foraging area, or refuge for threatened or endangered species or if a similar but unimpacted habitat exists within a half-mile radius. Additionally, the TPWD was contacted to determine if the SDA is known to be located within one-quarter mile of sensitive environmental areas (e.g., rookeries, wildlife management areas, preserves). The TPWD provided element occurrence records and managed area information (see Appendix 11) obtained from the TXNDD. The TPWD stipulated that element occurrence records could not account for migratory paths of threatened or endangered birds, such as Bald Eagles and Colonial Waterbirds, within the one-half mile radius of the facility and suggested contacting Mr. Brent Ortega of the TPWD for further information. Mr. Brent Ortega was contacted on April 14, 2009 and he indicated the migratory paths of Bald Eagles and Colonial Waterbirds are not known to be in the area of the McWane Inc. (Tyler Pipe Company) Facility. Available information listed in the TXNDD indicates the SDA does not serve as a valuable habitat, foraging area, or refuge for threatened or endangered species, is not located within a half-mile radius of a similar but unimpacted habitat, nor is the SDA within one-quarter mile of sensitive environmental areas.

If the answer to Subpart B above is Yes, the affected property meets the exclusion criteria, assuming the answer to Subpart A was No. Skip Subparts C and D and complete PART III - Qualitative Summary and Certification. If the answer to Subpart B above is No, go to Subpart C.

Subpart C. Soil Exposure

1) Are COCs which are in the soil of the affected property solely below the first 5 feet beneath ground surface **or** does the affected property have a physical barrier present to prevent exposure of receptors to COCs in surface soil?

____ Yes ____ No

Explain:

If the answer to Subpart C above is Yes, the affected property meets the exclusion criteria, assuming the answer to Subpart A was No. Skip Subpart D and complete PART III - Qualitative Summary and Certification. If the answer to Subpart C above is No, proceed to Subpart D.

Subpart D. *De Minimus* Land Area

In answering "Yes" to the question below, it is understood that all of the following conditions apply:

- The affected property is not known to serve as habitat, foraging area, or refuge to threatened/endangered or otherwise protected species. (Will likely require consultation with wildlife management agencies.)
- Similar but unimpacted habitat exists within a half-mile radius.
- The affected property is not known to be located within one-quarter mile of sensitive environmental areas (e.g., rookeries, wildlife management areas, preserves). (Will likely require consultation with wildlife management agencies.)
- There is no reason to suspect that the COCs associated with the affected property will migrate such that the affected property will become larger than one acre.

1) Using human health protective concentration levels as a basis to determine the extent of the COCs, does the affected property consist of one acre or less and does it meet all of the conditions above?

____ Yes ____ No

Explain how conditions are met/not met:

If the answer to Subpart D above is Yes, then no further ecological evaluation is needed at this affected property, assuming the answer to Subpart A was No. Complete PART III - Qualitative Summary and Certification. If the answer to Subpart D above is No, proceed to Tier 2 or 3 or comparable ERA.

PART III. Qualitative Summary and Certification (complete in all cases.)

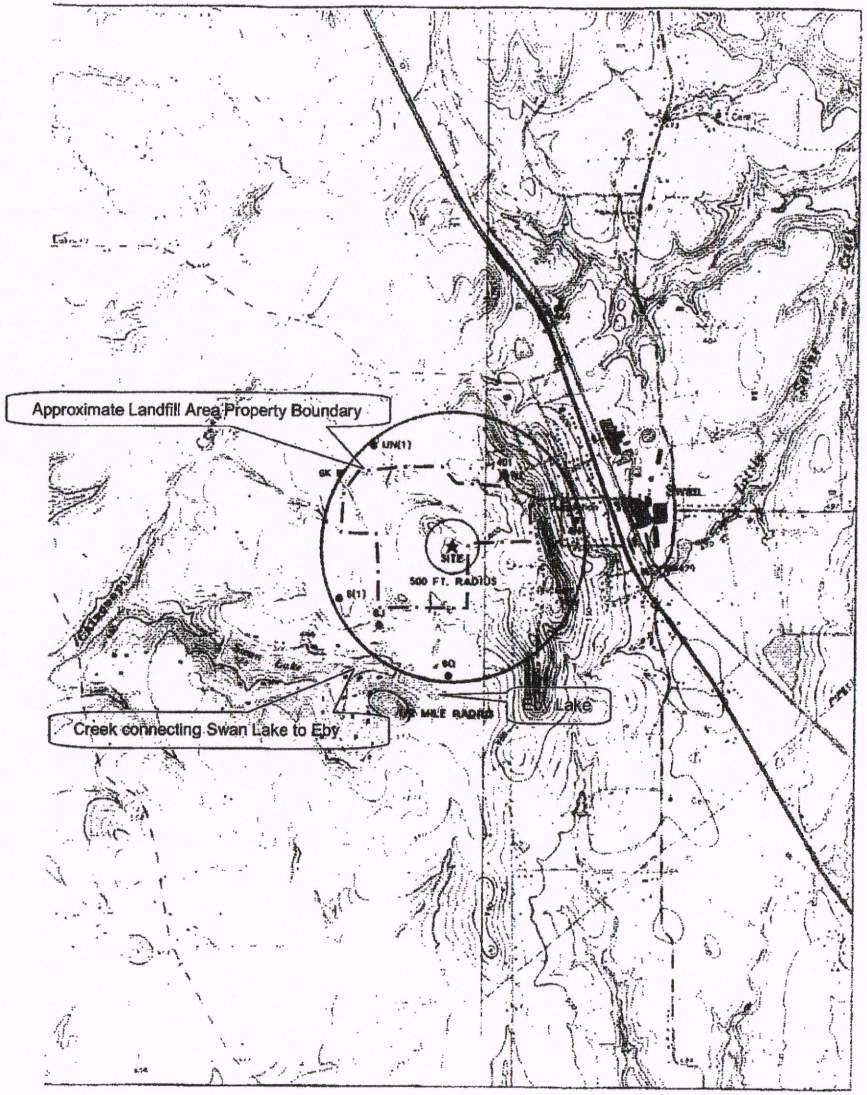
The McWane Inc. (Tyler Pipe Company) Landfill area is located approximately 0.33 miles west of the manufacturing facility off of Swan Lake Road. The landfill area is located on a 678-acre tract of land. The SDA area is approximately 0.60 acres and is located near the eastern boundary of the central portion of the landfill. The SDA area was certified closed on September 10, 2003. Soil less than five feet below ground surface is not known to or suspected to contain mercury impact from the sludge. Mercury was detected at different intervals in soil five feet below ground surface in drilled borings suggesting naturally occurring mercury exists in the subsurface. Mercury has only been detected in groundwater located in the saturated soils of SDA well MW-3. The saturated soils are considered a Class 3 groundwater resource and are not used as a potable water source. Mercury was not detected in the observation wells installed in the uppermost groundwater bearing unit which is assumed to be a Class 1

groundwater resource. The nearest body of surface water hydraulically downgradient of the facility is Eby/Swan Lake. Eby/Swan Lake is approximately 1,700 feet southwest of the southern boundary of the property line and approximately 3,400 feet southwest of the sludge disposal area. The amount of time it would take impacted groundwater from the SDA saturated soils to reach Eby/Swan Lake was determined to be 850,000 days (2,300 years)(Carel Corp., 2007). Surface water samples were collected from Eby Lake and the creek connecting Eby Lake to Swan Lake as a conservative measure. Mercury was not detected (reporting limit = 0.002 mg/L) in any of the surface water samples. Eby/Swan Lake is not a State classified segment in Appendix C of the current Texas Surface Water Quality Standards; §307.1 - 307.10. The SDA is located adjacent to and upgradient of an ISW landfill. The SDA is wholly contained within contiguous land characterized by: graded areas, a functioning cap, and landfill access roads. The SDA is not accessible to the public due to fencing and a security gate located at the landfill entrance. Field survey photographs are provided in Figure 2B of this APAR. The TPWD was contacted to determine if the SDA serves as a valuable habitat, foraging area, or refuge for threatened or endangered species or if a similar but unimpacted habitat exists within a half-mile radius. Additionally, the TPWD was contacted to determine if the SDA is known to be located within one-quarter mile of sensitive environmental areas (e.g., rookeries, wildlife management areas, preserves). The TPWD provided element occurrence records and managed area information (see Appendix 11) obtained from the TXNDD. The TPWD stipulated that element occurrence records could not account for migratory paths of threatened or endangered birds, such as Bald Eagles and Colonial Waterbirds, within the one-half mile radius of the facility and suggested contacting Mr. Brent Ortega of the TPWD for further information. Mr. Brent Ortega was contacted on April 14, 2009 and he indicated the migratory paths of Bald Eagles and Colonial Waterbirds are not known to be in the area of the McWane Inc. (Tyler Pipe Company) Facility. Available information listed in the TXNDD indicates the SDA does not serve as a valuable habitat, foraging area, or refuge for threatened or endangered species, is not located within a half-mile radius of a similar but unimpacted habitat, nor is the SDA within one-quarter mile of sensitive environmental areas.

Completed by	Mr. Steven J. Wimmer / Mr. Kevin T. Carel	(Typed/Printed Name)
	Geologist/ President, P.G.	(Title)
	05/22/2009	(Date)

I believe that the information submitted is true, accurate, and complete, to the best of my knowledge.

Mr. Steven J. Wimmer / Mr. Kevin T. Carel	(Typed/Printed Name of Person)
Geologist / President, P.G.	(Title of Person)
	(Signature of Person)
05/23/2009	(Date Signed)



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020

The CAREL CORPORATION

LEGEND:

- 6J – Approximate Location of Water Well

Water well records are located in Appendix 5 of the Affected Property Assessment Report.
Water well locations obtained from records of the Texas Water Development Board and Texas Commission on Environmental Quality

N

Scale:
0' 1,000' 2,000'

McWane Inc. (Tyler Pipe Company)
Affected Property Assessment Report
Attachment 2A. Tier 1 Exclusion Criteria Checklist

Topographic Map

DATE:	May 2009
FILENAME:\TEXAS\Tyler Pipe\2009\FINAL APAR\Figures\Att 2A.doc	
DRAWN BY: SW	Attachment
DRAFTED BY: SW/KC	2A

Appendix IX.B-IV

Pollutant Dispersal Pathways

Appendix IX.B-IV
Pollutant Dispersal Pathways

Based on the results of the RCRA Facility Assessment (RFA), the RCRA Facility Investigation (RFI), and the Affected Property Assessment that have been conducted at the Tyler Pipe facility, evidence of a known release has only been documented for one hazardous waste management (HWM) unit. This HWM unit is a former solid waste management unit (SWMU) identified as the ***Sludge Disposal Area*** (NOR Unit No. 082). Maps and cross sections documenting the potential pollutant dispersal pathways resulting from the known release from this HWM unit are provided herein.

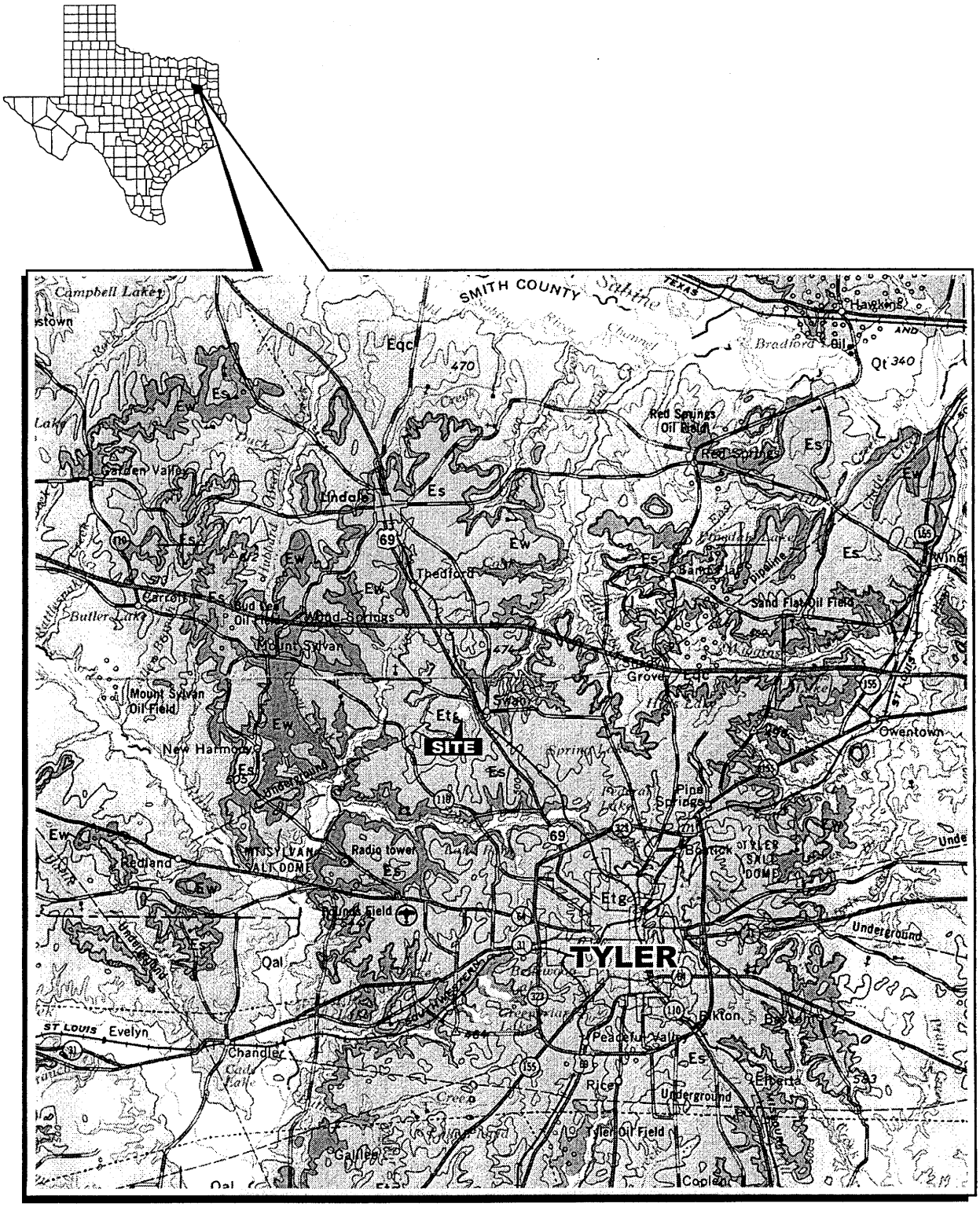


Figure IX.B.1

Regional Location Map
Tyler, Smith County, Texas

PARSONS ENGINEERING SCIENCE, INC.

120_0005

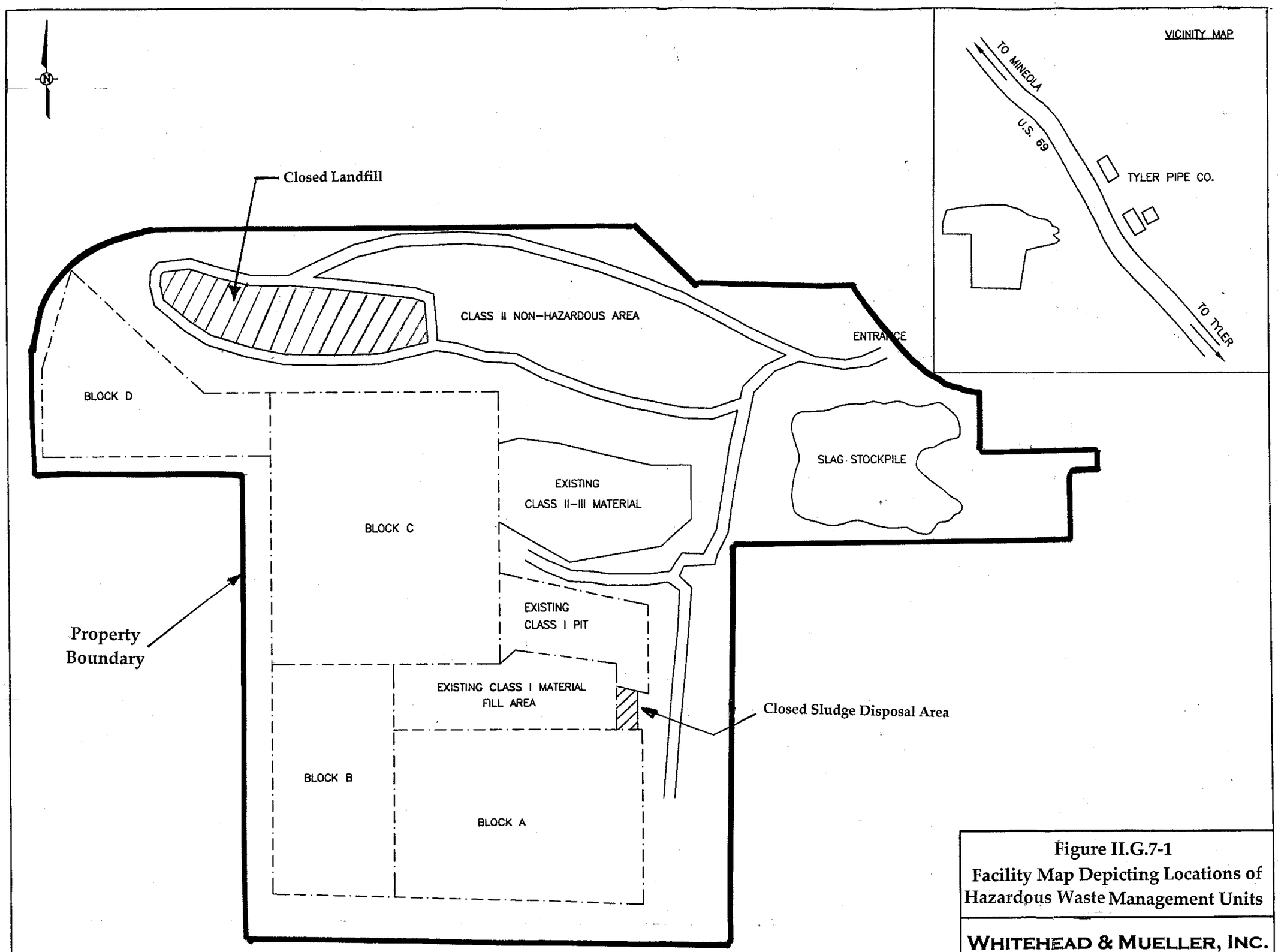
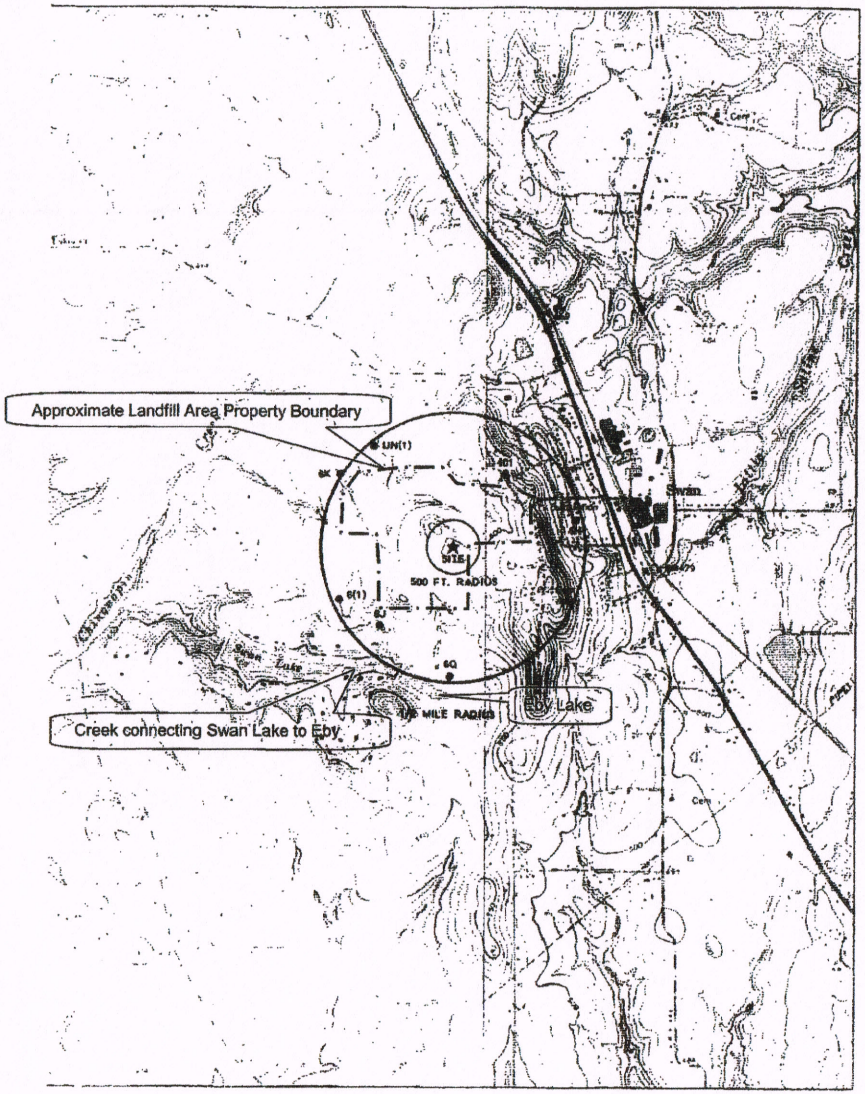


Figure II.G.7-1
Facility Map Depicting Locations of Hazardous Waste Management Units

WHITEHEAD & MUELLER, INC.



STATE OF TEXAS
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6-1-2020

The CAREL CORPORATION

LEGEND:

- 6J – Approximate Location of Water Well

Water well records are located in Appendix 5 of the Affected Property Assessment Report. Water well locations obtained from records of the Texas Water Development Board and Texas Commission on Environmental Quality.

N

Scale: 0' 1,000' 2,000'

McWane Inc. (Tyler Pipe Company) Affected Property Assessment Report

USGS 7.5 Minute Topographic Map

Potential Receptors Map

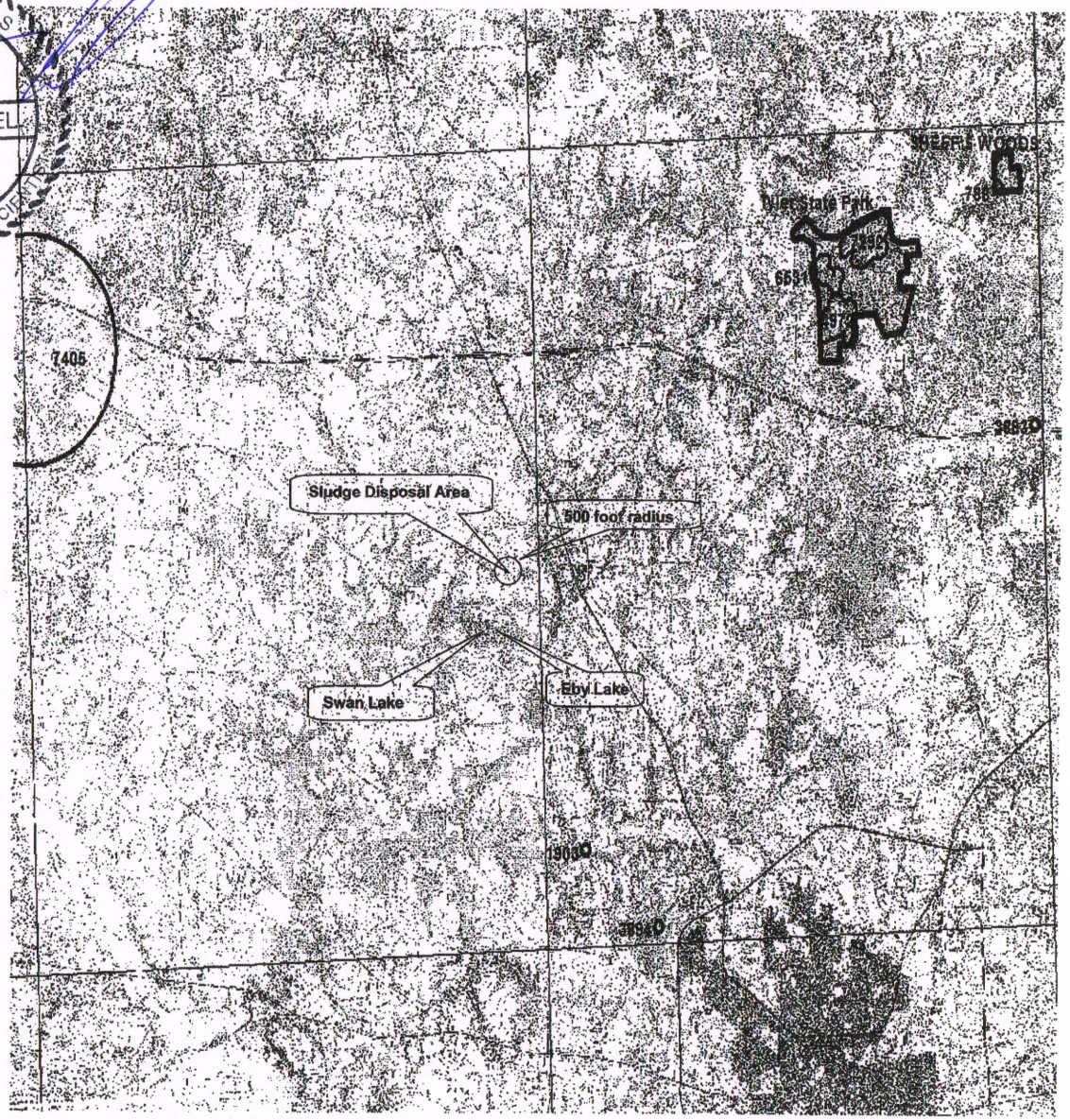
DATE: May 2009

FILENAME: R:\TEXAS\Tyler Pipe\2009\FINAL APAR\Figures\Figure 2A-1.doc

DRAWN BY: SW

DRAFTED BY: SW/KC

FIGURE: **2A-1**



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6-1-2010

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LEGEND:

Yellow Line = County Line

Blue Areas = Element Occurrence Areas

Green Areas = Manage Areas

Numerical identifications of Element Occurrence Areas and Managed Areas are located in Appendix 11 of the Affected Property Assessment Report

N

Approximate Scale:

0' 1- mile

McWane Inc. (Tyler Pipe Company) Affected Property Assessment Report

Topographic Map

Potential Receptors Map

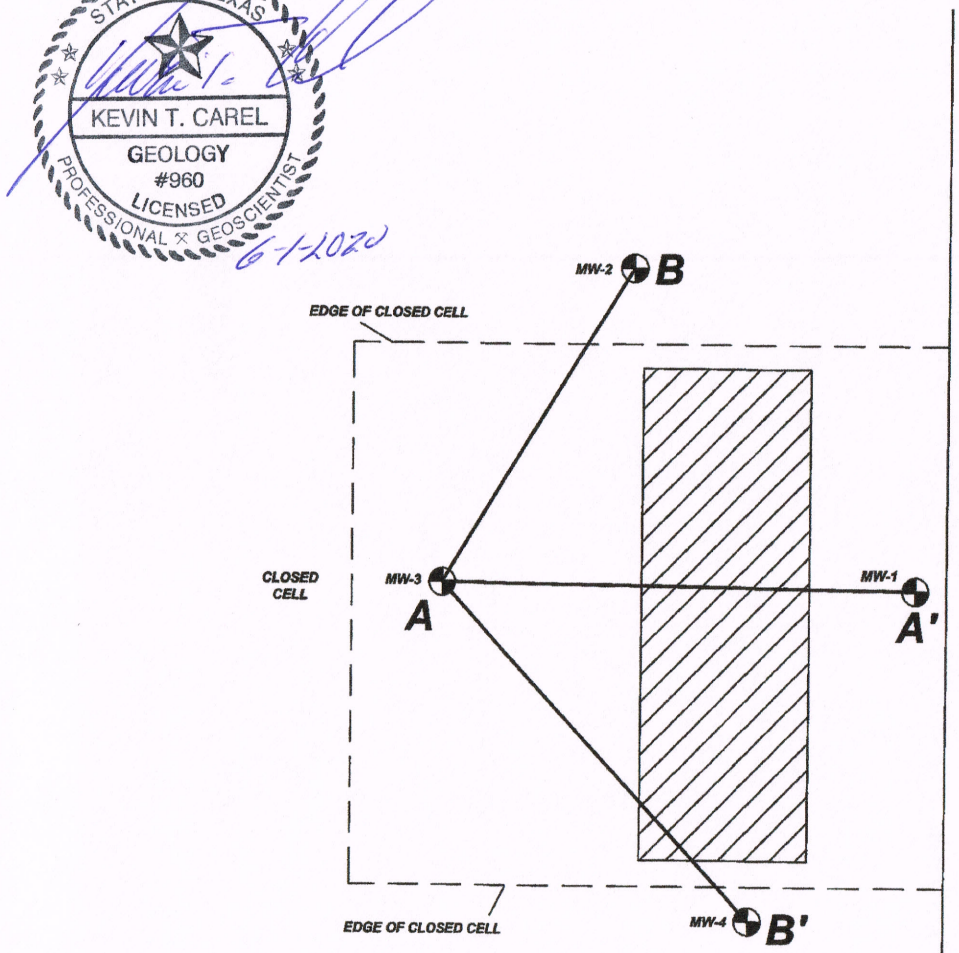
DATE: May 2009

FILENAME: R:\TEXAS\Tyler Pipe\2009\FINAL APAR\Figures\Figure 2A-2.doc

DRAWN BY: SW

DRAFTED BY: SW/KC

FIGURE: 2A-2



Notes: 1. Monitor well locations approximate.
2. Sources: Whitehead & Mueller, Inc. 2003; ETTL Engineers Correspondence.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- MONITOR WELL LOCATION
- FENCE
- LIMITS OF SLUDGE

N

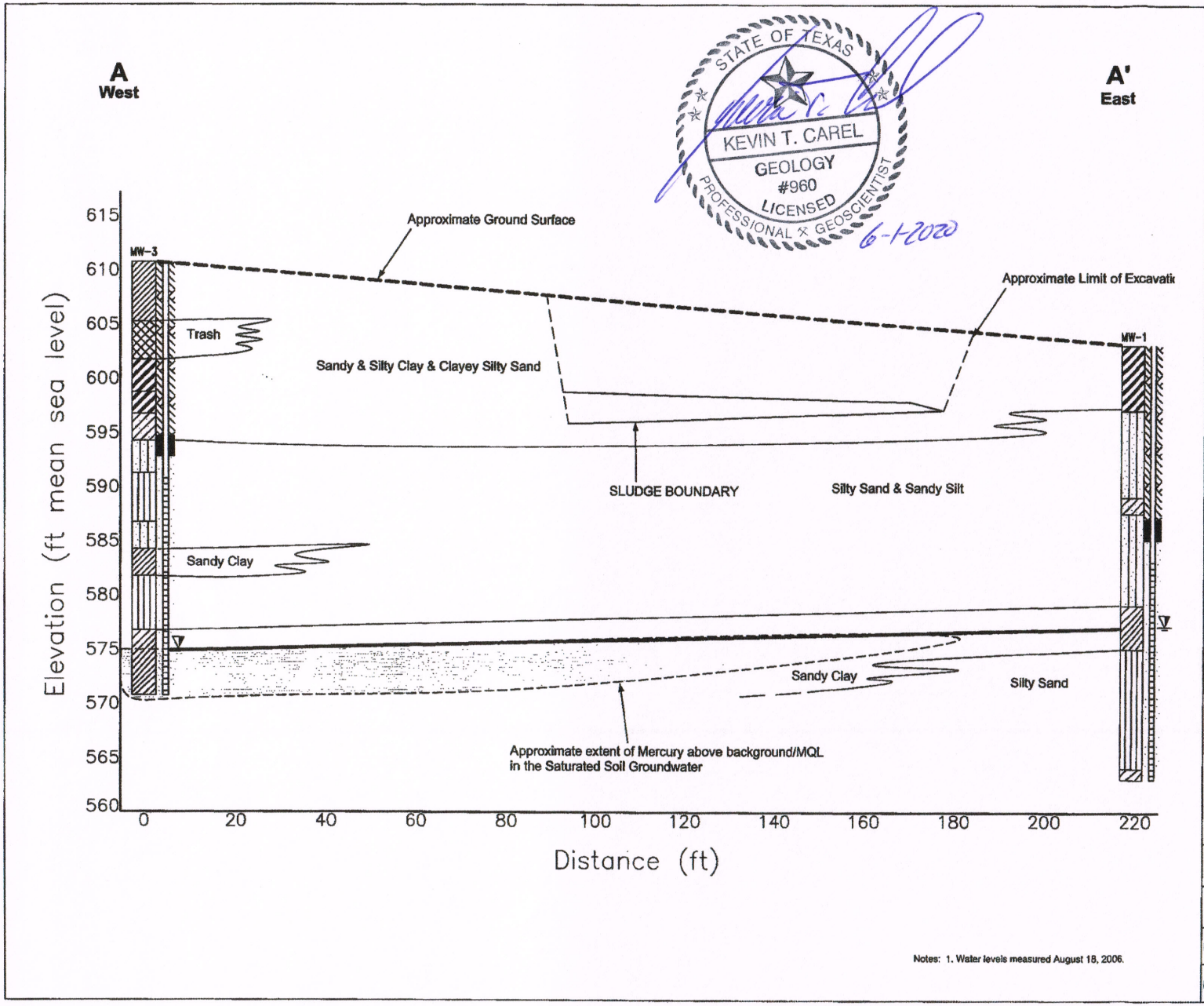
SCALE

30 20 10 0 30 60
FEET

CROSS - SECTION LOCATION MAP

MCWANE INC. FACILITY
SWAN, TEXAS

DATE: January 16, 2007	
FILENAME: L:\TX\TylerPipe\APAR\Fig 4C-1.dwg	
DRAWN BY: SJW	FIGURE: 4C-1
DRAFTED BY: SJW/TDW	



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020

Notes: 1. Water levels measured August 18, 2006.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

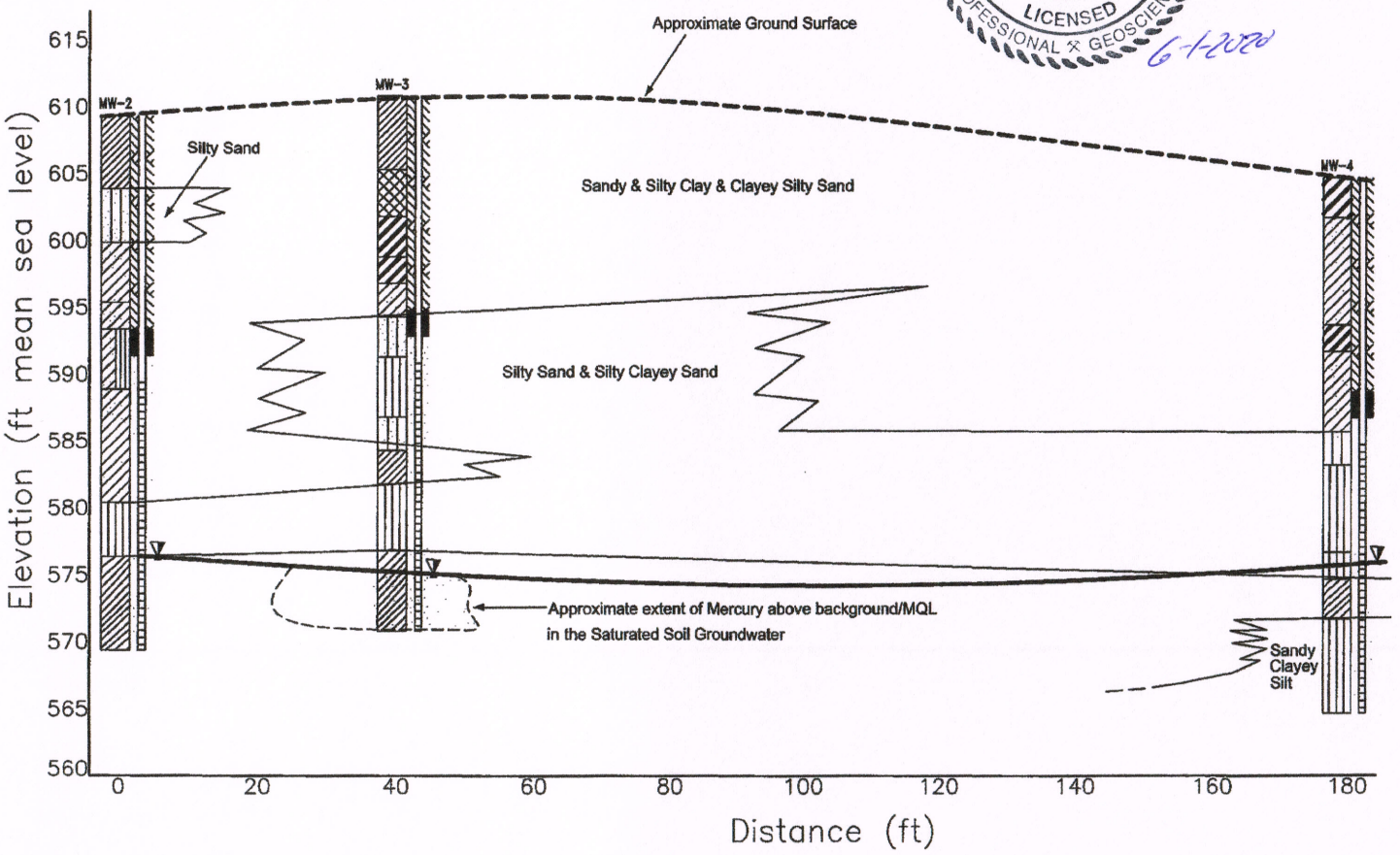
LEGEND:

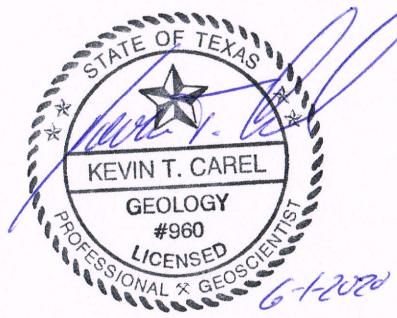
- Sandy Clay
- Silty Clay
- Silty Sand
- Clayey Silty Sand
- Sandy Clayey Silt
- Trash
- Water Table

GEOLOGIC CROSS-SECTION A-A'

SLUDGE DISPOSAL AREA
MCWANE INC. FACILITY
SWAN, TEXAS

DATE: January 16, 2007	
FILENAME: L:\TX\Tyler Pipe\APAR\Fig 4C-2.dwg	
DRAWN BY: SJW/KTC	FIGURE: 4C-2
DRAFTED BY: SJW/TDW	





Notes: 1. Water levels measured August 18, 2006.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- Sandy Clay
- Silty Clay
- Silty Sand
- Clayey Silty Sand
- Sandy Clayey Silt
- Silty Sand and Clayey Sand
- Water Table

GEOLOGIC CROSS-SECTION B-B'

SLUDGE DISPOSAL AREA
MCWANE INC. FACILITY
SWAN, TEXAS

DATE: January 16, 2007

FILENAME: L:\TX\Tyler Pipe\APAR\Fig A4.dwg

DRAWN BY: SJW/KTC

DRAFTED BY: SJW/TDW

FIGURE: 4C-3

XI. Compliance Plan

Provide all Part B responsive information in Appendix XI. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

Groundwater Monitoring and Corrective Action Requirements for Regulated Units

Owners or operators of facilities that process, store, or dispose of hazardous waste may be required to establish groundwater monitoring and response programs in accordance with the provisions of 30 TAC 335.157. There are three types of groundwater monitoring programs which may be addressed in a Compliance Plan Application for Regulated Units: i) detection monitoring, ii) compliance monitoring, and iii) corrective action monitoring. The applicability of these various monitoring programs and the associated application requirements are illustrated in Figure 2 of the Compliance Plan Application instructions and further outlined below. A Compliance Plan Application will be required to be submitted when establishing a new compliance plan or incorporating changes in an existing compliance plan.

Detection Monitoring: An owner/operator required to conduct detection monitoring per the requirements of 30 TAC 335.164 must monitor for indicator parameters, such as specific conductance, total organic carbon, and total organic halogen, as well as chemical parameters and hazardous constituents specified in the facility permit. If a statistically significant increase in any parameter or hazardous constituent specified in the facility permit is detected in any monitoring well down gradient of the compliance point, the owner/operator must sample the groundwater in all monitoring wells and analyze the samples for the presence of 40 CFR Part 264 Appendix IX hazardous constituents. As shown in the accompanying Flow Diagram (see Figure 2), if the analytical results confirm the presence of Appendix IX constituents down gradient of the compliance point, the owner/operator must submit a Compliance Plan Application to establish a compliance monitoring program or corrective action program.

Compliance Monitoring: The requirements for compliance monitoring programs are detailed in 30 TAC 335.165. Owners/operators required to establish a compliance monitoring program must monitor the groundwater to determine whether Regulated Units are in compliance with the Groundwater Protection Standard (GWPS) specified in the compliance plan (see 30 TAC 335.158 .160). If a statistically significant increase above the GWPS in any chemical parameter or hazardous constituent specified in the compliance plan is confirmed, the owner/operator must submit a application to modify the compliance plan to establish a corrective action program in accordance with 30 TAC 335.166 (see Figure 2). If no such exceedance of the GWPS is detected for three consecutive years and the applicable compliance period has expired, the owner/operator must apply for modification of the compliance plan to re-establish a detection monitoring program for the unit. No further monitoring may be needed if the applicable post-closure care period for the unit is complete.

Regulated Unit Corrective Action Program: Owners/operators required to implement a corrective action program in accordance with the provisions of 30 TAC 335.166 must remove the hazardous waste constituents found in the groundwater or treat the groundwater in-place to levels equal to or less than the GWPS down gradient of the compliance point. The owner/ operator must also establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Corrective action measures may be terminated once the concentrations of hazardous constituents are reduced to levels equal to or below their respective concentration limits. After termination of the corrective action measures, the owner/operator must submit an application for modification of the compliance plan to re-establish a compliance monitoring program for the duration of the

compliance period (see Figure 2).

Groundwater Corrective Action Requirements for Solid Waste Management Units (SWMUs)

HSWA Solid Waste Management Unit (SWMU) Corrective Action Program: An owner/operator of a Permitted facility or an applicant applying for a hazardous waste permit is required to submit a Compliance Plan Application if hazardous constituents have been released from a SWMU and/or Area of Concern (AOC) to the groundwater and exceeds background or Practical Quantitation Limit (PQL) values, if under Risk Reduction Rules 30 TAC 335 and/or appropriate Protective Concentration Limits (PCLs), if under Texas Risk Reduction Program Rules 30 TAC 350. The Permitted facility must implement a corrective action program for SWMUs and/or AOCs in accordance with provisions 30 TAC 335.167 (see Figure 3, page 122 of the instructions for example of process-alternate, but equivalent process may be authorized by the Executive Director).

Compliance Plan Application Form Structure:

The Compliance Plan Application consists of Sections XI.A. through E.

Application Information Form:

This section contains detailed information necessary for the application and regulatory requirements needed to put in the final compliance plan.

The application form contains the following subsections:

A. Site Specific Information

B. Groundwater Protection Standard (GWPS)

C. Compliance Monitoring Program

D. Corrective Action Program

E. Cost Estimates for Financial Assurance

1. Table XI.E.1 Corrective Action Program Cost Estimate
2. Table XI.E.2.e Groundwater Monitoring Cost Estimate
3. Table XI.E.3. Financial Assurance Summary

CP Attachments:

A. Maps

B. Well Design and Construction Specifications

C. Sampling and Analysis Plan

Compliance Plan Site Specific Tables:

This section includes the following tables which are to be completed by the applicant, as applicable, and shall be incorporated as part of the final draft Compliance Plan. [Note: include a CD disk with the application providing an electronic copy of the files supporting the compliance plan tables, as applicable, in MS Word format]:

CP Table I - Waste Management Units and/or Areas Subject to Groundwater Corrective Action and Compliance Monitoring

CP Table II - Solid Waste Management Units and/or Areas of Concern for which Corrective Action applies pursuant to 30 TAC 335.167.

CP Table III - CORRECTIVE ACTION PROGRAM Table of Detected Hazardous and Solid

Waste Constituents and the Groundwater Protection Standard

CP Table IIIA - CORRECTIVE ACTION PROGRAM Table of Indicator Parameters and the Groundwater Protection Standard

CP Table IV - COMPLIANCE MONITORING PROGRAM Table of Hazardous and Solid Waste Constituents and Practical Quantitation Limits or Method Quantitation Limits for Compliance Monitoring

CP Table IVA - COMPLIANCE MONITORING PROGRAM Table of Detected Hazardous Constituents and the Groundwater Protection Standard for Compliance Monitoring

CP Table V - Designation of Wells by Function

CP Table VI - Compliance Period for RCRA-Regulated Units

CP Table VII - Reporting Requirements

CP Table VIII - Compliance Schedule

CP Table IX - Description of Uppermost Aquifer

Note to the Permittee: All responses to each item in Section XI of the application form should be submitted under Appendix XI- Compliance Plan. The applicant should use the PDF formatted Tables provided in the Part B application to include site-specific information that will become part of the final draft permit. For consistency, the PDF tables provided in the application are formatted to be accessible, and the agency will no longer accept site-specific tables created by the applicant. Do not delete any areas of the application form that are not applicable, submit answers to these areas with a response of either 'Reserved' or 'Not Applicable' in the Appendix XI. In addition, if material supporting a response is located elsewhere in the application, the response should provide details as to the specific location within the referenced material.

One of the primary goals of the performance based Compliance Plan is the wells listed in, CP Table V - Designation of Wells by Function (to be included in the final Compliance Plan) are the wells in which the GWPS must be met to verify compliance with Compliance Monitoring program or corrective action objectives, and to change the table would require a modification. On the other hand, the following types of wells Corrective Action Observation Wells, Corrective Action System well, etc., that are included in "Attachment A" maps of the final draft Compliance Plan, should be flexible. The purpose is to provide the permittee with the authority to alter the groundwater monitoring system and Corrective Action System designs, as necessary, to proactively address changing environmental conditions without modifying or amending the Compliance Plan. An application to modify/amend the compliance plan is only required if wells listed in CP Table V are changed; consequently, Corrective Action Observation and Corrective Action System Wells are not listed in CP Table V of the compliance plan so they may be added or removed without modifying/amending the compliance plan. Notification of proposed changes to the groundwater monitoring system and Corrective Action System designs can be included in the semiannual or annual report required by CP Table VIII - Compliance Schedule (to be included in the final Compliance Plan).

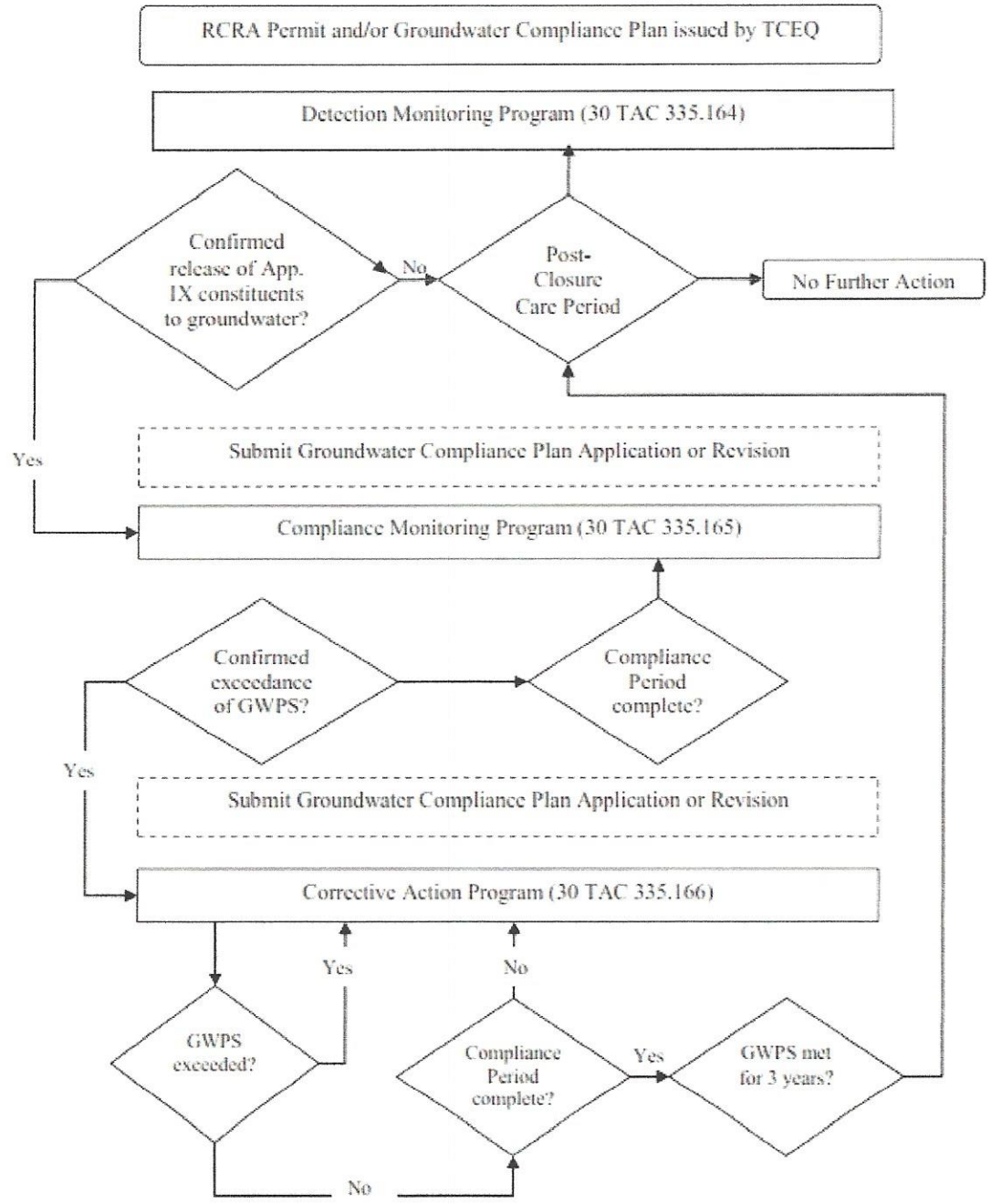
Figure 1 - Overview of Required Submittals And Revisions Associated with TCEQ Groundwater Compliance Plan Application

Type of Compliance Plan Application or Revision	Minimum Required Submittals				Additional Application Submittals Or Revisions					
	Description of Modification	Public Notification Evidence	Fee Payment Evidence	Part B, Section I General Information	Section XI. A. Site-Specific Information	Section XI.B Groundwater Protection Standard	Section XI.C Compliance Monitoring Program	Section XI.D Corrective Action Program	Section XI.E Financial Assurance Cost Estimates	Attachment A Alternate Concentration Limits
RCRA Permitted Units										
Compliance Monitoring Program, Commencement or modification per 30 TAC 335.165.	•	•	•	•	•	•	•	○	•	■
Corrective Action Program, commencement or modification per 30 TAC 335.166.	•	•	•	•	•	•	○	•	•	■
Compliance Period, termination or extension per 30 TAC 335.162.	•	•	•	•	■	○	•	○	■	○
Solid Waste Management Units										
Corrective Measure Implementation (CMI), per 30 TAC 335.167.	•	•	•	•	•	•	■	•	•	○
Corrective Action Program termination.	•	•	•	•	■	○	•	○	○	○

Note:

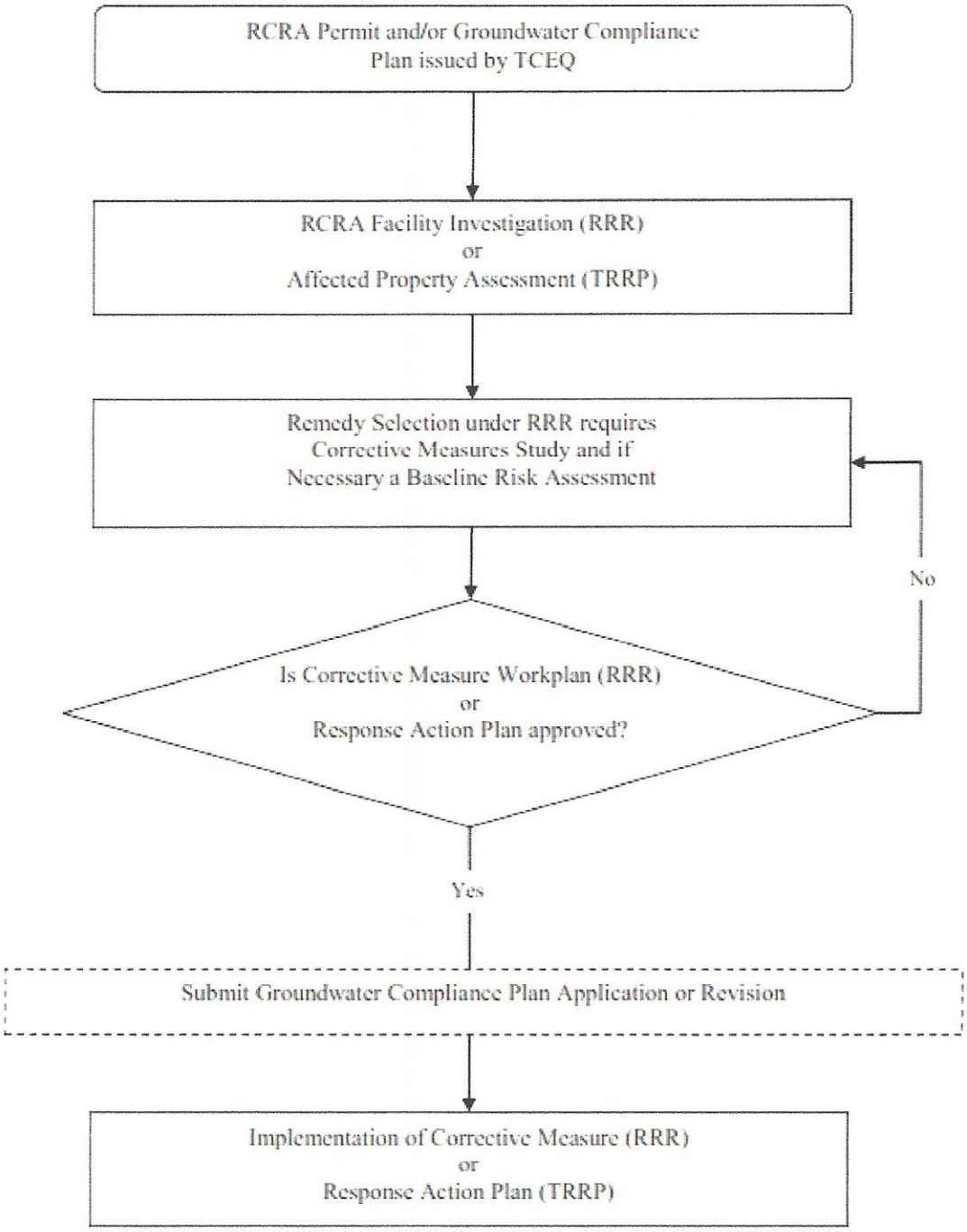
- • Submittal of additional or revised information required.
- ○ No submittal of additional or revised information required.
- ▪ Possible submittal of additional or revised information required

Figure 2 - Summary of Groundwater Monitoring and Compliance Plan Application Requirements for Regulated Waste Management Units (30 TAC 335 Subchapter F)



Note:
- GWPS = Groundwater Protection Standard (See Section XI.B. of this document, and 30 TAC 335.158 – 160)
- App. IX = Groundwater Monitoring List, 40 CFR 264 Appendix IX.
- Compliance Period = See Section XI.E. of this application, and 30 TAC 335.162.

Figure 3 - Summary of Compliance Plan Applications Requirements for Solid Waste Management Units (SMMUS) (30 TAC 335.167)



Note:
(RRR) – Risk Reduction Rules, 30 TAC 335
(TRRP) – Texas Risk Reduction Program, 30 TAC 350

A. Site Specific Information

1. General Site Information (provide the following information):

   a. An overall plan view map of the entire facility delineating the facility's property boundary, Facility Operations Area (FOA) boundaries, as applicable, and the plume management zone (PMZ) boundaries as applicable;

   All CP Attachment A Maps should be provided in Appendix XI of the application.

   b. A 7.5 minute U.S.G.S. quadrangle topographic map showing the entire facility;

      NOTE: This information is supplemental only and is not intended to be included as figures in the final draft permit.

   c. All oversized (larger than 8.5" by 11") drawings submitted in accordance with A, above, should be accompanied with legible photocopies of the reduced drawing on 8.5" by 11" sheet(s) of paper which shall be used as "CP Attachment A" maps in the final draft Permit/Compliance Plan. The applicant should title the map(s) accordingly as "CP Attachment A, Sheet 1 of xx - Facility Site Map"; "CP Attachment A, Sheet xx of xx, FOA Lateral Boundary Map"; "CP Attachment A, Sheet xx of xx, PMZ Boundary Location Map"; and

   d. Aerial photographs through time depicting changes in the land use, if available.

      NOTE: This information is supplemental only and is not intended to be included as figures in the final draft permit

2. Waste Management

   Provide a complete list and a plan view drawing(s) locating and identifying the following waste management units at the scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). All oversized (larger than 8.5" by 11") drawings should be accompanied with legible photocopies of the reduced drawing on 8.5" by 11" sheet(s) of paper. Please provide information for each waste management unit listed below on CP Table XI.A.1. - Facility History for Waste Management Units.

   All CP Attachment A Maps should be provided in Appendix XI of the application.

   a. All hazardous waste management units regulated under the Industrial Solid Waste and Municipal Hazardous Waste Rules (Chapter 335) required to be monitored in accordance with 30 TAC 335.164 (Detection Monitoring), 335.165 (Compliance Monitoring Program) and 335.166 (Corrective Action Program);
   b. All solid waste management units (SWMUs) and Areas of Concern (AOCs) regulated under 335.167 which are recommended for further investigation and/or corrective action in the RCRA Facility Assessment (RFA) shall include those identified in accordance with the permit requirements subsequent to the initial RFA.
   c. All on site wastewater treatment units.

3. Facility History

   Based on the information provided in CP Table XI.A.1., complete CP Table I - Waste Management Units and Areas Subject to Groundwater Corrective Action

and Compliance Monitoring accordingly in the format provided.

For the SWMUs or AOCs listed in CP Table XI.A.1. regulated under 30 TAC 335.167 which are recommended for further investigation and/or corrective action in the RCRA Facility Assessment (RFA), including those identified in accordance with permit requirements subsequent to the initial RFA, complete CP Table II - Solid Waste Management Units and Areas of Concern for which Corrective Action applies pursuant to 30 TAC 335.167. CP Table II will become part of the Compliance Plan.

4. Site Geology, Hydrogeologic Conditions, and Relationship to Surface Water

For New, modified/amended Compliance Plan, please provide a Geology Report as required by Section VI.B of this application containing updated site geologic information including the following descriptions, maps and tables with appropriate supporting documentation [All maps should be at the scale of 1 inch equal to not more than 200 feet and legible when reduced to 8.5" by 11" letter size paper]:

a. A description of the site geology for the facility. The geologic description should include a site geology map and sufficient cross sections (see Item h. below) to describe the uppermost aquifer and any confining stratigraphic unit(s) beneath the site.

b. A description of the site soils and subsurface lithologies using the Unified Soil Classification System. For those soil units which do not extend beneath the entire site area, the soil description should include a plan view map designating the soil's areal extent;

c. Where a soil remedy is required in a corrective action program of Section XI.D.1. of this application for a Regulated Unit, SWMU and/or AOC, the applicant shall submit a description of contamination in soils of the vadose zone (unsaturated zone above the uppermost aquifer). The soil description should include maps indicating lateral and vertical extent of contamination;

d. A description and designation of the uppermost saturated zone or uppermost aquifer including the name, the type of unit (e.g. perched, confined, etc.,), and groundwater characteristics (flow rates, directions, hydraulic conductivity, etc.). As defined in 40 CFR 260.10, an aquifer is a geologic formation, group of formation, or part of a formation, capable of yielding significant amount of groundwater to wells or springs. Persons using Texas Risk Reduction Program (TRRP) should also consider the definition of a groundwater bearing unit as a saturated geologic formation, group of formations, or part of a formation with a hydraulic conductivity of equal to or greater than 1 x 10 -5 centimeters/second (30 TAC 350.4(a)40).

   Based on the information contained in the Geology Report, complete CP Table IX-Description of Uppermost Aquifer. CP Table IX will be come part of the Compliance Plan.

e. Present the geologic, stratigraphic and hydrogeological information; and

f. Maps indicating the lateral and vertical extent of the contamination for each stratigraphic unit affected, with supporting documentation.

g. Current Contaminant Plume Map(s) Locating and identifying the extent of

contamination as determined from previous monitoring on a separate facility base map(s). Locate and identify all monitor wells and waste management units/areas.

h. Cross section Cross section transect lines should be indicated on the Contaminant Plume Map. The applicant, at a minimum, must submit two (2) stratigraphic cross sections for each waste management unit/area. One cross section should be drawn through all the point of compliance wells and the second cross section should be drawn along the direction of the movement of the contaminant plume released from the unit/area. Cross sections should follow the requirements outlined in the Geologic and Hydrogeologic Report of Parts IV and V of this application. At a minimum, the cross sections should include the following information:

   1. the stratigraphic interpretation (e.g., surface grade, uppermost aquifer, aquiclude);
   2. lithology/geologic description of the uppermost aquifer and aquiclude;
   3. the potentiometric surface;
   4. detected non-aqueous phase liquids (NAPLs) and hazardous constituents; and
   5. screen length and screen depth for each well in the cross section.

i. Well Construction diagram The report should include a well construction diagram for all wells used in the cross section. The well construction diagram should include the information in "Attachment B" of this (Compliance Plan) application. The well construction diagram information may be included on the geologic cross-section(s).

j. Describe the potential for any surface water bodies to be hydraulically connected to groundwater containing hazardous constituents. Apply the guidance provided in Determining PCLs for Surface Water and Sediment, RG-366/TRRP-24 Revised, December 2002, in order to determine the water body type and applicable surface water criteria for human health, aquatic life and wildlife, as applicable.

B. Hazardous Constituents In Groundwater And Groundwater Protection Standards (GWPSs)

Hazardous Constituents in Groundwater

For each contaminated hydrogeologic unit beneath a waste management unit/area (40 CFR 264.95), provide a list of all 40 CFR Part 264 Appendix IX hazardous constituents that have been detected in groundwater samples above background values, Practical Quantitation Limits (PQLs), or Method Quantitation Limits (MQLs). Please submit for each unit/area the most recent Appendix IX laboratory analysis results showing the constituents, constituent concentrations, methods used for analysis and associated laboratory QA/QC.

The groundwater samples (collected for the purpose of determining whether constituents listed in Appendix IX are present) shall be from each waste management unit/area monitoring well system as required by 30 Texas Administrative Code (TAC) 335.164 (detection monitoring program).

If the waste management unit/area is subject to Corrective Action Program required by 30 TAC 335.166 or 335.167 and/or Compliance Monitoring required by 30 TAC 335.165, then list the unit/area and include the list of hazardous constituents and their principal degradation constituents in:

CP Table III - Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard; and

CP Table IV - Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Practical Quantitation Limits or Method Quantitation Limits for Compliance Monitoring.

1. Groundwater Protection Standards (GWPSs)
   The GWPS (30 TAC 335.158) is designed to ensure that hazardous constituents (30 TAC 335.159) identified in groundwater and their principal degradational constituents do not exceed concentrations that pose a present or potential hazard to human health and the environment. Compliance monitoring and corrective action programs for a Regulated Unit (30 TAC 335.165 and 335.166) and a corrective action program for a solid waste management unit (SWMU) (30 TAC 335.167) require human health and the environment to be protected from all releases of hazardous wastes and constituents. These corrective action and monitoring programs are evaluated using the GWPS. The GWPS is based on the following criteria.
   a. Background Levels Background levels authorized under 30 TAC 335.160(a)(1) are defined as constituent concentration values that are naturally occurring or are not influenced by contamination coming from the waste management unit. These values are established by statistical analysis of upgradient well sampling data. Analytical results from a sufficient number of independent samples are required to be utilized with an approved and appropriate statistical method. For guidance on the statistical methods consult, Statistical Analysis of Groundwater Data at RCRA Facilities-Unified Guidance, U.S. EPA, March 2009, and any subsequent updates to this document.
      Practical Quantitation Limits (PQLs) or Method Quantitation Limits (MQLs) are utilized in lieu of background values unless a background demonstration establishes concentrations for naturally occurring constituents. The PQL or MQL is defined in the footnote of CP Tables III and IV.
   b. Primary and Secondary Maximum Contaminant Levels (MCLs) Maximum permissible level of a contaminant in water which is delivered to any user of a public water system (40 CFR Part 141 and 143, Federal Safe Drinking Water Act).
   c. Alternate Concentration Limits (ACLs) determined in accordance with 30 TAC 335.160(b) and are defined in footnote of CP Tables III and IV.

2. Establishing the Groundwater Protection Standard (GWPS)
   a. If background, PQL or MQLs are proposed for the GWPS, the applicant must list all constituents (i.e., detected and degradational constituents) for which a GWPS is being applied for and the appropriate concentration limits. This information shall be submitted in the format of CP Tables III, and IV.
   b. Alternate Concentration Limits (ACLs) ACLs are established at the point of compliance (POC) for a regulated or solid waste management unit (SWMU). All concentration values or limits listed in Section XI.B.1.c. are considered ACLs. ACLs are evaluated in accordance with the provisions of 30 TAC 335.160(b) and other regulations acceptable to the executive director. If an ACL is requested on the basis of Section XI.B.1.c. (MCLs), then no ACL

demonstration is necessary. The ACL demonstration must establish constituent concentrations in groundwater in accordance with regulations acceptable to the executive director. This information shall be submitted in the format of CP Tables III and IV. Note that depending upon the rule employed [i.e., 30 TAC 335 Subchapter S - Risk Reduction Rules (RRR) or 30 TAC 350 - Texas Risk Reduction Program (TRRP)], the applicant should determine the GWPS for the point of compliance and point of exposure, as applicable, in accordance with the remedy standard being utilized.

c. If the contaminant plume discharges or has a potential to discharge into surface water, then the facility must also comply with 30 TAC Chapter 307 (Texas Surface Water Quality Standards) unless other regulatory requirements acceptable to the executive director are requested.

C. Compliance Monitoring Program

As required by 30 TAC 335.165, an owner or operator must monitor the groundwater to determine whether Regulated Units are in compliance with the Groundwater Protection Standard (GWPS) under 30 TAC 335.158. The applicant must provide the following information when proposing a compliance monitoring program.

1. Groundwater Monitoring Program Description

a. Describe the proposed groundwater monitoring system to be used to monitor compliance with the GWPS which includes the following information.

(1) Changes, if applicable, from the current detection monitoring system or compliance monitoring system groundwater monitoring program at the waste management unit that will be required to comply with the compliance monitoring program described in 30 TAC 335.165. This description should address changes concerning:

(a) Geological and/or hydrogeological information differences since the submittal of the previous application [must submit an updated Geologic and Hydrogeologic Report required by Section XI.A.4];
(b) Waste management areas/units;
(c) Construction details for monitor wells to evaluate compliance with "Attachment B" well specification requirements;
(d) The number and locations of additional monitor wells [also see Section XI.C.1.b.(2)];
(e) Sample handling, chain of custody, and analytical procedures (also see "Attachment C");
(f) Frequency of monitoring;
(g) Monitoring parameters;
(h) Evaluation of compliance with GWPS (Statistical Methods);
(i) Other Sampling and Analysis Plan information to be compliant with "Attachment C";
(j) Compliance period as defined in Section XI.E.1.c. of the application;
(k) Financial assurance (see Section XI.E.); and
(l) An ACL variance under 30 TAC 335.160(b), if applicable.

(2) The number, depth and location of all monitor wells (Background Wells, Point of Compliance Wells, Observation Wells, Piezometers,

etc.). Complete CP Table V - Designation of Wells by Function and make changes as applicable to plans referenced in Section XI.C.1.b.

(3) The proposed hazardous constituent monitoring list which is based on constituents that were monitored during detection monitoring (if applicable), constituents detected in accordance with 30 TAC 335.164, and degradational constituents identified in Table CP IV accordingly to develop the constituent list for the Compliance Monitoring Program. Also, list the PQL, MQL, or background concentration for each constituent in CP Table IV. CP Table IV shall become part of the final Compliance Plan to be analyzed at least annually as required by 30 TAC 335.165(7).

(4) The proposed indicator parameter monitoring list. From the list of constituents and GWPS identified in CP Table IV., complete CP Table IVA - Compliance Monitoring Program, Table of Detected Hazardous Constituents and the Groundwater Protection Standard for Compliance Monitoring, accordingly. CP Table IVA shall become part of the final Compliance Plan to be analyzed at least semiannually as required by 30 TAC 335.165(6).

(5) Frequency of monitoring should be specified in CP Table VIII

(6) Provisions for reporting groundwater data at least on an annual basis should be specified in CP Table VII).

(7) Annual determination of contamination plume rate and direction of migration.

(8) Compliance period. Calculate the compliance period as required by 30 TAC 335.162 and 335.165(1)(d). Include calculations and complete CP Table VI - Compliance Period for RCRA-Regulated Units which shall become part of the final Compliance Plan.

b. Submit the following plans and reports.

(1) Current Sampling and Analysis Plan The Sampling and Analysis Plan must include information required by 30 TAC 335.163(4) and 335.163(5) and 40 CFR Subpart 270.30(j). For guidance, please see "Attachment C" to the application.

(2) Monitoring System Plan If the applicant is proposing a monitoring well or a monitoring system in the application, the applicable well installation specifications outlined in "Attachment B" of this application should be followed. All new monitoring wells must be installed in accordance with the specifications outlined in "Attachment B", unless an alternative design is approved by the agency prior to installation. If the applicant proposes as part of the monitoring system, any well (existing or proposed) that does not meet or exceed the requirements outlined in "Attachment B", then the proposed alternative design must be described in detail in the Monitoring System Plan and must be submitted with this application. The Monitoring System Plan must include:

(a) Monitoring System Design and Specifications Certified by a qualified engineer and/or geologist which provides detailed plans and specifications on the monitoring system design; and

(b) Well Drilling and Well Casing Specifications Certified by a qualified engineer and/or geologist which provides details on well casing specification, drilling logs and reports.

(3) Current Geologic and Hydrogeologic Report Provide a report per Section X.I.A.4 of this application discussing the geologic and hydrogeologic conditions of the facility and the specific area affected by the waste management areas. This report should include the most up-to-date information from which the design of the groundwater monitoring system was based.

2. Waste Management Units Monitored

a. Delineate and identify the following for each waste management unit in the proposed groundwater monitoring program.

(1) Boundary of the waste management unit and, if applicable, the proposed waste management area which includes more than one waste management unit (identify all waste management units which are included in the waste management area). These waste management units subject to compliance monitoring should be listed in CP Table I - Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring which shall become part of the final Compliance Plan.

(2) The proposed point of compliance (30 TAC 335.161) and point of exposure wells.

(3) Any other proposed monitor wells such as supplemental wells, observation wells, background wells, etc. If appropriate the groundwater monitoring system should have a sufficient number of wells be designated to monitor the downgradient extent of the plume.

(4) Features which may serve as conduits for subsurface contamination.

b. For each waste management unit/area in the proposed groundwater monitoring system, submit the locations of individual waste management unit/area monitor wells (existing or proposed) and any soil borings (plugged and unplugged) specifically drilled for assessment of contamination. These individual monitor wells shall be identified by respective well number on a plan view drawing and only the background, point of compliance and/or point of exposure wells should be indicated in CP Table V - Designation of Wells by Function. The plan view map depicting the location of individual monitoring wells for compliance monitoring should be labeled as "CP Attachment A, sheet xx of xx" in the text box. The title box should also include reference to the facility name, Permit/Compliance Plan Number, Solid Waste Registration Number, Unit Description or name with Notice of Registration (NoR) Unit No. 0000. The "CP Attachment A" map(s) and CP Table V shall also become part of the final Compliance Plan.

3. Implementation Schedule

Itemize and discuss, in detail, the estimated time schedule necessary for any testing and assessments, system design, construction and installation, and final implementation of the groundwater monitoring program for each Regulated

Unit and solid waste management unit. If the schedule of implementation for items are not completed at the time of the application or are not completed at the time of issuance of the final draft Permit/Compliance Plan, then the items should be added to the CP Table VIII - Compliance Schedule of the application.

D. Corrective Action Program

As required by 30 TAC 335.166, the owner or operator must take corrective action to ensure that Regulated Units are in compliance with the Groundwater Protection Standards (GWPS) under 30 TAC 335.158. As required under 30 TAC 335.167, all releases of hazardous constituents from any solid waste management unit at the facility must also be addressed. For existing corrective action programs which have been approved by the TCEQ, the applicant shall provide a copy of the TCEQ corrective action system approval letter, design system specifications and any updates as requested in Section XI.D.3.a.(1) of this section. The applicant must provide the information requested below when proposing a corrective action program which has not been previously approved by the TCEQ including a detailed description of a corrective action or a combination of corrective actions that will remedy the groundwater contamination at the waste management unit and a proposed plan for a monitoring program that will demonstrate the effectiveness of the corrective action.

The owner or operator may also apply for a the Facility Operations Area (FOA) pursuant to the requirements of 30 TAC 350.131 - 350.135 of the Texas Risk Reduction Program (TRRP) rules, provided the applicant meets the FOA pre-approval process steps 1 through 3 approved by the Commission.

Also, the owner or operator may apply for alternative groundwater Corrective Action Program pursuant 30 TAC 335.151, 335.156 and 30 TAC 350, where there are commingled releases from RCRA-regulated unit from one or more SWMUs, PCO, and/or AOC.

1. Type of Corrective Action Proposed
From the list below, indicate the type of groundwater corrective action proposed for each hazardous waste unit/area. Discuss in detail if more than one corrective action is to be used in a waste management area. Submit the discussion and descriptions as an attachment to the application.
    a. Groundwater well recovery with surface treatment
    b. Groundwater well recovery/surface treatment/re injection
    c. Groundwater well recovery and disposal
    d. Vapor extraction system
    e. Interceptor trench recovery and disposal
    f. Interceptor trench recovery and surface treatment
    g. In-situ treatment - bioreclamation
    h. In-situ treatment - chemical reaction
    i. Barrier walls/encapsulation
    j. Permeable treatment beds
    k. Other, please describe

2. Program Description

Attach a technical report providing a detailed description of a complete corrective action system including above and below ground equipment/ facilities. Include discussions on the following concerns for each type of corrective action as applicable.

a. Recovery Wells

(1) Indicate on a plan view of the waste management area the anticipated location of Recovery Well(s) which would optimize the extraction of the groundwater contaminants.
(2) Indicate on a plan view the estimated radius of influence of each Recovery Well.
(3) Indicate the optimum pumping rate of each Recovery Well determined from the aquifer pump test.
(4) Describe the design of the Recovery Wells and pump system including diameter, construction material, gravel packing, screen slot sizes and patterns, type of pumps and maintenance requirements.
(5) Describe the collection and storage of the contaminated groundwater which is classified hazardous waste (on site storage of hazardous waste shall require compliance with the applicable regulations):
    (a) Less than 90-day tanks (see 40 CFR 262.34/40 CFR 265 Subpart J);
    (b) Permitted Tanks (see 40 CFR 264 Subpart J);
    (c) (Less than 90-day Container Storage Area (see 40 CFR 262.34/40 CFR 265 Subpart I);
    (d) Permitted Container Storage Area (see 40 CFR 264 Subpart I); and
    (e) Temporary Units (see CFR 264.553).
(6) Describe the treatment and/or final disposition of the hazardous and nonhazardous contaminated groundwater.

b. Vapor Extraction System
(1) Indicate on a plan view of the waste management area the anticipated location of the vapor extraction system which would optimize the extraction of hazardous constituents from the vadose zone.
(2) Describe the construction design of the vapor extraction system in detail, including all diagrams and drawings.
(3) Describe the emission control equipment used to comply with air quality regulations.
(4) Provide the anticipated volatile contaminants to be remediated along with information on the expected effectiveness of the vapor extraction system at the waste management unit.
(5) Provide established treatability data for the proposed design.
(6) Specify the hazardous constituents affected by this type of treatment.

c. Interceptor Trenches
(1) Indicate on a plan view of the waste management area the anticipated location of the interceptor trench.
(2) Provide the construction design.
(3) Describe the procedure for construction.
(4) Describe the liquid removal and collection system.
(5) Describe the surface storage and/or treatment of the contaminated groundwater.
(6) Describe the final disposition of the contaminated groundwater.

d. In-situ Treatment - Chemical Reaction
   (1) Characterize the chemical agents to treat the contaminated groundwater and/or soils in the vadose zone.
   (2) Provide laboratory treatability data.
   (3) Specify the hazardous constituents affected by this type of treatment.
   (4) Specify the reaction by products produced during the chemical reactions.
   (5) Indicate degradation time for each treated hazardous constituent and any resulting chemical reaction by products.
   (6) Describe the potential health risks caused by human exposure to the reaction by products.
   (7) Describe potential damage to wildlife, crops, vegetation and physical structures caused by exposure to reaction by products.
   (8) Describe the persistence and permanence of the potential effects of the reaction by products.
   (9) Describe the method of chemical reactant injection and other important aspects of the system design.

e. In-situ Treatment Bioreclamation
   (1) Describe the type of bacteria most appropriate for the degradation of the hazardous constituents present in the groundwater and/or soil in the vadose zone.
   (2) Describe the nutrients necessary and application frequency to encourage effective bioreclamation.
   (3) Provide laboratory data from treatability studies utilizing the contaminated groundwater and describe any potential hazardous by products.
   (4) Indicate the degradation time for each hazardous constituent affected by this treatment.
   (5) Describe the method of injecting the bacteria and nutrients and describe the delivery system design.

f. Barrier Walls
   (1) Provide laboratory permeability data using the actual contaminated groundwater.
   (2) Describe the barrier wall materials.
   (3) Summarize construction design and installation procedures.

g. Permeable Treatment Beds
   (1) Provide laboratory data of treatability simulations using actual contaminated groundwater in combination with the material proposed to be used in treatment beds.
   (2) Discuss the properties of the treatment material which would make it effective for use at this site.
   (3) Indicate which hazardous constituents will be affected by this treatment. Indicate the reactions which will take place and the resulting reactant by products. Discuss the anticipated lifetime of the permeable treatment beds.
   (4) Provide the construction design and installation procedures.

h. Other

Discuss in detail, any other corrective action (soils and groundwater) not

included above which is proposed for use at the affected waste management area(s).

3. Groundwater Monitoring and Corrective Action Program Description

a. Describe the proposed groundwater monitoring system to be used to monitor corrective action and compliance with the GWPS which includes the following information.

(1) Changes, if applicable, from the current groundwater monitoring program at the waste management unit that will be required to comply with the corrective action monitoring program described in 30 TAC 335.166. This description should address changes concerning:

(a) Geological and/or hydrogeological information differences since the submittal of the previous application [must submit a Geologic and Hydrogeologic Report in accordance with Section XI.A.4;
(b) Waste management areas/units;
(c) Construction details for monitor wells to evaluate compliance with "Attachment B" well specification requirements;
(d) The number and locations of additional monitor wells [must submit the Monitoring System Plan/Report required by Section XI.D.3.c.(2);
(e) Sample handling, chain of custody, and analytical procedures (also see "Attachment C");
(f) Frequency of monitoring;
(g) Monitoring parameters;
(h) Evaluation of compliance with GWPS (statistical methods);
(i) Other Sampling and Analysis Plan information to be incompliant with "Attachment C";
(j) Compliance period as defined in Section XI.E.1.c. of the application;
(k) Financial assurance; and
(l) An ACL variance under 30 TAC 335.160(b), if applicable.

(2) The number, depth and location of all monitor wells (Background Wells, Point of Compliance Wells, Corrective Action Observation Wells, Supplemental Wells, piezometers, etc.) and all Recovery Wells and complete CP Table V - Designation of Wells by Function. Also, make revisions as applicable to plans referenced in Section XI.D.3.c.

(3) The proposed hazardous constituent monitoring list which is based on constituents that were monitored during detection monitoring (if applicable), constituents detected in accordance with 30 TAC 335.164, and degradational constituents identified in CP Table III accordingly to develop the constituent list for the Corrective Action Monitoring Program. CP Table III shall become part of the final Compliance Plan.

(4) The proposed indicator parameter monitoring list. From the list of constituents and GWPS identified in CP Table III complete CP Table IIIA - Corrective Action Program Table of Indicator Parameters and the Groundwater Protection Standard,

accordingly. CP Table IIIA shall become part of the Compliance Plan to be analyzed at least semiannually as required by 30 TAC 335.166(7).

(5) Frequency of monitoring should be specified in CP Table VIII

(6) Provisions for reporting groundwater data at least on an annual basis should be specified in CP Table VII)

(7) Annual determination of contamination plume rate and direction of migration.

(8) Compliance period. Calculate the compliance period as required by 30 TAC 335.162 and 335.165(1)(d). Include calculations and complete CP Table VI - Compliance Period for RCRA-Regulated Units which shall become part of the final Compliance Plan

b. Proposed methods of evaluating the effectiveness of the corrective action in the saturated and vadose zone.

c. Submit the following plans and reports.

(1) Current Sampling and Analysis Plan The Sampling and Analysis Plan must include information required by 30 TAC 335.163(4) and 335.163(5) and 40 CFR Subpart 270.30(j). For guidance, please see "Attachment C" to the application.

(2) Groundwater Recovery and Monitoring System Plan At a minimum, the plan must include:

(a) Recovery System Plan The applicant should propose a recovery system design that will achieve the performance requirement to protect human health and the environment. The plan should provide detailed plans, information and specifications on the recovery system's design and well installation specifications. All new recovery wells must be installed in accordance with applicable specifications outlined in "Attachment B", unless an alternative well design is approved by the agency prior to installation of the well. The Recovery System Plan must include Recovery System Design and Specifications Certified by a Texas Registered Professional Engineer. The certification must be sealed by a licensed Professional Engineer, with current license, along with the Registered Engineering Firm's name and Registration Number as required by the Texas Engineering Practice Act.;

(b) Monitoring System Plan If the applicant is proposing a monitoring well or a monitoring system in the application, the applicable well installation specifications outlined in "Attachment B" of this application should be followed. All new monitoring wells must be installed in accordance with the specifications outlined in "Attachment B", unless an alternative design is approved by the agency prior to installation. If the applicant proposes as part of the monitoring system, any well (existing or proposed) that does not meet or exceed the requirements outlined in "Attachment B", then the proposed alternative design must be described in detail in the Monitoring System Plan and must be submitted with this application. The

Monitoring System Plan must include:

(i.) Monitoring System Design and Specifications Certified by a qualified engineer and/or geologist which provides detailed plans and specifications on the monitoring system design; and

(ii.) Well Drilling and Well Casing Specifications Certified by a qualified engineer and/or geologist which provides details on well casing specification, drilling logs and reports.

(3) Current Geologic and Hydrogeologic Report - Provide a report per Section XI.A.4 of this application discussing the geologic and hydrogeologic conditions of the facility and the specific area affected by the waste management areas. This report should include the most up-to-date information from which the design of the groundwater monitoring system was based.

4. Waste Management Units/Areas Monitored Under Corrective Action Programs

a. Delineate and identify the following for each waste management unit/area in the proposed groundwater monitoring and corrective action programs.

(1) Boundary of the waste management unit and, if applicable, the proposed waste management area which includes more than one waste management unit (identify all waste management units which are included in the waste management area). These waste management units/areas subject to corrective action pursuant to 30 TAC 335.166 and 335.167 should be listed in CP Table I - Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring. CP Table I shall become part of the final Compliance Plan.

(2) The proposed point of compliance (30 TAC 335.161), point of exposure wells, or alternate point of exposure wells.

(3) Any proposed monitor wells such as supplemental wells, observation wells, background wells, etc. If appropriate the groundwater monitoring system should have a sufficient number of wells to monitor the downgradient extent of the plume.

(4) Features which may serve as conduits for subsurface contamination.

(5) Corrective action system.

b. For each waste management unit/area in the proposed groundwater monitoring system, submit the locations of individual waste management unit/area monitor wells (existing or proposed) and any soil borings (plugged and unplugged) specifically drilled for assessment of contamination. These individual monitor wells shall be identified by respective well number on a plan view drawing and only the background, point of compliance, point of exposure wells and/or alternate point of exposure wells should be indicated in CP Table V - Designation of Wells by Function. The plan view map depicting the location of individual monitoring wells for corrective action monitoring should be labeled as "CP Attachment A, sheet xx of xx" in the text box. The title box should also include reference to the facility name, Permit/Compliance Plan Number, Solid Waste Registration Number, Unit

Description or name with Notice of Registration (NoR) Unit No. 0000. The "CP Attachment A" map(s) and CP Table V shall also become part of the final Permit/Compliance Plan.

5. Waste Management Units/Areas Addressed Under Other Corrective Action Programs -Facility Operations Area (FOA), specific to the requirements of 30 TAC 350.131 - 350.135. The Permittee should also complete Sections XI.D.4. for other units not addressed by the FOA that may require corrective action outside the FOA boundary. For other units not addressed by the FOA, either within the FOA or outside the FOA which may require compliance monitoring, the Permittee should complete Section XI.C. of this application accordingly.

   a. Provide an approved version of the FOA Qualifying Criteria Checklist and evidence that Steps 1 through 3 of the FOA pre-approval process has been approved by the Commission.

   b. Provide a discussion on exceptions to the TRRP rule requested.

   c. Provide a summary of the SWMUs/AOCs that will be addressed within the FOA boundary and a discussion of the multiple sources of COCs present and how FOA will better address these sources.

   d. Provide maps of appropriate scale depicting the following (maps may be combined where appropriate):

      (1) The number, location and type of monitoring points in each stratigraphic unit to be monitored individual monitoring wells should be identified by respective well number on a plan view drawing, to include the background, Point of Compliance (POC), Point of Exposure (POE), FOA Boundary of Compliance wells, FOA piezometers or supplemental wells, Corrective Action Observation ((CAO), Corrective Action System (CAS) wells that are applicable for FOA monitoring program should be labeled as "CP Attachment A, sheet no xx of xx" in the title box. The title box should also include reference to the facility name, Permit/ Compliance Plan Number (00000), TCEQ Solid Waste Registration Number and Unit Description or Name. The "CP Attachment A" map(s) shall become part of the final Permit/Compliance Plan.
      (2) HWMUs/SWMUs/AOCs addressed
      (3) Surrounding land use
      (4) FOA lateral boundaries
      (5) Potential source areas
      (6) Potentiometric surface of all relevant transmissive units
      (7) Surrounding water wells
      (8) Extent of known contamination in each transmissive unit
      (9) Areas of potential ecological impact
      (10) Known occurrences of NAPL or DNAPL in each transmissive units
      (11) FOA access control components

   e. Provide cross-sections in accordance with Section XI.A.4. depicting the following (maps may be combined where appropriate);

      (1) The vertical boundaries of the FOA;
      (2) The vertical extent of contamination;
      (3) Groundwater level elevations for each transmissive unit.

f. Provide tabulated information for;
   (1) Results of Appendix IX GW sampling.
   (2) Proposed PCLs for each hazardous constituent and principal degradational constituent for each monitoring point with supporting documentation (including a discussion of exposure pathways) should be listed in CP Table III - CORRECTIVE ACTION PROGRAM Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard. CP Table III shall become part of the final Compliance Plan.
   (3) The proposed indicator parameter monitoring list. From the list of constituents and GWPS identified in CP Table IIIA. CP Table IIIA shall become part of the Compliance Plan to be analyzed at least semiannually as required by 30 TAC 335.166(7).
   (4) Only the background, POC, POE, FOA Boundary of Compliance wells should be listed in CP Table V which shall become part of the final Permit/Compliance Plan.

g. Provide a discussion of the types of corrective action that will be employed to address contaminated media.
h. Provide detailed descriptions of GW recovery and other remedial technologies such as vapor extraction, interceptor trenches, hydraulic containment, barrier walls, etc., including radius of influence, estimated optimum recovery rates, location of collection, storage or disposal facilities.
i. Provide a detailed description of the ground water monitoring system including placement of monitoring wells, hydrogeologic characteristics of monitored units and well completion details.
j. Provide a Sampling and Analysis plan for the proposed FOA that includes development of COCs to be monitored, sampling methodology, sample handling procedures, sampling frequency and statistical procedures for evaluating analytical results (Appendix C).
k. Propose a methodology for evaluating the effectiveness of remedial measures and potential remedial system enhancements.
l. Propose a reporting schedule to provide updated information on the installation and operation of remedial and monitoring systems.
m. Provide Financial Assurance in accordance with Section XI.E.
n. Provide draft language intended to comply with the deed notification requirements of 30 TAC 350.111 and 350.135(a)(11).
o. Provide a summary of the approved workers protection plan.
p. Provide a discussion of areas of ecological impact, if any, and development of associated Protective Concentration Limits (PCLs).
q. Provide a discussion of how NAPL occurrences, if any, will be addressed inside and outside the FOA.
r. Provide a schedule of implementation for items not completed at the time of application See also Section XI.D.8.

6. Waste Management Units/Areas Monitored Under Corrective Action Programs - Plume Management Zone (PMZ)
   a. Please provide a summary of the HWMUs and SWMUs/AOCs that will be addressed within the PMZ boundary.
   b. Please provide a discussion of the multiple sources of COCs present and how PMZ will better address these sources.
   c. Please provide maps of appropriate scale depicting the following (maps may be combined where appropriate);
      (1) HWMUs/SWMUs/AOCs addressed

(2) surrounding land use
(3) PMZ lateral boundaries
(4) potential source areas
(5) Potentiometric surface of all relevant transmissive units
(6) Surrounding water wells
(7) extent of known contamination in each transmissive unit
(8) number, location and type of monitoring points in each stratigraphic unit to be monitored
(9) Areas of potential ecological impact
(10) known occurrences of LNAPL or DNAPL in each transmissive unit

d. Please provide sufficient cross-sections depicting the following (maps may be combined where appropriate);
   (1) The vertical boundaries of the PMZ;
   (2) The vertical extent of contamination;
   (3) potentiometric surfaces for each transmissive unit.

e. Please provide tabulated information for;
   (1) history of all relevant units or AOCs;
   (2) summary of hydrogeologic data for each affected transmissive unit;
   (3) results of Appendix IX GW sampling;
   (4) proposed PCLs for each constituent for each monitoring point (Point of Exposure wells, alternate point of exposure wells, etc.) with supporting documentation (including a discussion of exposure pathways). This should also include the designation/ establishment of sufficient number of Attenuation Monitoring Points (AMPs) beginning at an appropriate hydraulically upgradient location within the groundwater protective concentration level exceedance (PLCE) zone and continuing down the approximate central flow path of the constituent of concern (COC) in the downgradient extent of the Plume Management Zone(s) in accordance with 30 TAC 350.33(f)(4)(D).
   (5) Establish/Calculate Attenuation Action Levels (AALs) (critical PCLs) for each attenuation monitoring point in accordance with 30 TAC 350.33(f)(4)(D)(ii). The established AALs (critical PCLs) for each AMP well should be graphically presented in table format on the plan view map depicting the location of individual monitoring wells (including AMP wells) for corrective action monitoring labeled "CP Attachment A, Sheet xx of xx", referenced in XI.D.4.b.

f. Please provide a discussion of the types of corrective action that will be employed to address contaminated media.
g. Please provide detailed descriptions of GW recovery and other remedial technologies such as vapor extraction, interceptor trenches, hydraulic containment, barrier walls, etc., including radius of influence, estimated optimum recovery rates, location of collection, storage or disposal facilities.
h. Please provide a detailed description of the groundwater monitoring system including placement of monitoring wells, hydrogeologic characteristics of monitored units and well completion details.
i. Please provide a Sampling and Analysis plan for the proposed PMZ that includes development of COCs to be monitored, sampling methodology, sample handling procedures, sampling frequency and statistical procedures

for evaluating analytical results.

j. Please propose a methodology for evaluating the effectiveness of remedial measures and potential remedial system enhancements.
k. Please propose a reporting schedule to provide updated information on the installation and operation of remedial and monitoring systems.
l. Please provide a thorough detailed description of an estimate of all costs that will be incurred by implementing, operating, and maintaining the corrective action and monitoring systems addressed by the compliance plan.
m. Please provide draft language intended to comply with the deed notification requirements of 350.111, and schedule to verify compliance with institutional control requirements in accordance with 30 TAC 350.31(g) which provides notice of the existence and location of the PMZ and which prevents exposure to groundwater from this zone until such a time as constituents of concern may be reduced to below the GWPS.
n. Schedule for notification requirements if an unexpected event occurs, or a condition is detected, during post-response action care period which indicates that additional response actions will be required at an affected property pursuant to 30 TAC 350.33(k).
o. Please provide a summary of the approved soil response action plan.
p. Please provide a discussion of areas of ecological impact, if any, and development of associated PCLs.
q. Please provide a discussion of how NAPL occurrences, if any, will be addressed inside the PMZ.
r. Please provide a schedule of implementation for items not completed at the time of application {See also Section XI.D.8.}

7. Waste Management Units/Areas Monitored Under Alternative Corrective Action Program for Co-mingled plumes Alternative groundwater Corrective Action Program apply, pursuant 30 TAC 335.151, 335.156 and 350, for commingled release from RCRA-regulated unit and from one or more SWMUs and/or AOC.

   a. Complete Sections XI.D.1. through 4.;
   b. In addition to the CP Attachment A maps in Section XI.D.4.b., CP Attachment A maps should clearly depict those waste management unit or areas of the facility which have commingled plumes and the alternative corrective action applies.
   c. Please provide a schedule of implementation for items not completed at the time of application {See also Section XI.D.8.}

8. Implementation Schedule
   Itemize and discuss, in detail, the estimated time schedule necessary for any testing and assessments, system design, construction and installation, and final implementation of the groundwater monitoring program for each Regulated Unit and solid waste management unit. If the schedule of implementation for items are not completed at the time of the application or are not completed at the time of issuance of the final draft Compliance Plan, then the items should be added to the CP Table VIII - (Compliance Schedule) of the application.

E. Cost Estimates For Financial Assurance

As required by 30 TAC 335.156 and 335.167, the applicant must provide cost estimates for groundwater monitoring and corrective action to determine the amount of financial assurance. Please complete the applicable parts of this form. Cost estimates should be filled out for each proposed corrective action/monitoring system at the site; or any additional corrective action system not covered in this Part. Please note, the Executive

Director may request from the applicant documentary evidence for cost estimates.

If an item is not applicable, please mark it NA. Please Complete the following tables, as applicable:

1. CP Table XI.E. - General Infomation
2. CP Table XI.E.1. - Corrective Action Program Cost Estimate
3. CP Table XI.E.2.e - Groundwater Monitoring Cost Estimate
4. CP Table XI.E.3. - Financial Assurance Summary

Attachment A

Alternate Concentration Limits

Alternate Concentration Limits (ACLs) must be submitted by hazardous waste facility owners or operators who seek ACLs for any hazardous constituent as provided by 30 TAC 335.160(b) as a part of a compliance monitoring or corrective action program. An ACL demonstration should follow the guidance provided in this attachment. Compliance Plan Application, Section XI.B.2.b. outlines when an ACL demonstration must be conducted. Where possible in "Attachment A", the applicant may copy information previously submitted to the Commission and reference the information submitted in other Sections (Sections I and XI.B. through E.) of this Compliance Plan Application.

Alternate Concentration Limit Demonstration

An ACL petition is based on a demonstration that hazardous constituents detected in the groundwater will not pose a substantial present or future threat to human health or the environment at the ACL levels. Potential adverse effects on both groundwater quality and hydraulically connected surface water quality must be addressed. Using Environmental Protection Agency published lists of 40 CFR Part 264 Appendix IX hazardous constituents, the applicant must submit a list of all contaminants in the groundwater. For all the petitioned ACL constituents, the applicant must address all known synergistic and additive effects on human health and the environment to develop appropriate ACL levels.

Required Information for Alternate Concentration Limits

In addition to rule specific requirements (i.e., 30 TAC Chapter 335 Subchapter S RRR, or 30 TAC Chapter 350 TRRP), the following items must be addressed for each hazardous constituent for which an alternate concentration is sought (CP Tables III and IV, XII.B.). If the information required in this part has been furnished in other parts of Compliance Plan Application, please provide an adequate reference.

1. Potential adverse effects on groundwater quality, considering:
   a. The physical and chemical characteristics of the waste in the Regulated Unit, Solid Waste Management Unit(SWMU) or Area of Concern (AOC), including its potential for migration;
   b. The hydrogeological characteristics of the facility and surrounding land;
   c. The quantity of groundwater r and the direction of groundwater flow;
   d. The proximity and withdrawal rates of groundwater users;
   e. The current and future uses of groundwater in the area;
   f. The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;
   g. The potential for health risks caused by human exposure to waste constituents;
   h. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and,
   i. The persistence and permanence of the potentially adverse effects.
2. Potentially adverse effects on hydraulically connected surface water quality, considering:
   a. The volume and physical and chemical characteristics of the waste in the Regulated Unit, Solid Waste Management Unit (SWMU) or Area of Concern (AOC);

b. The hydrogeological characteristics of the facility and surrounding land;
c. The quantity and quality of groundwater, and the direction of groundwater flow;
d. The patterns of rainfall in the region;
e. The proximity of the Regulated Unit to surface waters;
f. The current and future uses of surface waters in the area and any water quality standards established for those surface waters;
g. The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;
h. The potential for health risks caused by human exposure to waste constituents;
i. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and,
j. The persistence and permanence of the potentially adverse effects.

Attachment B

Well Design And Construction Specifications

The following well design and construction specifications should be used as guidance when designing a groundwater Compliance Monitoring Program (Section XI.C.) or a Corrective Action Program (Section XI.D.). This guidance is provided to establish minimum well design and construction specifications for the Compliance Plan.

1. Well drilling methods that minimize potential adverse effects on the quality of water samples withdrawn from the well and that minimize or eliminate the introduction of foreign fluids into the borehole must be utilized.

2. All wells shall be constructed such that the wells can be routinely sampled with a pump, bailer, or alternate sampling device. Piping associated with recovery wells should be fitted with sample ports or an acceptable alternative sampling method to facilitate sampling of the recovered groundwater on a well by well basis.

3. Above the saturated zone the well casing may be two (2) inch diameter or larger schedule 40 or 80 polyvinyl chloride (PVC) rigid pipe or stainless steel or polytetrafluoroethylene (PTFE or "teflon") or an approved alternate material. The PVC casing must bear the National Sanitation Foundation logo for potable water applications (NSF pw). Solvent cementing compounds shall not be used to bond joints and all connections shall be flush threaded. In and below the saturated zone, the well casing shall be stainless steel or PTFE.

   PVC or fiberglass reinforced resin may be used as an alternate well casing material in and below the saturated zone provided that it yields samples for groundwateruality analysis that are unaffected by the well casing material.

4. Any well that has deteriorated due to incompatibility of the casing material with the groundwater contaminants or due to any other factors must be replaced.

5. Well casings and screens shall be steam cleaned prior to installation to remove all oils, greases, and waxes. Well casings and screens made of fluorocarbon resins shall be cleaned by detergent washing.

6. Screen length shall not exceed ten (10) feet within a given transmissive zone unless otherwise approved by the executive director. Screen lengths exceeding ten (10) feet may be installed in groundwater recovery or injection wells to optimize the groundwater remediation process in accordance with standard engineering practice.

7. The intake portion of a well shall be designed and constructed so as to allow sufficient water flow into the well for sampling purposes and minimize the passage of formation materials into the well during pumping. The intake portion of a well shall consist of commercially manufactured stainless steel or PTFE screen or approved alternate material. The annular space between the screen and the borehole shall be filled with clean siliceous granular material (i.e., filter pack) that has a proper size gradation to provide mechanical retention of the formation sand and silt. The well screen slot size shall be compatible

with the filter pack size as determined by sieve analysis data. The filter pack should extend no more than three (3) feet above the well screen. A silt trap, no greater than one (1) foot in length, may be added to the bottom of the well screen to collect any silt that may enter the well. The bottom of the well casing shall be capped with PTFE or stainless steel or approved alternate material.

Groundwater recovery and injection wells shall be designed in accordance with standard engineering practice to ensure adequate well production and accommodate ancillary equipment. Silt traps exceeding one (1) foot may be utilized to accommodate ancillary equipment. Well heads shall be fitted with mechanical wellseals, or equivalent, to prevent entry of surface water or debris.

8. A minimum of two (2) feet of pellet or granular bentonite shall immediately overlie the filter pack in the annular space between the well casing and borehole. Where the saturated zone extends above the filter pack, pellet or granular bentonite shall be used to seal the annulus. The bentonite shall be allowed to settle and hydrate for a sufficient amount of time prior to placement of grout in the annular space. Above the minimum two (2) foot thick bentonite seal, the annular space shall be sealed with a cement/bentonite grout mixture. The grout shall be placed in the annular space by means of a tremie pipe or pressure grouting methods equivalent to tremie grouting standards.

   The cement/bentonite grout mixture or TCEQ approved alternative grout mixture shall fill the annular space to within two (2) feet of the surface. A suitable amount of time shall be allowed for settling to occur. The annular space shall be sealed with concrete, blending into a cement apron at the surface that extends at least two (2) feet from the outer edge of the monitor well for above ground completions. Alternative annular space seal material may be proposed with justification and must be approved by the executive director prior to installation.

   In cases where flush to ground completions are unavoidable, a protective structure such as a utility vault or meter box should be installed around the well casing and the concrete pad design should prevent infiltration of water into the vault. In addition, the following requirements must also be met 1) the well/cap juncture is watertight; 2) the bond between the cement surface seal and the protective structure is watertight; and 3) the protective structure with a steel lid or manhole cover has a rubber seal or gasket.

9. Water added as a drilling fluid to a well shall contain no bacteriological or chemical constituents that could interfere with the formation or with the chemical constituents being monitored. For groundwater recovery and injection wells, drilling fluids containing freshwater and treatment agents may be utilized in accordance with standard engineering practice to facilitate proper well installation. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.

10. Upon completion of installation of a well, the well must be developed to remove any fluids used during well drilling and to remove fines from the formation to provide a particulate free discharge to the extent achievable by accepted completion methods and by commercially available well screens. Development

shall be accomplished by reversing flow direction, surging the well or by air lift procedures. No fluids other than formation water shall be added during development of a well unless the aquifer to be screened is a low yielding water bearing aquifer. In these cases, the water to be added should be chemically analyzed to evaluate its potential impact on in-situ water quality, and to assess the potential for formation damage.

For recovery and injection wells, well development methods may be utilized in accordance with standard engineering practice to remove fines and maximize well efficiency and specific capacity. Addition of freshwater and treatment agents may be utilized during well development or re development to remove drilling fluids, inorganic scale or bacterial slime. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.

11. Each well shall be secured and/or designed to maintain the integrity of the well borehole and groundwater.

12. The above ground portion of the well must be protected by bumper guards and/or metal outer casing protection when wells are located in traffic areas or outside the secured plant area.

13. The attached Table of Well Construction Details (Item 13) is to be completed or updated for each well installed and kept on site. Items in the table that require a yes or no answer indicate diagrams plans, or procedures that shall be kept on site and made available to inspection. The completed table and other records shall include all the following information:

    - name/number of well (well designation);
    - intended use of the well(sampling, recovery, etc.);
    - date/time of construction;
    - drilling method and drilling fluid used;
    - well location (+ 0.5 ft.);
    - bore hole diameter and well casing diameter;
    - well depth (+ 0.1 ft.);
    - drilling and lithologic logs;
    - depth to first saturated zone;
    - casing materials;
    - screen materials and design;
    - casing and screen joint type;
    - screen slot size/length;

- filter pack material/size;
- filter pack volume (how many bags, buckets, etc.);
- filter pack placement method;
- sealant materials;
- sealant volume (how many bags, buckets, etc.);
- sealant placement method;
- surface seal design/construction;
- well development procedure;
- type of protective well cap;
- ground surface elevation (+ 0.01 ft. MSL);
- top of casing elevation (+ 0.01 ft. MSL); and,
- detailed drawing of well (include dimensions).

14. Construction or plugging and abandonment of each well shall be completed in accordance with the requirements of 16 TAC Chapter 76 and must be reported/ certified to the TCEQ that such proper construction or plugging and abandonment has occurred following installation or plugging and abandonment. Well completion logs for each newly installed or replaced well shall be included with the report. The certification shall be prepared by a qualified geologist or geotechnical engineer. Each well certification shall be accompanied by a certification report, including an accurate log of the soil boring, which thoroughly describes and depicts the location, elevations, material specifications, construction details, and soil conditions encountered in the boring for the well. A copy of the certification and certification report shall be kept on site, and a second copy shall be submitted to the executive director.

15. The well number must be clearly marked and maintained on each well at the site.

16. The elevation of the top of each well casing must be measured in feet above mean sea level to the nearest 0.01 foot.

17. Wells must be replaced at any time the well integrity or materials of construction or well placement no longer enable the well to yield samples representative of groundwater quality.

18. Soil test borings shall be plugged and wells removed from service with a cement/bentonite grout mixture so as to prevent the preferential migration of fluids in the area of the borehole. Certification of each plugging shall be reported in accordance with Provision 14. The plugging of wells shall be in accordance with 16 TAC Chapter 76 dealing with Well Drilling, Completion, Capping and Plugging.

19. A well's screened interval shall be appropriately designed and installed to meet the well's specific objective (i.e., either DNAPL, LNAPL, both, or other objective of the well). All wells designed to detect, monitor, or recover DNAPL must be drilled to intercept the bottom confining layer of the aquifer. The screened interval to detect DNAPL should extend from the top of the lower confining layer to above the portion of the aquifer saturated with DNAPL. The screened interval for all wells designed to detect, monitor, or recover LNAPL must extend high enough into the vadose zone to provide for fluctuations in the seasonal water table. In addition, the sandpacks for the recovery or monitoring well's screened interval shall be coarser than surrounding media to ensure the movement of NAPL to the well.

Attachment C - Sampling And Analysis Plan

Introduction and Purpose

This Attachment was prepared for the purpose of providing guidance for the preparation of a Groundwater Sampling and Analysis Plan (SAP) to meet the requirements of 30 Texas Administrative Cod (TAC) 335.163(4) and (5) and also 40 CFR 270.30(j). This guidance is based on the publication, RCRA Groundwater Monitoring: Draft Technical Guidance (TEGD Update) (November 1992, USEPA), and its updates, and is not intended to be rule or policy, or include all acceptable practices.

When preparing the SAP, the applicant may insert copies of areas of the Compliance Plan Application already completed which provides any necessary information for completion of the SAP. The SAP should include the information described in the following sections. When certain sections are not applicable, please provide justification for omission from the SAP.

1. Pre Field Activity
    a. The log book format should be outlined in the SAP and should contain at a minimum:
        - the names of those conducting the sampling event;
        - the purpose and provision(s) of the compliance plan requiring the sampling event;
        - weather conditions at time of sampling;
        - date and time of collection;
        - well identification;
        - integrity of well;
        - monitoring well measurements, including: total well depth; static water level depth; measurement techniques; height of water column; well volume; and, notation of the presence or absence of accumulated silt (including thickness and measurement procedures);
        - notation of the presence or absence of NAPLs (including thickness and detection method);
        - well purging procedures, including equipment, purge volume, pumping rate, and well purge time;
        - sampling methods, including well sampling sequence, sampling equipment and withdrawal procedures;
        - visual and measured water quality parameters required for analysis, such as appearance, pH, conductivity, temperature and turbidity; and,
        - sample preservation and handling procedures, including types of sample bottles, sample identification numbers, preservatives used, and internal temperature of field and shipping containers.
    b. The SAP should reference the Provisions or Tables within the Compliance Plan regarding monitor well designations, parameters to be monitored, and sampling frequency, rather than utilizing detailed lists.
    c. The SAP should include examples of the log book format, chain of custody, and information to be included on the container labels and seals.
    d. The SAP should reference both the Health and Safety Plan, and Field Emergency Contingency Plan. These Plans should be checked to determine if they adequately address health and safety issues that may occur during a sampling event.
2. Prior to Purging Well

a. A. Procedures for evaluating the physical condition and integrity of the well should include:
   - inspecting the casing and cap for cracks, signs of deterioration or tampering;
   - determination if the cap and monitoring well are secure;
   - inspecting the well pad for cracks, or signs of deterioration, erosion, settling, and/or animal and insect burrowing; and,
   - where appropriate, inspect any dedicated equipment for signs of cleanliness, structural integrity and deterioration.

b. Procedures and equipment used for measuring groundwater elevations, well depths, silt accumulation, and Non Aqueous Phase Liquids (NAPLs) should be included in the SAP. Water levels should be measured from the surveyed datum on the top of the well casing, with a precision of ±0.01 foot. If present, accumulated silt and light/dense NAPLs should be measured for thickness.

c. Procedures for monitoring site specific weather conditions at the time of sampling should be incorporated into the SAP, including precipitation (when applicable), temperature, and approximate wind speed and direction.

3. Sampling Preparation Activity

a. Well purging methods:

(1) A sampling contingency plan should be developed for wells which are purged to dryness or purged such that full recovery exceeds two hours. In such instances, samples should be taken as soon as a sufficient volume of groundwater has entered the well to enable the collection of the necessary groundwater samples.

(2) In all instances of purging, the SAP should describe in detail the equipment used (dedicated or non dedicated), purging rate, and the method for determining volume purged.

(3) Although purging and sampling by bailers is acceptable, the EPA recommends the use of dedicated pumping equipment designed for low flow rates.

(4) When utilizing micropurging methods, the purge rate may range between 0.1 to 0.5 liter/minute. During micropurging, drawdown should not exceed 0.1 meter. The applicant should provide justification for any alternate sampling procedure. The SAP should also specify the well screen interval at which the pump intake is placed and a copy of the boring log for each well utilizing micropurging. In line measurements of redox, dissolved O2 and turbidity during purging of groundwater should stabilize within 10% over at least two measurements prior to sampling.

b. Field filtering of groundwater samples should not be conducted unless the applicant has provided a justification and field filtration is approved by the TCEQ. If samples are field filtered, a 10 micron filter should be used while still fulfilling the data quality objectives for the groundwater monitoring program.

c. The container type, size, and labeling method for each procedure performed should be referenced and/or tabulated in the SAP.

d. Sample blanks, field blanks, trip blanks and split sampling procedures, including frequency and preservation should be specified in the SAP as quality control checks for each sampling event. The preparation, analysis,

and evaluation of replicates, duplicates and spikes should also be included.

4. Well Sampling
   a. Well sampling equipment, collection procedures, and sampling sequence of wells, should be specified in the SAP. The SAP should include sampling equipment that is constructed of inert material, which should not alter analyte concentration due to loss of analyte via absorption, or gain via desorption, degradation or corrosion.
   b. Field QA/QC and sample preservation methods used to control pH, chemical addition and refrigeration of samples should be described in the SAP and follow the methods described in the current editions of EPA Report SW 846, "Test Methods for Evaluating Solid Waste" and American Society for Testing and Materials (ASTM) Standard Test Methods or other methods accepted by the TCEQ. The SAP should indicate that chemical preservatives are to be added to samples in the field and not in the laboratory. The SAP should indicate that coolants used for refrigerating samples need to be contained (e.g. blue ice).
   c. Procedures for sampling inorganics and volatile/semi volatile organics should be described in the SAP and follow the methods of SW 846 and ASTM or other methods accepted by the TCEQ.
5. Post Sampling Activity
   a. Decontamination procedures should be included in the SAP when dedicated equipment is not used for purging and sampling, or when dedicated equipment is stored outside the well. The procedures should include disassembly, cleaning of equipment, packaging and storage of equipment when not in use.
   b. Analytical methods and holding times should be tabulated in the SAP in accordance with SW 846 and ASTM or other methods accepted by the TCEQ.
   c. Chain of custody and shipping procedures should be described and intended to prevent misidentification of samples, to identify and prevent tampering of the samples during shipping and storage, and allow easy tracking of the shipment from the field to final analyses. A Chain of Custody Form should accompany each sample shipment and include the following information:
      - sample identification number;
      - signature of collector;
      - date and time of collection;
      - sample type (e.g. groundwater);
      - identification of sampling point (well);
      - number of containers;
      - parameters requested for analysis;
      - preservatives used;
      - signature(s) of person(s) involved in the chain of possession;
      - inclusive dates and time of possession;
      - internal temperature of shipping container when samples were sealed into the container for shipping; and,
      - internal temperature of container upon opening in the laboratory.

Samples should be shipped in coolers or similar containers designed to keep samples at a constant 4°C and prevent breakage. Containers used for sample shipment should be

sealed with the seal signed and dated by the sampler.

d. Disposal methods of contaminated equipment, wash water and purged groundwater should be described.

e. Laboratory QA/QC procedures should include control samples as defined in Chapter I of SW 846. An appropriate statistical method/procedure should be used to monitor and document performance and to implement an effective program to resolve testing problems (instrument maintenance). Data from the control samples (i.e. spiked samples, duplicates and blanks) should be used as a measure of performance or as an indicator of potential source of cross contamination (i.e. from instrumentation). QA/QC documentation for reporting values should be tabulated on laboratory data sheet and include: target analyte; unit of measure (e.g. ppm); method analyses; and, time/dates of sample collection and analyses.

Table XI.A.1. - Facility History for Waste Management Units

Name of Waste Management Unit(1)	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit(2)	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed(3)	Is There Evidence of a Release of Hazardous Constituent(s)(4) to Groundwater? (Yes, No, or Unknown)
Landfill*	D80	1	Unknown	D006 D008	720,000 CY	720,000 CY	1/1/1994	1/1/1995	Feb 15, 1995	No
Sludge Disposal Area*	D80	82	1/1/1979	D006 D008	1,500 CY	1,500 CY	1/1/2003	1/1/2003	Sept 10, 2003	Yes
Container (inactive)*	S01	2	Unknown	Various	Unknown	0	1/1/2020	Pending	TBD	No
Landfill	D80	3	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	4	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	5	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	6	Unknown	Various	Unknown	Unknown	1/1/1992	1/1/1993	---	No
Landfill	D80	7	Unknown	Various	Unknown	Unknown	1/1/1991	1/1/1992	---	No
Tank*	T01	8	Unknown	Various	250,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Tank (active)	T01	9	1/1/1972	Various	250,000 G	--	1/1/2020	TBD	---	No
Tank (active)*	T01	10	1/1/1988	Various	9,000 G	---	1/1/2014	1/1/2014	Pending	No
Tank (active)	T01	11	1/1/1972	Various	9,000 G	___	1/1/2020	TBD	---	No
Surface Impndment*	T02	12	Unknown	Various	120,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No

Name of Waste Management Unit[1]	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit[2]	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed[3]	Is There Evidence of a Release of Hazardous Constituent(s)[4] to Groundwater? (Yes, No, or Unknown)
Surface Impndment*	T02	13	Unknown	Various	1,000,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Surface Impndment*	T02	14	Unknown	Various	135,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Surface Impndment*	T02	15	Unknown	Various	9,100,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Surface Impndment*	T02	16	Unknown	Various	9,700,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Surface Impndment*	T02	17	Unknown	Various	6,870,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Surface Impndment*	T02	18	Unknown	Various	5,450,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Tank	S02	19	Unknown	Various	800 G	0	1/1/1992	1/1/1993	---	No
Tank	S02	20	Unknown	Various	800 G	0	1/1/1992	1/1/1993	---	No
Tank	S02	21	Unknown	Various	10,000 G	0	1/1/1992	1/1/1993	---	No
Tank	S02	22	Unknown	Various	8,000 G	0	1/1/1992	1/1/1993	---	No
Tank (active)*	T04	23	Unknown	Various	Unknown	---	1/1/2010	TBD	---	No
Surface Impndment*	T02	24	Unknown	Various	400,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Surface Impndment*	T02	25	Unknown	Various	200,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Tank*	T01	26	Unknown	Various	4,500 G	0	1/1/1992	1/1/1993	Unknown	No

Name of Waste Management Unit[1]	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit[2]	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed[3]	Is There Evidence of a Release of Hazardous Constituent(s)[4] to Groundwater? (Yes, No, or Unknown)
Tank (active)	S02	27	Unknown	Various	10,000 G	---	1/1/2020	TBD	Pending	No
Tank (active)*	T01	28	1/1/1988	Various	Unknown	---	1/1/2014	1/1/2014	TBD	No
Tank (active)*	T01	29	1/1/1988	Various	65,000 G	---	1/1/2014	1/1/2014	Pending	No
Tank (active)*	T01	30	1/1/1988	Various	226,000 G	---	1/1/2014	1/1/2014	Pending	No
Tank (active)*	T01	31	1/1/1988	Various	14,000 G	---	1/1/2014	1/1/2014	Pending	No
Tank (active)	T01	32	1/1/1972	Various	250,000 G	---	1/1/2020	TBD	---	No
Tank (active)	T01	33	1/1/1972	Various	250,000 G	---	1/1/2020	TBD	---	No
Tank (active)	T01	34	1/1/1972	Various	36,400 G	---	1/1/2020	TBD	---	No
Tank (active)	T01	35	1/1/1988	Various	12,000 G	---	1/1/2014	1/1/2014	Pending	No
WT Unit (active)*	T04	36	Unknown	Various	Unknown	---	1/1/2020	TBD	TBD	No
Landfill (active)	D80	37	Unknown	Various	Unknown	---	1/1/2020	TBD	---	No
Tank (active)*	T01	38	1/1/1988	Various	9,000 G	---	1/1/2014	1/1/2014	Pending	No
CSA (active)*	S01	39	Unknown	Various	Unknown	---	1/1/2010	TBD	TBD	No
Tank (active)*	T01	40	1/1/1988	Various	Unknown	---	1/1/2014	1/1/2014	Pending	No

Name of Waste Management Unit(1)	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit(2)	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed(3)	Is There Evidence of a Release of Hazardous Constituent(s)(4) to Groundwater? (Yes, No, or Unknown)
Tank (active)	T01	41	1/1/1972	Various	9,000 G	---	1/1/2020	TBD	---	No
Tank (active)	T01	42	Unknown	Various	Unknown	---	1/1/2020	TBD	---	No
Container (active)	T04	43	1/1/1988	Various	Unknown	---	1/1/2020	TBD	---	No
Tank (active)*	T01	44	1/1/1988	Various	9,000 G	---	1/1/2020	TBD	TBD	No
Tank (active)*	T01	45	1/1/1988	Various	9,000 G	---	1/1/2020	TBD	TBD	No
Tank (active)*	T01	46	1/1/1988	Various	9,000 G	---	1/1/2014	1/1/2014	Pending	No
WWTP (active)*	T04	47	1/1/1988	Various	Unknown	---	1/1/2014	1/1/2014	Pending	No
CSA (active)*	S01	48	1/1/1972	Various	Unknown	---	1/1/2020	TBD	TBD	No
WWTP (active)	T04	49	Unknown	Various	Unknown	---	1/1/2020	TBD	---	No
Septic Tank/ Drain Field	D79	50	1/1/1997	Various	Unknown	---	1/1/2020	---	---	No
CSA (active)	S01	51	1/1/1997	Various	Unknown	---	1/1/2020	TBD	---	No
CSA (active)	S01	52	1/1/2002	Various	Unknown	---	1/1/2020	TBD	---	No
CSA	S01	53	Unknown	Various	Unknown	0	1/1/2004	Unknown	---	No
Waste Pile	S03	54	Unknown	Various	Unknown	0	1/1/2004	Unknown	---	No

Name of Waste Management Unit[1]	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit[2]	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed[3]	Is There Evidence of a Release of Hazardous Constituent(s)[4] to Groundwater? (Yes, No, or Unknown)
CSA	S01	55	Unknown	Various	Unknown	0	1/1/2004	Unknown	---	No
CSA (active)	S01	56	1/1/2002	Various	12.5 CY	---	1/1/2010	TBD	---	No
CSA (active)	S01	57	1/1/2002	Various	12.5 CY	---	1/1/2015	TBD	---	No
CSA (active)	S01	58	1/1/2002	Various	12.5 CY	---	1/1/2016	1/1/2016	Pending	No
CSA (active)	S01	59	1/1/2002	Various	12.5 CY	---	1/1/2015	TBD	---	No
CSA (active)	S01	60	1/1/2002	Various	40 CY	---	1/1/2020	TBD	---	No
CSA (active)	S01	61	1/1/2002	Various	12.5 CY	---	1/1/2020	TBD	---	No
CSA (active)	S01	62	1/1/2002	Various	40 CY	---	1/1/2015	TBD	---	No
CSA (active)	S01	63	1/1/2002	Various	20 CY		1/1/2020	TBD	---	No
CSA (active)	S01	64	1/1/2002	Various	Unknown	---	1/1/2020	TBD	---	No
Waste Pile (active)	S03	65	1/1/2002	Various	Unknown	---	1/1/2020	TBD	---	No
Waste Pile (active)	S03	66	1/1/2004	Various	100 T	---	1/1/2020	TBD	---	No
CSA (active)	S01	67	1/1/2004	Various	Unknown	---	1/1/2020	TBD	---	No
Waste Pile (active)	S03	68	1/1/2004	Various	Unknown	---	1/1/2020	TBD	---	No

Name of Waste Management Unit[1]	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit[2]	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed[3]	Is There Evidence of a Release of Hazardous Constituent(s)[4] to Groundwater? (Yes, No, or Unknown)
CSA (active)	S01	69	1/1/2005	Various	12.5 CY	---	1/1/2020	TBD	---	No
Waste Pile (active)	S03	70	1/1/2005	Various	Unknown	---	1/1/2020	TBD	---	No
CSA (active)	S01	71	1/1/2002	Various	20 CY	---	1/1/2020	TBD	---	No
CSA (active)	S01	72	1/1/2005	Various	Unknown	---	1/1/2020	TBD	---	No
Drip Pads (active)	S05	73	1/1/2006	Various	20 CY	---	1/1/2020	TBD	---	No
CSA (active)	S01	74	1/1/2006	Various	25 CY	---	1/1/2020	TBD	---	No
Tank (active)	S02	75	1/1/2006	Various	Unknown	---	1/1/2020	TBD	---	No
CSA (active)	S01	76	1/1/2006	Various	Unknown	---	1/1/2020	TBD	---	No
CSA (active)	S01	77	1/1/2008	Various	Unknown	---	1/1/2020	TBD	---	No
(reserved)	---	78	---	---	---	---	---	---	---	
Surface Impdment (active)	S04	79	1/1/2008	Various	Unknown	---	1/1/2020	TBD	---	No
(reserved)	---	80	---	---	---	---	---	---	---	
CSA (active)	S01	81	1/1/2008	Various	20 CY	---	1/1/2020	TBD	---	No

Name of Waste Management Unit(1)	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit(2)	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed(3)	Is There Evidence of a Release of Hazardous Constituent(s)(4) to Groundwater? (Yes, No, or Unknown)
Incinerator	T03	83	1/1/2016	999	Unknown	---	1/1/2020	TBD	---	No

1 Indicate by asterisk (*) those waste management units that have received any hazardous waste constituent listed in Appendix VIII of 40 CFR Part 261.
2 For the purposes of this Compliance Plan Application, a waste management unit receiving hazardous waste after July 26, 1982 shall be considered a Regulated Unit. A waste management unit that ceased receiving hazardous waste on or before that date shall be considered a Solid Waste Management Unit (SWMU).
3 Date the applicant submitted certification of closure to the Commission.
4 Hazardous constituents are those hazardous constituents listed in Appendix IX of 40 CFR Part 264.

Table XI.E. -General Information

Waste Management Area/Units Description	N.O.R Unit No. (as applicable)	Compliance Period For WMA Year(s) [1] [2]
Landfill	001	5
Sludge Disposal Area	082	13

1. (The compliance period is the number of years equal to the active life of the waste management area as defined in 30 TAC 335.162).
2. In instances where the compliance period is equal to or exceeds 30 years, the maximum amount of financial assurance required will be based on 30 years because the required post-closure care period to perform corrective action and groundwater monitoring is 30 years. In instances where the compliance period is less than 30 years, the financial assurance for corrective action or compliance monitoring will be based on the longest time frame established by one of the following criteria:
    a. the duration of your compliance plan;
    b. the time frame for clean-up based on model projections and historical data as approved by the Executive Director; or
    c. the compliance period for the unit/area.

Table XI.E.1. Corrective Action Program Cost Estimate	
Table XI.E.1. Corrective Action Program Cost Estimate	
Table XI.E.1. Corrective Action Program Cost Estimate	
1. Pumping Capacity Per Year:	
A. Daily average system pumping rate	gal/day
B. Annual groundwater volume recovered	gal/yr
2. Off-Site Liquid Treatment / Disposal Cost:	
A. Volume of treated contaminated water to be disposed of off-site yearly	gal/yr
B. Transportation of liquid waste disposed of off-site yearly	
(1) Transportation cost per gallon	$/gal
(2) Gallons of contaminated water shipped per year	gal/yr
(3) Annual cost of transportation (1 x 2)	$/yr
C. On-site yearly storage cost prior to off-site disposal	$/yr
D. Off-site yearly treatment cost of liquid waste	
(1) Treatment charge per gallon	$/gal
(2) Total volume to be treated per year	gal/yr
(3) Annual treatment cost (1 x 2)	$/yr
E. Off-site disposal cost of liquid waste per year	
(1) Disposal charge per gallon	$/gal
(2) Total volume to be disposed per year	gal/yr
(3) Annual disposal cost (1 x 2)	$/yr
***Annual Off-Site Liquid Treatment / Disposal Cost(2B3 + 2C +2D3 + 2E3)**	$
3. On-site Waste Water Treatment System Cost and On-site Treatment / Disposal Cost: Submit a cost estimate for a treatment system specifically designed and used exclusively for the groundwater corrective action program and operational after some start up maintenance. Estimates to clean out the system should also be included in the following cost.	
A. Initial capital expenditure for treatment system including start up maintenance	
***On-Site Waste Water Treatment System Capital Cost (3A)**	
B. Gallons of contaminated water to be treated on-site per year	gal/yr

Table XI.E.1. Corrective Action Program Cost Estimate	
C. Cost of on-site treatment per gallon	$/gal
D. Cost of sludge, or solids disposal per year	$/yr
E. Cost per year of maintenance on treatment system and recovery	$/yr
F. Cost of on-site disposal per year	$/yr
***Annual On-Site Treatment / Disposal Cost [(3B x 3C) + 3D + 3E + 3F]**	
4. Inspections, Maintenance and Operation Cost for the Corrective Action Program:	hour/yr
A. Operator's time on-site for inspections and maintenance per year	$/hr
B. Charge of salary per hour	$/yr
C. Annual cost of labor (4A x 4B)	$/yr
D. Replacement of parts and equipment per year	$/yr
E. Electricity cost per year	$/yr
***Annual Inspections / Maintenance / Operation Cost for the Corrective Action Program (4C + 4D + 4E)**	

Table XI.E.2.e - Groundwater Monitoring Cost Estimate		
1. Annual Sampling and Analysis Cost:		
A. Background Wells		
(1) Number of wells	1	
(2) Sample analysis cost per well	$207.00	$/well
(3) Number of sampling events per year	2	/yr
(4) Sampling cost (1 x 2 x 3)	$414.00	
B. Point of Compliance Wells		
(1) Number of wells	2	
(2) Sample analysis cost per well	$207.00	$/well
(3) Number of sampling events per year	2	/yr
(4) Sampling cost (1 x 2 x 3)	$828.00	
C. Recovery Wells		
(1) Number of wells	0	
(2) Sample analysis cost per well	$0.00	$/well
(3) Number of sampling events per year		/yr
(4) Sampling cost (1 x 2 x 3)	0	
D. Corrective Action Observation Wells		
(1) Number of wells		
(2) Sample analysis cost per well		$/well
(3) Number of sampling events per year		/yr
(4) Sampling cost (1 x 2 x 3)		
E. Point of Exposure Wells		
(1) Number of wells	0	
(2) Sample analysis cost per well	$0.00	$/well
(3) Number of sampling events per year		/yr
(4) Sampling cost (1 x 2 x 3)	$0.00	
F. Supplemental Wells		
(1) Number of wells		
(2) Sample analysis cost per well	$0.00	$/well

Table XI.E.2.e - Groundwater Monitoring Cost Estimate		
(3) Number of sampling events per year		/yr
(4) Sampling cost (1 x 2 x 3)	$0.00	
G. Field Quality Control Sampling		
(1) Number of wells	1	
(2) Sample analysis cost per well	$207.00	$/well
(3) Number of sampling events per year	2	/yr
(4) Sampling cost (1 x 2 x 3)	$414.00	
2. Sampling Labor Cost:		
A. Hours of sampling per well	3	hrs/well
B. Number of sampling technicians per well	1	/yr
C. Charge per hour	$45.00	$/hr
D. Total number of wells to be sampled annually	0	
E. Total number of wells sampled semi-annually	3	
F. Total number of wells sampled quarterly	0	
G. Total number of wells sampled monthly	0	
H. Total number of wells sampled per year (2D) + (2E x 2) + (2F x 4) + (2G x 12)	6	
I. Sampling Labor Cost (2A x 2B x 2C x 2H)	$810.00	
***Annual Groundwater Monitoring Cost**	$2,466.00	
3. Well Installation (typical cost):		
A. Monitor well installation cost per well	$6,000.00	$/well
B. Number of monitor wells to be installed	0	
C. Cost of monitor well system (A x B)	$0.00	
D. Recovery well installation cost per well	$0.00	$/well
E. Number of Recovery Wells to be installed	0	
F. Cost of Recovery well system (D x E)	$0.00	
***Total Well Installation Cost (3C + 3F)**	0	
4. Administrative Cost:		
A. Annual cost for record-keeping and report preparation	$5,000.00	

Table XI.E.2.e - Groundwater Monitoring Cost Estimate		
***Annual Administrative Cost (4A)**	$5,000.00	$
5. Inspection and Maintenance Cost for the Monitoring Program:		
A. Operator's time (hours) on-site for inspections and maintenance per year	$6.00	$/hr
B. Charge or salary per hour	$50.00	$/hr
C. Annual cost of labor (4A x 4B)	$300.00	$/hr
D. Replacement of parts and equipment per year	$493.00	$/hr
***Annual Inspections / Maintenance Cost for the Groundwater Monitoring Program (5C + 5D)**	$793.00	

Table XI.E.3. - Financial Assurance Summary

Task	Cost
Annual Off-Site Liquid Treatment / Disposal Cost	$0.00
Annual On-Site Treatment / Disposal Cost	$0.00
Annual Inspection / Maintenance / Operation Cost For The Corrective Action Program	$0.00
Annual Groundwater Monitoring Cost	$2466.00
Annual Administrative Cost	$5000.00
Annual Inspection And Maintenance Cost For The Groundwater Monitoring Program	$793.00
Annual Sub Total	**$8259.00**
Total Years Used For Calculating Financial Assurance for Corrective Action and/or Compliance Monitoring Program	**13** Years
Remediation Cost (Annual Sub Total x Total Years Used)	107,367
On-Site Waste Water Treatment System Capital Cost Total Well Cost	$0.00
10% Contingency	$10737.00
Total Cost	118,104
Grand Total Cost (round to nearest $1000)	**118,000**

Appendix XI.A.

Site Specific Information

PROFESSIONAL GEOLOGIST CERTIFICATION STATEMENT

Site Specific Report (Appendix XI.A)
Tyler Pipe Permit Renewal Application

General Site Information

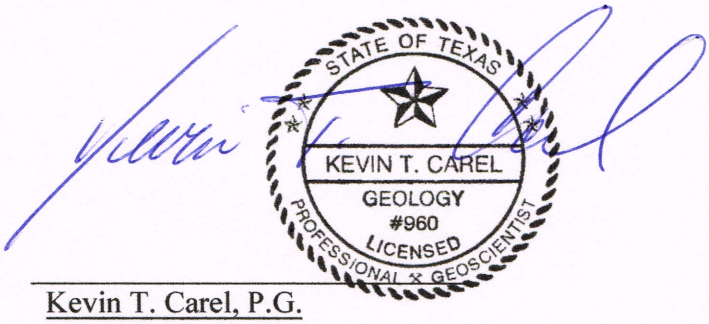
Facility: McWane, Inc. (Tyler Pipe Company)

Site Location: 11910 County Road 492, Tyler, Texas 75706

TCEQ Registration No.: 30140

Professional Geologist Certification Statement

I, Kevin T. Carel, am a licensed professional geoscientist in the State of Texas (license number 960) and a qualified groundwater scientist as defined in 30 TAC §330.3. I have reviewed the Site Specific Report (which was originally prepared by others) and supporting data contained herein. Where necessary, I have updated the report to correct errors and make it current as of the date of my signature below. The only warranty made by me in connection with this document is that I have used that degree of care and skill ordinarily exercised under similar conditions by reputable members of my profession, practicing in the same or similar locality. No other warranty, expressed or implied, is intended.



Signature: _____

Kevin T. Carel, P.G.
No. 960-Texas

Date: 6-1-2020

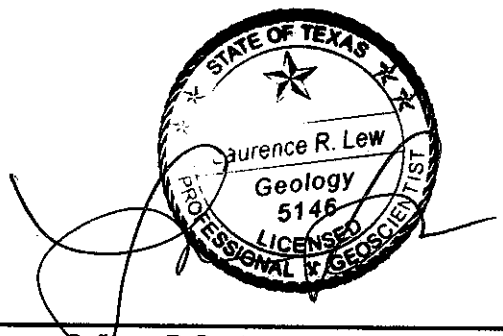
Firm/Address: The Carel Corporation
136 Pecan Street
Keller, Texas 76248
Texas Geoscience Firm # 50137

Professional Geologist Certification Disclaimer

Site-Specific Information (Appendix XI.A.)

Permit Renewal Application
McWane, Inc. (Tyler Pipe Company) - Tyler, Texas
July 2009

The *Site-Specific Information Report* presented herein was compiled from information and drawings developed by others and previously provided to and approved by the Texas Commission on Environmental Quality (TCEQ) and/or its predecessor agency, the Texas Natural Resource Conservation Commission (TNRCC) within various assessment reports, permit renewal applications, and permit modification requests. Whereas RMT, Inc. contributed to the development and compilation of the descriptive text (which was conducted under my supervision), none of the included drawings was originally developed by RMT, Inc. As such, the professional geologist certification provided herein is exclusive of any of the figures presented.



Laurence R. Lew, P.G.
Senior Consultant
RMT, Inc.

Corporate Texas Geosciences Registration
No. 50292

Appendix XI.A.
Site-Specific Information

A discussion of general site information, waste management, facility history, and site-specific geologic/hydrogeologic conditions and relationship to surface water that characterize the area in the vicinity of the closed *sludge disposal area* (NOR Unit No. 082) at the Tyler Pipe facility is presented herein.

1. General Site Information

An overall plan view map of the entire facility delineating the property boundary is provided as ***Figure XI.A-1*** (CP Attachment A Sheet 1 of 2). A 7.5 minute U.S.G.S quadrangle topographic map showing the entire facility is provided as ***Figure XI.A-2***.

2. Waste Management

Information on each hazardous waste management (HWM) unit and solid waste management unit (SWMU) located at the Tyler Pipe facility is presented in ***Table XI.A-1*** of Section XI of the Part B forms. A map that depicts the locations of all HWM units and SWMUs at the facility is provided as ***Figure XI.A-3***. A plan view map of the disposal area is provided as ***Figure XI.A-4*** (CP Attachment A Sheet 2 of 2).

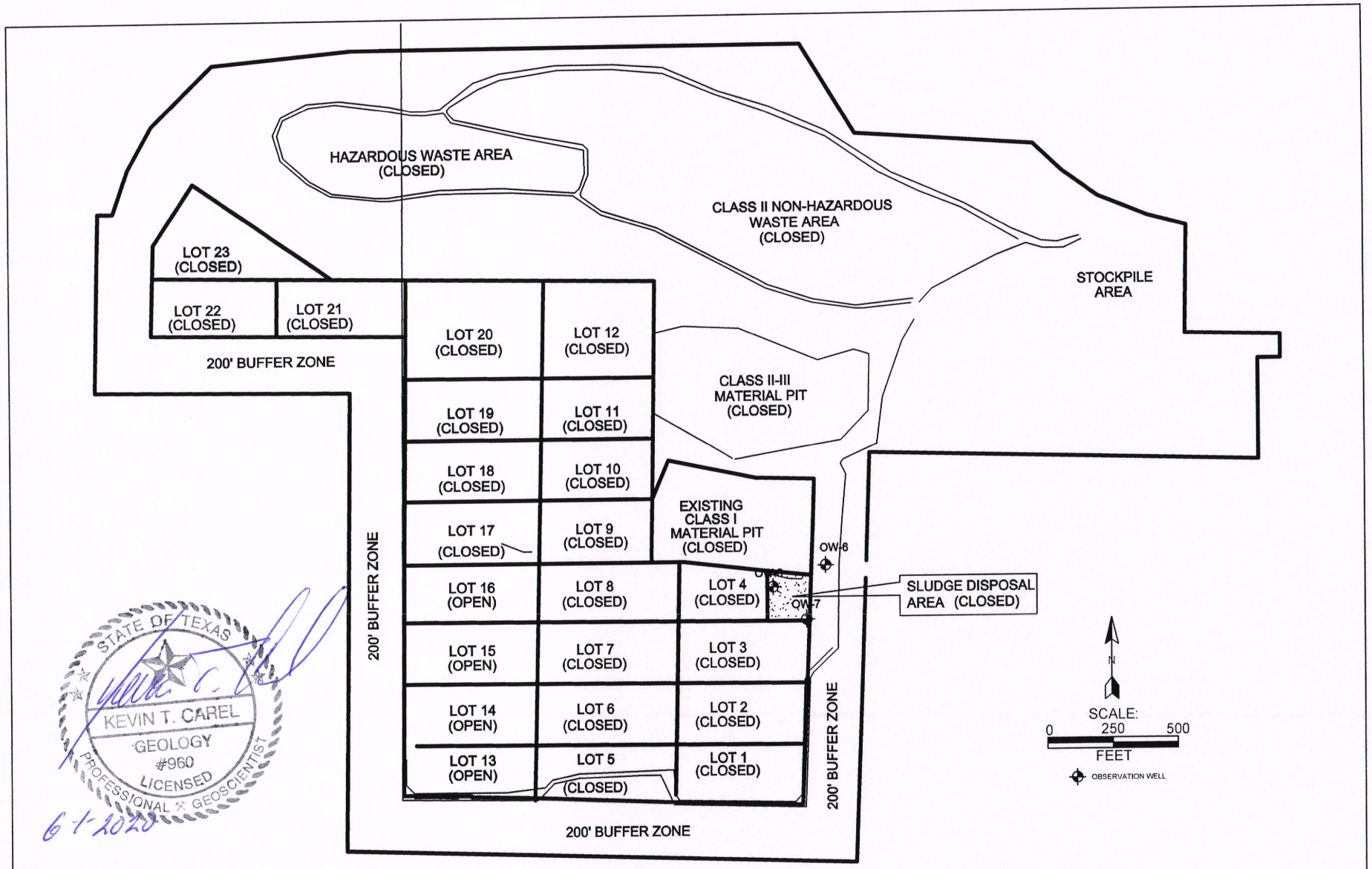
3. Facility History

None of the HWM units or SWMUs at the Tyler Pipe facility are subject to groundwater corrective action at this time. The sludge disposal area (NOR Unit No. 082) is currently the only waste management unit at the facility that is subject to compliance monitoring at this time. This information is presented in ***CP Table I*** of Section XI of the Part B forms.

4. Site Geologic/Hydrogeologic Conditions

The geologic and hydrogeologic conditions in the vicinity of the Tyler Pipe facility and proximal to the closed landfill (detection monitoring) and closed sludge disposal area (compliance monitoring) are presented in a combined version of the Geology and Facility Groundwater Reports that were developed for Section VI of the Part B application. This geology/hydrogeology report is provided in ***Attachment XI.A-1***.

Figures



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

6-1-2020

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

RCRA REGULATED WASTE MANAGEMENT UNITS

CP Attachment A
Sheet 1 of 2

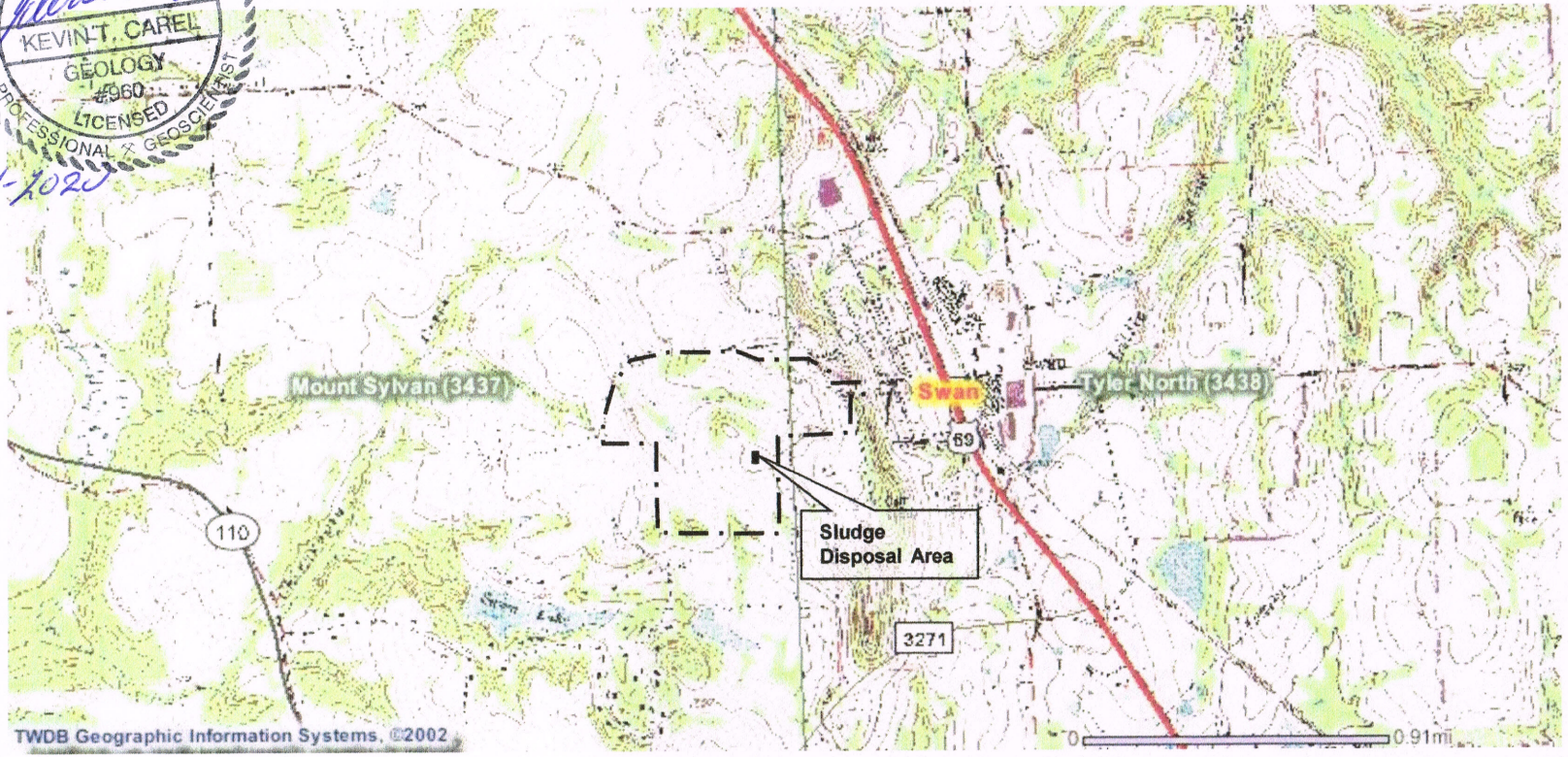
DATE: June 2020

FILENAME: L:\TEXAS\Tyler Pipe\Plan View Map2.dwg

DRAWN BY:

DRAFTED BY:

FIGURE XI.A-1



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

6-1-2020

The CAREL CORPORATION 136 Pecan Street, Keller, TX 76248 (817) 337-0112	Tyler Pipe Company **TOPOGRAPHIC MAP**	**FIGURE** **XI.A-2**

Cross-Reference for Figure XI.A-3

- RCRA Regulated Units:

NOR No.	*Description*	*Status*
001	**Landfill**	**Post-closure care**
082	**Sludge Disposal Area**	**Post-closure care**

- Solid Waste Management Units:

NOR No.	*Description*	*Status*
002	**Miscellaneous storage container**	**Closure pending**
003	**Landfill (southeast corner of plant)**	**Closed**
004	**Landfill (northeast corner of plant)**	**Closed**
005	**Landfill (formerly part of NOR 001)**	**Closed**
006	**Landfill (formerly part of NOR 001)**	**Closed**
007	**Landfill (formerly part of NOR 001)**	**Closed**
008	**Surface tank (north clarifier)**	**Closed**
009	**Surface tank (south clarifier)**	**Active (WWT)**
010	**Tank (Mason-Dixon sludge holding tank #1)**	**Closed**
011	**Tank (Thickner tank)**	**Active (WWT)**
012	**Surface impoundment (north plant emergency treatment lagoon)**	**Closed**
013	**Surface impoundment (south plant emergency spill basin)**	**Closed**
014	**Surface impoundment (south plant emergency treatment lagoon)**	**Closed**
015	**Surface impoundment (north plant drying bed cell, east)**	**Closed**
016	**Surface impoundment (north plant drying bed cell, west)**	**Closed**
017	**Surface impoundment (north plant cooling pond)**	**Closed**
018	**Surface impoundment (south plant cooling pond)**	**Closed**
019	**Surface tank**	**Closed**
020	**Surface tank**	**Closed**
021	**Subsurface tank**	**Closed**
022	**Subsurface tank**	**Closed**
023	**Distillation/solvent recovery (solvent still)**	**Inactive**
024	**Surface impoundment (north primary settling basin)**	**Closed**
025	**Surface impoundment (north emergency settling basin)**	**Closed**
026	**Surface tank (Mason-Dixon plant, hot coat treatment tank)**	**Inactive**

- Solid Waste Management Units (continued):

NOR No.	*Description*	*Status*
027	**Surface tank (for garage waste oil)**	**Active**
028	**Tank (Mason-Dixon recycle clarifier flashmixer)**	**Closed**
029	**Surface tank (dissolved metals clarifier)**	**Closed**
030	**Surface tank (recycle clarifier)**	**Closed**
031	**Surface tank (overflow and plant make-up)**	**Closed**
032	**Surface tank (non-hazardous process water SWWTF, north)**	**Active (WWT)**
033	**Surface tank (non-hazardous process water SWWTF, south)**	**Active (WWT)**
034	**Surface tank (non-hazardous process water SWWTF, re-circulating pump tank)**	**Active (WWT)**
035	**Surface tank (backwash reservoir tank)**	**Closed**
036	**Waste treatment unit (MD stabilization building)**	**Active (WWT)**
037	**West landfill**	**Active**
038	**Tank (Mason-Dixon sludge holding tank #2)**	**Closed**
039	**Container storage area (print shop)**	**Inactive**
040	**Tank (Mason-Dixon plant dual media filters)**	**Closed**
041	**Surface tank (SWWTF flashmixer)**	**Active (WWT)**
042	**Tank (glycol recycling unit)**	**Active (recycle unit)**
043	**Miscellaneous storage container (fines mixing unit)**	**Active**
044	**Surface tank (Mason-Dixon sludge holding tank #3)**	**Active (WWT)**
045	**Surface tank (Mason-Dixon sludge holding tank #4)**	**Active (WWT)**
046	**Surface tank (Mason-Dixon sludge holding tank #5)**	**Closed**
047	**WWTP (Mason-Dixon belt filter press)**	**Closed**
048	**Container storage area (container storage building, previously referred to as NOR 023)**	**Active (< 90 days)**
049	**WWTP (SWTP belt filter press)**	**Active**
050	**Septic tank/Drain field**	**Active**
051	**Container storage area (dispensary storage area)**	**Active**
052	**Miscellaneous storage container (plant refuse picked up by Olympic trash haulers)**	**Active**
053	**Container storage area (north plant storage bin building)**	**Closed**
054	**Waste pile (north plant storage bin building)**	**Closed**
055	**Container storage area (south plant storage area)**	**Closed**
056	**Container storage area (Gustin-Bacon storage area)**	**Inactive**
057	**Container storage area (south plant production finishing storage area)**	**Inactive**
058	**Container storage area (south plant west offices storage area)**	**Closed**
059	**Container storage area (ABC core room storage area – east)**	**Inactive**

- Solid Waste Management Units (continued):

NOR No.	*Description*	*Status*
060	**Container storage area (north plant shipping – east)**	**Active**
061	**Container storage area (north plant shipping – north**	**Active**
062	**Container storage area (moldmaster storage area – east)**	**Inactive**
063	**Container storage area (fitting shipping yard – east)**	**Active**
064	**Container storage area (north plant shipping – inside)**	**Active**
065	**Waste pile (foundry sand and construction debris)**	**Active**
066	**Waste pile (north plant charge bay - south)**	**Active**
067	**Container storage area (SP bubbling pot slag)**	**Active**
068	**Waste pile (wood debris)**	**Active**
069	**Container storage area mill room – weekly roll-off)**	**Active**
070	**Waste pile (slag from Cupola and electric furnaces and holding ladles)**	**Active**
071	**Miscellaneous storage container (sludge from north plant Akers lift station)**	**Active**
072	**Miscellaneous storage container (sludge generated from the industrial garage truck wash bay)**	**Active**
073	**Drip pads (Mason-Dixon plant dewater roll-off)**	**Active**
074	**Miscellaneous storage container (SP Cupola bag house roll-off)**	**Active**
075	**Tank (SP impact building return sand system storage silo)**	**Inactive**
076	**Container storage area**	**Active**
077	**Container storage area (north plant charge bay – scrap iron storage)**	**Active**
078	**(Reserved)**	
079	**Surface impoundment (south plant charge bay – scrap iron storage)**	**Inactive**
080	**(Reserved)**	
081	**Miscellaneous storage container (staging area for various roll-off containers to be shipped off-site)**	**Active**
083	**Incinerator**	**Active**

TYLER PIPE
Division of McWane, Inc.

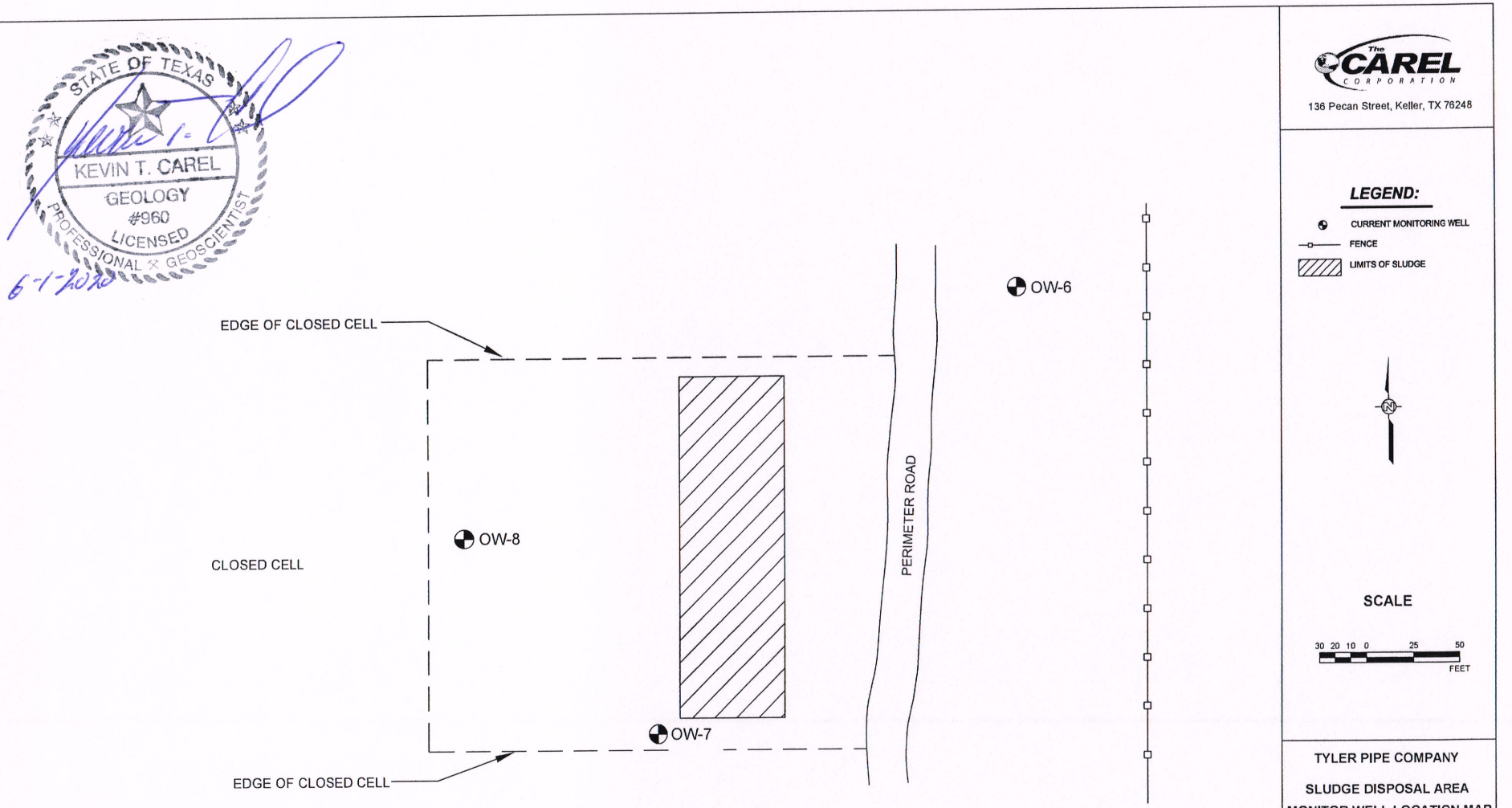
Rev	Description	Date	By
6			
5			
4			
3			
2			
1			

UNLESS OTHERWISE SPECIFIED
Allow 1/8" stock at machined surfaces
Drill holes to be drilled after fabrication
Centers for drilled holes ± 1/32"
1/8" Radius Typical
All welds to be 1/4" continuous fillet
Machine Decimal Tolerances ± .005"
Machined Fractional Tolerances ± 1/64"
Non-machined Tolerances ± 1/16"
Tolerances are not accumulative
AutoCAD-DWG

Ref. No.
Mat'l N/A
Patt No. N/A

McWane, Inc., (Tyler Pipe Co.)
Tyler, Texas
Appendix XI.A-3
Facility and SWMU Locations

Prj. #: 00-07749.23 | File. #: 0774923-1.dwg | Scale: 1"=200' | Date: July 2009



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020

Notes: 1. Sources Include: Whitehead & Mueller, Inc. 2003 & ETTL Engineers Correspondence.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- CURRENT MONITORING WELL
- FENCE
- LIMITS OF SLUDGE

SCALE

30 20 10 0 25 50
FEET

TYLER PIPE COMPANY

SLUDGE DISPOSAL AREA
MONITOR WELL LOCATION MAP

CP ATTACHMENT A
Sheet 2 of 2

DATE: June 2020	REV. NO.: 0
FILENAME: L:\TX\TylerPipe\SDA Site Map.dwg	
DESIGNED BY:	FIGURE
DRAFTED BY:	XI.A-4
CHECKED BY:	
APPROVED BY:	

Attachment XI.A-1
Geologic/Hydrogeologic Conditions

Attachment XI.A-1
Geologic/Hydrogeologic Conditions

A discussion of the geologic and hydrogeologic conditions that characterize the area in the vicinity of the Tyler Pipe facility and the closed sludge disposal area is presented herein.

1. Active Geologic Processes

The major geologic structure present in the region of the facility is the Tyler Basin, which is a trough-like depression trending north-northeast and centered near Tyler. This synclinical structure, which opens to the south, is bounded by the Mount Enterprise Fault Zone, which extends from Shelby County to about 30 miles south of Tyler in Anderson County. It is characterized by piercement salt domes throughout the central part of the basin. In the vicinity of Lindale, two northeast trending, parallel faults form a graben, and about 8 miles north of Tyler, a third fault trends north-northeast into Wood County (SCS, 1993).

This permit renewal application does not include a capacity expansion, and therefore, no additional investigation into fault systems in the area of the facility was conducted.

2. Regional Physiography and Topography

Smith County is located in the northwestern portion of the West Gulf Coast Plain physiographic province. The surface topography is characterized as gently rolling with areas of locally rough terrain (SCS, 1993). The site is located in an upland region and is not subjected to excessive erosion such as overland flow, channel, or gullying.

No surface water bodies exist on the property. A major drainage divide, trending northwest to southeast just north of Tyler, creates predominantly northeastward drainage of surface water from the main Tyler Pipe plant area into the headwaters of Little Saline creek, with flow toward the Sabine River (***Figure XI.A-1A***). Chinquapin Creek, which flows southwestward into the Neches River, receives all of the surface drainage from the solid waste landfill area due to its location south of the drainage divide. The landfill is located immediately adjacent to an intermittent tributary to Chinquapin Creek and the sludge disposal area (SDA) is located approximately 730 feet south of Chinquapin Creek. In addition, the landfill is located approximately 3,750 feet north of Swan Lake.

The location of the landfill is identified on ***Figure XI.A-1A*** and the location of the SDA is identified on ***Figure XI.A-1B***. The landfill has been diked and constructed with very little excavation of the original topography, which had a pre-landfill slope of 5 to 10 percent to the west. The slope of the SDA cap is essentially flat - 5% based upon a facility-wide topographic map (EMCON, 1997) and the direction of the slope is to the west and north.

The minimum and maximum surface elevation of the SDA is 605 feet above mean sea level (MSL) and 608 feet above MSL, respectively.

3. Regional Geology

The regional structural features of the area affect deposition of sediments and thus the occurrence and movement of groundwater. These regional structural features, shown in ***Figure XI.A-1C***, also determine the areas of recharge of the regional aquifers. Smith County lies within the Gulf of Mexico basin. Within this basin are three structural embayments perpendicular to the coast. Smith County is located within the East Texas embayment. This embayment is separated into northern and southern subdivisions by the Mount Enterprise fault system. The area between the Mount Enterprise system and the Mexia-Talco fault zone to the north is called the Tyler Basin. The Tyler Basin is bounded on the east by the Sabine Uplift and on the west by the contact between sediments of the Eocene and Cretaceous ages.

The structure of the Tyler Basin has been altered by the piercing and doming of the sediments caused by upward movement of salt domes as the salt flowed under the pressure of overlying sediments and structural movement. This movement of salt and the formation of structural lows, domes, and ridges has controlled the deposition of sediments in Smith County throughout Cretaceous and Tertiary times. ***Figure XI.A-1D***, a structure map drawn on the base of the Wilcox Group, shows the structural features of the county. ***Figure XI.A-1E*** presents a structure map on the base of the Sparta Formation. The domes and faults visible on the Wilcox Group structure map are not as evident on the Sparta Formation structure map, indicating the structures have not been active in recent time.

Figure XI.A-1F is a generalized geologic map of the area and shows the surficial outcrops of the water-bearing strata. Although sediments as old as the Jurassic have been encountered in Smith County, the discussion below of formations is limited to the Eocene and to younger sediments because no fresh water is found in older formations. ***Figure XI.A-1G*** is a stratigraphic-hydrologic correlation chart which shows the approximate depth of each freshwater-bearing formation beneath the plant. ***Figure XI.A-1H*** (Smith County) is a regional geologic cross section that shows the orientation and dip of the water-bearing formations across the basin from west to east. A description of the subsurface strata is presented below:

- **Midway Group**

  The Midway Group, the oldest Eocene rocks and therefore the lowermost in the sections, consists of marine shales, clays, and silts which were deposited unconformably on the underlying Cretaceous sediments. These sediments are relatively impermeable and do not transmit usable amounts of fresh water. They act as a lower boundary to the freshwater strata of the area and are found at a depth of approximately 1,700 to 1,800 feet beneath the plant area.

- **Wilcox Group**

  The Wilcox Group crops out in counties adjoining Smith County to both the east and west. The lithology is variable but consists primarily of a white to gray, medium- to fine-grained, loose, poorly cemented quartz sand. The upper part of this group contains stringers of lignite from 1 to 10 feet thick. In general, the upper Wilcox has a higher proportion of sand, and the lower Wilcox has more clay and shale. The thickness ranges from 755 feet to over 1,322 feet in Smith County, averaging about 900 feet. The Wilcox has been affected more lithologically and structurally by the formation of salt domes than by the younger units. The greatest thickness of Wilcox is found in structural basins and generally accompanies an increase in net sand thickness. In the plant area, the Wilcox occurs in the subsurface interval from 900 to 1,700 feet. Approximately 40 percent of the Wilcox is sand and 60 percent sandy clay. These sediments represent swampy to lagoonal to deltaic deposition in a near shore marine environment, deposited conformably over the Midway Group.

- **Carrizo Formation**

  The Carrizo unconformably overlies the Wilcox and is the oldest outcropping formation in Smith County except for two Cretaceous Age blocks, located in the northwest corner of the county, which were thrust to the surface by salt movement. At the surface, the Carrizo consists of thin, narrow bands in the northwest and southeast parts of the county and forms loose, deep sandy soils. Ninety-five percent of the Carrizo is a uniform, white to gray, fine- to medium-grained, clean, very porous, loose quartz sand grading upwards to a more silty sand at the top. The lithologic similarities between the Carrizo and the upper Wi1cox make it difficult to distinguish between the two in the subsurface. The Carrizo sands are generally coarser grained and better sorted than the Wilcox. The contact between the Carrizo and the Wilcox suggests an abrupt change in sedimentation. The Carrizo was laid down by heavily loaded streams building broad alluvial deposits on a flat coastal plain. The formation ranges in thickness from 40 to 225 feet, with an average thickness of 100 feet, and occurs from 700 to 900 feet beneath the plant. The Carrizo is thickest and sandiest on the south, southeast, and east flanks of the structural lows surrounding salt domes and in the broad, flat areas of eastern Smith County.

- **Reklaw Formation**

  The Reklaw conformably overlies the Carrizo and crops out in northwestern and southeastern Smith County. The formation consists mainly of black to chocolate brown, silty carbonaceous shale or clay and of gray to green, very fine to fine-grained, poorly bedded, glauconitic and quartzitic sandstone. The total thickness ranges from 55 to 100 feet but averages 70 feet in the county. The Reklaw was deposited in a shallow-water, brackish marine environment as the sea advanced over the more

continental Carrizo sediments. The formation is found from 640 to 700 feet beneath the plant area.

- **Queen City Formation**

  The Queen City crops out in over 75 percent of the county. The formation consists of a basal, loose, gray to brown, porous, medium- to fine-grained, silty to shaly quartz sand; a middle, soft, coherent, dark, olive green glauconitic sandstone; and an upper, soft, massive, cross-bedded, fine-grained, muscovitic quartz sand with lenses of sandy shale, iron-stained sandstone,· and lignite stringers. The thickness ranges from 0 to over 700 feet and averages 55 percent sand. The Queen City primarily represents a nearshore continental environment of swamps and lagoons, with some offshore deposits as well. The formation occurs from 300 to 640 feet in the subsurface.

- **Weches Formation**

  The Weches Formation, which forms an unconformable contact with the underlying Queen City, crops out as a thin belt in the county. Because it is highly resistant to erosion, the formation forms small, easily recognizable escarpments. The lithology is highly variable but generally is a black to brown massive shale at the base, with a green to brown, hard, glauconitic sandstone layer at the top. The thickness averages 70 feet, with the glauconitic layer making up a few feet to 10 feet of the total thickness. These sediments were deposited in a brackish marine environment and are found from 260 to 300 feet below the surface.

- **Sparta Formation**

  The Tyler Pipe plant lies within the outcrop area of the Sparta Formation. The lithology of the Sparta consists of mottled reddish-gray to white, loose, coarse- to fine-grained quartz sand with interfingering blue and gray shale layers. The thickness ranges from 0 at the basal outcrop to nearly 280 feet at Tyler and averages 70 percent sand. (See ***Figure XI.A-1E*** for basal structure/map). The Sparta sands were deposited in a continental, near-shore environment and are found from the surface down to 260 feet in the area. The upper Sparta contains a unit known locally as the Tyler Greensand. This unit is a highly glauconitic sandstone which oxidizes to a rusty, reddish-brown color and has a maximum thickness of 60 feet. The Greensand was deposited in a brackish marine environment and may represent an unconformity between it and the Sparta.

4. Subsurface Soils Investigation Report

Several subsurface soil investigations have been conducted at the facility – at both the landfill and the SDA.

- **Landfill**

From September 22 through September 30, 1981, Underground Resource Management installed monitor wells 1 through 4, and logged the respective borings at the solid waste landfill. Six additional wells (MW-20, MW-21, MW-30D, MW-31D, MW-32D, and MW-33A) were installed sometime after the first investigation. In April 1996, MW-l, MW-2, MW-3, MW-4, and MW-33A were plugged and abandoned. During the same field effort, a total of thirteen replacement monitoring wells (MW-1D, MW-2D-A, B, MW-3D-A, B, C, MW-4U-A, B, C, D, and MW-5U-A, B, C) were installed. The locations of the wells are identified on ***Figure XI.A-1J***. Monitor well installation diagrams and boring logs are provided in ***Attachment XI.A-2***.

– *Initial Monitoring Well Installation*

The majority of soils encountered during the investigations conducted at the landfill were sandy with a small proportion of silt and clay. Relatively discontinuous layers of silt and sandy or silty clay frequently occur in the lower portions of the borings, beginning around 10 to 20 feet in depth. Occasionally the near surface soils were low- to high-plasticity clays.

The sandy materials, silty sands, and clayey sands) above the 10- to 20-foot depth interval are generally moderately loose to medium.-density sands, with liquid limits typically from 24.1 t0 28.2 and plasticity indices ranging 5 to 11.2. The coefficient of permeability for material tested is greater than 10^{-6} cm/sec.

The limited number of clays encountered in this near-surface interval are relatively soft (firm to stiff), with cohesion values generally from 750 to 2,000 pounds per square foot (psf). These sandy and silty clays are typically associated with gravel, rock, or coarse sand and have a liquid limit from 28.8 to 46.3, with a plasticity index ranging from 13.4 to 23.4. No permeability values are available for the clays, but they are expected to be lower than 10^{-6} cm/sec.

Below this transitional zone, the clays are very stiff to hard, and the sands are dense to very dense. Cohesion values for the clays increase to 2,500 to 6,000 psf or greater. The liquid limit and plasticity index of the sandy and silty clays and sandy silts increase significantly below 15 feet in depth. The liquid limit ranges from 20 to 46.3, while the plasticity index varies from 8.6 to 23.4, with the lower values common to more sandy materials. (Note: The plasticity index of some of those samples tested may be low due to the nature of the material relative to the testing procedure.) Values for coefficient of permeability range from l.7 x 10^{-6} to 2.1 x 10^{-8} cm/sec for the least permeable silty clays (CL), clayey silts (MH), and high-plasticity clays (CH) around 25 to 30 feet in depth below the surface.

– *Replacement Well Installation*

The well replacement program conducted in April 1996, began with exploratory borings MW-1D, MW-2D, MW-3D (downgradient), and MW-4U and MW-5U (upgradient). Following advancement of the borings, a total of thirteen monitoring

wells were installed from April 23, 1996 to May 1, 1996. Each boring was sampled at 5-foot intervals and logged by a certified Professional Geologist. Each exploratory boring fully penetrated the uppermost water-bearing unit and extended 2 feet into the lower confining unit. The upper most water-bearing unit or "uppermost aquifer" as defined in the permit, is Stratigraphic Unit I of the Sparta Formation. This unit is approximately 30 feet thick, and is located between elevations 485 to 514 above MSL. It consists of a silty sand (SM), interbedded with clayey silt (ML) and silty clay (CL). The lower confining unit consists of a hard, dark gray-brown, silty clay (CL). The entire thickness of the saturated zone was screened with no screened interval greater than 10 feet. This required multiple wells at some locations.

Two geologic cross sections, oriented as shown on ***Figure XI.A-1J***, were constructed to illustrate the stratigraphic relationship of Stratigraphic Unit I and the lower confining unit. Cross section A-A' (***Figure XI.A-1K***) is oriented southwest-northeast along the northern boundary of the landfill and is approximately parallel to groundwater flow lines. Cross section B-B' also presented ons ***Figure XI.A-1K*** is oriented approximately north-south along the west side of the landfill, and is approximately parallel to groundwater equipotential lines. These cross sections illustrate lithologies and well construction details.

Both cross sections show the upper transmissive unit as a silty-clayey sand (SM-SC) with interbeds of silty clay (CL). The transmissive unit ranges in thickness from 20 feet in the southwest part of the site to a maximum thickness of approximately 70 feet in the northeast part of the site. It is underlain by the lower confining unit, which is composed of a hard, silty clay. Depths to groundwater and the lower confining unit increase with increase in elevation of the ground surface.

- **Sludge Disposal Area**

  A RCRA Facility Investigation (RFI) was conducted by EMCON and submitted to the TNRCC in November 1997. The RFI detailed the subsurface soils around the SDA, but did not detail the groundwater conditions. A subsequent investigation in 2003 conducted by Whitehead and Mueller, Inc. (W&M, 2003) was able to locate groundwater 32 feet below the ground surface (bgs) at the silty clay (CL) and high plasticity clay boundary (CH). In March 2004, W&M installed four monitoring wells (MW-1, MW-2, MW-3, and MW-4) in the SDA which were completed in the saturated soils underlying the SDA. The saturated soils are considered a Class 3 groundwater resource per Permit Provision XI.A.I and Table IV of the Compliance Plan. A cross-section depicting the subsurface conditions of the SDA is included in ***Figure XI.A-1L***, ***Figure XI.A-1M***, and ***Figure XVI.A-1N***.

In February 2008, the Carel Corporation (Carel, 2009) installed three additional observation wells and one monitoring well proximal to the SDA as part of an affected property assessment conducted pursuant to the Texas Risk Reduction Program (TRRP). The monitoring well, MW-5, was completed in the saturated soil zone and the three observation wells, OW-6, OW-7, and OW-8, were completed in the uppermost groundwater bearing unit (Sparta Formation) underlying the SDA. Boring logs and well construction diagrams are included in ***Attachment XI.A-2***.

The subsurface soils encountered in the SDA were consistent with the WoC (Wolfpen) Series as described by the Soil Survey of Smith County, Texas. The Wolfpen Series consists of a friable, slightly acidic, yellowish brown loamy fine sand near the surface and grades to a sandy clay with medium prominent red mottles with depth. The permeability of the Wolfpen Series ranges from 6.0 to 20.0 in/hr at the surface and 0.6 to 2.0 in/hr with depth and has an available water capacity range of 0.07 to 0.17 in/in. The cation exchange capacity of the Wolfpen has a range of 2.1 to 11.5 Meq/100g (SCS, 1993). A map illustrating the facility location and proximal soil units is provided as ***Figure XI.A-1O***.

5. Regional Aquifers

Three principal ground-water aquifers are in the region - the Carrizo-Wilcox Aquifer, the Queen City Sand Aquifer, and the Sparta Sand Aquifer. They receive the vast majority of their groundwater recharge from rainwater infiltrating into the formation in their respective outcrop areas. The lower aquifers receive some recharge from the overlying formation and from streams crossing the outcroppings.

The Carrizo-Wilcox aquifer is stratigraphically the lowest of the three aquifers and is the largest, most productive, and the least sensitive to land management practices. The water quality ifs generally very good; however, iron is present in moderate amounts and the content of dissolved solids increases with depth. The principal direction of groundwater flow is to the east and southeast from the western recharge area. Deviation from the principal direction of flow occurs near the recharge area in the southeast corner of the county where groundwater moves to the northwest because of synclinal structure of the bedrock.

The Queen City Sand Aquifer has a limited supply of suitable water because the water is generally acidic and has a high iron content. The aquifer is recharges from its extensive outcrop area throughout the county. Groundwater primarily moves north to the Sabine River in the northern half of the county or south to the Neches River in the southern half. The aquifer feeds numerous springs and creeks throughout the county.

The Sparta Sand Aquifer is stratigraphically the uppermost of the three principal aquifers. It is the least extensive, occurring mostly in the central part of the county. The groundwater from this aquifer has been heavily developed for domestic use because it is

good quality water and can be reached at very shallow depths. The movement of groundwater is generally southeast toward the city of Tyler or to local springs and streams.

The differences in water quality, aquifer transmissivity, and water level measurements of these three aquifers, indicates they are distinct hydrogeologic units and therefore not hydraulically connected.

6. Groundwater Conditions

The groundwater conditions for each hazardous waste management unit requiring post-closure care are discussed below.

- **Landfill**

  The uppermost aquifer at the landfill has been defined as Stratigraphic Unit I of the Sparta Formation. This unit is approximately 30 feet thick, and is located between 485 to 514 feet above mean sea level (MSL). It consists of a silty sand, interbedded with clayey silt and silty clay. This unit extends from ground surface to depths of approximately 21-68 feet below ground surface (BGS). It is a water table or unconfined water bearing unit. The lower confining unit consists of a hard, dark gray brown, silty clay.

  A water table surface map was prepared for the aquifer from measured groundwater elevations and is presented as ***Figure XI.A-1P***. A water elevation representative of each monitoring well cluster was used for creating the map. The water table map indicates groundwater flow to the southwest, which corresponds to the southwest sloping topography at the site. The depth to water below ground surface measured ranges from 2.72 feet in MW-2D-A in the west part of the site to 66.53 feet in MW-4U-D in the northeast portion of the site.

  Hydraulic gradients were calculated perpendicular to the equipotential flow lines for each monitoring event. Groundwater gradients measured between monitor wells ranged from 0.0160 ft/ft to 0.0132 ft/ft toward the southwest. Groundwater velocity values, based on a hydraulic conductivity of 0.33 ft/day and an effective porosity of 0.3 range from 0.015 to 0.018 feet/day (Parsons, 1997).

  The natural topography, subsurface geology, and stratigraphic gradients will act to control groundwater flow direction and velocity, and therefore any contaminants moving in the upper transmissive zone. Contaminants in the landfill will move southwest, towards an unnamed tributary of Chinquapin Creek at an approximate rate of 5.5 to 6.6 feet per year. Vertical migration of contaminants will be restricted by the lower confining unit (Parsons, 1997).

The detection monitoring system for the closed landfill is comprised of the following wells (the locations of these monitor wells are identified on ***Figure XI.A-1Q***):

- *Background/Upgradient*: MW-4U-A, MW-4U-B, MW-4U-C, MW-4U-D, MW-5U-A, MW-5U-B, and MW-5U-C
- *Point-of Compliance*: MW-1D, MW-2D-A, MW-2D-B, MW-3D-A, MW-3D-B, MW-3D-C, MW-20, and MW-21

- **Sludge Disposal Area**

The saturated soil zone underlying the sludge disposal area (SDA) is encountered at approximately 30 feet BGS. Primary water recharge in this zone is from precipitation via infiltration through soil. Water level elevations in the saturated soil zone are typically 30-40 feet below ground surface. The existing quality of groundwater from the saturated soils zone underlying the SDA can be described as predominantly acidic with a historic pH range of 2.91 to 6.81 standard units. The direction of water flow in the saturated soil zone is generally to the west. The average hydraulic gradient is 0.02 ft/ft and the hydraulic conductivity for the saturated soils zone is on average 6.79 x 10-6 cm/sec. The average effective porosity was estimated to be 10 percent based on the lithology of the units in which the sludge disposal area wells are completed (silt and clay). The estimated groundwater velocity (with flow direction) for the saturated soils zone in the SDA is 0.004 ft/day (Carel, 2009).

The uppermost water-bearing unit underlying the facility has been defined as silty sand, silty sandstone, sandy silt and silt units within the Sparta Formation. The depth to the uppermost water-bearing zone (Sparta Formation) underlying the SDA is approximately 44 to 65 feet BGS. The average thickness of the uppermost water bearing zone is approximately 15 feet with a variation of plus or minus 5 feet based on the lithologic logs of the observation wells. In some areas within the landfill property, the uppermost water-bearing unit is separated from the saturated soil zone by the interbedded clayey silt, silty clay and clay. However, there may be a hydraulic connection between these units due to potential discontinuity of the interbeddings. Hence, the uppermost water bearing unit is defined as having a semi-confined condition, particularly beneath the SDA area. Groundwater flow in the uppermost groundwater bearing unit is generally toward the south, as shown on ***Figure XI.A-1R***.

The existing quality of groundwater from the saturated soils zone underlying the SDA can be described as predominantly acidic with a historic pH range of 2.91 to 6.81 standard units. Groundwater monitor well MW-4 is the most acidic; whereas, MW-5 is the least acidic. The chemical quality of groundwater from the Sparta Sand Aquifer is generally good though high iron and low pH values are not uncommon. Indeed, the pH values of the water from the Sparta Aquifer range from 3.7 to 6.6 standard units (TWC, 1963).

The Texas Water Commission (TWC) report further explains that "wells completed within the Sparta section which do not reach the base of the aquifer are relatively free of iron and have a pH of 5.5 to 6.6 standard units". The lower range of pH values in the SDA wells is below the range reported by the TWC. However, the SDA is excavated into soils belonging to the WoC (Wolfpen) Series (Carel, 2007). According to the Soil Survey of Smith County (SCS, 1993), the Wolfpen subsoil ranges from slightly acidic to strongly acidic. Therefore, it is plausible to conclude the acidity of the Wolfpen Series contributes to the lower pH values in the shallow, saturated zone SDA wells.

The existing quality of groundwater from the uppermost groundwater bearing unit underlying the SDA can also be described as predominantly acidic. Prior to sampling, observed pH values in OW-6, OW-7, and OW-8 during a March 2008 groundwater sampling event were 4.80, 5.50, and 6.04 standard units, respectively. Each of the observed pH values is within the range of pH values reported by the TWC as listed in the above paragraph.

The detection monitoring system for the closed SDA area was originally comprised of the following wells (the locations of these monitor wells are shown on ***Figure XI.A-1R***):

- *Background/Upgradient*: MW-1 and MW-5
- *Point-of Compliance*: MW-2, MW-3, and MW-4

However, the SDA is currently under a Compliance Monitoring Program since an SSI above background was indicated in 2007 within the downgradient (point-of-compliance) wells during the initial phase of the post-closure period. However, it was subsequently determined that wells MW-1 through MW-5 are screened in saturated soils and are not completed in a legitimate groundwater-bearing unit. As a result, monitor wells OW-6 (upgradient), OW-7 (downgradient), and OW-8 (downgradient) were installed in 2008 and are currently identified as the compliance monitoring system for the SDA. The locations of these monitor wells are shown on ***Figure XI.A-1S***.

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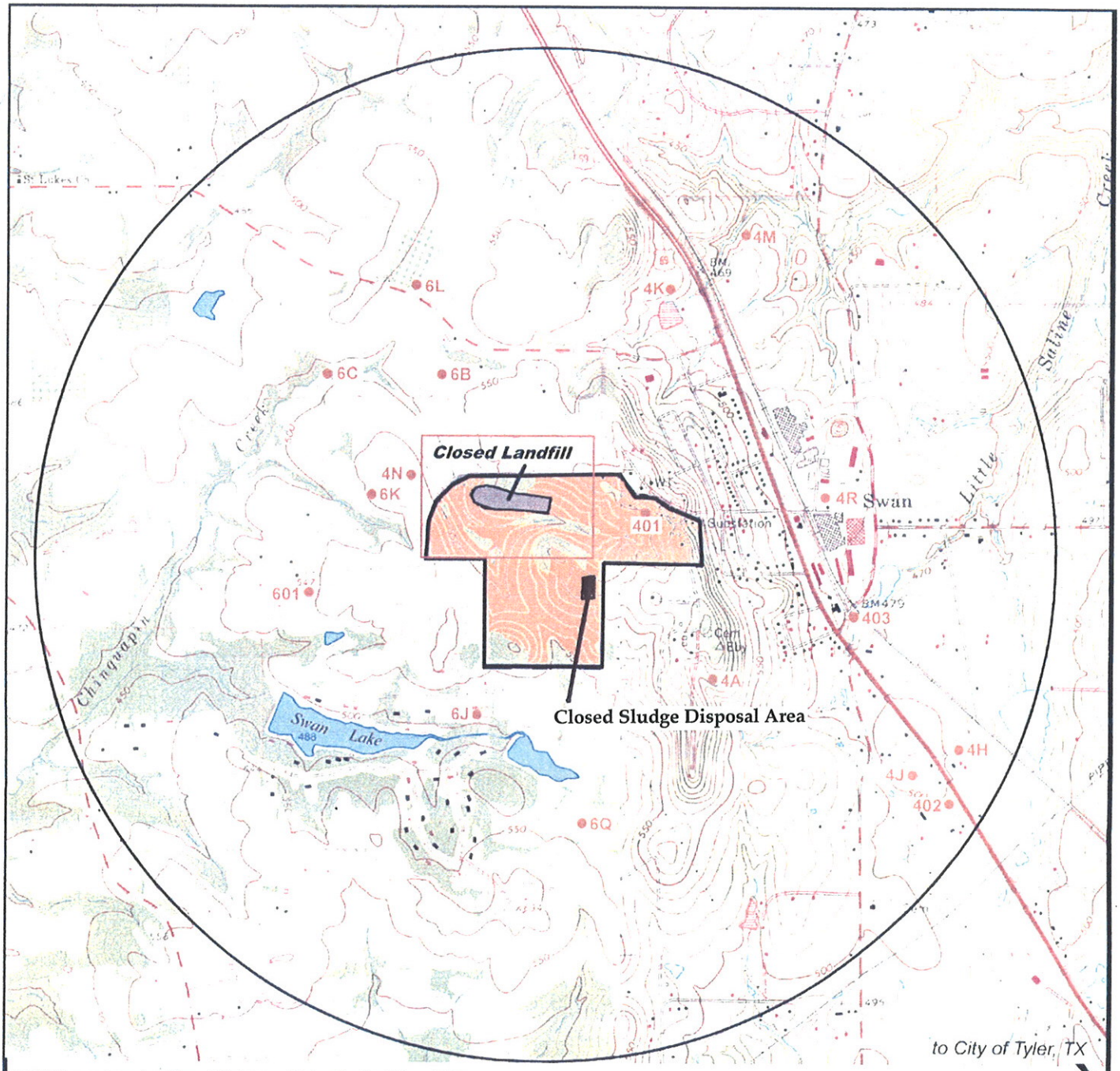
Figures



USGS quadrangles Mount Sylvan + Tyler North, TX. - 1973

Facility Boundary

6x Water Well

0 1/2 1

MILE

N

W E

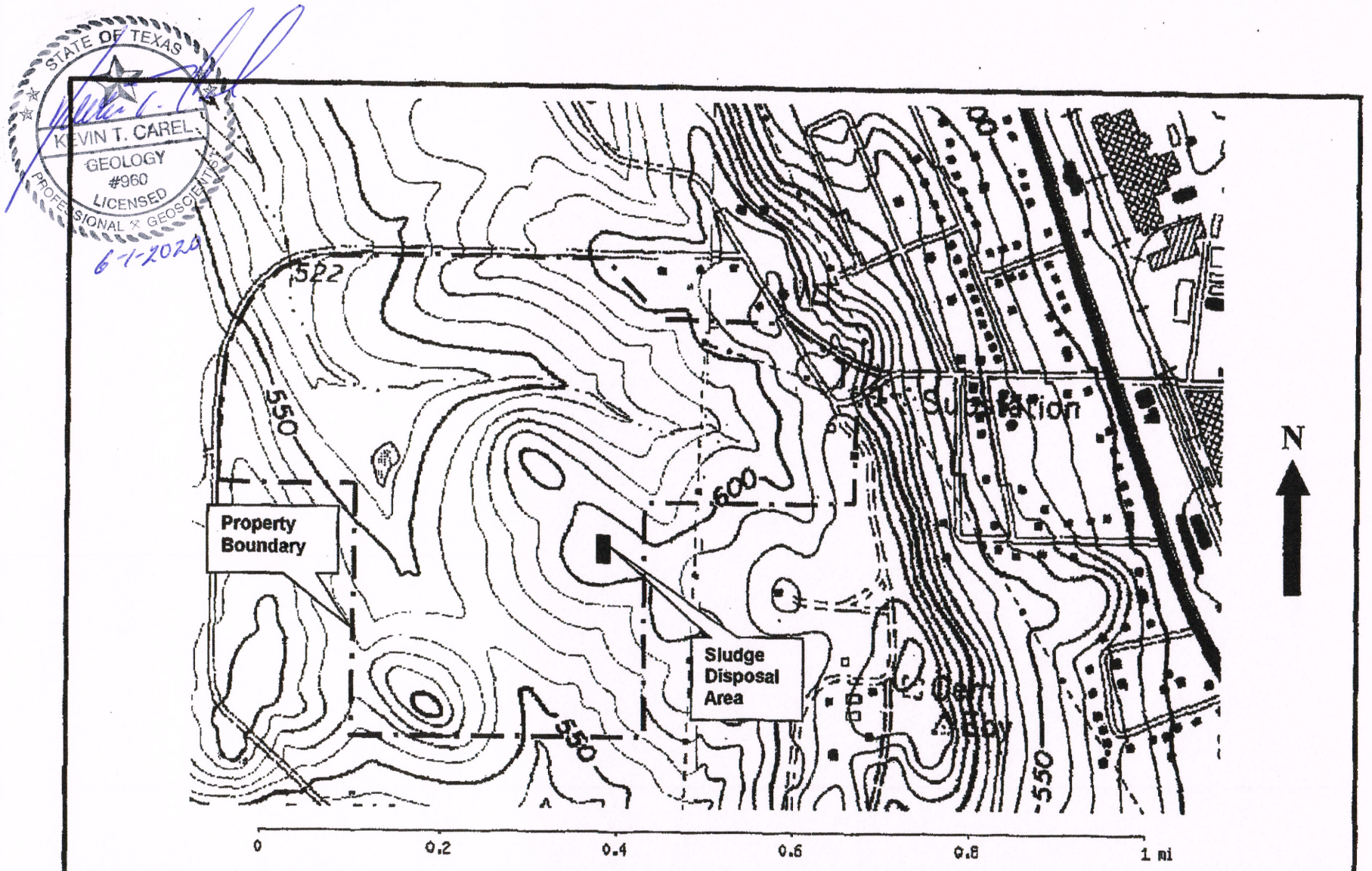
S

120_0023

Figure XI.A-1A

Site Topography

PARSONS ENGINEERING SCIENCE, INC.



The Carel Corporation
Providing Environmental, Ground-Water and Waste Management Service

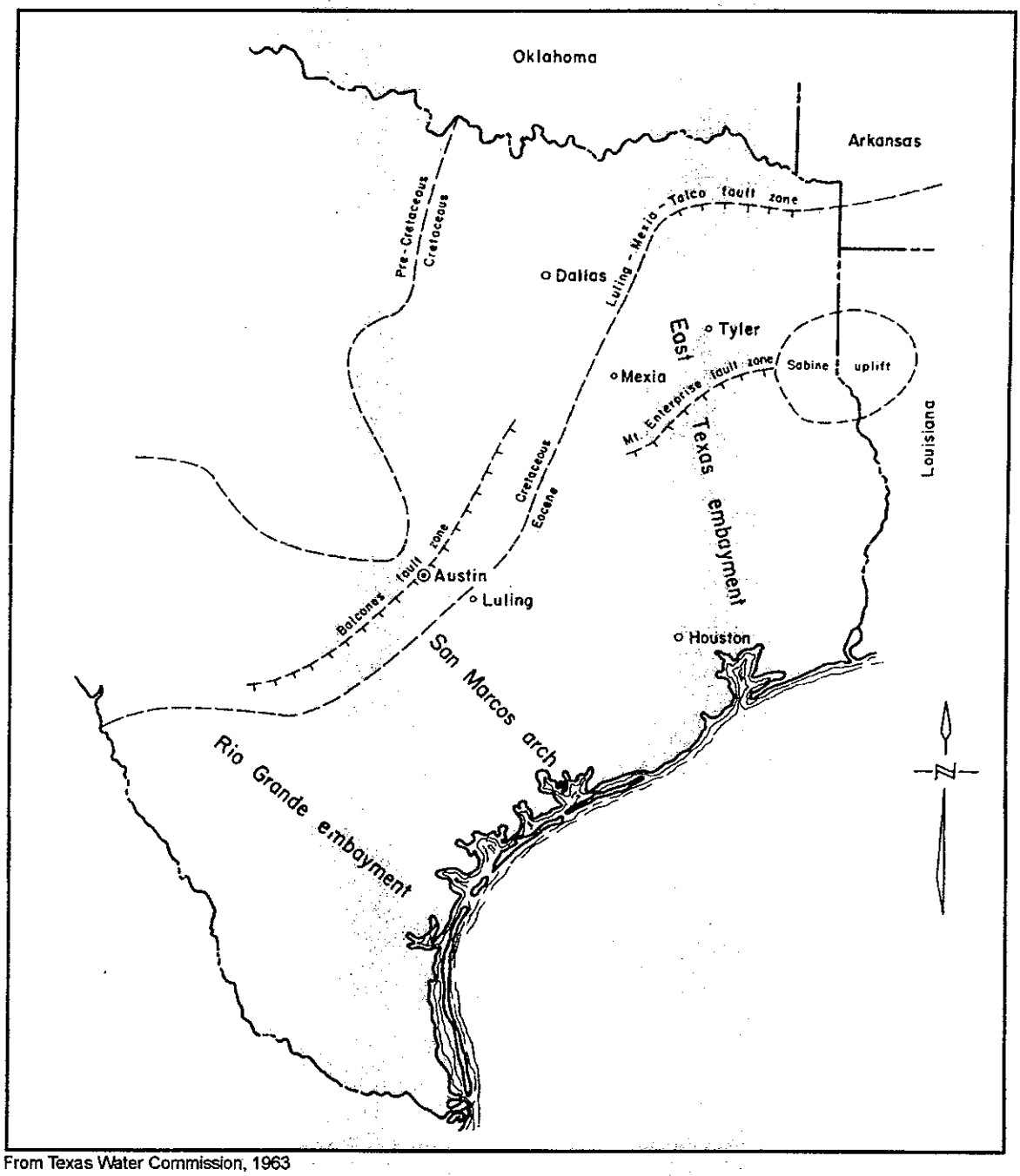
136 Pecan Street, Keller, TX 76248

(817) 337-0112

Tyler Pipe Facility
Sludge Disposal Area Compliance Plan Application
Part II Site Specific information
7.5 Minute USGS Quadrangle Topographic Map
USGS Quadrangles Tyler North and Mount Sylvan, TX

FIGURE

XI.A-1B



From Texas Water Commission, 1963

Figure XI.A-1C

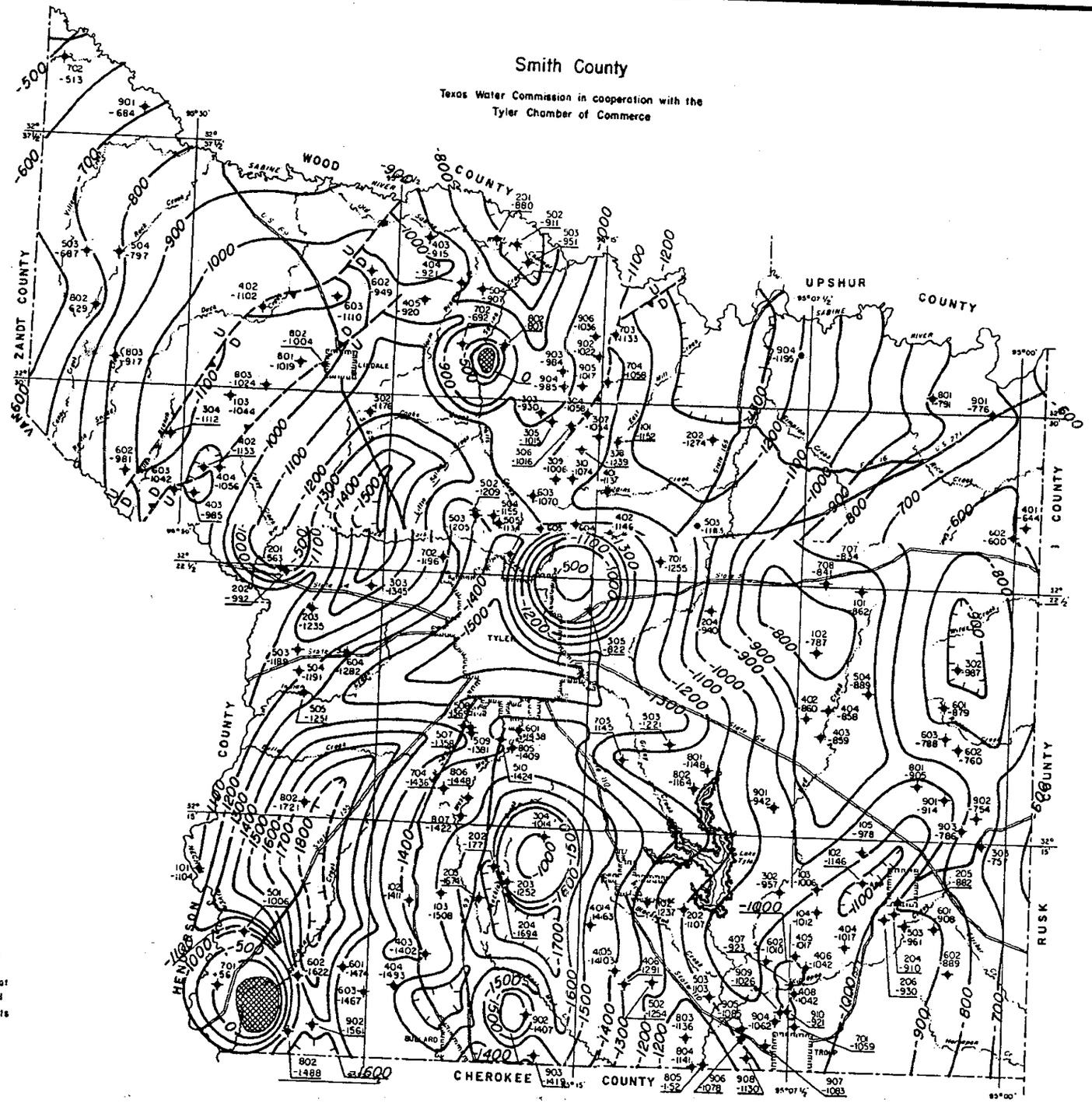
Regional geologic structure of eastern Texas

PARSONS ENGINEERING SCIENCE, INC.

120_0015

Smith County

Texas Water Commission in cooperation with the
Tyler Chamber of Commerce



EXPLANATION

- Electric log on oil test
- Electric log on water well
- Electric log on water supply well

—900— Contour line (dashed where approximated)

Contour showing low or depression

U / D — Fault, showing direction of fault plane dip
U, upthrown side; D, downthrown side

Possible Salt

Contour interval, 100 feet

Contour interval in stippled areas is more than 100 feet

Datum is mean sea level

Note: The structural maps are based on all available data which include regional and local structural maps of the deeper formations. The author believes that the interpretation of the structure between control points agrees with the opinions of most geologists active in the area.

N

0 1 2 3 4
SCALE IN MILES

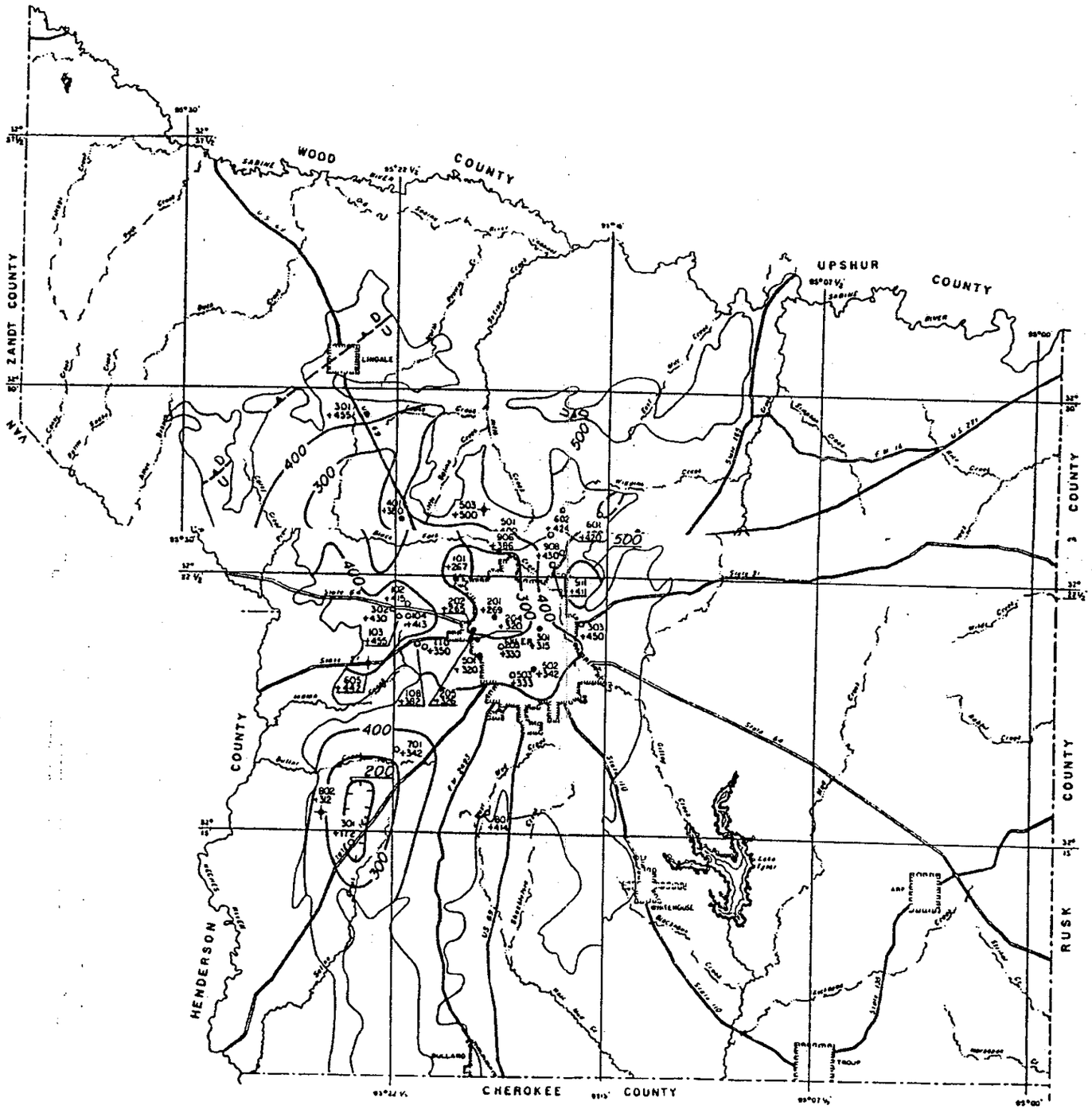
Base adapted from general highway map of the Texas Highway Department

Figure XI.A-1D

Structure map of base of Wilcox group

PARSONS ENGINEERING SCIENCE, INC.

120_0014



EXPLANATION

- Electric log on oil test
- Electric log on water well of Sparta Formation
- 300 — Contour line (dashed where approximated)
- Contour showing low or depression
- U / D — Fault, showing direction of fault plane dip U, upthrown side; D, downthrown side
- Contour interval, 100 feet
- Datum is mean sea level
- Outcrop of Sparta Formation

Note: The structural maps are based on all available data which include regional and local structural maps of the deeper formations. The author believes that the interpretation of the structure between control points agrees with the opinions of most geologists active in the area.

SCALE IN MILES 0 1 2 3 4

Base adapted from general highway map of the Texas Highway Department

Figure XI.A-1E

Structure map on the base of the Sparta formation, Smith County (Texas Water Commission in cooperation with the Tyler Chamber of Commerce, 1963)

PARSONS ENGINEERING SCIENCE, INC.

120_0013

Army Corps of Engineers - rev. 1974

120_0017

N

W E

S

Figure XI.A-1F

Regional geologic map

PARSONS ENGINEERING SCIENCE, INC.

System	Series	Stratigraphic Unit	Hydrogeologic Unit	Thickness	Lithology	Water Bearing Properties
Tertiary	Upper Eocene	Sparta Formation	Sparta Aquifer	60	Sand and shale	Yield large amounts of water
		Weches Formation		70	Shale at base, sandstone on top	
		Queen City Sand	Queen City Aquifer	0-700	Sand, sandstone, and some sandy shale	Yields moderates amounts of water
		Reklaw Formation		55-100	Shale and clay	
		Carrizo Formation	Carrizo-Wilcox Aquifer	40-225	Sand	Yields large supplies of water to municipal
	Lower Eocene	Wilcox Group		755 - >1,320	Sand	
		Midway Group		100	Shales, clays, and, silts	

Figure XI.A-1G

Stratigraphic Column

120_0022

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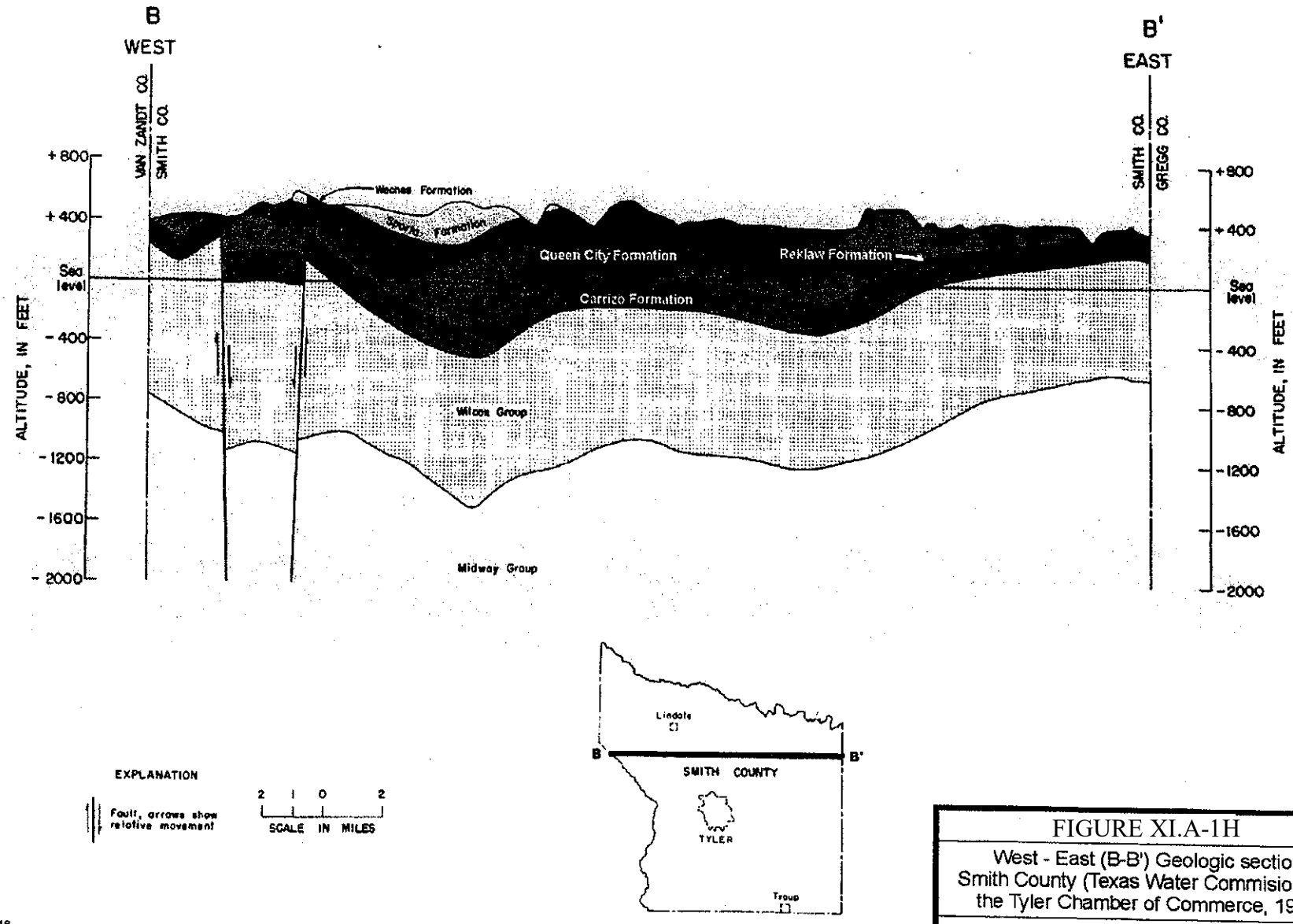


120_0016

FIGURE XI.A-1H

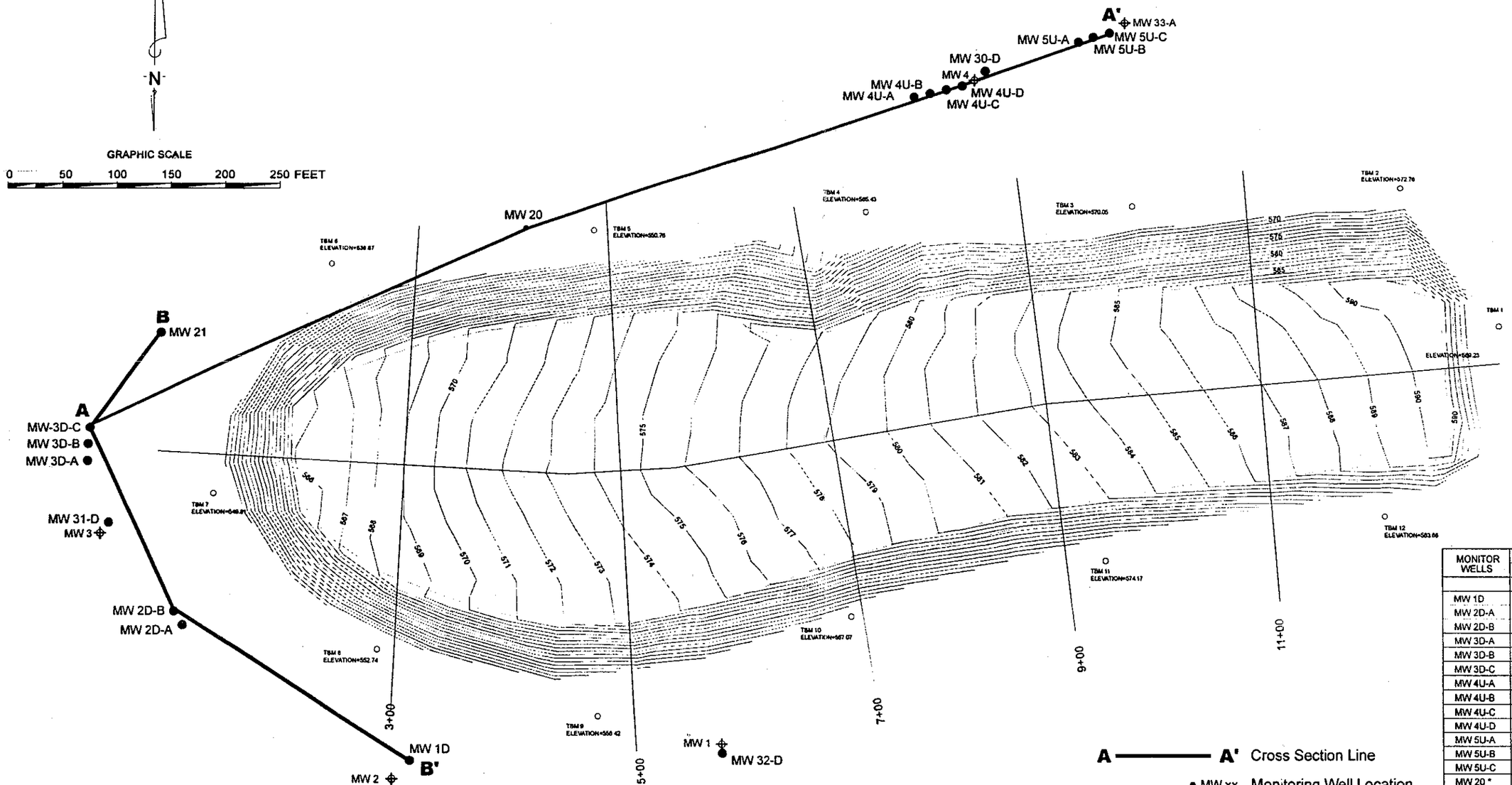
West - East (B-B') Geologic section, Smith County (Texas Water Commision with the Tyler Chamber of Commerce, 1963)

PARSONS ENGINEERING SCIENCE, INC.

N

GRAPHIC SCALE

0 50 100 150 200 250 FEET



MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.56
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

* INDICATES EXISTING MONITOR WELLS ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

A —— A' Cross Section Line

• MW xx Monitoring Well Location

○ TBM xx Benchmark Location

⊕ MW xx Abandoned Monitoring Well

○ ALUMINUM DISC SET IN STEEL PIPE W/PROTECTIVE POST BARRIERS

TYLER PIPE INDUSTRIES, INC.

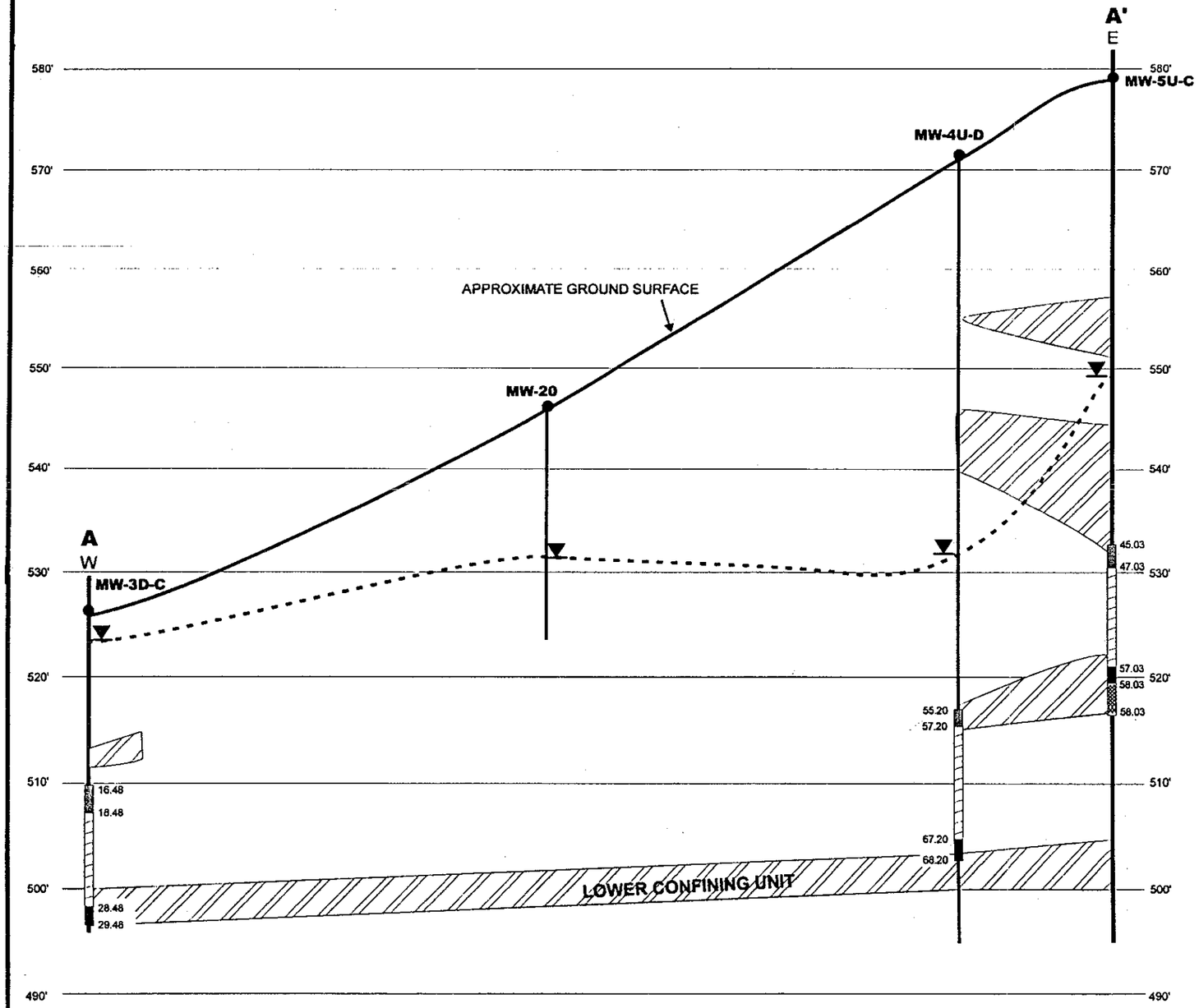
CLASS I HAZARDOUS WASTE LANDFILL

Figure XI.A-1J

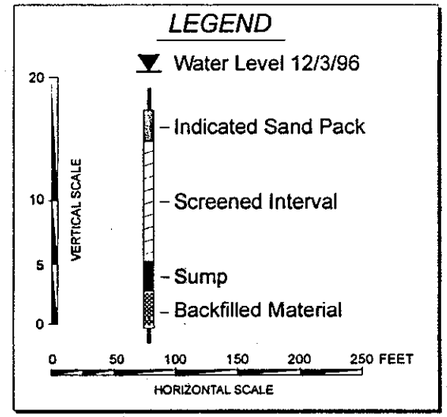
Monitor Well Locations and Cross Section Locations

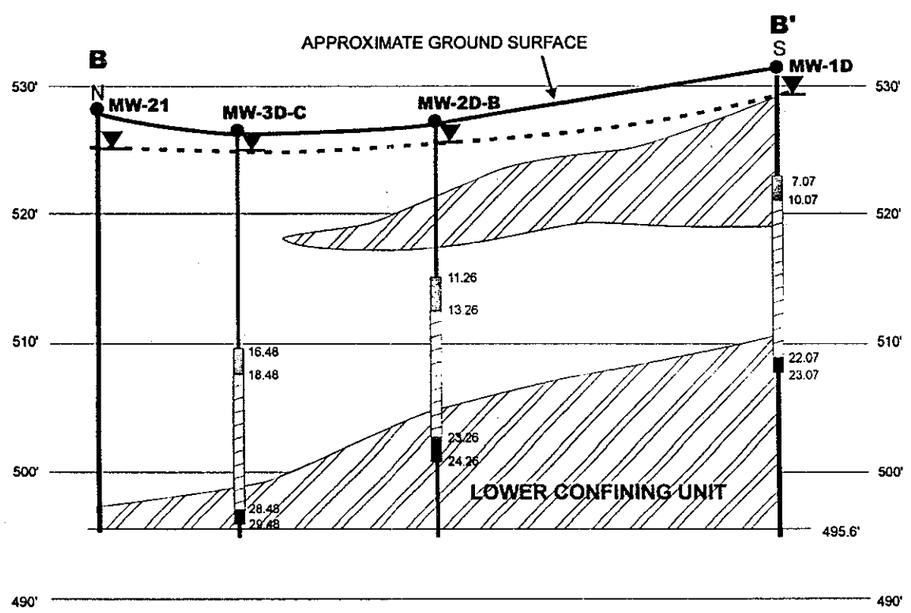
PARSONS ENGINEERING SCIENCE, INC.

120_0012



SECTION A-A'





SECTION B-B'

SILTY, CLAYEY SAND

SILTY CLAY

120_0020

Figure XI.A-1K

Cross Sections A-A' & B-B'

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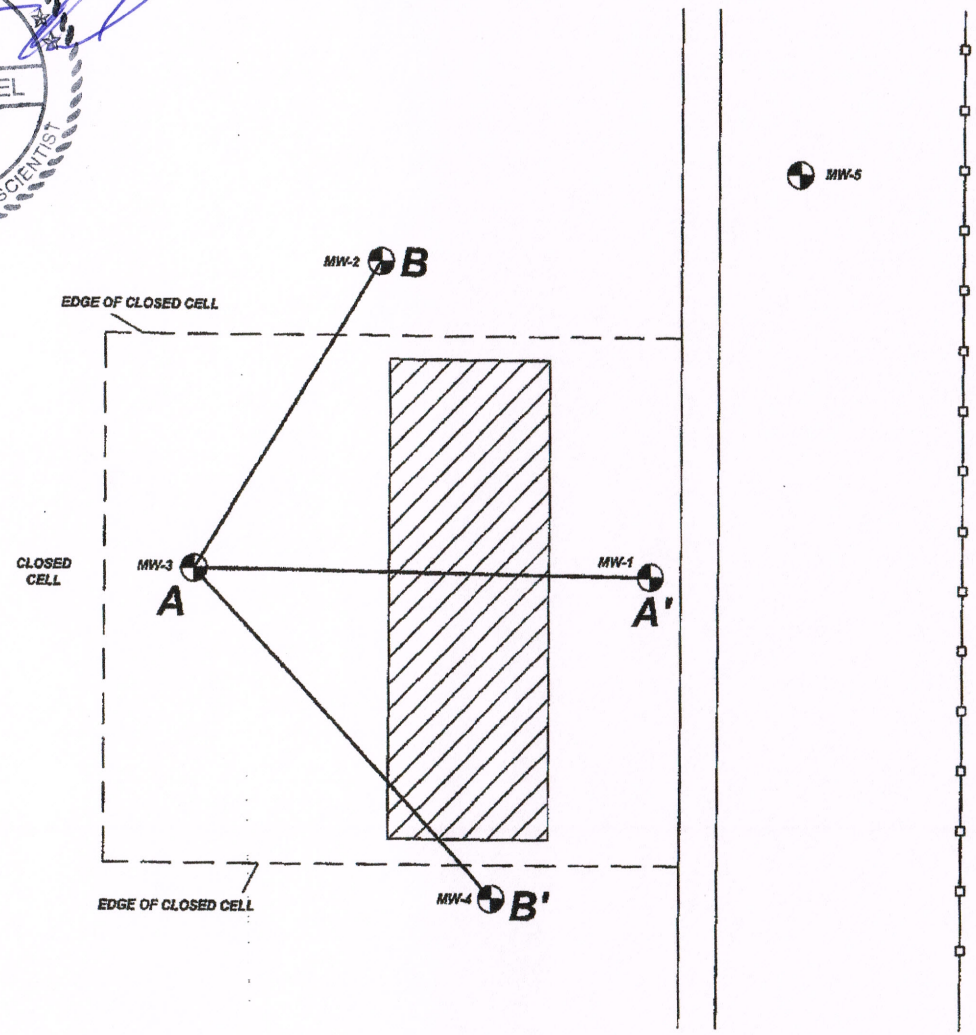
STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2010



Notes: 1. Monitor well locations approximate.
2. Sources: Whitehead & Mueller, Inc. 2003; ETTL Engineers Correspondence.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:
- MONITOR WELL LOCATION
- FENCE
- LIMITS OF SLUDGE

N

SCALE
30 20 10 0 30 60
FEET

CROSS - SECTION LOCATION MAP

MCWANE INC. FACILITY
SWAN, TEXAS

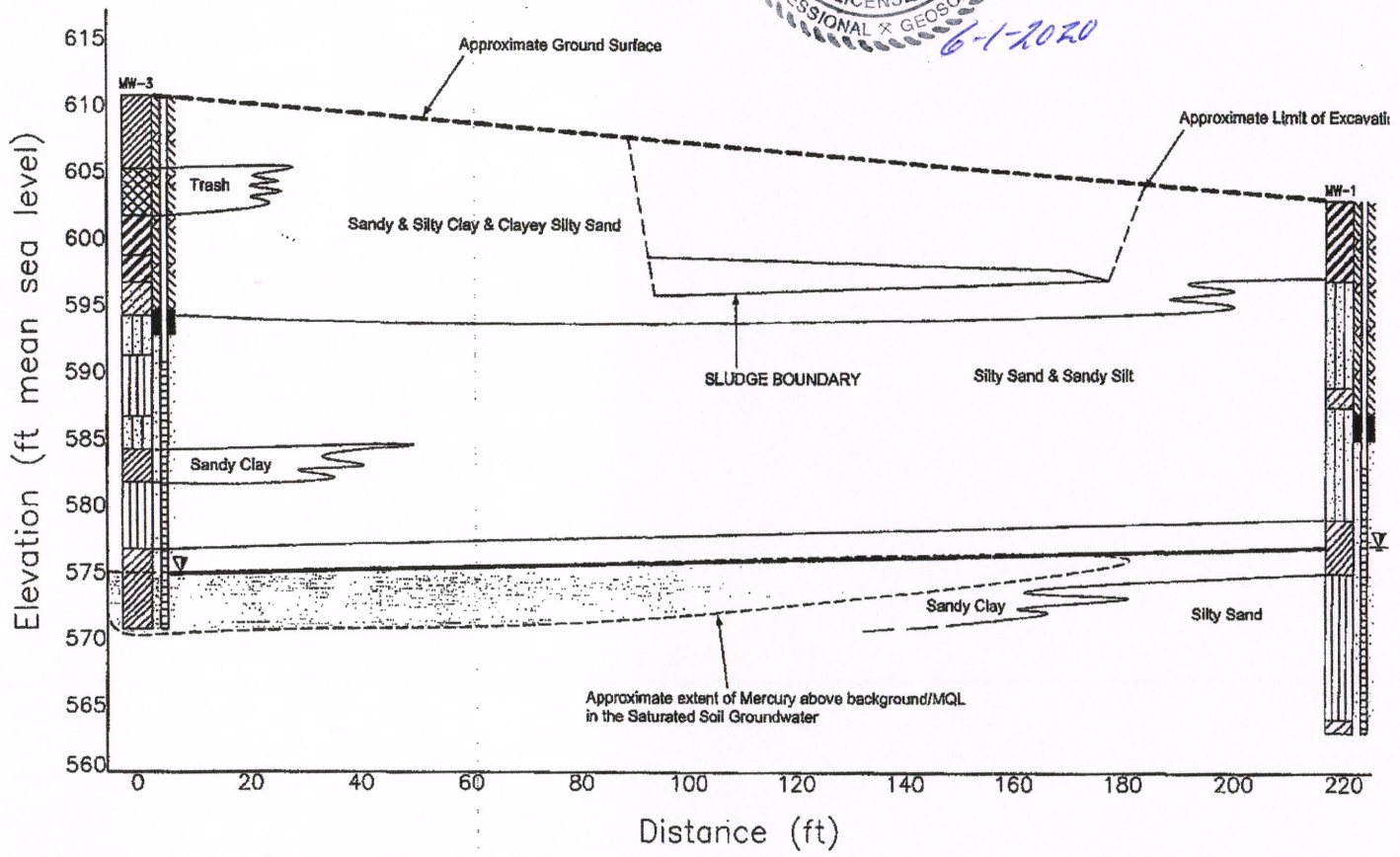
DATE: January 16, 2007

FILENAME: L:\TX\TylerPipe\APAR\Fig 4C-1.dwg

DRAWN BY: SJW

DRAFTED BY: SJW/TDW

FIGURE: XI.A-1L



STATE OF TEXAS
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#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020

Notes: 1. Water levels measured August 18, 2006.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

LEGEND:

- Sandy Clay
- Silty Clay
- Silty Sand
- Clayey Silty Sand
- Sandy Clayey Silt
- Trash
- Water Table

GEOLOGIC CROSS-SECTION A-A'

SLUDGE DISPOSAL AREA
MCWANE INC. FACILITY
SWAN, TEXAS

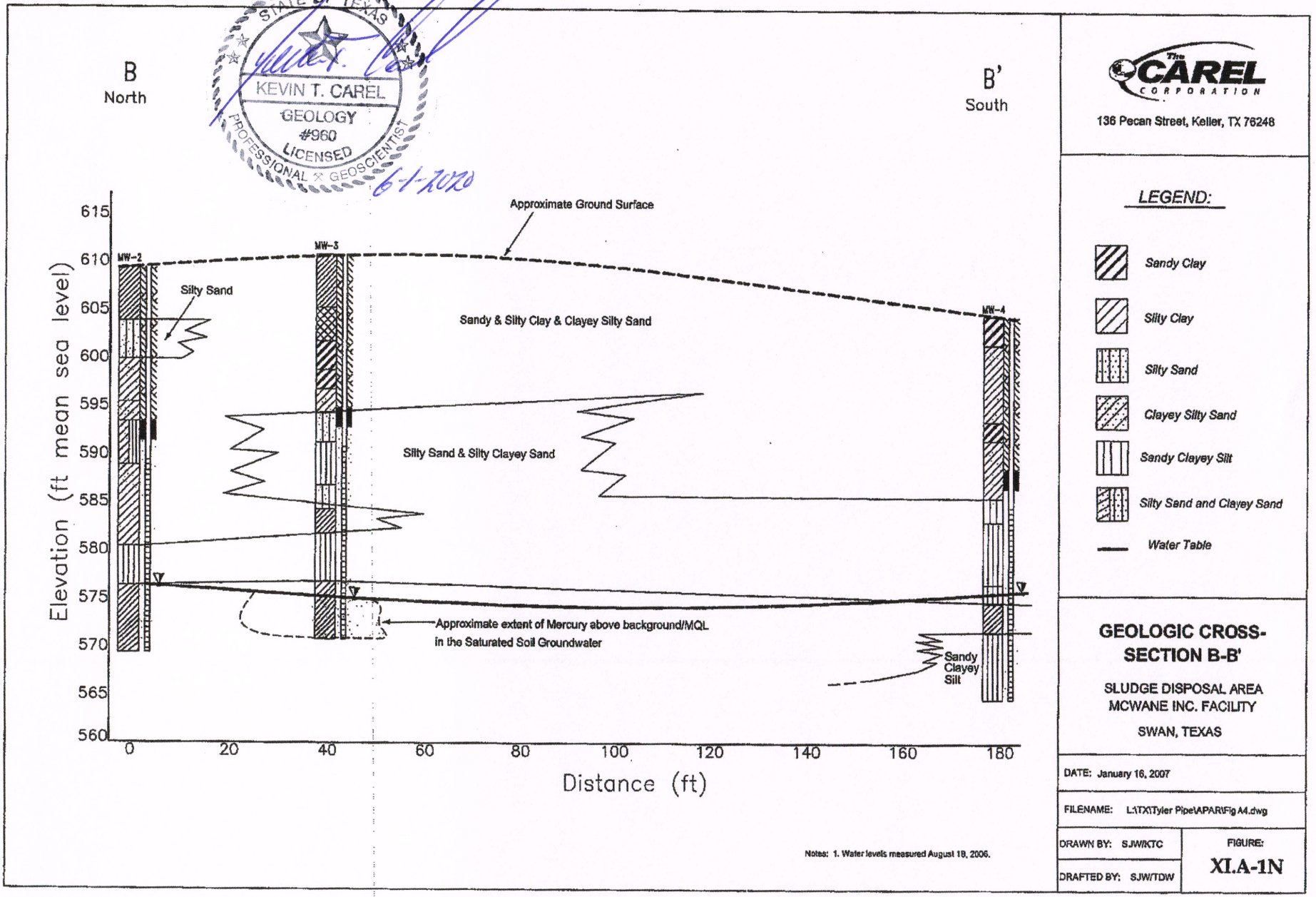
DATE: January 16, 2007

FILENAME: L:\TX\Tyler Pipe\APAR\Fig 4C-2.dwg

DRAWN BY: SJW/KTC

DRAFTED BY: SJW/TDW

FIGURE: XI.A-1M



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020

Notes: 1. Water levels measured August 18, 2006.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

GEOLOGIC CROSS-SECTION B-B'

SLUDGE DISPOSAL AREA
MCWANE INC. FACILITY
SWAN, TEXAS

DATE: January 16, 2007	
FILENAME: L:\TX\Tyler Pipe\APAR\Fig A4.dwg	
DRAWN BY: SJW/KTC	FIGURE: XI.A-1N
DRAFTED BY: SJW/TDW	

Source: United States Department of Agriculture. Soil Conservation Service. Soil Survey of Smith County, Texas. Sheet number 20.

The Carel Corporation *Providing Environmental, Ground-Water and Waste Management Service* *136 Pecan Street, Keller, TX 76248* *(817) 337-0112*	**Tyler Pipe Facility** **Sludge Disposal Area** **Compliance Plan Application Part II** **Site Specific Information** **Soil Map**	**FIGURE** **XI.A-1O**

N

GRAPHIC SCALE

0 50 100 150 200 250 FEET

MW 20

MW 21

MW 31-D
MW 3

MW 2D-B
MW 2D-A

MW 1D

MW 2

MW 1
MW 32-D

MW 4U-B
MW 4U-A
MW 4U-D
MW 4U-C

MW 5U-A
MW 33-A
MW 5U-C
MW 5U-B

MW-3D-C
MW 3D-B
MW 3D-A

530 534 538 542 546 550

3+00 5+00 7+00 9+00 11+00

MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.56
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

* INDICATES EXISTING MONITOR WELLS
ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

• MW xx Monitoring Well Location

○ TBM xx Benchmark Location

⌖ MW xx Abandoned Monitoring Well

○ ALUMINUM DISC SET IN STEEL PIPE W/PROTECTIVE POST BARRIERS

TYLER PIPE INDUSTRIES, INC.

Figure XI.A-1P

Water Table Surface – Landfill

PARSONS ENGINEERING SCIENCE, INC.

120_0024

N

GRAPHIC SCALE

0 50 100 150 200 250 FEET

A

MW-3D-C
MW 3D-B
MW 3D-A

B

MW 21

MW 20

A'

MW 33-A
MW 5U-A
MW 5U-C
MW 5U-B
MW 30-D
MW 4
MW 4U-B
MW 4U-A
MW 4U-D
MW 4U-C

MW 31-D
MW 3

MW 2D-B
MW 2D-A

MW 1D
B'

MW 2

MW 1
MW 32-D

TBM 1 ELEVATION=559.23
TBM 2 ELEVATION=572.76
TBM 3 ELEVATION=570.05
TBM 4 ELEVATION=565.43
TBM 5 ELEVATION=550.76
TBM 6 ELEVATION=536.67
TBM 7 ELEVATION=548.81
TBM 8 ELEVATION=552.74
TBM 9 ELEVATION=558.42
TBM 10 ELEVATION=567.07
TBM 11 ELEVATION=574.17
TBM 12 ELEVATION=563.86

3+00 5+00 7+00 9+00 11+00

MONITOR WELLS	ELEVATION	
	TOP OF CASING	GROUND
MW 1D	534.41	531.85
MW 2D-A	528.46	526.51
MW 2D-B	528.77	526.58
MW 3D-A	527.54	525.55
MW 3D-B	528.08	525.75
MW 3D-C	528.31	526.02
MW 4U-A	570.82	568.58
MW 4U-B	572.27	570.13
MW 4U-C	573.45	571.26
MW 4U-D	574.41	572.07
MW 5U-A	578.19	575.90
MW 5U-B	578.99	576.67
MW 5U-C	579.86	577.61
MW 20 *	547.08	545.68
MW 21 *	529.97	528.68

* INDICATES EXISTING MONITOR WELLS
ALL OTHER WELLS LISTED ARE NEW MONITOR WELLS

A —— A' Cross Section Line

• MW xx Monitoring Well Location

○ TBM xx Benchmark Location

⊕ MW xx Abandoned Monitoring Well

○ ALUMINUM DISC SET IN STEEL PIPE W/PROTECTIVE POST BARRIERS

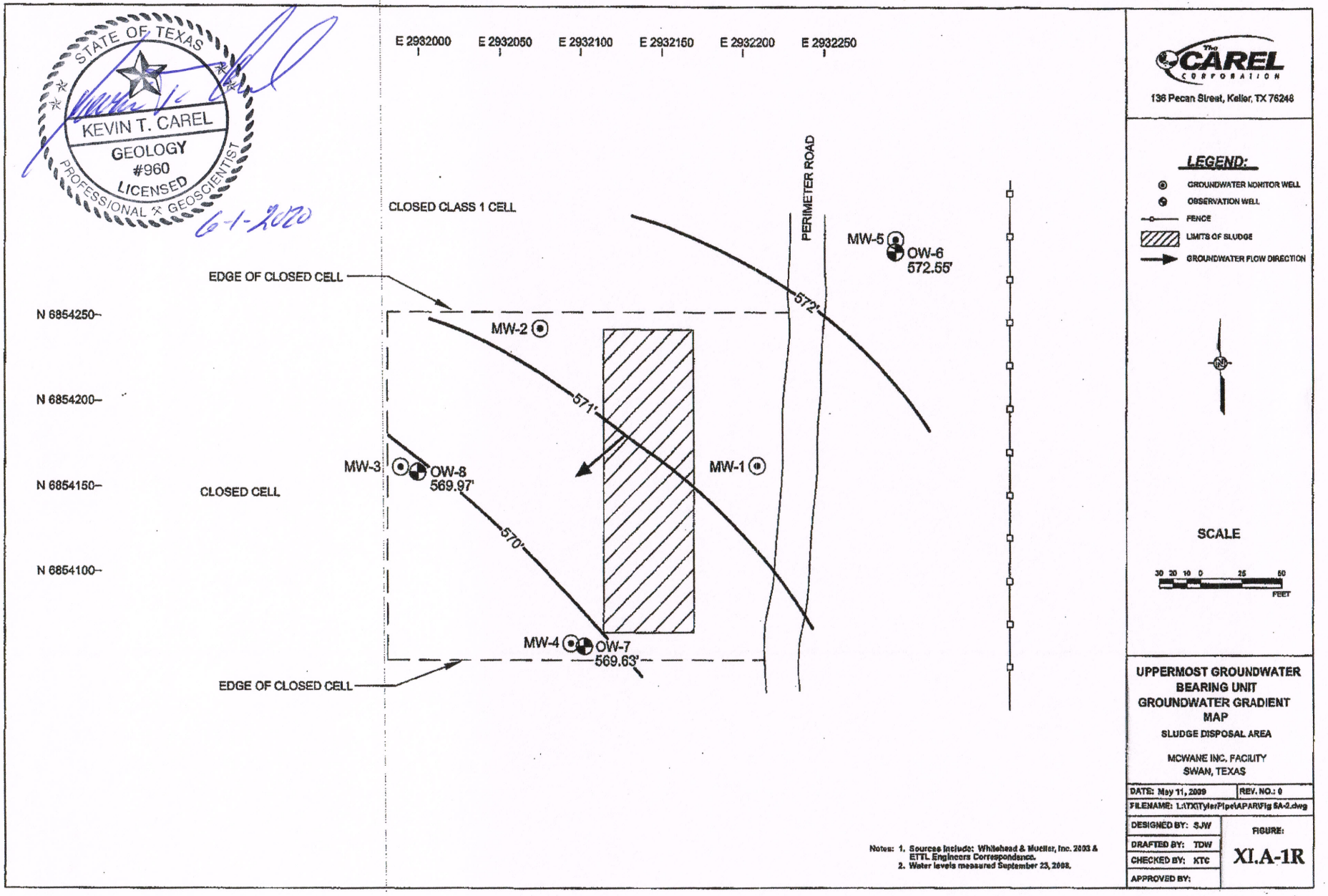
TYLER PIPE INDUSTRIES, INC.
CLASS I HAZARDOUS WASTE LANDFILL

Figure XI.A-1Q

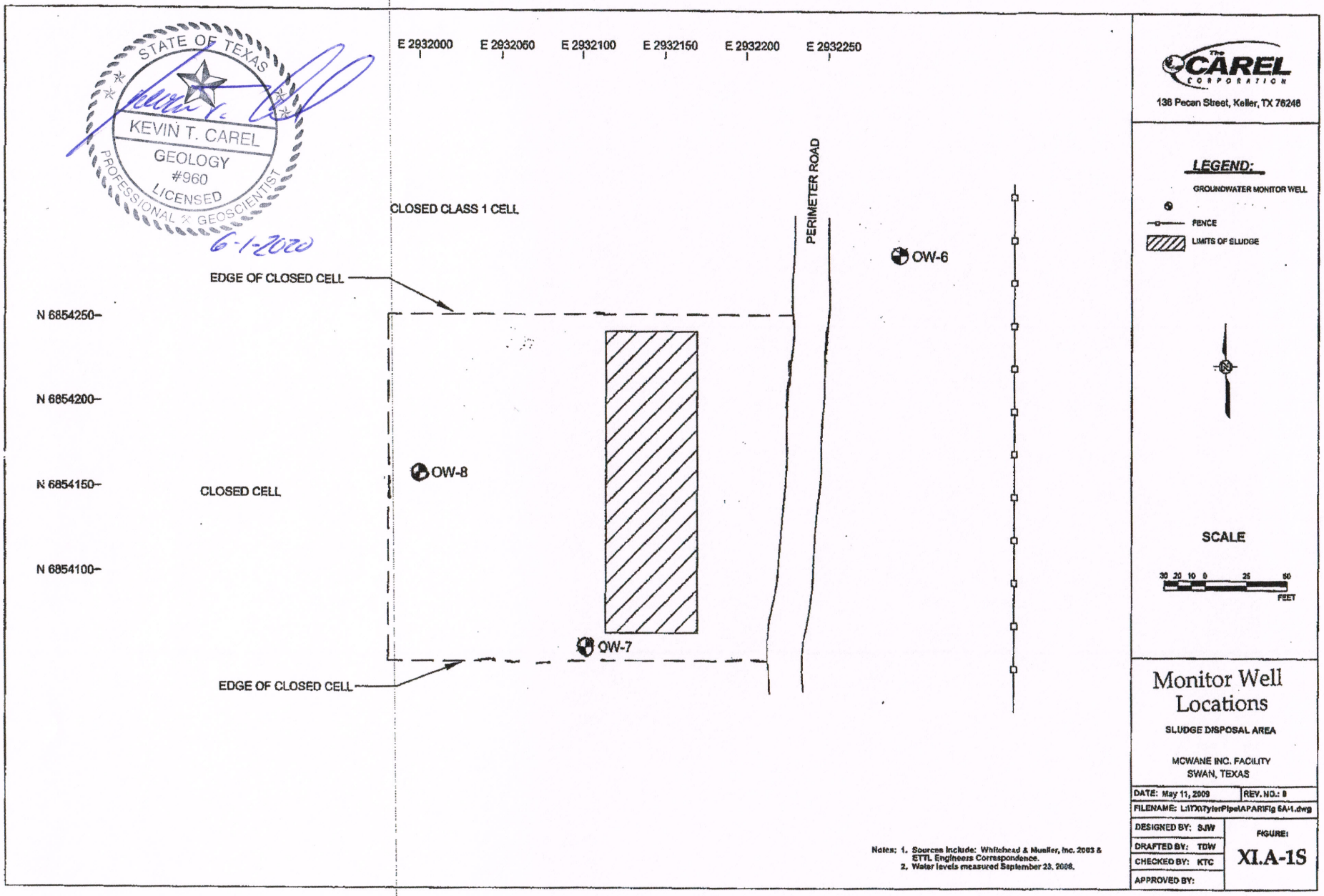
Monitor Well Locations
Landfill

PARSONS ENGINEERING SCIENCE, INC.

120_0012



Notes: 1. Sources include: Whitehead & Mueller, Inc. 2003 & ETTL Engineers Correspondence.
2. Water levels measured September 23, 2008.



Notes: 1. Sources include: Whitehead & Mueller, Inc. 2003 & ETTL Engineers Correspondence.
2. Water levels measured September 23, 2008.

Attachment XI.A-2
Monitor Well Installation Diagrams and Boring Logs

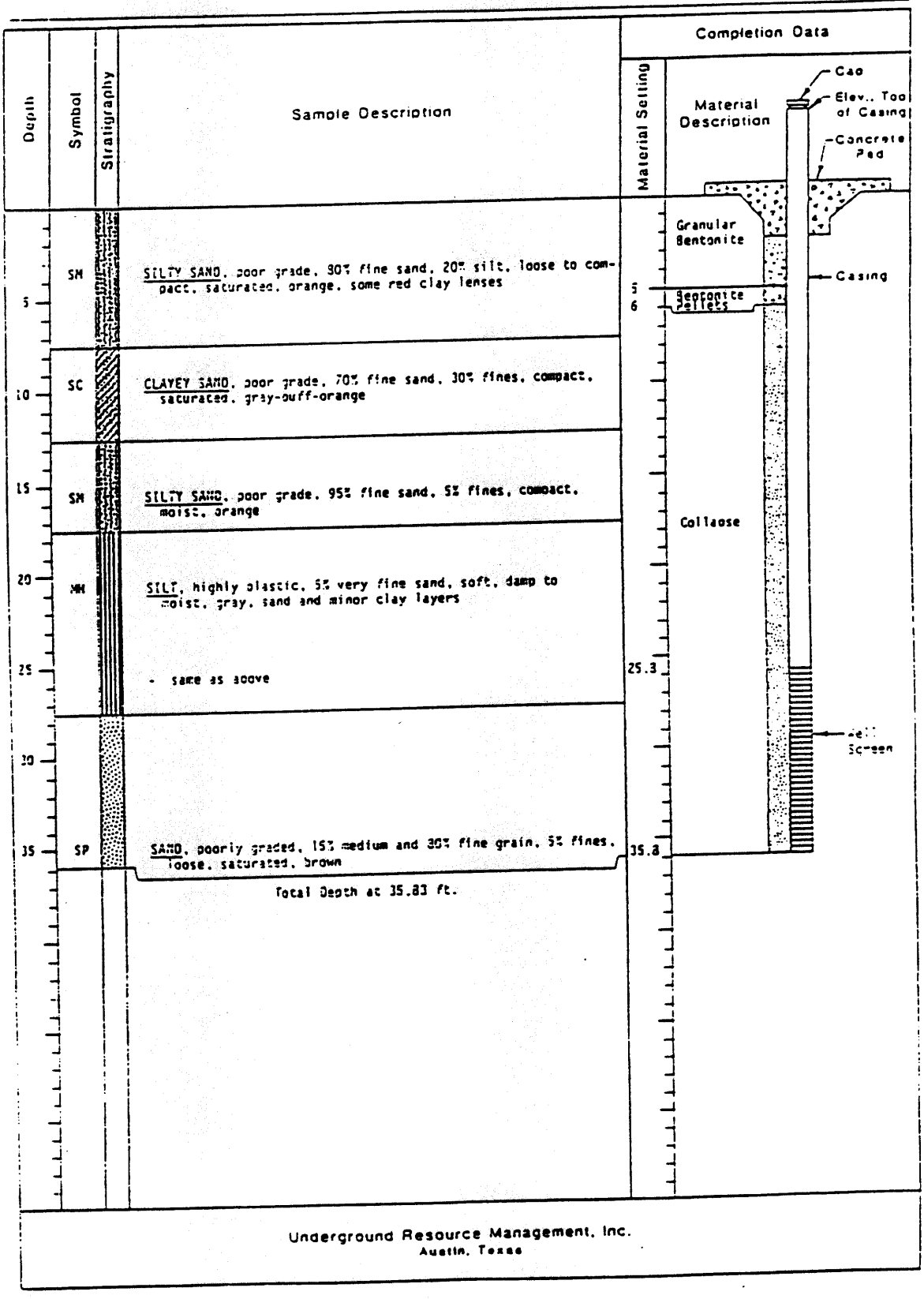
Monitor Well Installation

Client: Tyler Pipe Industries Job No.: J81-833 Date Drilled: 9-22-81 Well No.: 1

Site: Solid Waste Landfill Elevation: Pad 77.41 ft. Top of PVC Casing

Total Depth: 35.83 ft. Casing Size & Type: 2" I.D. Schedule 80 PVC Screen Size: 0.010 Slot PVC

Comments:



MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

CLIENT: TYLER PIPE INDUSTRIES, INC.

LOCATION: TYLER, TEXAS

WELL NO. MW-1

PROJECT NO. 79992.691

COMPLETION DATE: 4-25-96

DRY AUGERED 0 TO 36.5 FT

WASH BORED X TO X FT

DRILLING FLUID: N/A

MATERIALS:

#BAGS OF CEMENT 4

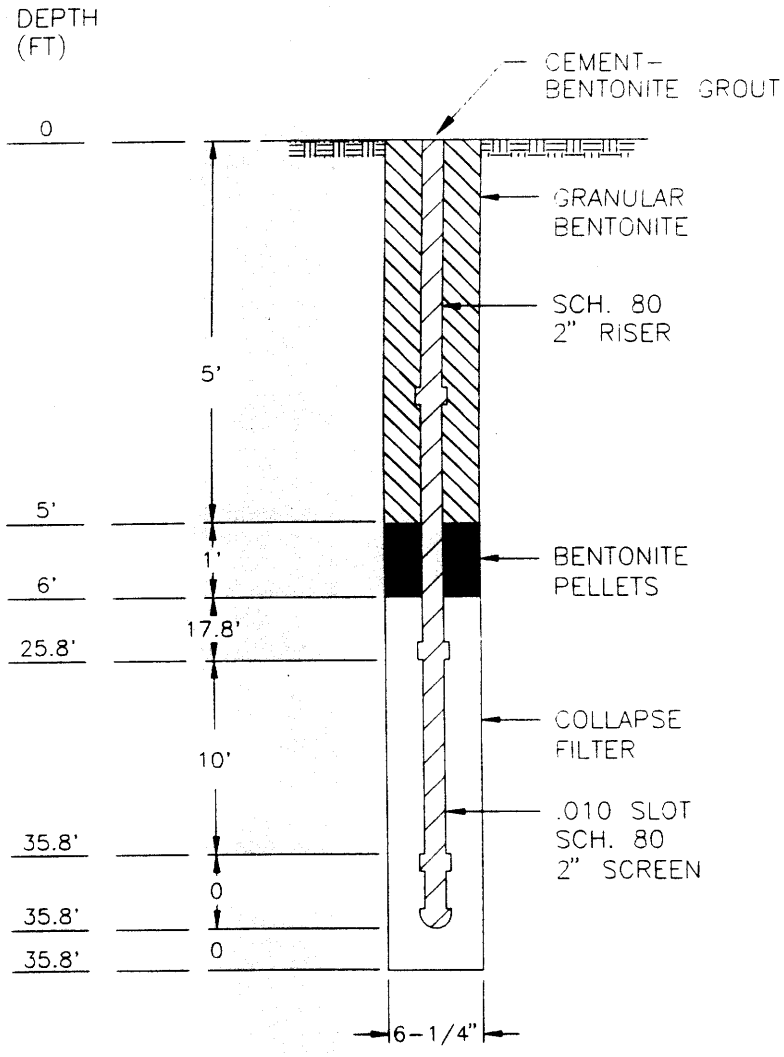
#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

WELL PAD REMOVED WITH BULLDOZER, UNABLE TO PULL CASING.
WELL GROUTED TO SURFACE USING TREMIE METHOD.

Monitor Well Installation

Client: Tyler Pipe Industries Job No.: 881-833 Date Drilled: 9-23-81 Well No.: 2

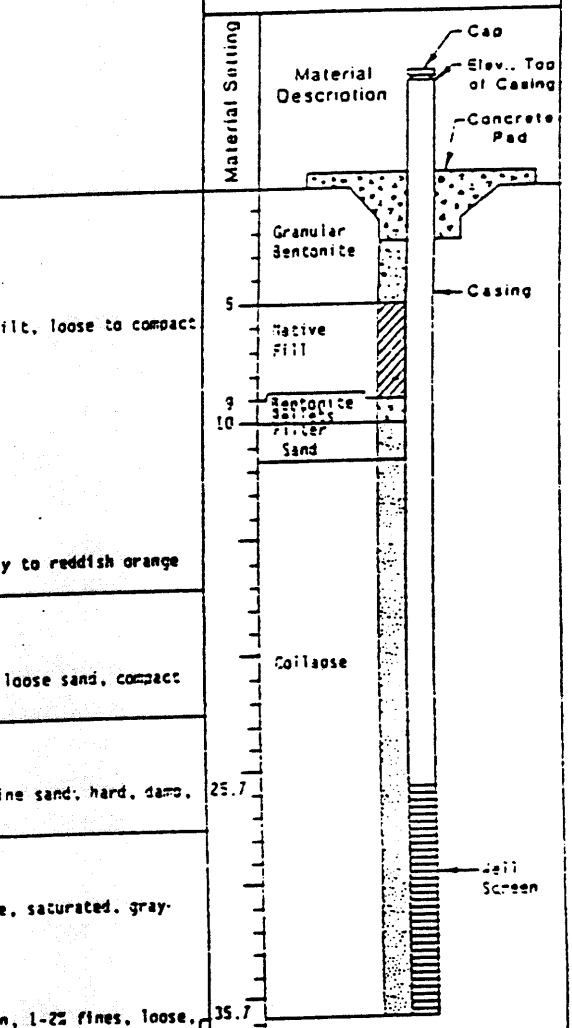
Site: Solid Waste Landfill Elevation: Pad 71.1 ft. Top of PVC Casing

Total Depth: 35.75 ft. Casing Size & Type: 2" I.D. Schedule 80 PVC Screen Size: 0.010 Gauge PVC

Comments:

Depth	Symbol	Stratigraphy	Sample Description
5	SP		SAND, uniform fine to medium grain, <5% silt, loose to compact saturated, orange
10			- same as above, with 3-5% gravel
15	SP		SAND, uniform fine, loose, saturated, gray to reddish orange
20	SC		CLAYEY SAND, poorly graded, 10-15% clay, loose sand, compact sandy clay, saturated, brown
25	MH		CLAYEY SILT, highly plastic, 2-3% very fine sand, hard, damp, gray
30	SP		SAND, uniform fine to medium grain, loose, saturated, gray
35	SP		SAND, poorly graded, fine to medium grain, 1-2% fines, loose, saturated, green
40			Total Depth at 35.75 ft.

Completion Data



Underground Resource Management, Inc.
Austin, Texas

MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

CLIENT: TYLER PIPE INDUSTRIES, INC.

LOCATION: TYLER, TEXAS

WELL NO. MW-2

PROJECT NO. 79992.691

COMPLETION DATE: 4-24-96

DRY AUGERED 0 TO 37 FT

WASH BORED X TO X FT

DRILLING FLUID: X

MATERIALS:

#BAGS OF CEMENT 4

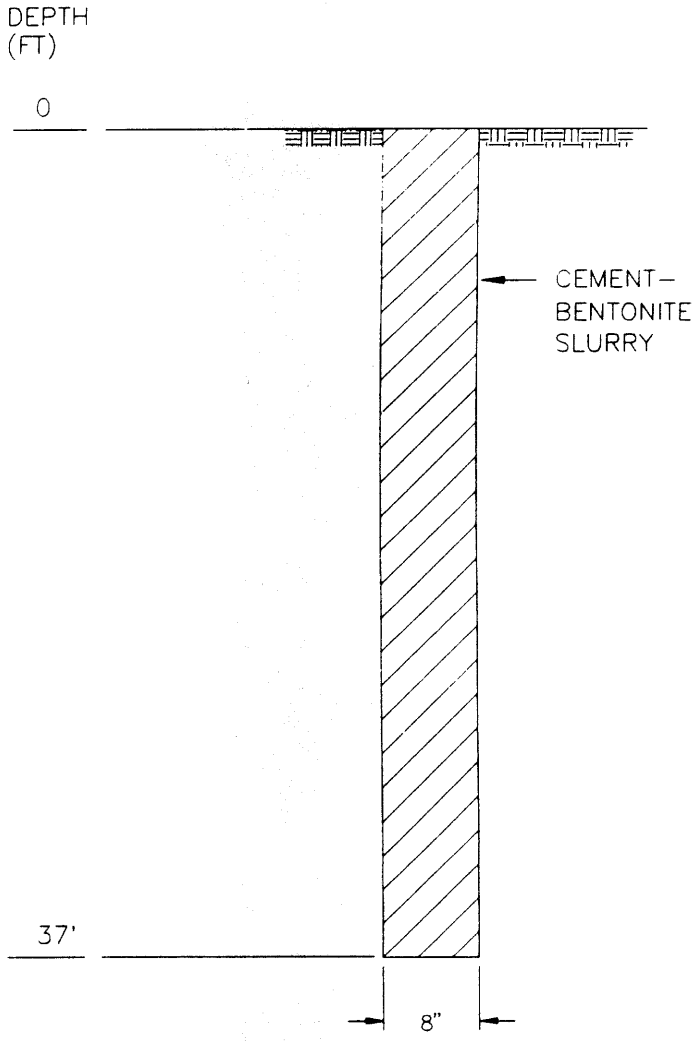
#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

WELL PAD REMOVED WITH BULLDOZER. TOTAL CASING PULLED, WELL GROUTED TO SURFACE USING TREMIE METHOD (NO GROUT ENCOUNTERED).

Monitor Well Installation

Client: Tyler Pipe Industries Job No.: 381-811 Date Drilled: 9-21-81 Well No.: 1

Site: Solid Waste Landfill Elevation: Pad 65.42 ft Top of PVC Casing

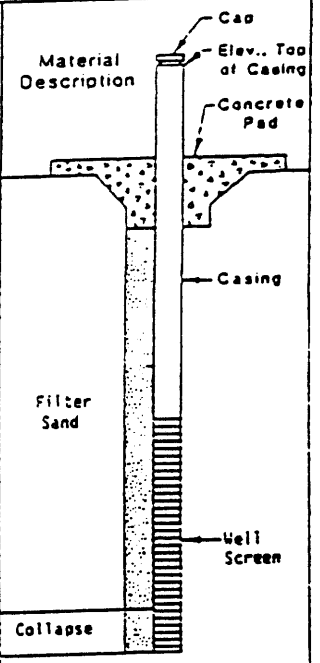
Total Depth: 20.5 ft Casing Size & Type: 2" I.D. Schedule 30 PVC Screen Size: 0.010 Gauge PVC

Comments:

Depth	Symbol	Stratigraphy	Sample Description
5	SP		SAND, poorly graded, mostly fine grain, 2-4% fines, loose, saturated, orange
10	GC		CLAYEY GRAVEL, poor grading, 85% pea size gravel, 2-5% fine sand, 10-13% fines, loose, saturated, red
15	SP		SAND, uniform fine grain, 2-3% fines, loose, saturated, orange to brown
20	MH		SANDY SILT, highly plastic, 5-10% fine sand, soft, saturated, green
25			Total Depth at 20.5 ft.

Completion Data

Material Setting	Material Description
10.5	Filter Sand
20.5	Collapse



Underground Resource Management, Inc.
Austin, Texas

MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

CLIENT: TYLER PIPE INDUSTRIES, INC.

LOCATION: TYLER, TEXAS

WELL NO. MW-3

PROJECT NO. 79992.691

COMPLETION DATE: 4-24-96

DRY AUGERED 0 TO 22 FT

WASH BORED X TO X FT

DRILLING FLUID: X

MATERIALS:

#BAGS OF CEMENT 4

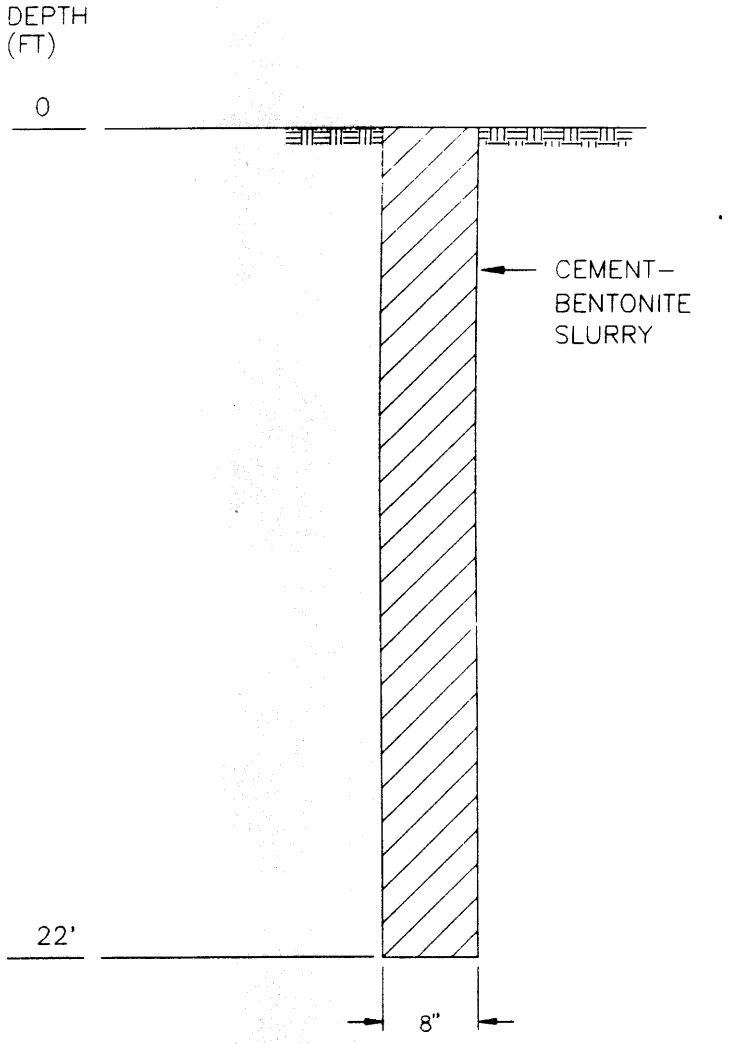
#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

WELL PAD REMOVED WITH BULLDOZER, TOTAL CASING PULLED, WELL GROUTED TO SURFACE USING TREMIE METHOD (NO GROUT ENCOUNTERED). 1-1/4" STINGER USED TO STAY CENTERED

Monitor Well Installation

Client: Tyler Pipe Industries Job No.: 381-833 Date Drilled: 9-24-81 Well No.: 1

Site: Solid Waste Landfill Elevation: Pad 117.31 ft Top of PVC Casing

Total Depth: 55.58 ft. Casing Size & Type: 2" I.D., Schedule 80 PVC Screen Size: 0.010 Gauge PVC

Comments:

Depth	Symbol	Stratigraphy	Sample Description
			SANDSTONE
	SC		CLAYEY SAND, poor grade, fine grain, 10-20% fines, compact, moist, red
10			- same as above
			- same as above, except buff and orange
20			- same as above, except orange
	CH		SANDY CLAY, highly plastic, 2-3% gravel, 10-15% fine sand, very stiff, moist, brown clay, red sand and gravel
30			- same as above, except no gravel
	SP		SAND, poorly graded, fine grain, 2-3% fines, compact, moist to saturated, orange
40	MH		SILT, highly plastic, 2-3% very fine sand, soft, moist, gray, sulfur smelling smoke
	SP		SAND, uniform fine grain, loose, saturated, red
50			- same as above, except green
	ML		SILT, highly plastic, stiff, moist, gray
60			Total Depth at 55.58 ft.

Completion Data

Material Setting	Material Description
	Cap
	Elev., Top of Casing
	Concrete Pad
	Casing
	Native Fill
30	Granular bentonite
32	bentonite pellets
34	
	Filter Sand
45.5	Collapse
	Well Screen
55.5	

Underground Resource Management, Inc.
Austin, Texas

MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

CLIENT: TYLER PIPE INDUSTRIES, INC.

LOCATION: TYLER, TEXAS

WELL NO. MW-4

PROJECT NO. 79992.691

COMPLETION DATE: 4-24-96

DRY AUGERED 0 TO 57 FT

WASH BORED X TO X FT

DRILLING FLUID: X

MATERIALS:

#BAGS OF CEMENT 8

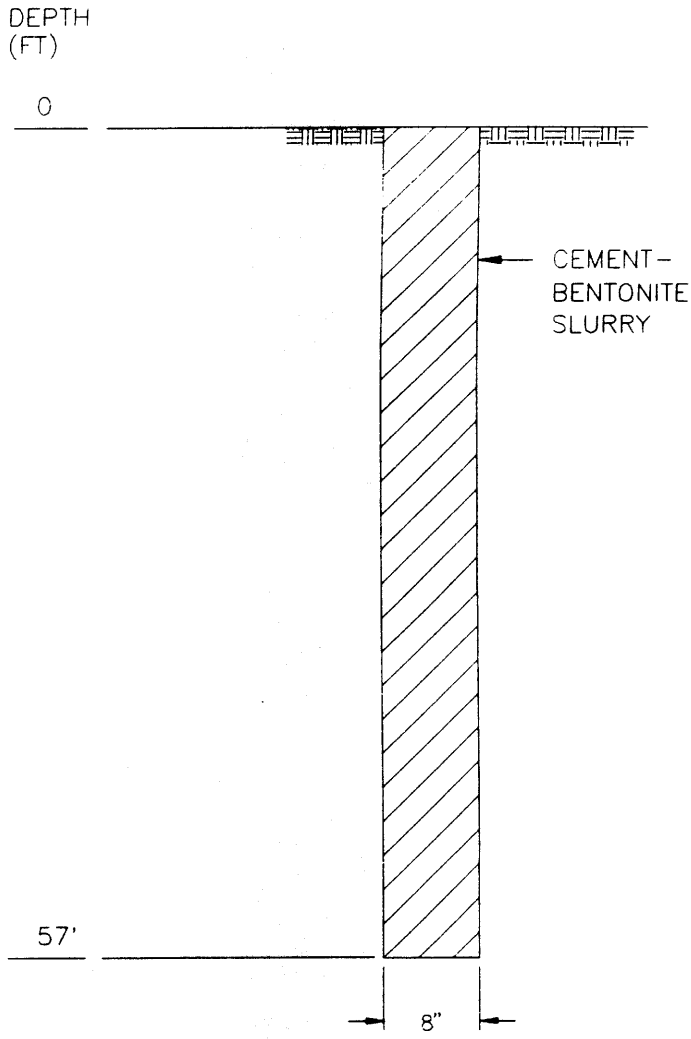
#BAGS OF BENTONITE 2

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

WELL PAD REMOVED WITH BULLDOZER, TOTAL CASING PULLED. WELL GROUTED TO SURFACE USING TREMIE METHOD (NO GROUT ENCOUNTERED). ALLOWED TO SETTLE FOR 24 HRS. BEFORE TOP-OFF
1-1/4" STINGER USED TO STAY CENTERED

THE ORIGINAL BORING LOG AND WELL INSTALLATION REPORT
CAN NOT BE LOCATED FOR MONITOR WELL MW-33A

MONITORING WELL PLUGGING REPORT

PROJECT: PLUG AND ABANDONMENT

WELL NO. MW-33A

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-23-96

DRY AUGERED 0 TO 45 FT

WASH BORED X TO X FT

DRILLING FLUID: N/A

MATERIALS:

#BAGS OF CEMENT 8

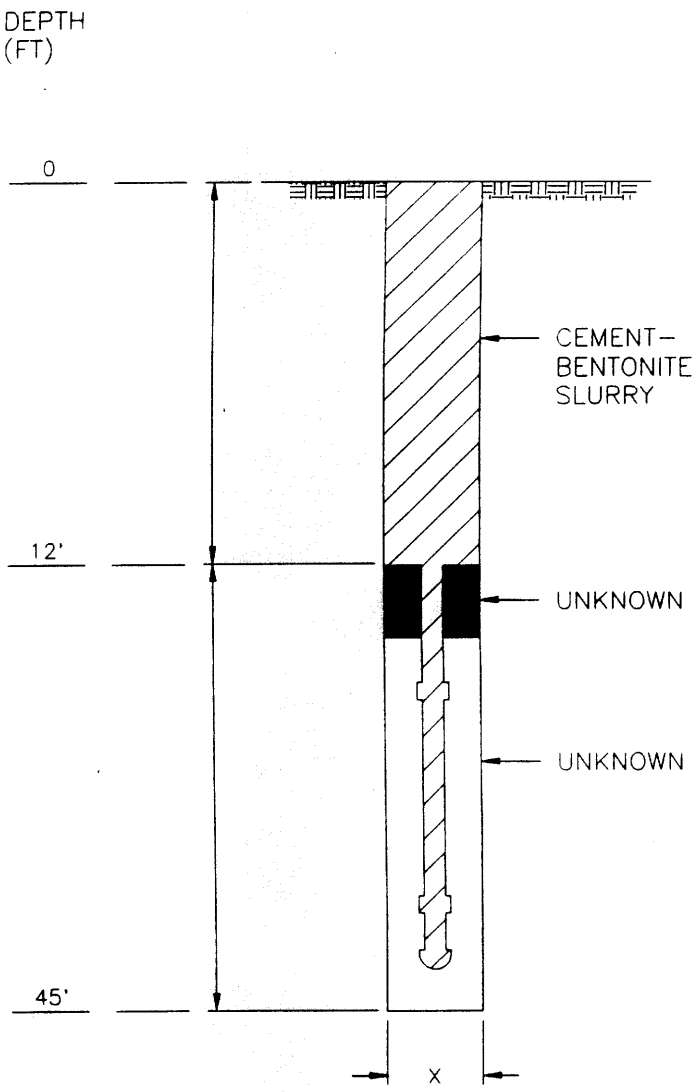
#BAGS OF BENTONITE 2

#BKTS OF BENT. PELLETS N/A

#BAGS OF FILTER MEDIA N/A

CENTRALIZER YES ____ NO X

DEPTH N/A



REMARKS:

BULLDOZER USED TO REMOVE CONCRETE PAD, APPROX. 12" OF RISER WAS PULLED. UNABLE TO PULL REMAINING RISER AND SCREEN. ATTEMPT WAS MADE. REMAINDER OF WELL WAS GROUTED TO SURFACE USING TREMIE METHOD. GROUT WAS ALLOWED TO SETTLE FOR 24 HRS. THEN TOPPED OFF. TERMINATED AUGER AT 45' DUE TO INABILITY TO STAY CENTERED ON HOLE.

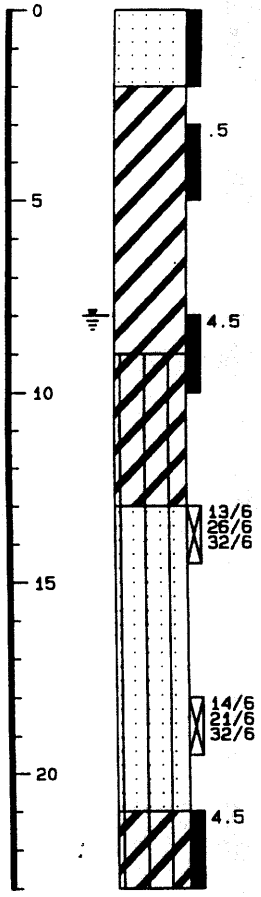
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-1D
File No.: 79992691
Date : 4-26-96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 10 ft. Water at 8 ft; Caving at ft.
Wash Bored 10 to 23 ft. Water at ft. after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Loose red CLAYEY SAND (SC)		1142
		Soft yellow orange gravel, sand CLAY (CH)		1146
				1155
		Hard yellow orange, red, gray, SILTY CLAY (CH), saturated sand partings minor gravel and organics. -ironstone seam @ 12'		
		Medium dense, gray SILTY SAND (SM) saturated		1201
				1210
		Hard dark gray SILTY CLAY (CL) -dry, silt partings		1250

Bottom @ 23'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-1D

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-26-96

DRY AUGERED 0 TO 10 FT

WASH BORED 10 TO 23 FT

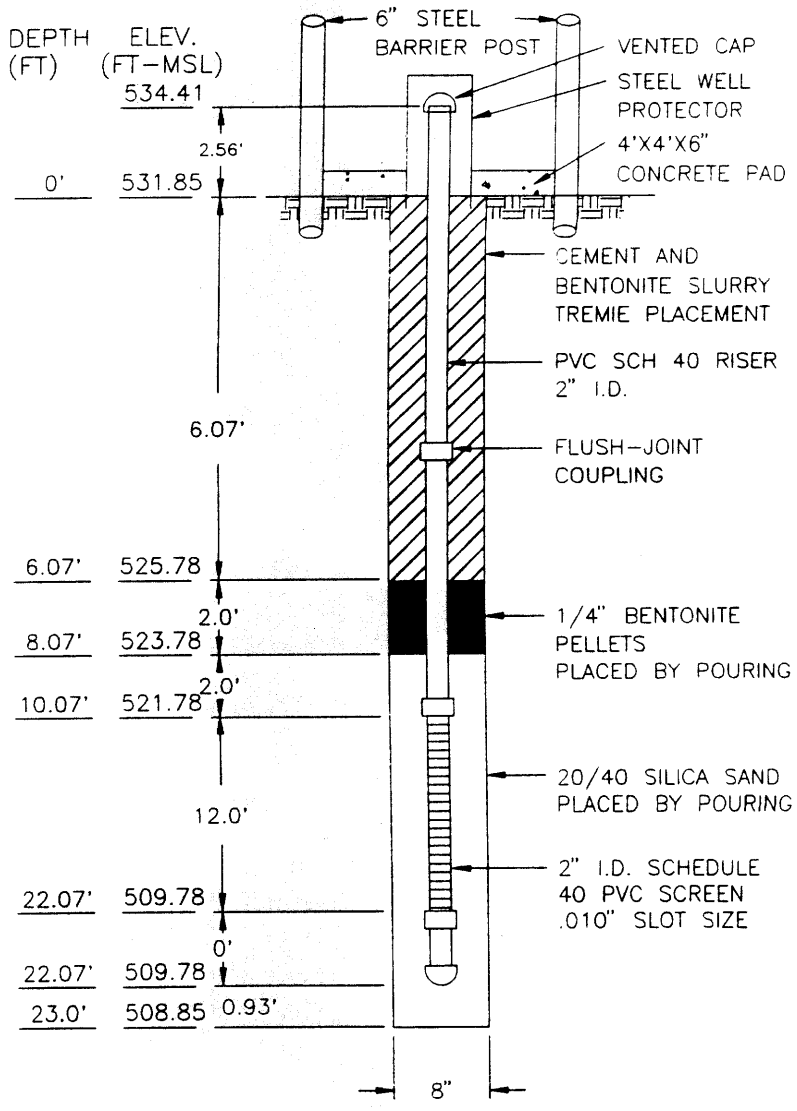
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT .3

#BAGS OF BENTONITE .25

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 5.0

CENTRALIZER YES X NO

DEPTH 9 ft.

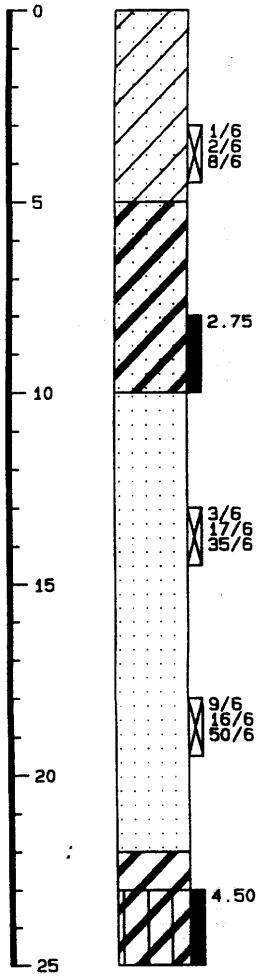
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-2D
File No.: 79992691
Date : 4-26-96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 2 ft. Water at ft; Caving at ft.
Wash Bored 2 to 25 ft. Water at ft: after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Loose red CLAYEY SAND (SC)		1507
		Stiff tan and gray SANDY CLAY (CL)		1517
		Sand @ 10'		
		Dense light & red SAND (SP) -wet		1532
		Very dense dark gray SAND (SP)		
		CLAY (CH) @ 22'		
		Hard dark gray SILTY CLAY (CL) -dry		

Bottom @ 25'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-2DA

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-26-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 14.89 FT

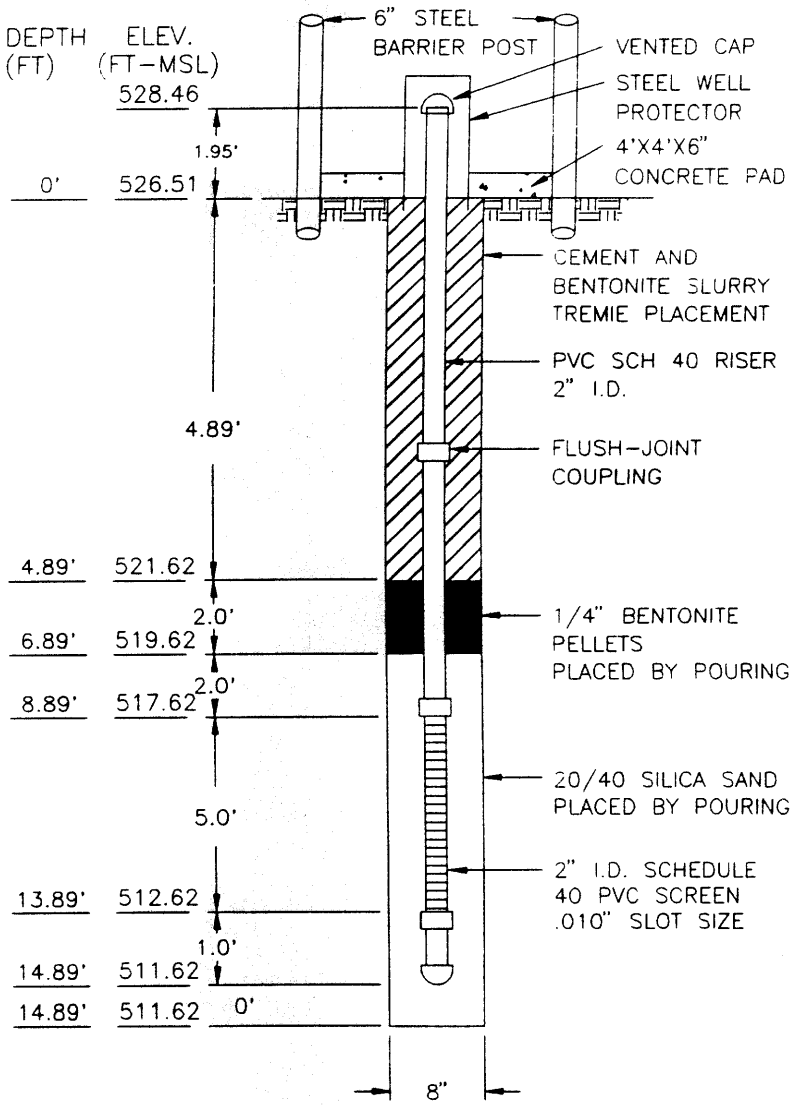
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 1

#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 2

CENTRALIZER YES X NO _____

DEPTH 7 ft.

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT WELL NO. MW-2DB

CLIENT: TYLER PIPE INDUSTRIES, INC. PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-30-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 24.26 FT

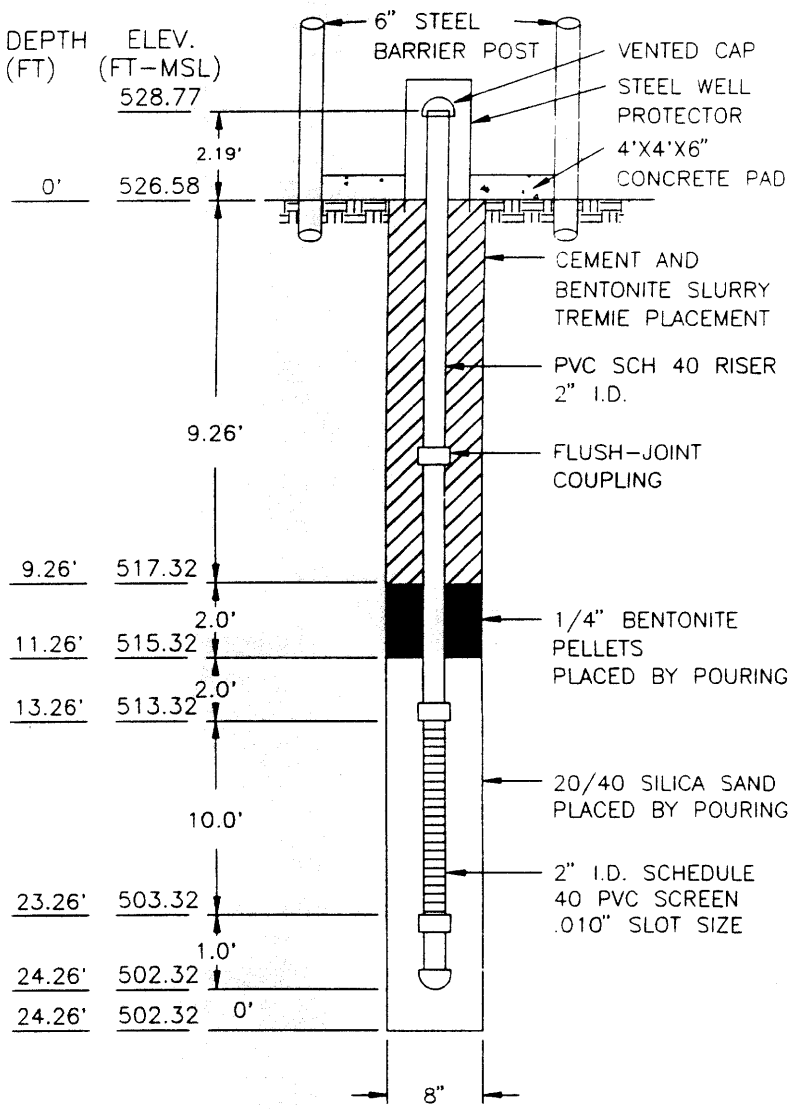
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 2

#BAGS OF BENTONITE .25

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 12 ft.

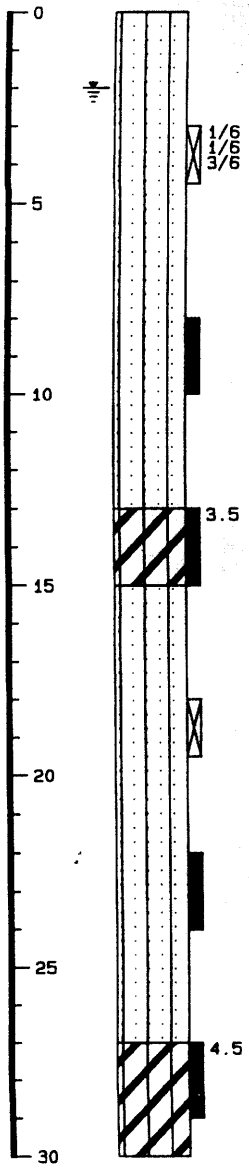
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-3D
File No.: 79992691
Date : 4-26-96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 2 ft. Water at 2 ft; Caving at ft.
Wash Bored 2 to 30 ft. Water at ft. after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Loose gray SILTY SAND (SM), organics		0955
		-dense red gravelly SAND (SP)		1005
		Stiff gray, red, yellow orange SILTY CLAY (CL), minor Fe-nodules		1012
		Medium dense yellow orange SILTY SAND (SM)		1020
		Dense dark gray SILTY SAND (SM) -w/clay & lignite seams		1030
		Hard SILTY CLAY (CL) -dry, w/silt partings		1037

Bottom @ 30'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-3DA

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 5-1-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 10 FT

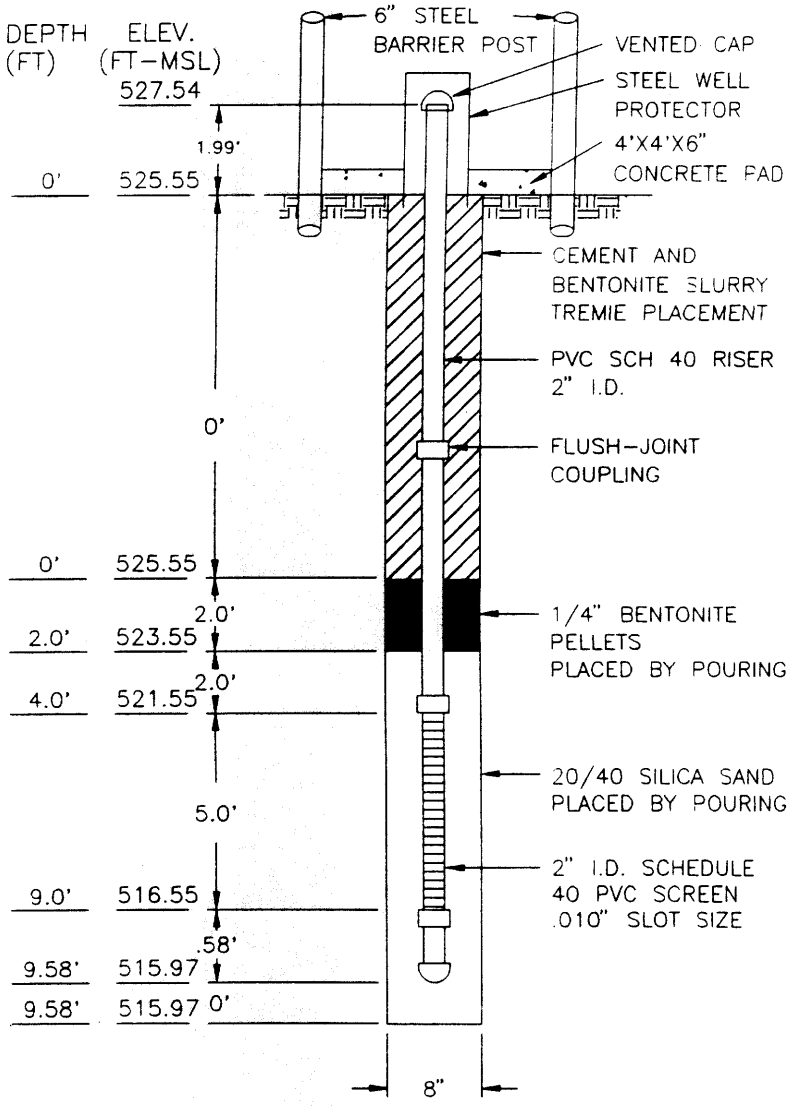
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 0

#BAGS OF BENTONITE 0

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 2

CENTRALIZER YES X NO _____

DEPTH 3 ft.

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-3DB

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 5-1-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 19.31 FT

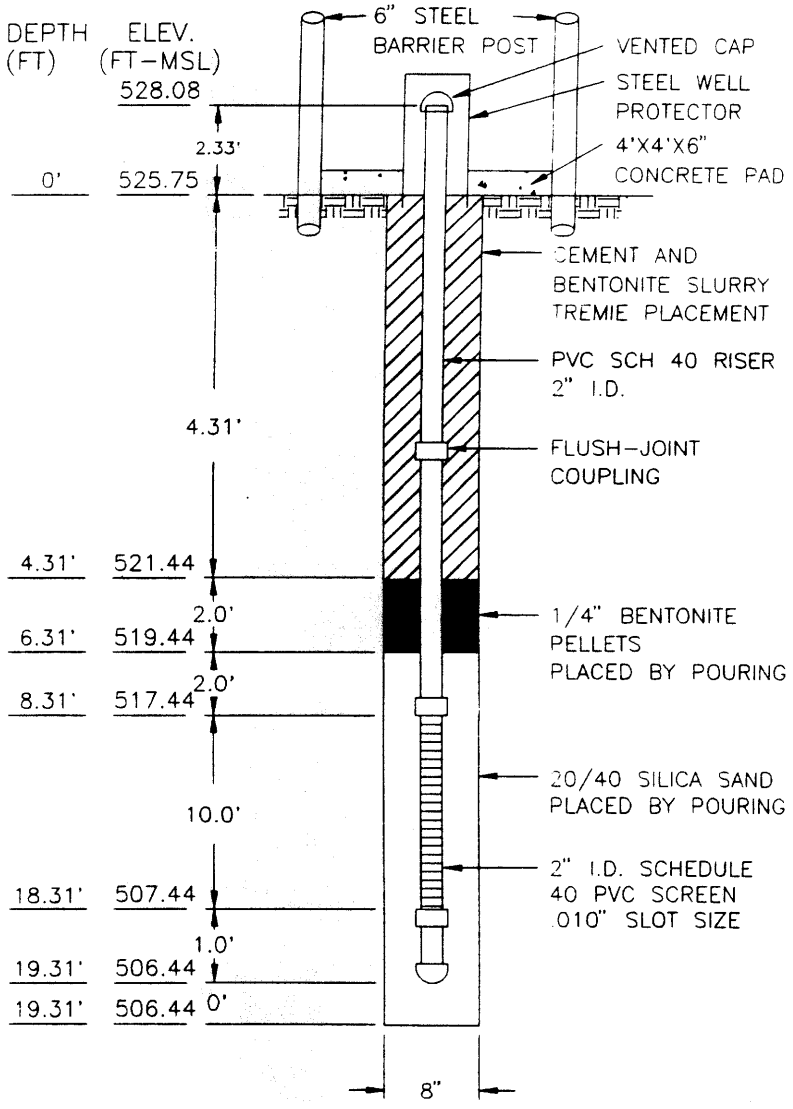
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-9-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 1

#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 7 ft.

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-3DC

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-30-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 29.48 FT

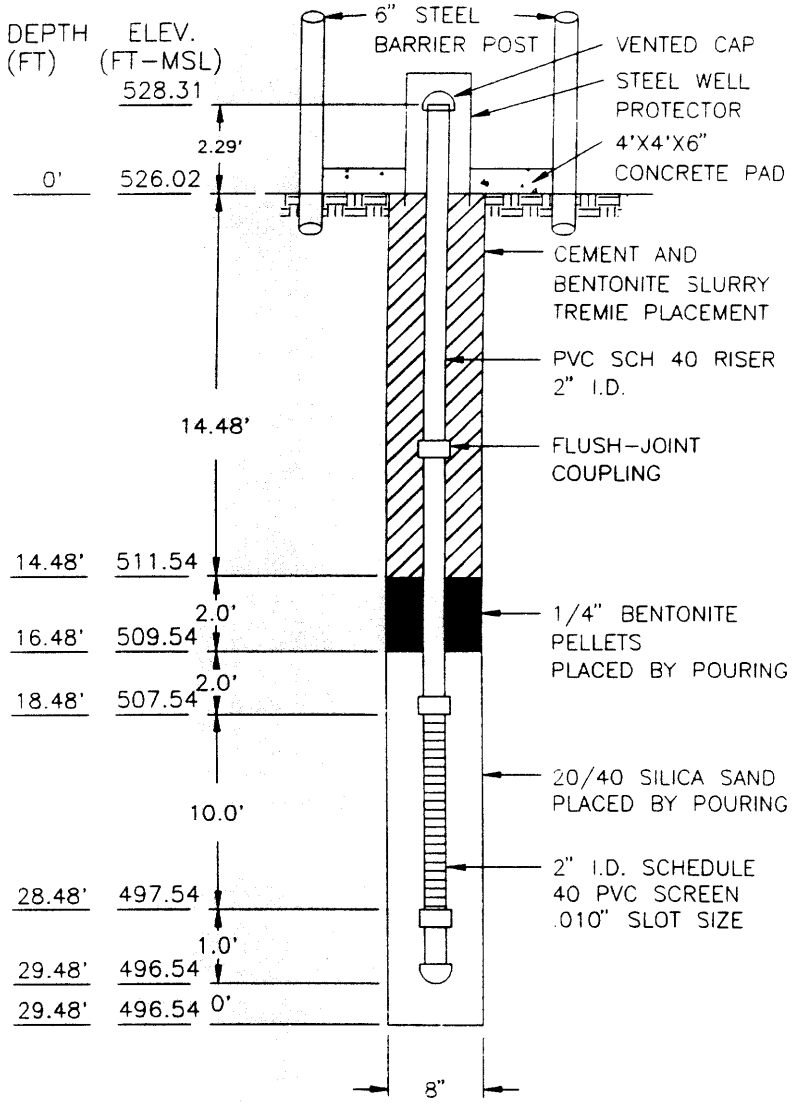
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-10-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 4

#BAGS OF BENTONITE .5

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 17 ft.

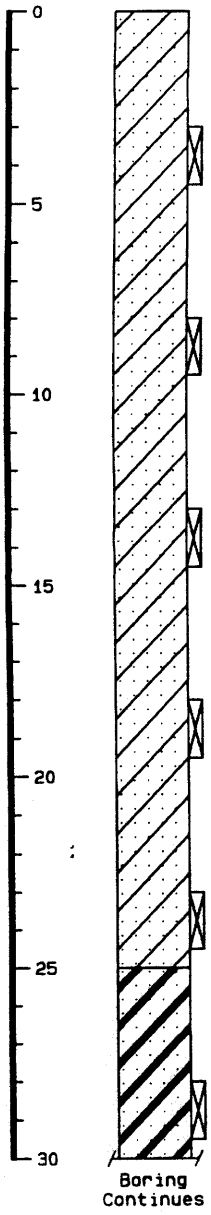
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-4U
File No.: 79992691
Date : 4/23/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 32 ft. Water at 34 ft; Caving at ft.
Wash Bored 32 to 71.5 ft. Water at ft. after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Dense red gray CLAYEY SAND (SC) -moist, fine-grained		
				0850
				0900
		Dense red yellow orange gray CLAYEY SAND (SC)		
		Dense yellow orange gray CLAYEY SAND (SC)		0906
		Medium dense yellow orange gray CLAYEY SAND (SC) -mottled clay clasts		0917
		-moist		0925
		Stiff gray yellow orange SANDY CLAY (CL) Fe-nodules, moist		
				0933

Bottom @ 72'

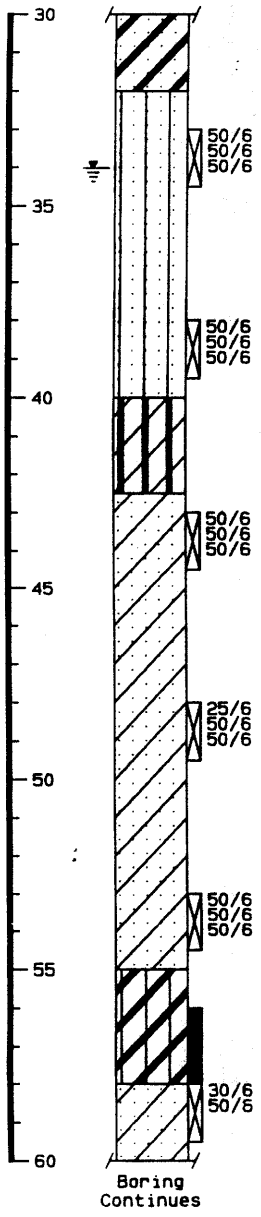
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-4U
File No.: 79992691
Date : 4/23/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 32 ft. Water at 34 ft; Caving at ft.
Wash Bored 32 to 71.5 ft. Water at ft. after



ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
		Very dense gray brown SILTY SAND (SM), saturated		0945
		-saturated		1020
		Soft gray CLAYEY SILT (ML)		
		Very dense gray brown yellow CLAYEY SAND (SC), saturated, Fe-nodules		1040
		Very dense dark gray CLAYEY SAND (SC)		1055
		Very dense tan CLAYEY SAND (SC) -w/clay seams @ 53' -no recovery		1120
		Hard gray to dark gray SILTY CLAY (CL), silt laminations, dry		1135
		Very dense gray CLAYEY SAND (SC) -saturated, silt laminations		1150

Bottom @ 72'

LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-4U
File No.: 79992691
Date : 4/23/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 32 ft. Water at 34 ft; Caving at ft.
Wash Bored 32 to 71.5 ft. Water at ft. after

ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
60				
	50/6 50/6	Very dense dark gray CLAYEY SAND (SC) -saturated		1215
65				
		Hard gray dark gray brown SILTY CLAY (CL), organics		1330
70				1345

Bottom @ 72'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-4UA

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-24-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 41 FT

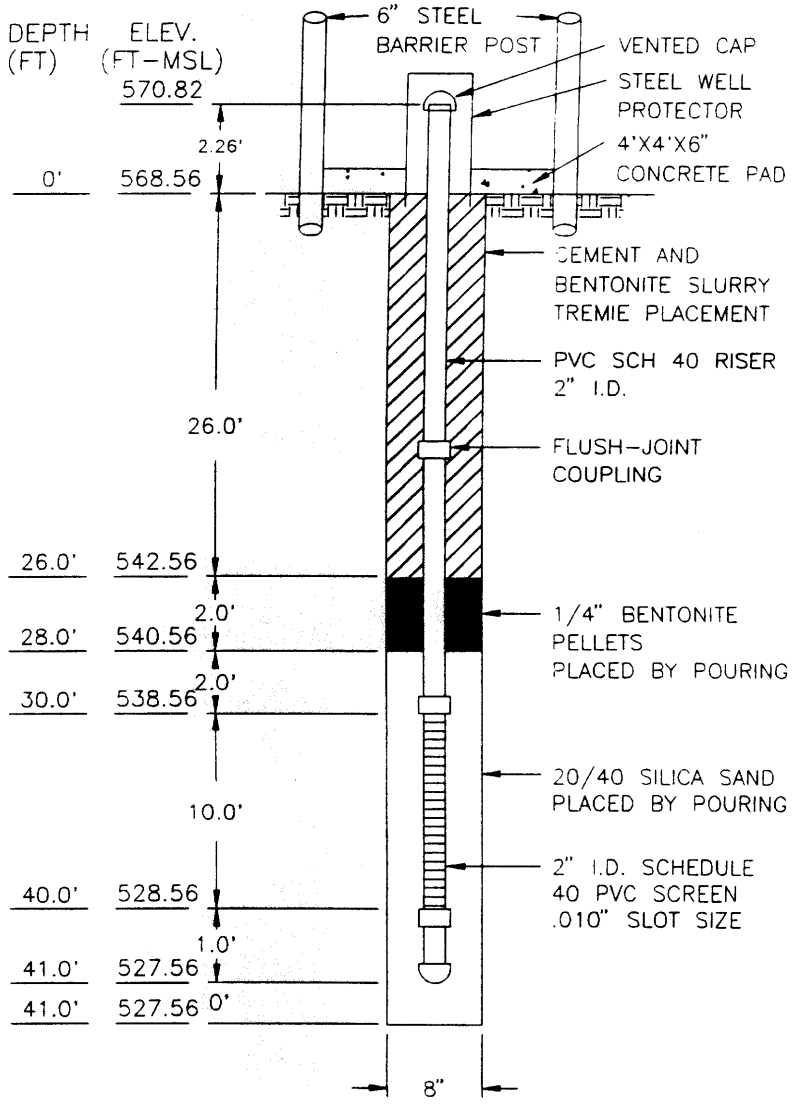
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-9-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 5

#BAGS OF BENTONITE .5

#BKTS OF BENT PELLETS .

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES x NO _____

DEPTH 29 ft.

79992691\2691-016 18:42 06/20/96

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-4UB

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-25-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 51.26 FT

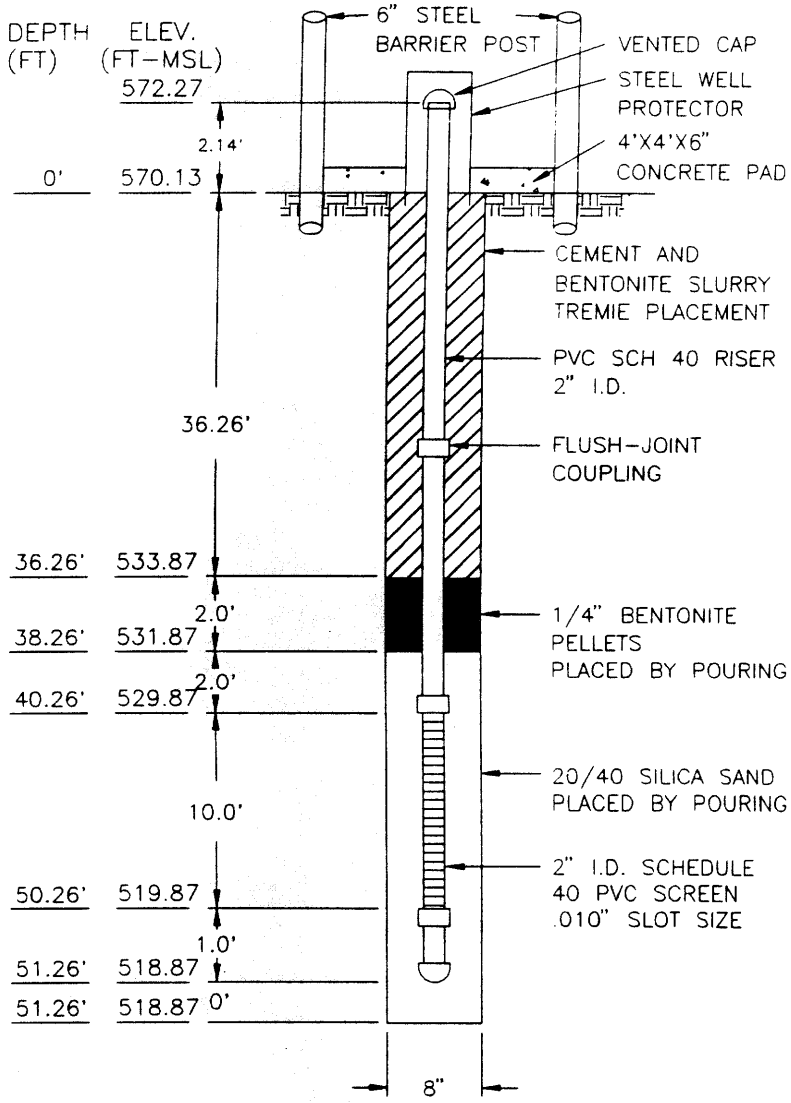
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-9-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 7

#BAGS OF BENTONITE 6

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 39 ft.

79992691\2691.017 18:44 06/21/96

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-4UC

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-24-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 60.63 FT

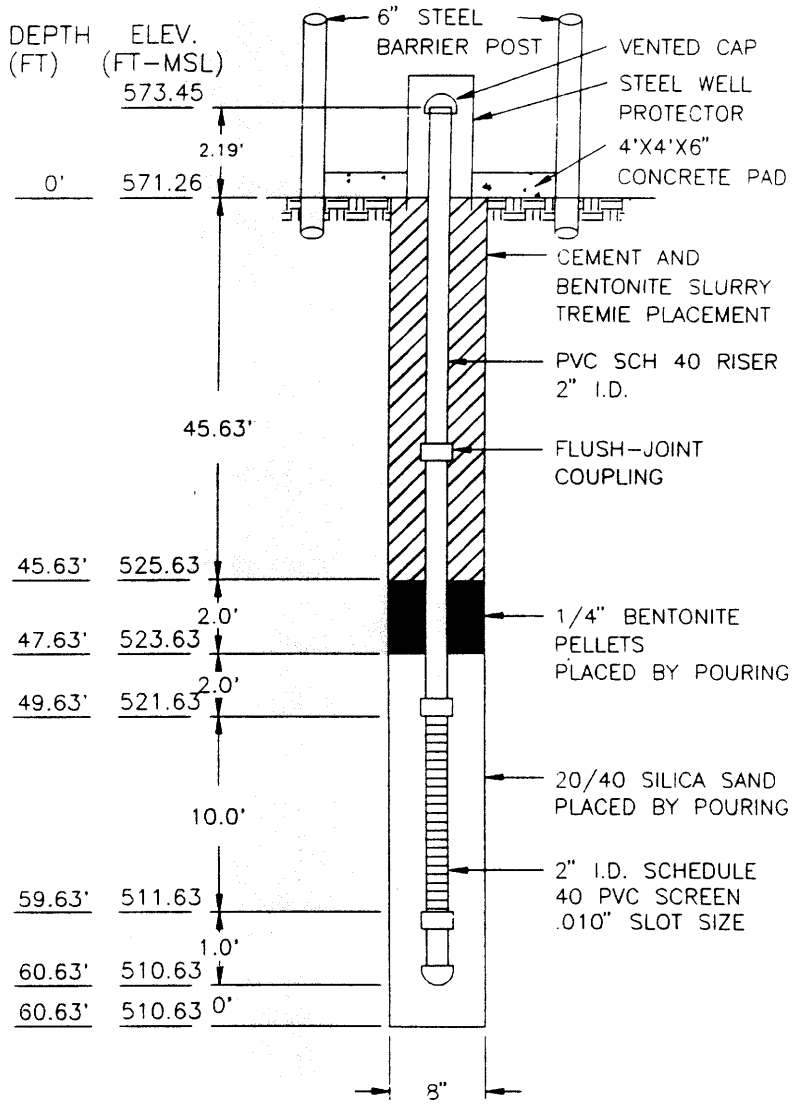
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-8-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 8

#BAGS OF BENTONITE .75

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 49 ft.

79992\691\2691-018 18:47 06/20/96

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-4UD

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-23-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 69.70 FT

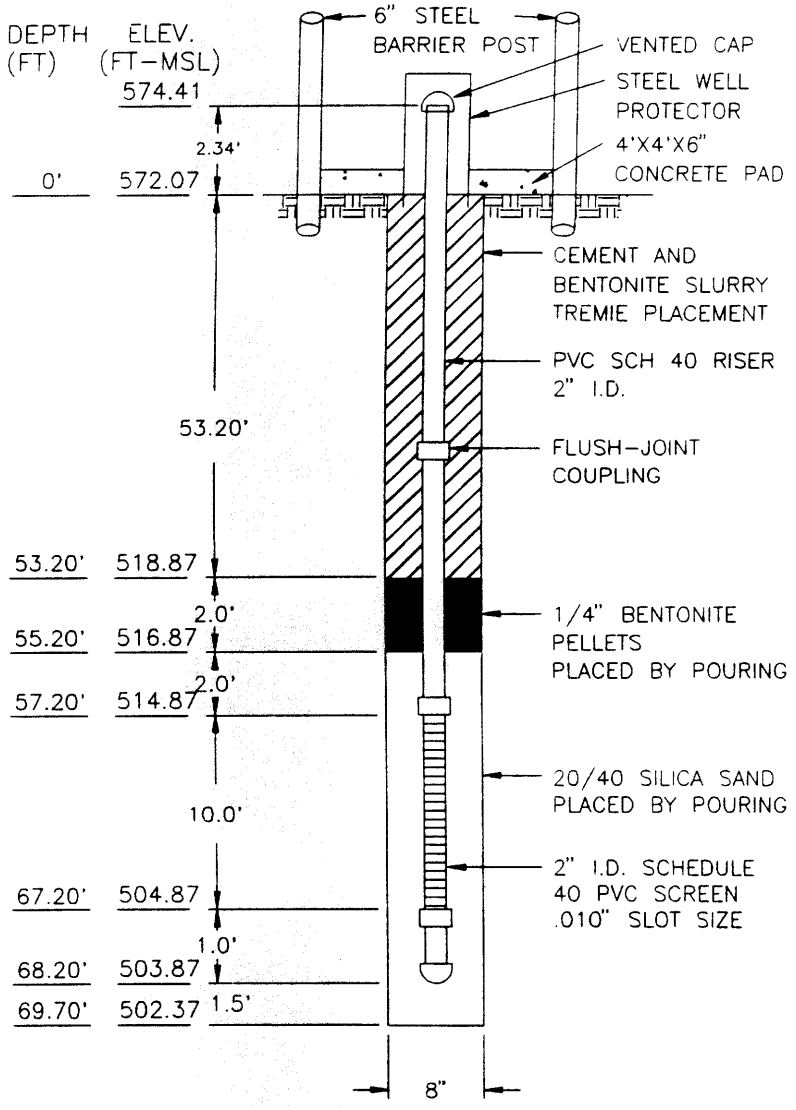
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-8-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 10

#BAGS OF BENTONITE 1

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 58 ft.

79992\691\1691-010 18:50 06/20/96

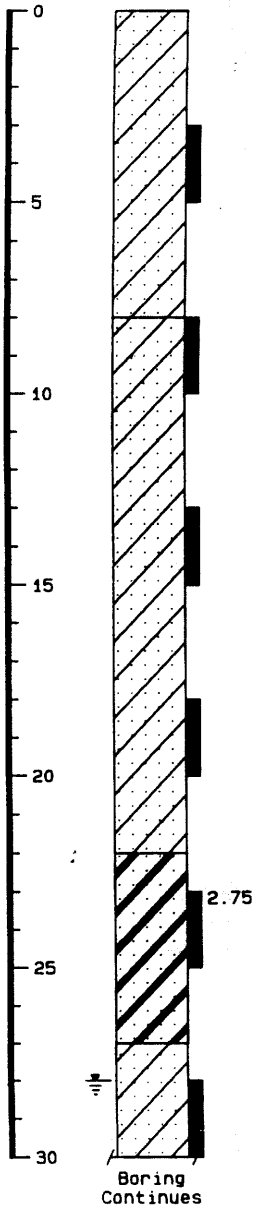
LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-5U
File No.: 79992691
Date : 4/25/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 27 ft. Water at 28 ft; Caving at ft.
Wash Bored 27 to 61 ft. Water at ft. after



ELEV / DEPTH	Description	OVM Headspace (ppm)	Sample Time
	Medium dense CLAYEY SAND (SC) -sand layers, Fe-nodules		0905
	Medium dense yellowish orange CLAYEY SAND -sand seams, Fe-nodules		0915
	-sand seams, Fe-nodules		0925
	-dry		0932
	Stiff light brown yellow orange SANDY CLAY (CL) -w/sandy clasts		0940
	Medium dense light brown gray yellow orange CLAYEY SAND (SC) saturated		0950

Bottom @ 61'

LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-5U
File No.: 79992691
Date : 4/25/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 27 ft. Water at 28 ft; Caving at ft.
Wash Bored 27 to 61 ft. Water at ft. after

ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
30		Medium dense light brown, gray yellow orange CLAYEY SAND (SC), saturated		
35	4.50	Hard tan, yelllow orange SANDY CLAY (CL) silty sand pockets		1044
40	4.25	Very stiff dark gray SILTY CLAY (CL)		1103
45	3.25	Very stiff dark gray SANDY CLAY (CL)		1156
		SAND @ 46'		
50	50/6	Very dense dark gray SAND (SP)		1209
55	50/6	Very dense grey brown SILTY SAND (SM)		1220
		Hard dark gray SILTY CLAY (CL)		
60	31/6 37/6 50/6			1235
	Boring Continues			

Bottom @ 61'

LOG OF BORING

Project: Monitor Well Replacement

Boring No: MW-5U
File No.: 79992691
Date : 4/25/96
Elevation : - ft.

Client: Tyler Pipe Industries, Inc.
Tyler, Texas

Dry Augered 0 to 27 ft. Water at 28 ft; Caving at ft.
Wash Bored 27 to 61 ft. Water at ft. after

ELEV / DEPTH	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	Description	OVM Headspace (ppm)	Sample Time
60		Hard dark gray SILTY CLAY (CL)		

Bottom @ 61'

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-5UA

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-26-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 36.52 FT

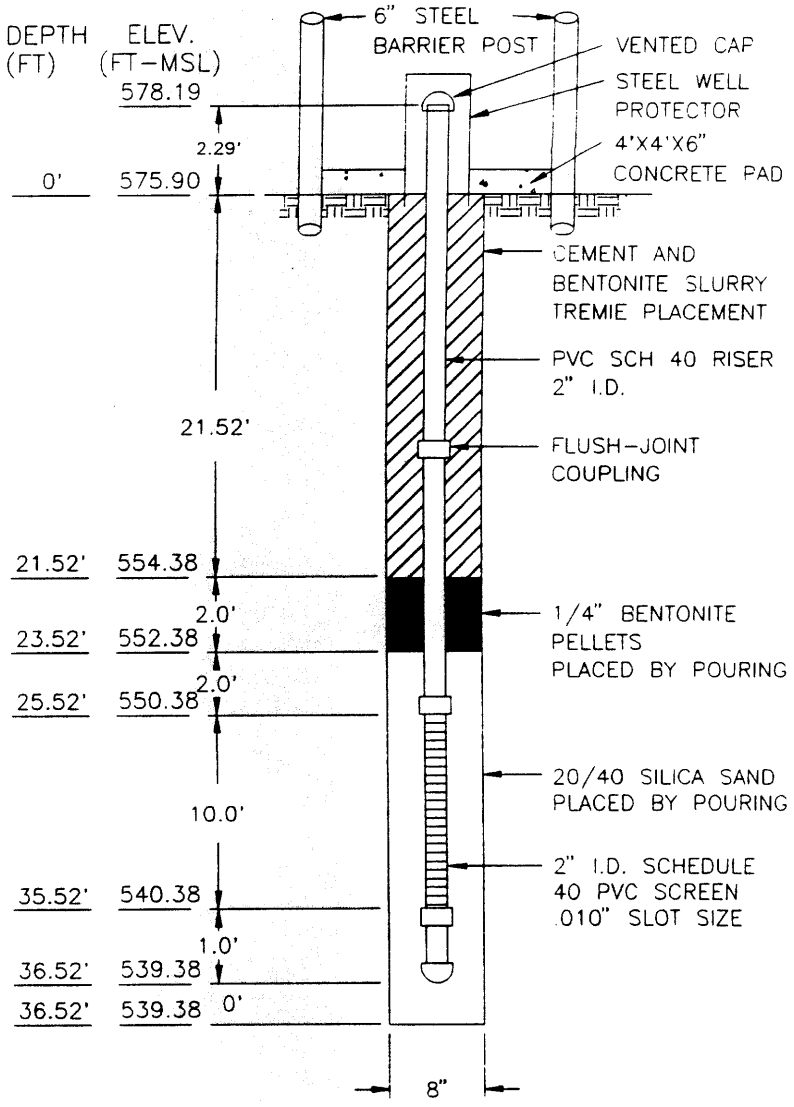
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-7-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 4

#BAGS OF BENTONITE 5

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 24 ft.

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-5UB

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-30-96

DRY AUGERED _____ TO _____ FT

WASH BORED 0 TO 49.36 FT

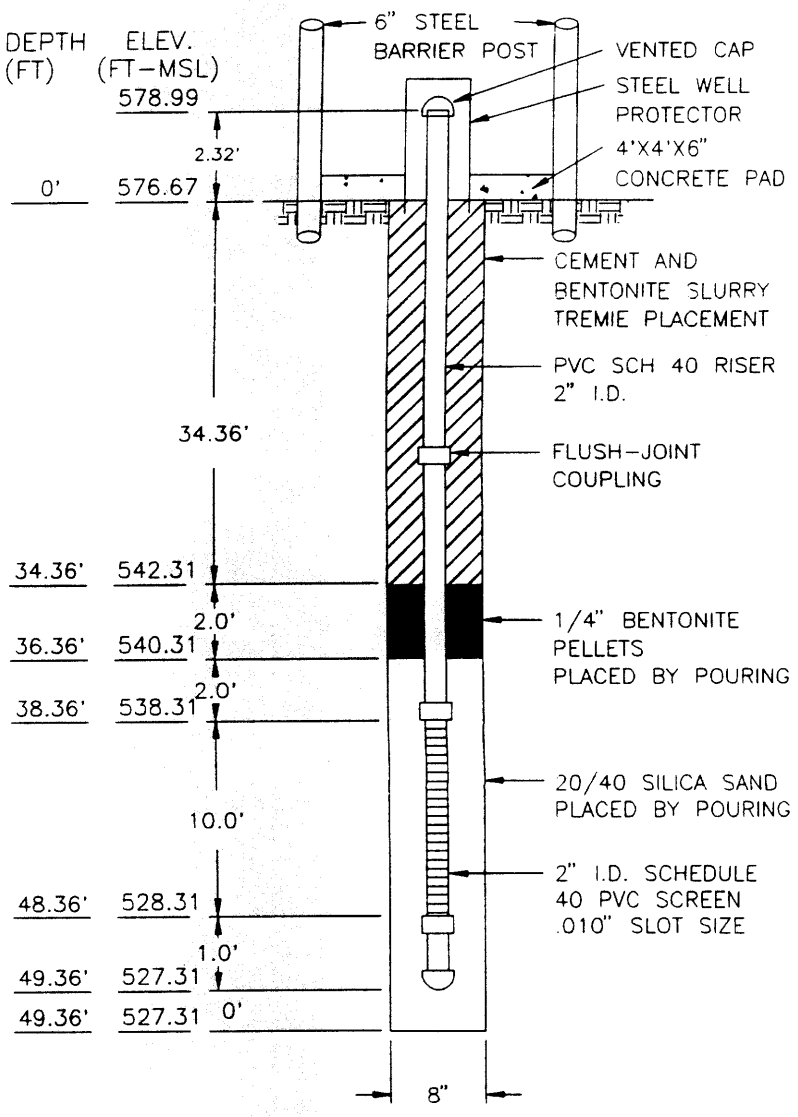
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-7-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 7

#BAGS OF BENTONITE .6

#BKTS OF BENT. PELLETS 1

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO _____

DEPTH 37 ft.

79992691\2691-021 18:55 06/20/96

MONITORING WELL INSTALLATION REPORT

PROJECT: MONITOR WELL REPLACEMENT

WELL NO. MW-5UC

CLIENT: TYLER PIPE INDUSTRIES, INC.

PROJECT NO. 79992.691

LOCATION: TYLER, TEXAS

COMPLETION DATE: 4-25-96

DRY AUGERED 0 TO 27 FT

WASH BORED 27 TO 58.03 FT

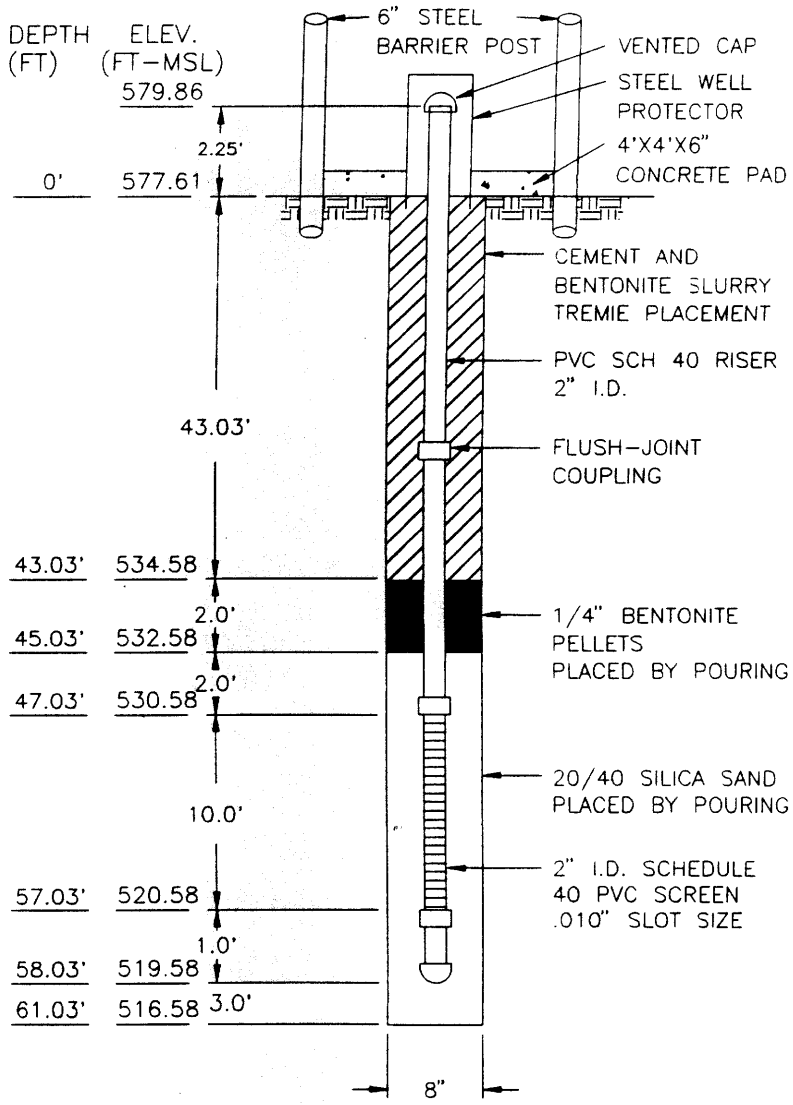
DRILLING FLUID: BENTONITE GEL

DEVELOPMENT DATE: 5-7-96

METHOD OF DEVELOPMENT: SUBMERSIBLE PUMP

WATER LEVEL READINGS:

DATE	DEPTH	ELEVATION



REMARKS:

6" DIA. STEEL BARRIER POSTS PLACED AT ALL 4 CORNERS OF WELL PAD

MATERIALS:

#BAGS OF CEMENT 8

#BAGS OF BENTONITE .75

#BKTS OF BENT. PELLETS

#BAGS OF FILTER MEDIA 4.5

CENTRALIZER YES X NO

DEPTH 46 ft.

79992691\2691-022 18:59 06/20/96

ENVIRONMENTAL LOG

Client: Tyler Pipe Landfill

Project No: E 1930-04 **Phase** **Task**

Well No. MW-1

Location Swan, Texas

Surface Elev.

Depth Feet	Sampler	Overburden/Lithologic Description
0		**Ground Surface**
		SANDY FAT CLAY(CH) medium stiff; dark red (2.5YR 4/8) and reddish gray (2.5YR 7/1); moist; no odor; roots common @ 0-0.5'
		SANDY LEAN CLAY(CL) medium stiff; strong brown (7.5YR 5/6); moist; no odor
5		--strong brown (7.5YR 5/6) and yellowish red (5YR 5/8); 5% recovery
		SILTY SAND(SM) medium dense; reddish yellow (7.5YR 6/6) and light gray (7.5YR 7/1); moist; no odor; very fine-grained sand; few thin fat clay layers
10		--50% recovery
		--brownish yellow (10YR 6/6) and light gray (7.5YR 7/1)
		--80% recovery; iron ore layer @ 13.2'
15		CLAYEY SILTY SAND(SC) very dense; strong brown (7.5YR 5/6); moist; no odor; fine-grained sand
		SILTY SAND(SM) dense; brownish yellow (10YR 6/6) and light gray (7.5YR 7/1); moist; no odor; very fine-grained sand; few thin fat clay layers; few iron ore layers
20		--brownish yellow (10YR 6/6) and light gray (7.5YR 7/1), and dark red (2.5YR 3/6); 90% recovery
		--4" fat clay layer @ 19'
		--5" iron ore layer @ 20'
		--100% recovery; 4" fat clay layer @ 23.2'
25		SILTY FAT CLAY(CH) very stiff; dark bluish gray (2 Gley 4/5PB); moist; no odor
30		CLAYEY SILT(ML) dense; dark bluish gray (2 Gley 4/5PB); moist; no odor
		--very dense; 1' silt stone @ 31'
		--dense
35		--50% recovery; moisture content increasing
		--clay content increasing
		--100% recovery
40		SILTY FAT CLAY(CH) very stiff; dark bluish gray (2 Gley 4/5PB); moist; no odor
		Bottom of Boring @ 40'

FID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
			0	T.O.C. Elev.
			5	
			10	
			15	
			20	
			25	
			30	
			35	
			40	

Driller Chris Loftin

Logged By Jeanie Odom

Drilling Started 3/17/04

Drilling Completed 3/17/04

Construction Completed

Development Completed

Type of Well

Drilling Method H.S.A.

Borehole Diameter 8.25"

Well Casing 2" **Dia.** 0.0' **to** 20.0'

Casing Type PVC Sch. 40

Well Screen 2" **Dia.** 20.0' **to** 40.0'

Screen Type Slotted

Slot Size 0.010"

Grout Type

Bentonite Seal 16-18'

Filter Pack Qty. 18-40'

Filter Pack Type 20/40 Sand

Static Water Level

Notes: Dry and open while drilling and upon completion

ENVIRONMENTAL LOG

Client: Tyler Pipe Landfill

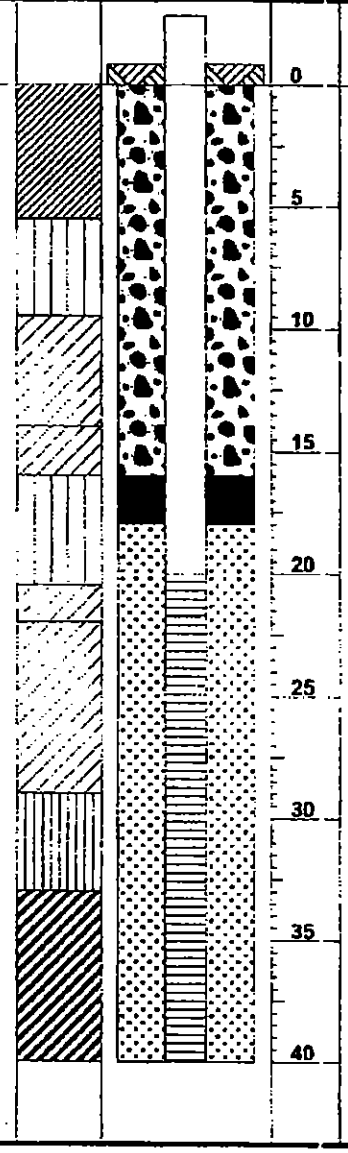
Project No: E 1930-04 **Phase** **Task**

Well No. MW-2

Location Swan, Texas

Surface Elev.

Depth Feet	Sampler	Overburden/Lithologic Description
0		**Ground Surface**
		SILTY LEAN CLAY(CL) medium stiff; red (10R 4/8); moist; no odor; roots common @ 0-0.5'
		–reddish yellow (5YR 6/8)
5		–soft; 30% recovery
		SILTY SAND WITH FAT CLAY LAYERS(SM) loose; reddish yellow (7.5YR 6/6) and light gray (7.5YR 7/1); moist; no odor; very fine-grained sand
10		–50% recovery
		CLAYEY SAND WITH FAT CLAY LAYERS(SC) medium dense; red (10R 4/8) and dark yellowish brown (10YR 4/6) moist; no odor; very fine-grained sand; few iron ore layers
15		CLAYEY SILTY SAND(SC) medium dense; yellowish brown (10YR 5/8); moist; no odor; very fine-grained sand; 100% recovery
		SILTY SAND AND CLAYEY SAND(SM-SC) dense; red (10R 4/8) and reddish yellow (7.5YR 6/8); moist; no odor moderate amount of iron ore gravel
20		–1" iron ore layer @ 18.3'
		–100% recovery
		CLAYEY SILTY SAND(SC) very dense; strong brown (7.5YR 5/6); moist; fine-grained sand; no odor; 5" iron ore layer @ 21'
		CLAYEY SILTY SAND(SC) dense; brownish yellow (10YR 6/6) and light gray (7.5YR 7/1); moist; very fine-grained sand; no odor; 100% recovery
25		–few thin iron ore layers; (100% recovery); silt content increasing
30		CLAYEY SILT(ML) dense; strong brown (7.5YR 5/8) and light gray (7.5YR 7/1); moist; no odor; 100% recovery
		–brown (7.5YR 5/2)
35		SILTY FAT CLAY(CH) very stiff; dark bluish gray (2Gley 4/5PB); moist; no odor; 100% recovery
		–0.8' clayey silt @ 36'
		–silt content increasing
40		Bottom of Boring @ 40'



Well Construction Details

T.O.C. Elev.

Driller Chris Loftin	**Drilling Method** H.S.A.	**Bentonite Seal** 15-18'
Logged By Jeanie Odom	**Borehole Diameter** 8.25"	**Filter Pack Qty.** 18-40'
Drilling Started 3/18/04	**Well Casing** 2" **Dia.** 0.0' to 20.0'	**Filter Pack Type** 20/40 Sand
Drilling Completed 3/18/04	**Casing Type** PVC Sch. 40	**Static Water Level**
Construction Completed	**Well Screen** 2" **Dia.** 20.0' to 40.0'	
Development Completed	**Screen Type** Slotted	**Notes:** Dry and open while drilling and upon completion.
Type of Well	**Slot Size** 0.010"	
	Grout Type	

ENVIRONMENTAL LOG

Client: Tyler Pipe Landfill

Project No:E 1930-04 Phase Task

Well No. MW-3

Location Swan, Texas

Surface Elev.

Depth Feet	Sampler	Overburden/Lithologic Description
0		**Ground Surface**
		SILTY FAT CLAY(CL) medium stiff; red (10R 4/8); moist; no odor; fill
		--reddish yellow (5YR 6/8)
5		TRASH medium dense; black and white; moist; no odor; styrofoam @ 5.5'; sand (black and white); pieces of molding
10		SANDY FAT CLAY WITH IRON ORE GRAVEL (CH) soft; light brown (7.5YR 6/4) and yellowish red (10YR 5/6); 100% recovery; liner
		SANDY FAT CLAY WITH THIN IRON ORE LAYERS(CH) stiff; light brown (7.5YR 6/3) and reddish yellow (7.5YR 6/8); fill
15		CLAYEY SAND WITH FAT CLAY SEAMS(SC) medium dense; light brown (7.5YR 6/4) and reddish yellow (10YR 5/6); 70% recovery; moist; no odor; very fine-grained sand; fill
		SILTY SAND(SM) medium dense; dark grayish brown (10YR 4/2); moist; no odor; very fine-grained sand; roots common; fill
20		SANDY CLAYEY SILT(ML) medium dense; dark yellowish brown (10YR 4/4); moist; no odor; very fine-grained sand; fill
		--brownish yellow (10YR 6/8)
		--dry
25		SANDY SILT(SM) medium dense; brownish yellow (10YR 6/8), light gray (7.5YR 7/1), and yellowish red (10R 5/6); moist; no odor; very fine-grained sand; minor amount of roots; fill; 100% recovery
		SANDY LEAN CLAY(CL) medium stiff; brownish yellow (10YR 6/8) and yellowish red (10R 5/6); moist; no odor; minor amount of iron ore gravel
30		--brownish yellow (10YR 6/8), yellowish red (10R 5/6), and light gray (7.5YR 7/1)
		SANDY SILT(ML) medium stiff; light gray (7.5YR 7/1) and reddish yellow (5YR 6/8); moist; no odor; 100% recovery
35		SILTY FAT CLAY(CH) medium stiff; brown (7.5YR 5/2); moist; no odor; few thin iron ore layers
40		--silt content increasing @ 39'
		Bottom of Boring @ 40'

Depth Feet	FID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
					T.O.C. Elev.
0				0	
5				5	
10				10	
15				15	
20				20	
25				25	
30				30	
35				35	
40				40	

Driller Chris Loftin

Logged By Jeanie Odom

Drilling Started 3/18/04

Drilling Completed 3/18/04

Construction Completed

Development Completed

Type of Well

Drilling Method H.S.A.

Borehole Diameter 8.25"

Well Casing 2" Dia. 0.0' to 20.0'

Casing Type PVC Sch. 40

Well Screen 2" Dia. 20.0' to 40.0'

Screen Type Slotted

Slot Size 0.010"

Grout Type

Bentonite Seal 16-18'

Filter Pack Qty. 18-40'

Filter Pack Type 20/40 Sand

Static Water Leve

Notes: Dry and open while drilling and upon completion.

ENVIRONMENTAL LOG

Client: Tyler Pipe Landfill

Project No: E 1930-04 Phase Task

Well No. MW-4

Location Swan, Texas

Surface Elev.

Depth Feet	Sampler	Overburden/Lithologic Description
0		**Ground Surface**
		SANDY LEAN CLAY(CL) medium stiff; red (10R 4/8); moist; no odor; roots common @ 0-0.5'; fill
5		CLAYEY SAND(SC) medium dense; red (10R 4/6) and yellowish brown (10YR 5/8); moist; no odor; fill; with thin fat clay layers; 60% recovery
		–1" silty sand layer @ 6.2'; iron ore layer @ 6.3'
10		–4" silty sand layer @ 9.7'
		–2.5" silty sand layer @ 10.2'; 1" iron ore layer @ 10.7'
		SANDY FAT CLAY(CH) medium stiff; light gray (7.5YR 7/1) and yellowish brown (10YR 5/8); moist
15		CLAYEY SILTY SAND(SC) very dense; strong brown (7.5YR 5/6); moist; no odor; moderate amount of iron ore layers; moderate amount of fat clay layers (~1"); fine-grained sand; 100% recovery
		–6" silty sand layer @ 17'
20		SILTY SAND(SM) dense; brownish yellow (10YR 6/6); moist; no odor; very fine-grained sand; few iron ore layers and fat clay layers; 90% recovery
		SANDY SILT(ML) dense; reddish yellow (5YR 6/8) and light gray (7.5YR 7/1); moist; no odor; few iron ore layers
25		–brownish yellow (10YR 6/8) and light gray (7.5YR 7/1)
		–brown (7.5YR 5/2) and brownish yellow (10YR 6/8)
30		CLAYEY SILT(ML) dense; brown (7.5YR 5/2) and brownish yellow (10YR 6/8); moist; no odor
		–dark bluish gray (2 Gley 4/5PB)
		SILTY FAT CLAY(ML) very stiff; dark bluish gray (2 Gley 4/5 PB)
		–8" shale @ 32'
35		CLAYEY SANDY SILT(ML) dense; dark bluish gray (2 Gley 4/5PB); moist; no odor; 100% recovery
40		–100% recovery
		Bottom of Boring @ 40'

PID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
				T.O.C. Elev.
			0	
			5	
			10	
			15	
			20	
			25	
			30	
			35	
			40	

Driller Chris Loftin

Logged By Jeanie Odom

Drilling Started 3/18/04

Drilling Completed 3/19/04

Construction Completed

Development Completed

Type of Well

Drilling Method H.S.A.

Borehole Diameter 8.25"

Well Casing 2" Dia. 0.0' to 20.0'

Casing Type PVC Sch. 40

Well Screen 2" Dia. 20.0' to 40.0'

Screen Type Slotted

Slot Size 0.010"

Grout Type

Bentonite Seal 16-18'

Filter Pack Qty. 18-40'

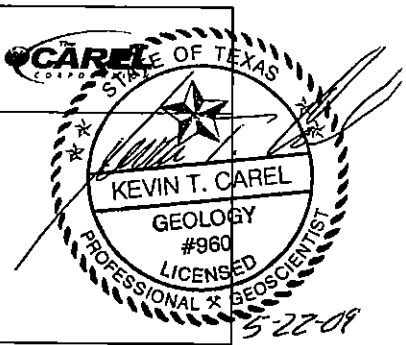
Filter Pack Type 20/40 Sand

Static Water Level

Notes: Dry and open while drilling and upon completion.

LOG OF BORING NO. EB-07-1

Project Description: McWane Inc. (Tyler Pipe Company) APAR



5-22-09

Location: Sludge Disposal Area

Surface El.: 611 feet
Completion Depth: 65 feet
Date Boring Started: 9/18/2007
Date Boring Completed: 9/18/2007

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION
0			Sandy CLAY with gravel (iron ore), dark reddish brown, roots near surface, iron staining, poorly consolidated, slightly moist, gradational contact, Grab soil sample collected at 0 to 1' bgs
5			Silty CLAY, dark reddish brown, moderately consolidated, slightly moist, Grab soil sample collected from 2 to 10' bgs
10			increasing moisture content at 9' bgs gradational contact
15			Silty SAND with some gravel (iron ore), light reddish brown, dry, poorly consolidated, sand is fine grained and subrounded, Grab soil sample collected from 11 to 15' bgs gradational contact
20			CLAY, reddish brown, moderately consolidated, roots, dry to slightly moist, Grab soil sample collected from 15 to 19' bgs sharp contact
25			Silty SAND, dark gray, poorly consolidated, dry, sand is fine grained and subrounded, sharp contact, Grab soil sample collected from 19 to 20' bgs
30			Silty CLAY, dark brown, dry, poorly consolidated, some fine grained sand present, Grab soil sample collected from 20 to 25' bgs reddish brown at 22.5' bgs gradational contact Grab soil sample collected from 25 to 30' bgs
35			CLAY with iron nodule gravel fragments, moderately consolidated, some very fine grained sand seams present, dry gradational contact Saturated soils unit approximately 30-40' bgs, Grab soil sample collected from 30-40' bgs
40			Silty CLAY, light gray with abundant reddish yellow iron staining, slightly moist less silt at 34' bgs sharp contact
45			CLAY, dark gray, moderately consolidated to very well consolidated, slightly moist, Grab soil sample collected from 40 to 45' bgs Thin 4" wet angular gravel layer at 42.5' bgs sharp contact
50			Silty SAND with some clay and gravel, dark gray, slightly moist to dry, poorly consolidated, sand is very fine grained and subrounded, gravel is angular, Grab soil sample collected from 45 to 49' bgs gradational contact
55			Sandy CLAY, dark gray, slightly moist, moderately consolidated to very well consolidation, sand is very fine grained, friable from 50' to 54' bgs, Grab soil sample collected from 50 to 54' bgs, Grab soil sample collected from 55 to 60' bgs, Grab soil sample collected from 60 to 61' bgs very well consolidation from 54' to 55' bgs friable from 55' to 58' bgs moderately consolidated from 58' to 60' bgs
60			wet at 60' bgs gradational contact
65			SAND, light gray, wet, poorly consolidated (loose), Sparta Formation (uppermost groundwater bearing unit), Grab soil sample collected from 61 to 65' bgs
70			

Drilling Contractor: Groundwater Monitoring
Drilling Method: HSA
Sampling Method: Continuous
Geologist/Engineer: Wimmer/Carel
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
9/18/07	60.00

Remarks: Exploratory boring drilled approximately 10' east of sludge disposal area well MW-3, bgs - below ground surface, listed surface elevation is approximate; 8 1/4" diameter boring

MONITOR WELL BORING WITH LOGO TPIPE.GPJ CAREL.GDT 5/8/09

LOG OF BORING NO. EB-07-1
PAGE 1 of 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level after drilling.
▼ Water level at end of drilling.

LOG OF MONITOR WELL NO. MW-5

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: Sludge Disposal Area

Surface El.: 606.67 feet
Completion Depth: 40 feet
Date Boring Started: 9/18/2007
Date Boring Completed: 9/18/2007

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			Sandy CLAY, tan, roots near surface, poorly consolidated, dry, Grab soil sample collected from 0 to 5' bgs gradational contact		Concrete from surface to 2' bgs
5			CLAY, reddish brown with iron staining, moderately consolidated, slightly moist, gradational contact		
10			Silty CLAY, reddish brown with iron staining, poorly consolidated, slightly moist, Grab soil sample collected from 5 to 10' bgs gradational contact		Cement bentonite grout from surface to 24.4' bgs
15			Silty SAND, light brown to tan with iron staining, poorly consolidated, slightly moist, sand is fine grained and subrounded, Grab soil sample collected from 11 to 15' bgs gravel size iron fragments at 15' bgs and 16' bgs gradational contact		
20					
25			Sandy CLAY, light brown to tan grading to reddish brown with depth, iron staining present, poorly consolidated, slightly moist, sand is fine grained and subrounded, Grab soil sample collected from 17 to 21' bgs sharp contact		Hydrated bentonite seal from 24.4' bgs to 26.8' bgs 12/20 Sand filter pack from 26.8' bgs to 40' bgs
30			GRAVEL with some clay, dark brown, wet, gravel is angular, Grab soil sample collected from 21 to 24' bgs gradational contact sharp contact		
35			Silty CLAY with some minor very fine grained sand, light gray with iron staining, moderately consolidated, moist, Grab soil sample collected from 24 to 25' bgs		0.01" Slotted screen from 30' bgs to 40' bgs
40			CLAY, dark gray with iron staining, very good consolidation, moist to wet from 25' bgs to 30' bgs, Grab soil samples collected from 25 to 30' bgs and 30 to 40' bgs moist from 30' bgs to 40' bgs, Soil Samples collected from 30-40': 0.032 mg/kg moderately consolidated at 35' bgs		
45					
50					
55					
60					
65					
70					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring
Drilling Method: HSA
Sampling Method: Continuous
Geologist/Engineer: Wimmer/Carel
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
11/7/07	26.03

Remarks: Well dry following installation / bgs - below ground surface; 8 1/4 inch borehole

MW WITH WELL DETAILS AND LOGO TPIPE.GPJ CAREL.GDT 5/8/08

LOG OF MONITOR WELL NO. MW-5
PAGE 1 of 1

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

MONITORING WELL DATA SHEET

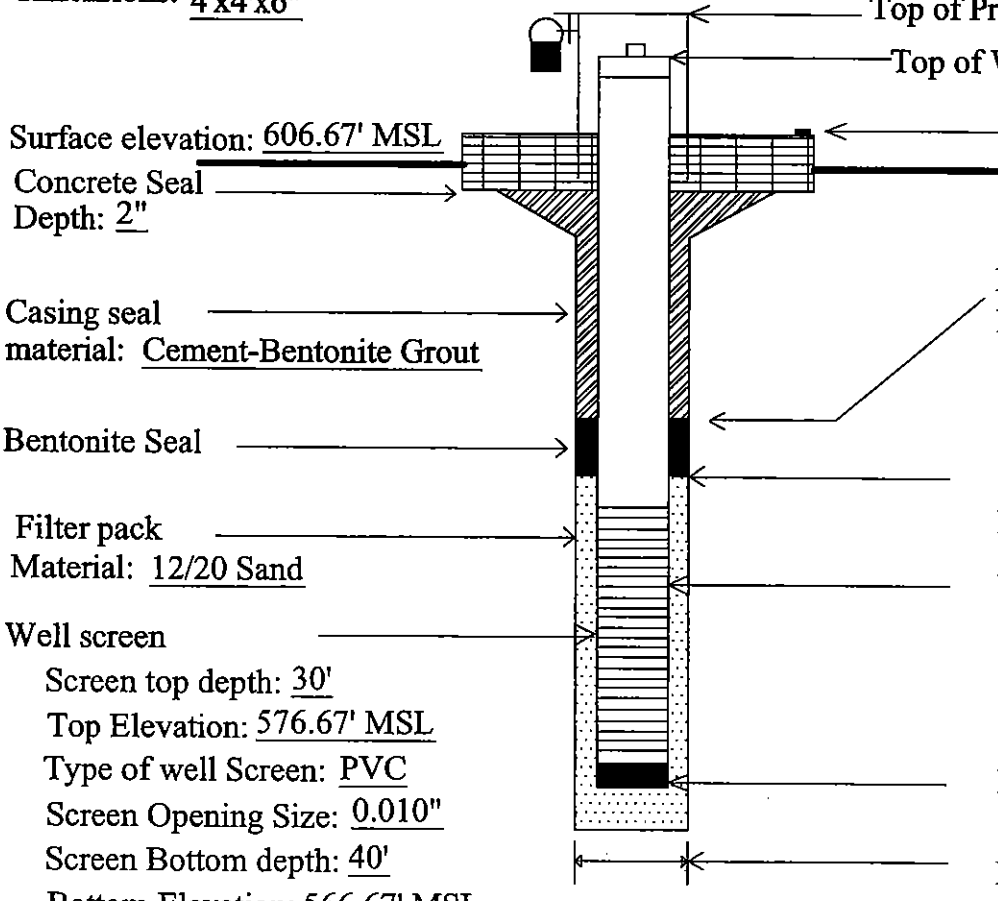
Permitee or Site Name: McWane Inc. Facility
Permit No.: HW-50141-000
County: Smith County
Monitor Well I.D. No.: MW-5
Date of Monitor Well Installation: 9/18/2007
Date of Monitor Well Development: 11/07/2007
Well Location: Northing: 6854296
Easting: 2932293
Monitor Well Groundwater Gradient
Gradient: Upgradient: X Downgradient: _____
Monitor Well Driller Name: Roddy Qualls
License No.: 3121

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Notes:
- Report all depths from Surface Elevation and all Elevations relative to Mean Sea Level (MSL), to the nearest hundredth of a foot.
- Diameter of boring should be at least 4 inches larger than diameter of well casing.
- Use flush screw joint casing only, 2" diameter or larger, with o-rings or PTFE tape in joints (4-inch diameter recommended).
- Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Kevin T. Carel / Steven J. Wimmer
Static Water Level Elevation (with respect to MSL) after Well Development: 580.64' MSL
Name of Geologic Formation(s) in which Well is completed: Sparta Formation

Type of locking device: Padlock
Type of Well Casing Protection: 4"x4"x5' Steel Casing
Concrete surface pad dimensions: 4'x4'x6"



Top of Protective Collar Elevation: 610.21' MSL
Top of Well Casing Elevation: 609.80' MSL
Surveyors Pin Elevation: 606.84' MSL
Surface elevation: 606.67' MSL
Concrete Seal Depth: 2"
Casing seal material: Cement-Bentonite Grout
Bentonite Seal Top Depth: 24.4' Elevation: 582.27' MSL
Bentonite Seal
Filter Pack Top Depth: 26.8' Elevation: 579.87' MSL
Filter pack Material: 12/20 Sand
Well casing
Type: PVC
Size (diameter): 2"
Schedule or Thickness: Sch. 40
Well screen
Screen top depth: 30'
Top Elevation: 576.67' MSL
Type of well Screen: PVC
Screen Opening Size: 0.010"
Screen Bottom depth: 40'
Bottom Elevation: 566.67' MSL
Bottom Cap Depth: 40'
Borehole Diameter: 8 1/4"

LOG OF MONITOR WELL NO. OW-6

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 606.63 feet
Completion Depth: 60 feet
Date Boring Started: 2/20/2008
Date Boring Completed: 2/20/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			SANDY CLAY, tan, roots near surface, poorly consolidated, dry		Concrete from surface to 2' bgs
			CLAY, reddish brown with iron staining, moderately consolidated, slightly moist		
5			SILTY CLAY, reddish brown with iron staining, poorly consolidated, slightly moist		
10			SILTY SAND, light brown to tan with iron staining, poorly consolidated, slightly moist, sand is fine grained and subrounded		
15			SANDY CLAY, light brown to tan grading to reddish brown with depth, iron staining present, poorly consolidated, slightly moist, sand is fine grained and subrounded		
20			GRAVEL with some clay, dark brown, wet, gravel is angular		Bentonite grout from 2' bgs to 45' bgs
25			SILTY CLAY with some minor very fine grained sand, light gray with iron staining, moderately consolidated, moist		
			CLAY, dark gray with iron staining, very good consolidation, moist to wet from 25' bgs to 30' bgs		
30			Saturated soils unit approximately 30 to 40' bgs		
35					
40					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations

Date	Depth
2/20/08	54.00

Remarks: 8 1/4 diameter boring with 2" diameter casing and screen

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

LOG OF MONITOR WELL NO. OW-6

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 606.63 feet
Completion Depth: 60 feet
Date Boring Started: 2/20/2008
Date Boring Completed: 2/20/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			SILTY CLAY, dark gray to black, some Fe stains, damp		
45			SILTY SAND, dark gray, very fine like silt, moderately sorted, slightly damp, Sparta Formation (uppermost groundwater bearing unit), Grab soil sample collected from 44 to 55' bgs		Hydrated bentonite seal from 45' to 47' bgs 12/20 silica sand filter pack from 47' bgs to 60' bgs
50					
55			SILTY SAND, light gray, very fine like silt, moderately to well sorted, wet, Grab soil sample collected from 55 to 60' bgs		▽ 0.01" Slotted screen from 50' to 60' bgs
60					Bottom Cap
65					
70					
75					
80					

STATE OF TEXAS
KEVIN T. CAREL
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5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
2/20/08	54.00

Remarks: 8 1/4 diameter boring with 2" diameter casing and screen

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-6
PAGE 2 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

MONITORING WELL DATA SHEET

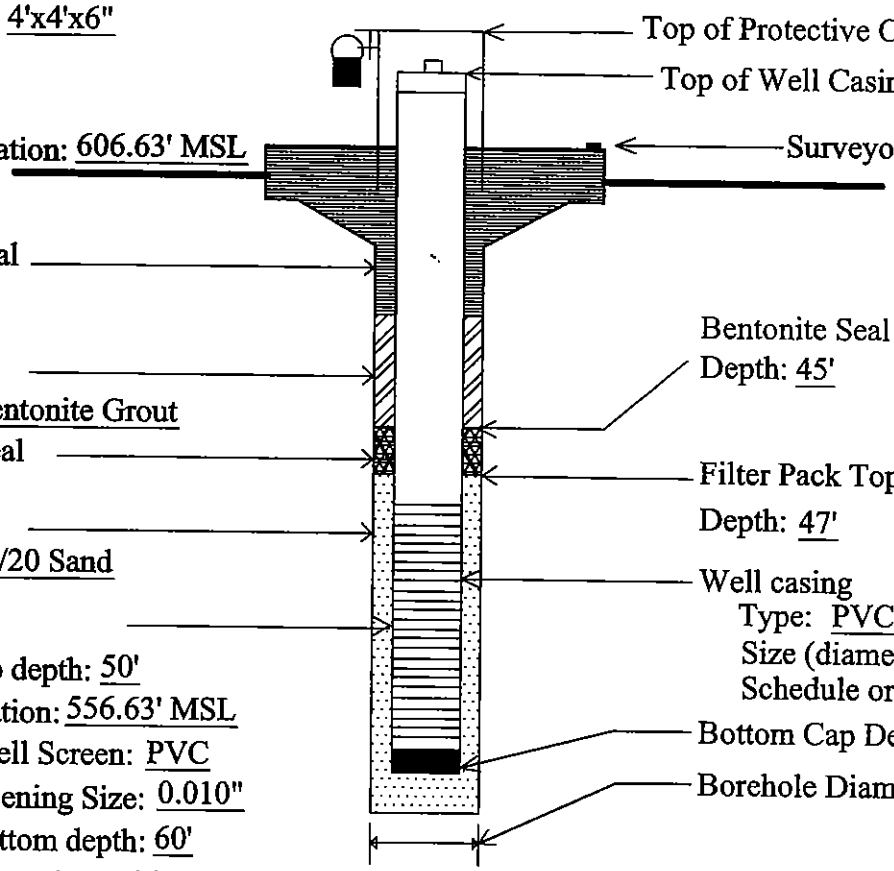
Permitee or Site Name: McWane Inc. (Tyler Pipe Company)
MSW Permit No.: N/A
County: Smith County
Monitor Well I.D. No.: OW-6
Date of Monitor Well Installation: 02/20/2008
Date of Monitor Well Development: 03/19/2008
Well Location: Northing: 6,854,288.3
Easting: 2,932,293.1
Monitor Well Groundwater Gradient
Gradient: Upgradient: X Downgradient: _____
Monitor Well Driller Name: Roddy Qualls
License No.: 3121

Notes:

- Report all depths from Surface Elevation and all Elevations relative to Mean Sea Level (MSL), to the nearest hundredth of a foot.
- Diameter of boring should be at least 4 inches larger than diameter of well casing.
- Use flush screw joint casing only, 2" diameter or larger, with o-rings or PTFE tape in joints (4-inch diameter recommended).
- Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Mike Hull
Static Water Level Elevation (with respect to MSL) after Well Development: 567.89' MSL
Name of Geologic Formation(s) in which Well is completed: Sparta Formation

Type of locking device: Padlock
Type of Well Casing Protection: 4"x4"x3.5" Steel Casing
Concrete surface pad dimensions: 4'x4'x6"



Top of Protective Collar Elevation: 610.25' MSL
Top of Well Casing Elevation: 609.87' MSL
Surface elevation: 606.63' MSL
Surveyors Pin Elevation: 606.57' MSL
Concrete Seal Depth: 2.0'
Bentonite Seal Top Depth: 45' Elevation: 561.63' MSL
Casing seal material: Bentonite Grout
Bentonite Seal
Filter Pack Top Depth: 47' Elevation: 559.63' MSL
Filter pack Material: 12/20 Sand
Well casing
Type: PVC
Size (diameter): 2"
Schedule or Thickness: Sch. 40
Well screen
Screen top depth: 50'
Top Elevation: 556.63' MSL
Type of well Screen: PVC
Screen Opening Size: 0.010"
Screen Bottom depth: 60'
Bottom Elevation: 546.63' MSL
Bottom Cap Depth: 60'
Borehole Diameter: 8 1/4"

TCEQ-10308

STATE OF TEXAS
KEVIN T. CAREL
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LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

LOG OF MONITOR WELL NO. OW-7

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 603.04 feet
Completion Depth: 70 feet
Date Boring Started: 2/20/2008
Date Boring Completed: 2/20/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			SANDY CLAY, light brown, very fine to silt		Concrete from surface to 2' bgs
			Grab soil sample collected from 0-5' bgs		
5			SANDY CLAY, red-orange, very fine to silt, slightly moist Grab soil sample collected from 5-10' bgs		
			CLAY, red-brown gravel @10', brown, poorly sorted, very fine gravel sub-angular to angular		
10			Grab soil sample collected from 10-15' bgs		
			SILT, red-brown, slightly moist to damp		
			SILT, yellow-orange, tan		
15			Grab soil sample collected from 15-17' bgs		
			Grab soil sample collected from 17-20' bgs		
			SILTY CLAY, brown, with gravel, angular, slightly damp		
20			Grab soil sample collected from 20-23' bgs		
			Grab soil sample collected from 23-25' bgs		
			SILTY CLAY, gray brown, with some Fe stain (limonite), slightly moist Grab soil sample collected from 25-30' bgs		Bentonite grout from 2' bgs to 55' bgs
25					
30			Grab soil sample collected from 30-35' bgs; Saturated Soils unit approximately 30 to 40' bgs		
			CLAY, silty, dark gray		
			LIMESTONE, white, 3" thick		
			SILTY SAND, gray black (dark orange), well sorted, slightly moist (damp) Grab soil sample collected from 35-40' bgs		
35					
40					

STATE OF TEXAS
KEVIN T. CAREL
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#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
2/20/08	57.00

Remarks: 8 1/4 diameter boring with 2" diameter casing and screen

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-7
PAGE 1 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▽ Water level at end of drilling.
▼ Water level after drilling.

LOG OF MONITOR WELL NO. OW-7

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 603.04 feet
Completion Depth: 70 feet
Date Boring Started: 2/20/2008
Date Boring Completed: 2/20/2008

Depth, feet	Material Description	Monitor Well Construction Details
	Grab soil sample collected from 40-45' bgs SILTY SAND, gray black (dark orange), well sorted, slightly moist (damp)	
45	Grab soil sample collected from 45-50' bgs CLAY, slightly silty, dark gray	
50	Grab soil sample collected from 50-53' bgs	
	Grab soil sample collected from 53-58' bgs SILTY SAND, dark gray to gray black, silt to very fine sandstone, slightly moist	
55	SILTY CLAY, dark gray, damp	Hydrated bentonite seal from 55' to 57' bgs
	SILTY SAND, light gray, wet to moist, Sparta Formation (uppermost groundwater bearing unit) Grab soil sample collected from 58-60' bgs	12/20 silica sand filter pack from 57' bgs to 70' bgs
60	Grab soil sample collected from 60-65' bgs SANDY SILT, very fine to silt, light gray to medium gray, wet to free water	
65	Some shale interbedding at the bottom Grab soil sample collected from 65-70' bgs	0.01" Slotted screen from 60' to 70' bgs
70		Bottom Cap
75		
80		

Monitor Well Description

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
2/20/08	57.00

Remarks: 8 1/4 diameter boring with 2" diameter casing and screen

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-7
PAGE 2 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

MONITORING WELL DATA SHEET

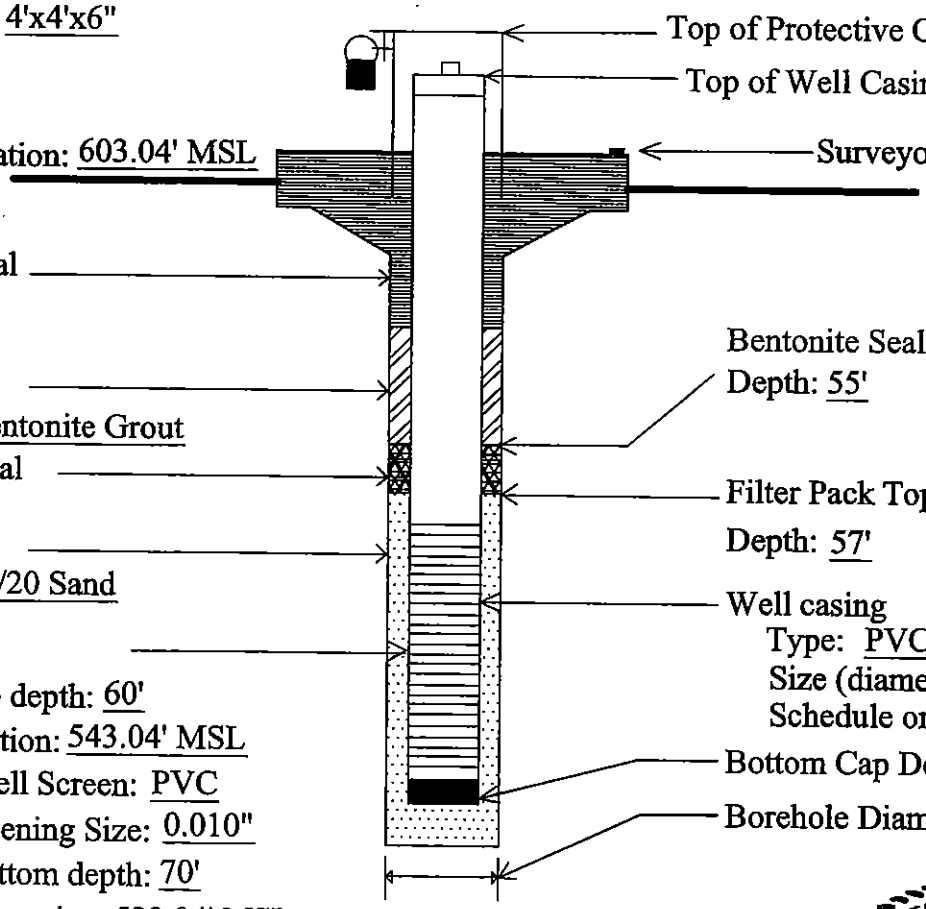
Permitee or Site Name: McWane Inc. (Tyler Pipe Company)
MSW Permit No.: N/A
County: Smith County
Monitor Well I.D. No.: OW-7
Date of Monitor Well Installation: 02/20/2008
Date of Monitor Well Development: 03/19/2008
Well Location: Northing: 6,854,056.1
Easting: 2,932,101.7
Monitor Well Groundwater Gradient
Gradient: Upgradient: ____ Downgradient: X
Monitor Well Driller
Name: Roddy Qualls
License No.: 3121

Notes:

- Report all depths from Surface Elevation and all Elevations relative to Mean Sea Level (MSL), to the nearest hundredth of a foot.
- Diameter of boring should be at least 4 inches larger than diameter of well casing.
- Use flush screw joint casing only, 2" diameter or larger, with o-rings or PTFE tape in joints (4-inch diameter recommended).
- Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Mike Hull
Static Water Level Elevation (with respect to MSL) after Well Development: 565.36' MSL
Name of Geologic Formation(s) in which Well is completed: Sparta Formation

Type of locking device: Padlock
Type of Well Casing Protection: 4"x4"x3.8" Steel Casing
Concrete surface pad dimensions: 4'x4'x6"



Top of Protective Collar Elevation: 606.59' MSL
Top of Well Casing Elevation: 606.13' MSL
Surface elevation: 603.04' MSL
Surveyors Pin Elevation: 603.07' MSL
Concrete Seal Depth: 2.0'
Bentonite Seal Top Depth: 55' Elevation: 548.04' MSL
Casing seal material: Bentonite Grout
Bentonite Seal
Filter Pack Top Depth: 57' Elevation: 546.04' MSL
Filter pack Material: 12/20 Sand
Well casing
Type: PVC
Size (diameter): 2"
Schedule or Thickness: Sch. 40
Well screen
Screen top depth: 60'
Top Elevation: 543.04' MSL
Type of well Screen: PVC
Screen Opening Size: 0.010"
Screen Bottom depth: 70'
Bottom Elevation: 533.04' MSL
Bottom Cap Depth: 70'
Borehole Diameter: 8 1/4"

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
5-22-08

TCEQ-10308

LOG OF MONITOR WELL NO. OW-8

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 609.21 feet
Completion Depth: 75 feet
Date Boring Started: 2/21/2008
Date Boring Completed: 2/21/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
0			SANDY CLAY with gravel (iron ore), dark reddish brown, roots near surface, iron staining, poorly consolidated, slightly moist, gradational contact		Concrete from surface to 2' bgs 8" Surface casing from 0 to 50' bgs
5			SILTY CLAY, dark reddish brown, moderately consolidated, slightly moist		
10			SILTY SAND with some gravel (iron ore), light reddish brown, dry, poorly consolidated, sand is fine grained and subrounded		
15			CLAY, reddish brown, moderately consolidated, roots, dry to slightly moist		
20			SILTY SAND, dark gray, poorly consolidated, dry, sand is fine grained and subrounded, sharp contact		
			SILTY CLAY, dark brown, dry, poorly consolidated, some fine grained sand present		
25			CLAY with iron nodule gravel fragments, moderately consolidated, some very fine grained sand seams present, dry		
30			Saturated Soils unit approximately 30-40' bgs		Bentonite grout from 2' to 60' bgs
			SILTY CLAY, light gray with abundant reddish yellow iron staining, slightly moist		
35					
40					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

5-22-09

Drilling Contractor: Groundwater Monitoring Inc.
Drilling Method: HSA
Sampling Method: Continuous/Cuttings
Geologist/Engineer: Mike Hull
Project No.: 08-08-47

Groundwater Observations	
Date	Depth
2/19/08	64.00

Remarks: 12 1/4" diameter boring with inner 8" surface casing; 2" diameter casing inside 7" diameter boring

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-8
PAGE 1 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

LOG OF MONITOR WELL NO. OW-8

Project Description: McWane Inc. (Tyler Pipe Company) APAR

Location: McWane Inc. (Tyler Pipe Company) Facility

Surface El.: 609.21 feet
Completion Depth: 75 feet
Date Boring Started: 2/21/2008
Date Boring Completed: 2/21/2008

Depth, feet	Samples	Symbol/USCS	MATERIAL DESCRIPTION	Monitor Well Construction Details	Monitor Well Description
45			CLAY, dark gray, moderately consolidated to very well consolidated, slightly moist		
50			SILTY SAND with some clay and gravel, dark gray, slightly moist to dry, poorly consolidated, sand is very fine grained and subrounded, gravel is angular		
55			SILTY CLAY, dark gray to grey-black Grab soil sample collected from 50-55' bgs		
60			Grab soil sample collected from 55-58' bgs Grab soil sample collected from 58-60' bgs SILTY CLAY, dark gray, very fine sandstone like silt, moderately sorted		Hydrated bentonite seal from 60' to 62' bgs
65			wet @ 63' Grab soil sample collected from 60-63' bgs Grab soil sample collected from 63-65' bgs SILTY SAND, light gray, very fine - silt, moderate-well sorted, wet, Sparta Formation (uppermost groundwater bearing unit) Grab soil sample collected from 65-70' bgs		▽ 12/20 silica sand filter pack from 62' to 75' bgs
70			SILTY SANDSTONE, light gray, very fine - silt, some clay, wet		0.01" Slotted screen from 65' to 75' bgs
75			Silty clay @ bottom Grab soil sample collected from 65-70' bgs		Bottom Cap
80					

STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

5-22-09

Drilling Contractor:	Groundwater Monitoring Inc.
Drilling Method:	HSA
Sampling Method:	Continuous/Cuttings
Geologist/Engineer:	Mike Hull
Project No.:	08-08-47

Groundwater Observations	
Date	Depth
2/19/08	64.00

Remarks: 12 1/4" diameter boring with inner 8" surface casing; 2" diameter casing inside 7" diameter boring

MW WITH WELL DETAILS AND LOGO OW INSTALLATION.GPJ CAREL.GDT 5/8/09

LOG OF MONITOR WELL NO. OW-8
PAGE 2 of 2

The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

▽ Water level at time of drilling.
▼ Water level at end of drilling.
▼ Water level after drilling.

MONITORING WELL DATA SHEET

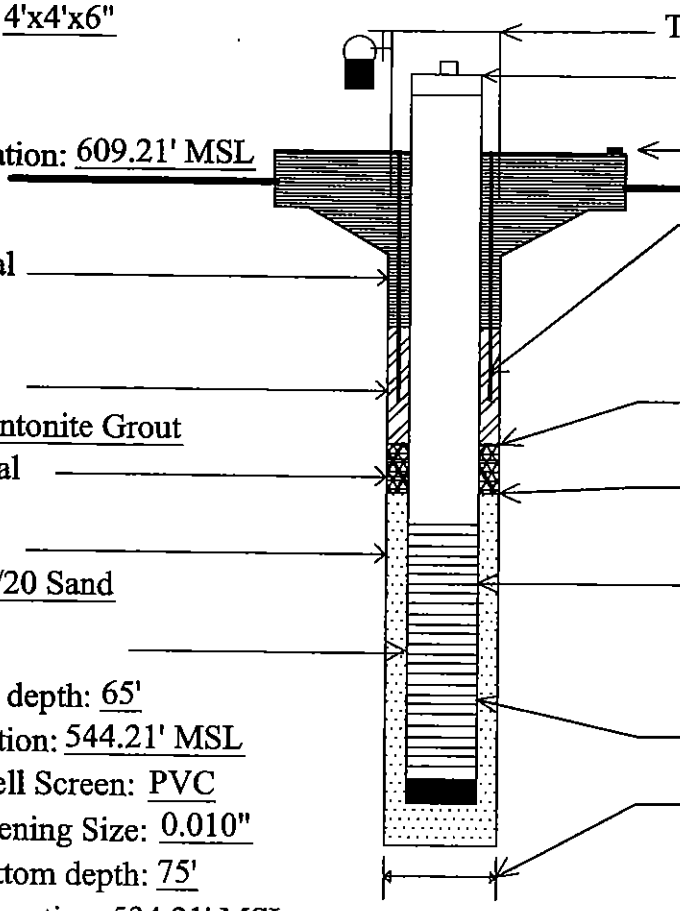
Permitee or Site Name: McWane Inc. (Tyler Pipe Company)
MSW Permit No.: N/A
County: Smith County
Monitor Well I.D. No.: OW-8
Date of Monitor Well Installation: 02/21/2008
Date of Monitor Well Development: 03/19/2008
Well Location: Northing: 6,854,159.0
Easting: 2,931,999.3
Monitor Well Groundwater Gradient
Gradient: Upgradient: ____ Downgradient: X
Monitor Well Driller
Name: Roddy Qualls
License No.: 3121

Notes:

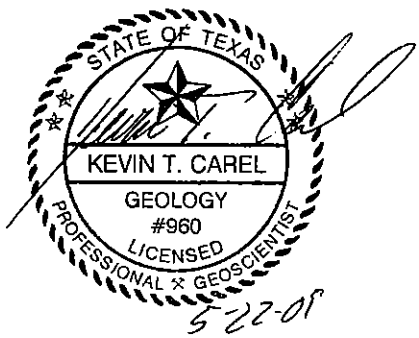
- Report all depths from Surface Elevation and all Elevations relative to Mean Sea Level (MSL), to the nearest hundredth of a foot.
- Diameter of boring should be at least 4 inches larger than diameter of well casing.
- Use flush screw joint casing only, 2" diameter or larger, with o-rings or PTFE tape in joints (4-inch diameter recommended).
- Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist, or Engineer Supervising Well Installation: Mike Hull
Static Water Level Elevation (with respect to MSL) after Well Development: 562.46' MSL
Name of Geologic Formation(s) in which Well is completed: Sparta Formation

Type of locking device: Padlock
Type of Well Casing Protection: 4"x4"x4" Steel Casing
Concrete surface pad dimensions: 4'x4'x6"



Top of Protective Collar Elevation: 612.62' MSL
Top of Well Casing Elevation: 612.33' MSL
Surface elevation: 609.21' MSL
Surveyors Pin Elevation: 609.27' MSL
Surface casing 0-50' bgs
Type: PVC
Size (diameter): 8" from 0-50' bgs
Schedule or Thickness: Sch. 40
Concrete Seal
Depth: 2.0'
Casing seal material: Bentonite Grout
Bentonite Seal
Bentonite Seal Top
Depth: 60' Elevation: 549.21' MSL
Filter Pack Top
Depth: 62' Elevation: 547.21' MSL
Filter pack
Material: 12/20 Sand
Well casing
Type: PVC
Size (diameter): 2"
Schedule or Thickness: Sch. 40
Well screen
Screen top depth: 65'
Top Elevation: 544.21' MSL
Type of well Screen: PVC
Screen Opening Size: 0.010"
Screen Bottom depth: 75'
Bottom Elevation: 534.21' MSL
Bottom Cap Depth: 75'
Borehole Diameter: 12 1/4" from 0-50' bgs
7" from 50-75' bgs



5-22-08

TCEQ-10308

Appendix XI.B.

Hazardous Constituents in Groundwater and Groundwater Protection Standards (GWPS)

PROFESSIONAL GEOLOGIST CERTIFICATION STATEMENT

Hazardous Constituents in Groundwater and Groundwater Protection Standards
(Appendix XI.B)
Tyler Pipe Permit Renewal Application

General Site Information

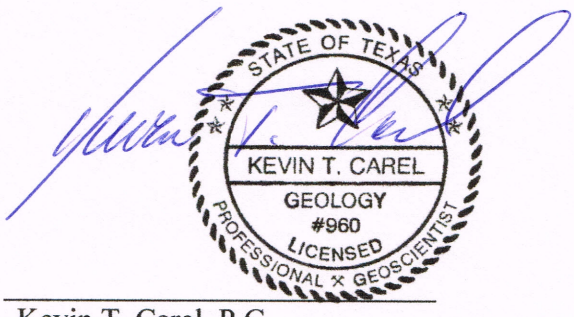
Facility: McWane, Inc. (Tyler Pipe Company)

Site Location: 11910 County Road 492, Tyler, Texas 75706

TCEQ Registration No.: 30140

Professional Geologist Certification Statement

I, Kevin T. Carel, am a licensed professional geoscientist in the State of Texas (license number 960) and a qualified groundwater scientist as defined in 30 TAC §330.3. I have reviewed the Hazardous Constituents in Groundwater and Groundwater Protection Standards Appendix (which was originally prepared by others) and supporting data contained herein. Where necessary, I have updated the report to correct errors and make it current as of the date of my signature below. The only warranty made by me in connection with this document is that I have used that degree of care and skill ordinarily exercised under similar conditions by reputable members of my profession, practicing in the same or similar locality. No other warranty, expressed or implied, is intended.



Signature: _____

Kevin T. Carel, P.G.
No. 960-Texas

Date: 6-1-2020

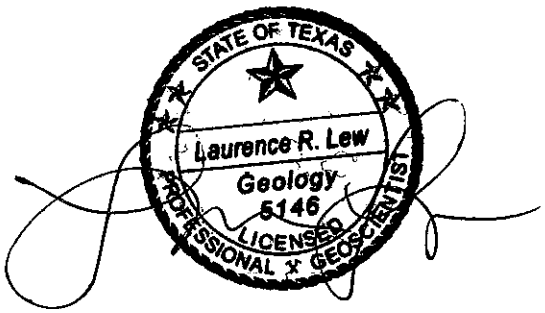
Firm/Address: The Carel Corporation
136 Pecan Street
Keller, Texas 76248
Texas Geoscience Firm # 50137

Professional Geologist Certification Disclaimer

Hazardous Constituents in Groundwater and Groundwater Protection Standards (Appendix XI.B.)

Permit Renewal Application
McWane, Inc. (Tyler Pipe Company) - Tyler, Texas
July 2009

The *Hazardous Constituents in Groundwater and Groundwater Protection Standards Report* presented herein was compiled from information and drawings developed by others and previously provided to and approved by the Texas Commission on Environmental Quality (TCEQ) and/or its predecessor agency, the Texas Natural Resource Conservation Commission (TNRCC) within various assessment reports, permit renewal applications, and permit modification requests. Whereas RMT, Inc. contributed to the development and compilation of the descriptive text (which was conducted under my supervision), none of the included drawings was originally developed by RMT, Inc. As such, the professional geologist certification provided herein is exclusive of any of the figures presented.



Laurence R. Lew, P.G.
Senior Consultant
RMT, Inc.

Corporate Texas Geosciences Registration
No. 50292

Appendix XI.B.
Hazardous Constituents in Groundwater and Groundwater Protection Standards

A discussion of the identification of hazardous constituents in groundwater and the establishment of groundwater protection standards for these identified constituents associated with the closed *sludge disposal area* (NOR Unit No. 082) at the Tyler Pipe facility is presented herein.

1. Hazardous Constituents in Groundwater

The sludge disposal area was determined to have released concentrations of various metal constituents (*cadmium, chromium, lead*, and *zinc*) to the groundwater above background levels in former detection monitoring program wells MW-1, MW-2, MW-3, and MW-4 in 2005. Consequently, 40 CFR Part 264 Appendix IX analyses were performed in March 2006 on groundwater samples collected from these four wells. Copies of the laboratory analytical data sheets from the March 2006 Appendix IX analyses are provided in ***Attachment XI.B-1***.

The results of the Appendix IX analyses indicated an additional metal constituent (*mercury*) detected above background levels in former detection monitoring program well MW-3. As such, these five metal constituents (*cadmium, chromium, lead*, *mercury*, and *zinc*) are considered to be the hazardous constituents in groundwater at the sludge disposal area and are identified in ***CP Table IV*** of the Part B Application forms. The background levels for four of these metal constituents (*cadmium, chromium, lead*, and *zinc*) were established as the practical quantitation limits (PQLs) reported by the laboratory that conducted the detection monitoring program analyses since 2003 (0.005 mg/L, 0.005 mg/L, 0.015 mg/L, and 0.020 mg/L, respectively). The background level for mercury (0.0002 mg/L) was established as the PQL reported by the laboratory that conducted the March 2006 Appendix IX analyses. These background levels are also identified in ***CP Table IV***.

One background sample was collected in wells OW-6, OW-7, and OW-8 in August 2010. Quarterly monitoring for wells OW-6, OW-7, and OW-8 continued in February 2011 following the listed wells' incorporation into the compliance monitoring network in December 2010. Three (3) quarterly sampling events occurred in the SDA in 2011: February 17, June 20, and August 31. The August 2011 event was the fourth and final background monitoring event.

It is noted that former detection monitoring program wells MW-1 through MW-4 have been deemed unacceptable by the TCEQ since these wells are screened in saturated soils with a very low hydraulic conductivity ($< 1x10^{-5}$ cm/sec) and do not meet the requirements of a groundwater-bearing unit (GWBU) as defined under the Texas Risk Reduction Program (TRRP). As such, Tyler Pipe is utilizing wells OW-6 (upgradient), OW-7 (downgradient), and OW-8 (downgradient) for the compliance monitoring program at the sludge disposal

area (see ***Appendix XI.C***) since these wells are screened in the uppermost GWBU. Although the identified hazardous constituents are based on groundwater data from wells MW-1 through MW-4, the same constituents are used for the compliance monitoring program utilizing wells OW-6 through OW-8.

2. Groundwater Protection Standards

Groundwater protection standards (GWPSs) are typically established based on the higher of the following:

- Background levels determined through statistical evaluation of upgradient groundwater quality data;
- Practical quantitation levels (PQLs) reported during laboratory analyses of upgradient well groundwater samples;
- Primary and secondary maximum contaminant levels (MCLs) established by the EPA; or
- Alternate concentration limits (ACLs) established as protective concentration levels (PCLs) as promulgated under the TRRP based on the appropriate groundwater resource classification.

Tyler Pipe has determined that PCLs and/or MCLs represent the appropriate basis for establishment of GWPS values for the hazardous constituents (*cadmium, chromium, lead*, *mercury*, and *zinc*) under the proposed compliance monitoring program (see below).

3. Establishment of Groundwater Protection Standards

Tyler Pipe has established the following GWPS values for the five identified hazardous constituents to be addressed under the proposed compliance monitoring program:

- *Cadmium*: GWPS = 0.005 mg/L (based on MCL)
- *Chromium*: GWPS = 0.100 mg/L (based on MCL)
- *Lead*: GWPS = 0.015 mg/L (based on PCL)
- *Mercury*: GWPS = 0.002 mg/L (based on MCL)
- *Zinc*: GWPS = 7.30 mg/L (based on PCL)

These GWPS values are also identified in ***CP Table IVA*** of the Part B Application forms.

Attachment XI.B-1
Appendix IX Analytical Results

HERITAGE

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE ENVIRONMENTAL SERVICES, LLC COMMERCIAL LABORATORY OPERATIONS 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	02-MAR-06		A727448
	Completed	**PO Number**	
	15-MAR-06	CREDIT CARD	
	Printed	**Sampled**	
	24-MAR-06	01-MAR-06 16:47	

Report To	Bill To
DUSTIN WILLIAMS TYLER PIPE COMPANY 11721 US HIGHWAY 69 NORTH TYLER, TX 75706	KEVIN CAREL CAREL CORPORATION, THE 136 PECAN STREET KELLER, TX 76248

Sample Description

received 3/29/06

CLIENT ID: MW-2
MATRIX TYPE: NON-SPECIFIC WATER
SUBMITTER CODE: 9163
LOCATION: TYLER PIPE
DESCRIPTION: APPENDIX II WITH DRINKING WATER MCL

GC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: C. HIPSKIND | Analysis Date: 08-MAR-06 | Instrument: PREP | Test: P233.1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	900		mL
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081 NELAC:Y

Analyst: M. WRIGHT | Analysis Date: 09-MAR-06 07:10 | Instrument: GC/ECD | Test: O305.1.0

Prep: GC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C P233.1.0

Parameter	Result	Det. Limit	Units
ALPHA-BHC	BDL	0.05	ug/L
BETA-BHC	BDL	0.05	ug/L
DELTA-BHC	BDL	0.05	ug/L
GAMMA-BHC (LINDANE)	BDL	0.05	ug/L
HEPTACHLOR	BDL	0.05	ug/L
ALDRIN	BDL	0.05	ug/L
HEPTACHLOR EPOXIDE	BDL	0.05	ug/L
ENDOSULFAN I	BDL	0.05	ug/L
DIELDRIN	BDL	0.1	ug/L
4,4'-DDE	BDL	0.1	ug/L
ENDRIN	BDL	0.1	ug/L
ENDOSULFAN II	BDL	0.1	ug/L
4,4'-DDD	BDL	0.1	ug/L
ENDOSULFAN SULFATE	BDL	0.1	ug/L
4,4'-DDT	BDL	0.1	ug/L

METHOXYCHLOR	BDL	0.5	ug/L
ENDRIN ALDEHYDE	BDL	0.1	ug/L
ENDRIN KETONE	BDL	0.1	ug/L
ALPHA-CHLORDANE	BDL	0.5	ug/L
GAMMA-CHLORDANE	BDL	0.5	ug/L
TOXAPHENE	BDL	1	ug/L
PCB AROCLOR 1016	BDL	0.5	ug/L
PCB AROCLOR 1221	BDL	0.5	ug/L
PCB AROCLOR 1232	BDL	0.5	ug/L
PCB AROCLOR 1242	BDL	0.5	ug/L
PCB AROCLOR 1248	BDL	0.5	ug/L
PCB AROCLOR 1254	BDL	1	ug/L
PCB AROCLOR 1260	BDL	1	ug/L
...			
SURROGATE RECOVERY			

DECACHLOROBIPHENYL (DCB)	112.9		% Rec

DIAZOMETHANE HERBICIDE DERIVATIZATION SW846-8151A

Analyst: D. EISELE | Analysis Date: 07-MAR-06 | Instrument: PREP | Test: P201.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	950		mL
FINAL VOLUME	10		mL

CHLORINATED HERBICIDES (2,4 D, SILVEX AND 2,4,5-T) SW846-8151A NELAC:Y

Analyst: B. VANSLAVENS | Analysis Date: 07-MAR-06 22:18 | Instrument: GC/ECD | Test: O253.1.0

Prep: DIAZOMETHANE HERBICIDE DERIVATIZATION SW846-8151A P201.4.0

Parameter	Result	Det. Limit	Units
2,4-DICHLOROPHENOXYACETIC ACID	BDL	10	ug/L
SILVEX (2,4,5-TP)	BDL	1	ug/L
2,4,5-TRICHLOROPHENOXYACETIC ACID (2,4,5-T)	BDL	1	ug/L
DINOSEB	BDL	1	ug/L
PENTACHLOROPHENOL	BDL	1	ug/L
...			
SURROGATE RECOVERY			

DCAA	92.3		% Rec

MICROEXTRACTION FOR EDB & DBCP SW846-8011

Analyst: B. VANSLAVENS | Analysis Date: 03-MAR-06 | Instrument: PREP | Test: P425.2.0

Parameter	Result	Det. Limit	Units

INITIAL WEIGHT OR VOLUME	33.34		mL
FINAL VOLUME	2		mL

EDB & DBCP BY MICRO-EXTRACTION AND GC/ECD SW846-8011 NELAC:Y

Analyst: M. WRIGHT Analysis Date: 03-MAR-06 16:39 Instrument: GC/ECD Test: O425.2.0

Prep: MICROEXTRACTION FOR EDB & DBCP SW846-8011 P425.2.0

Parameter	Result	Det. Limit	Units
1,2-DIBROMOETHANE (EDB)	BDL	0.05	ug/L
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	BDL	0.2	ug/L
...			
SURROGATE RECOVERY			
---			
(1) 2-CHLOROBIPHENYL	98.5		% Rec

POLYCHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURANS SW846-8280A NELAC:Y

Vendor: ENO RIVER LABORATORIES (FORMERLY TRIANGLE) Analysis Date: 10-MAR-06 Instrument: GC/MS SVOA Test: O519.3.0

Parameter	Result	Det. Limit	Units
2,3,7,8-TCDD	BDL	0.5	ppt
1,2,3,7,8-PENTACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,7,8-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,6,7,8-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,7,8,9-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,6,7,8-HEPTACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,6,7,8,9-OCDD	BDL	0.5	ppt
2,3,7,8-TETRACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,7,8-PENTACHLORODIBENZOFURAN	BDL	0.5	ppt
2,3,4,7,8-PENTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,6,7,8,9-OCDF	BDL	0.5	ppt

CYANIDE DISTILLATION SW846-9010B

Analyst: G. COOPER Analysis Date: 07-MAR-06 07:15 Instrument: PREP Test: P101.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	250		mL
FINAL VOLUME	250		mL

CYANIDE, TOTAL (AUTOMATED) SW846-9012A NELAC:Y

Analyst: M. ADKINS Analysis Date: 08-MAR-06 12:00 Instrument: AUTO-ANALYZER Test: G101.4.0

Prep: CYANIDE DISTILLATION SW846-9010B P101.4.0

Parameter	Result	Det. Limit	Units
CYANIDE	BDL	0.005	mg/L

SULFIDE (TITRIMETRIC IODINE) SW846-9034 NELAC:N

Analyst: R. DALAL Analysis Date: 07-MAR-06 20:00 Test: G110.4.0

Parameter	Result	Det. Limit	Units
SULFIDE	BDL	1.0	mg/L

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A

Analyst: J. KRAMER Analysis Date: 14-MAR-06 19:30 Instrument: PREP Test: P130.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M103.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	10.	ug/L

BARIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M104.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
BARIUM	BDL	2000	ug/L

BERYLLIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M105.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
BERYLLIUM	BDL	4.0	ug/L

CADMIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M108.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
CADMIUM	BDL	5.0	ug/L

CHROMIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M110.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	100	ug/L

COBALT ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M111.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
COBALT	BDL	70.	ug/L

COPPER ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M112.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	1300	ug/L

LEAD ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M116.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	15.	ug/L

NICKEL ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M122.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
NICKEL	BDL	50.	ug/L

SELENIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M128.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	50.	ug/L

SILVER ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M130.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	70.	ug/L

TIN ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M135.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
TIN	BDL	20.	ug/L

VANADIUM ICP SW846-6010B NELAC:N

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M138.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
VANADIUM	BDL	80.	ug/L

ZINC ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:42 Instrument: ICP Test: M139.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
ZINC	94.	20.	ug/L

ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8

Analyst: A. STOCKBURGER Analysis Date: 10-MAR-06 15:00 Instrument: PREP Test: P129.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ANTIMONY ICP/MS SW846-6020 NELAC:Y

Analyst: A. STOCKBURGER Analysis Date: 14-MAR-06 20:27 Instrument: ICP/MS Test: V102.3.0

Prep: ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8 P129.4.0

Parameter	Result	Det. Limit	Units
ANTIMONY	BDL	6.0	ug/L

1:5 Dilution.

THALLIUM ICP/MS SW846-6020 NELAC:Y

Analyst: A. STOCKBURGER Analysis Date: 14-MAR-06 20:27 Instrument: ICP/MS Test: V134.3.0

Prep: ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8 P129.4.0

Parameter	Result	Det. Limit	Units
THALLIUM	BDL	2.0	ug/L

1:5 Dilution.

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470A

Analyst: W. WATNESS Analysis Date: 03-MAR-06 14:00 Instrument: PREP Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	40		mL

FINAL VOLUME	40		mL

MERCURY CVAA SW846-7470A NELAC:Y

Analyst: S. O'NEAL Analysis Date: 06-MAR-06 12:03 Instrument: CVAA Test: M120.1.0

Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470A P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	BDL	0.20	ug/L

HPLC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: J. HESS Analysis Date: 07-MAR-06 Instrument: PREP Test: P233.8.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	5		mL

POLYNUCLEAR AROMATIC HYDROCARBONS BY HPLC SW846-8310 NELAC:Y

Analyst: D. EISELE Analysis Date: 09-MAR-06 00:16 Instrument: HPLC Test: O630.0.0

Prep: HPLC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C P233.8.0

Parameter	Result	Det. Limit	Units
BENZO(A)PYRENE	BDL	0.20	ug/L
...			
SURROGATE RECOVERY			

2-FLUOROBIPHENYL	98.0		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: L. STARKEY Analysis Date: 07-MAR-06 Instrument: PREP Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

APPENDIX IX SEMIVOLATILE ORGANICS SW846-8270C NELAC:Y

Analyst: C. WILLHITE Analysis Date: 08-MAR-06 15:39 Instrument: GC/MS SVOA Test: O508.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ACETOPHENONE	BDL	10	ug/L
2-ACETYLAMINOFLUORENE	BDL	10	ug/L
4-AMINOBIPHENYL	BDL	10	ug/L
ANILINE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZO(A)ANTHRACENE	BDL	10	ug/L

BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	6.0	ug/L
4-BROMODIPHENYL ETHER	BDL	10	ug/L
(BENZYLBUTYLPHTHALATE) BUTYLBENZYLPHTHALATE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
CHLOROBENZILATE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYL-PHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIALLATE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
1,3-DICHLOROBENZENE (M-DICHLOROBENZENE)	BDL	10	ug/L
1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	BDL	10	ug/L
1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHOATE	BDL	10	ug/L
4-(DIMETHYLAMINO)AZOBENZENE	BDL	10	ug/L
7,12-DIMETHYLBENZ(A)ANTHRACENE	BDL	20	ug/L
3,3'-DIMETHYLBENZIDINE	BDL	20	ug/L
DIMETHYL BENZENEETHANAMINE	BDL	20	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
1,3-DINITROBENZENE (M-DINITROBENZENE)	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
DIPHENYLAMINE	BDL	10	ug/L
DI-N-PROPYLNITROSOAMINE	BDL	50	ug/L
ETHYL METHANESULFONATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L

HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
HEXACHLOROPHENE	MR1	200	ug/L
HEXACHLOROPROPENE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
METHAPYRILENE	BDL	10	ug/L
3-METHYLCHOLANTHRENE	BDL	10	ug/L
METHYL METHANESULFONATE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
1,4-NAPHTHOQUINONE	BDL	50	ug/L
1-NAPHTHYLAMINE	BDL	50	ug/L
2-NAPHTHYLAMINE	BDL	10	ug/L
3-NITROANILINE (M-NITROANILINE)	BDL	50	ug/L
2-NITROANILINE (O-NITROANILINE)	BDL	50	ug/L
4-NITROANILINE (P-NITROANILINE)	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSODI-N-BUTYLAMINE	BDL	10	ug/L
N-NITROSODIETHYLAMINE	BDL	10	ug/L
N-NITROSODIMETHYLAMINE	BDL	10	ug/L
N-NITROSODIPHENYLAMINE	BDL	10	ug/L
N-NITROSOMETHYLETHYLAMINE	BDL	10	ug/L
N-NITROSOMORPHOLINE	BDL	10	ug/L
N-NITROSOPIPERIDINE	BDL	10	ug/L
N-NITROSOPYRROLIDINE	BDL	10	ug/L
4-NITROQUINOLINE-OXIDE	BDL	10	ug/L
5-NITRO-O-TOLUIDINE	BDL	10	ug/L
PENTACHLOROBENZENE	BDL	10	ug/L
PENTACHLOROETHANE	BDL	10	ug/L
PENTACHLORONITROBENZENE	BDL	10	ug/L
PHENACETIN	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
1,2,4,5-TETRACHLOROBENZENE	BDL	10	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
THIONAZIN	BDL	10	ug/L
O,O,O-TRIETHYL PHOSPHOROTHIOATE	BDL	10	ug/L
SYM-(1,3,5)-TRINITROBENZENE	BDL	20	ug/L
O-TOLUIDINE	BDL	10	ug/L

P-PHENYLENEDIAMINE	BDL	20	ug/L
2-SEC-BUTYL-4,6-DINITROPHENOL (DINOSEB)	BDL	10	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2-METHYLPHENOL (O-CRESOL)	BDL	10	ug/L
4-METHYLPHENOL (P-CRESOL)	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,6-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-O-CRESOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
3-METHYLPHENOL (M-CRESOL)	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
2,3,4,6-TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	10	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
ARAMITE	BDL	10	ug/L
DIELDRIN	BDL	10	ug/L
CHLORDANE	BDL	50	ug/L
P,P'-DDT	BDL	10	ug/L
P,P'-DDE	BDL	10	ug/L
P,P'-DDD	BDL	10	ug/L
DISULFOTON	BDL	10	ug/L
FAMPHUR	MR1	200	ug/L
ISODRIN	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
ISOSAFROLE	BDL	10	ug/L
KEPONE	MR1	200	ug/L
PARATHION	BDL	10	ug/L
METHYL PARATHION	BDL	10	ug/L
PHORATE	BDL	10	ug/L
PRONAMIDE	BDL	10	ug/L
SAFROLE	BDL	10	ug/L
TETRAETHYL DITHIOPYROPHOSPHATE (SULFOTEPP)	BDL	10	ug/L
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SURROGATE RECOVERY			

2-FLUOROPHENOL	48		% Rec
PHENOL-D5	29		% Rec

NITROBENZENE-D5	77		% Rec
2-FLUOROBIPHENYL	77		% Rec
2,4,6-TRIBROMOPHENOL	76		% Rec
TERPHENYL-D14	105		% Rec

APPENDIX IX VOLATILE ORGANICS, CAPILLARY COLUMN TECHNIQUE SW846-8260B NELAC:Y

Analyst: R. SHAMP Analysis Date: 07-MAR-06 11:54 Instrument: GC/MS VOA Test: O509.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	100	ug/L
ACETONITRILE	BDL	100	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5.0	ug/L
BROMODICHLOROMETHANE	BDL	5.0	ug/L
BROMOFORM	BDL	5.0	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5.0	ug/L
CARBON TETRACHLORIDE	BDL	5.0	ug/L
CHLOROBENZENE	BDL	5.0	ug/L
CHLORODIBROMOMETHANE	BDL	5.0	ug/L
CHLOROETHANE	BDL	10	ug/L
2-CHLORO-1,3-BUTADIENE (CHLOROPRENE)	BDL	5.0	ug/L
CHLOROFORM	BDL	5.0	ug/L
CHLOROMETHANE	BDL	10	ug/L
3-CHLOROPROPENE (ALLYL CHLORIDE)	BDL	20	ug/L
DIBROMOMETHANE	BDL	5.0	ug/L
TRANS-1,4-DICHLORO-2-BUTENE	BDL	20	ug/L
DICHLORODIFLUOROMETHANE	BDL	10	ug/L
1,1-DICHLOROETHANE	BDL	5.0	ug/L
1,2-DICHLOROETHANE	BDL	5.0	ug/L
TRANS-1,2-DICHLOROETHENE	BDL	5.0	ug/L
1,1-DICHLOROETHENE	BDL	5.0	ug/L
1,2-DICHLOROPROPANE	BDL	5.0	ug/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	5.0	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5.0	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5.0	ug/L
1,4-DIOXANE	BDL	1000	ug/L
ETHYL BENZENE	BDL	5.0	ug/L
ETHYL CYANIDE (PROPIONITRILE)	BDL	5.0	ug/L
ETHYL METHACRYLATE	BDL	5.0	ug/L
2-HEXANONE	BDL	10	ug/L

IODOMETHANE	BDL	10 ug/L
ISOBUTANOL (ISOBUTYL ALCOHOL)	BDL	50 ug/L
METHACRYLONITRILE	BDL	20 ug/L
METHYL ETHYL KETONE	BDL	10 ug/L
METHYL METHACRYLATE	BDL	5.0 ug/L
4-METHYL-2-PENTANONE	BDL	10 ug/L
STYRENE	BDL	5.0 ug/L
1,1,1,2-TETRACHLOROETHANE	BDL	5.0 ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5.0 ug/L
TETRACHLOROETHENE	BDL	5.0 ug/L
TOLUENE	BDL	5.0 ug/L
1,1,1-TRICHLOROETHANE	BDL	5.0 ug/L
1,1,2-TRICHLOROETHANE	BDL	5.0 ug/L
TRICHLOROETHENE	BDL	5.0 ug/L
TRICHLOROFLUOROMETHANE	BDL	5.0 ug/L
1,2,3-TRICHLOROPROPANE	BDL	5.0 ug/L
VINYL ACETATE	BDL	10 ug/L
VINYL CHLORIDE	BDL	2.0 ug/L
XYLENES (O/M/P-XYLENE)	BDL	5.0 ug/L

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SURROGATE RECOVERY

DICHLOROETHANE-D4	117	% Rec
TOLUENE-D8	95	% Rec
4-BROMOFLUOROBENZENE	90	% Rec

Prep Method SW846-5030B Purge and Trap

Sample Comments

SPLIT AND PRESERVED FOR CYANIDE TESTING. JK 3-2-06

AMENDED REPORT - KLF - 24-MAR-06 :REMOVED MANGANESE - NOT AN APP IX PARAMETER.

BDL Below Detection Limit

MR1 BDL, Initial Calibration > 15% RSD

Sample was received on ice at temperature 3 C.
Sample chain of custody number 42901.

As indicated, some testing was performed at the following locations:

ENO RIVER LABORATORIES (FORMERLY TRIANGLE)
2445 SOUTH ALSTON AVENUE, DURHAM, NC 27713

Karen A. Fullmer

Approved by: KAREN FULLMER 24-MAR-06

HERITAGE

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE ENVIRONMENTAL SERVICES, LLC COMMERCIAL LABORATORY OPERATIONS 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	02-MAR-06		A727449
	Completed	PO Number	
	15-MAR-06	CREDIT CARD	
	Printed	Sampled	
	24-MAR-06	01-MAR-06 13:12	

Report To	Bill To
DUSTIN WILLIAMS TYLER PIPE COMPANY 11721 US HIGHWAY 69 NORTH TYLER, TX 75706	KEVIN CAREL CAREL CORPORATION, THE 136 PECAN STREET KELLER, TX 76248

Sample Description

CLIENT ID: MW-3
MATRIX TYPE: NON-SPECIFIC WATER
SUBMITTER CODE: 9163
LOCATION: TYLER PIPE
DESCRIPTION: APPENDIX II WITH DRINKING WATER MCL

GC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: C. HIPSKIND | Analysis Date: 08-MAR-06 | Instrument: PREP | Test: P233.1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	980		mL
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081 NELAC:Y

Analyst: M. WRIGHT | Analysis Date: 09-MAR-06 07:40 | Instrument: GC/ECD | Test: O305.1.0

Parameter	Result	Det. Limit	Units
ALPHA-BHC	BDL	0.05	ug/L
BETA-BHC	BDL	0.05	ug/L
DELTA-BHC	BDL	0.05	ug/L
GAMMA-BHC (LINDANE)	BDL	0.05	ug/L
HEPTACHLOR	BDL	0.05	ug/L
ALDRIN	BDL	0.05	ug/L
HEPTACHLOR EPOXIDE	BDL	0.05	ug/L
ENDOSULFAN I	BDL	0.05	ug/L
DIELDRIN	BDL	0.1	ug/L
4,4'-DDE	BDL	0.1	ug/L
ENDRIN	BDL	0.1	ug/L
ENDOSULFAN II	BDL	0.1	ug/L
4,4'-DDD	BDL	0.1	ug/L
ENDOSULFAN SULFATE	BDL	0.1	ug/L
4,4'-DDT	BDL	0.1	ug/L

METHOXYCHLOR	BDL	0.5	ug/L
ENDRIN ALDEHYDE	BDL	0.1	ug/L
ENDRIN KETONE	BDL	0.1	ug/L
ALPHA-CHLORDANE	BDL	0.5	ug/L
GAMMA-CHLORDANE	BDL	0.5	ug/L
TOXAPHENE	BDL	1	ug/L
PCB AROCLOR 1016	BDL	0.5	ug/L
PCB AROCLOR 1221	BDL	0.5	ug/L
PCB AROCLOR 1232	BDL	0.5	ug/L
PCB AROCLOR 1242	BDL	0.5	ug/L
PCB AROCLOR 1248	BDL	0.5	ug/L
PCB AROCLOR 1254	BDL	1	ug/L
PCB AROCLOR 1260	BDL	1	ug/L
...			
SURROGATE RECOVERY			

DECACHLOROBIPHENYL (DCB)	80.7		% Rec

DIAZOMETHANE HERBICIDE DERIVATIZATION SW846-8151A

Analyst: D. EISELE Analysis Date: 07-MAR-06 Instrument: PREP Test: P201.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	10		mL

CHLORINATED HERBICIDES (2,4 D, SILVEX AND 2,4,5-T) SW846-8151A NELAC:Y

Analyst: B. VANSLAVENS Analysis Date: 07-MAR-06 20:53 Instrument: GC/ECD Test: O253.1.0

Prep: DIAZOMETHANE HERBICIDE DERIVATIZATION SW846-8151A P201.4.0

Parameter	Result	Det. Limit	Units
2,4-DICHLOROPHENOXYACETIC ACID	BDL	10	ug/L
SILVEX (2,4,5-TP)	BDL	1	ug/L
2,4,5-TRICHLOROPHENOXYACETIC ACID (2,4,5-T)	BDL	1	ug/L
DINOSEB	BDL	1	ug/L
PENTACHLOROPHENOL	BDL	1	ug/L
...			
SURROGATE RECOVERY			

DCAA	79.6		% Rec

MICROEXTRACTION FOR EDB & DBCP SW846-8011

Analyst: B. VANSLAVENS Analysis Date: 03-MAR-06 Instrument: PREP Test: P425.2.0

Parameter	Result	Det. Limit	Units

INITIAL WEIGHT OR VOLUME	33.86		mL
FINAL VOLUME	2		mL

EDB & DBCP BY MICRO-EXTRACTION AND GC/ECD SW846-8011 NELAC:Y

Analyst: M. WRIGHT Analysis Date: 03-MAR-06 16:39 Instrument: GC/ECD Test: O425.2.0

Prep: MICROEXTRACTION FOR EDB & DBCP SW846-8011 P425.2.0

Parameter	Result	Det. Limit	Units
1,2-DIBROMOETHANE (EDB)	BDL	0.05	ug/L
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	BDL	0.2	ug/L
...			
SURROGATE RECOVERY			
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(1) 2-CHLOROBIPHENYL	126.2		% Rec

POLYCHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURANS SW846-8280A NELAC:Y

Vendor: ENO RIVER LABORATORIES (FORMERLY TRIANGLE) Analysis Date: 10-MAR-06 Instrument: GC/MS SVOA Test: O519.3.0

Parameter	Result	Det. Limit	Units
2,3,7,8-TCDD	BDL	0.5	ppt
1,2,3,7,8-PENTACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,7,8-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,6,7,8-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,7,8,9-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,6,7,8-HEPTACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,6,7,8,9-OCDD	BDL	0.5	ppt
2,3,7,8-TETRACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,7,8-PENTACHLORODIBENZOFURAN	BDL	0.5	ppt
2,3,4,7,8-PENTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,6,7,8,9-OCDF	BDL	0.5	ppt

CYANIDE DISTILLATION SW846-9010B

Analyst: G. COOPER Analysis Date: 07-MAR-06 07:15 Instrument: PREP Test: P101.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	250		mL
FINAL VOLUME	250		mL

CYANIDE, TOTAL (AUTOMATED) SW846-9012A NELAC:Y

Analyst: M. ADKINS Analysis Date: 08-MAR-06 12:00 Instrument: AUTO-ANALYZER Test: G101.4.0

Prep: CYANIDE DISTILLATION SW846-9010B P101.4.0

Parameter	Result	Det. Limit	Units
CYANIDE	BDL	0.005	mg/L

SULFIDE (TITRIMETRIC IODINE) SW846-9034 NELAC:N

Analyst: R. DALAL Analysis Date: 07-MAR-06 20:00 Test: G110.4.0

Parameter	Result	Det. Limit	Units
SULFIDE	BDL	1.0	mg/L

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A

Analyst: J. KRAMER Analysis Date: 14-MAR-06 19:30 Instrument: PREP Test: P130.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M103.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	10.	ug/L

BARIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M104.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
BARIUM	BDL	2000	ug/L

BERYLLIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M105.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
BERYLLIUM	BDL	4.0	ug/L

CADMIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M108.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
CADMIUM	BDL	5.0	ug/L

CHROMIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M110.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	100	ug/L

COBALT ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M111.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
COBALT	BDL	70.	ug/L

COPPER ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M112.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	1300	ug/L

LEAD ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M116.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	15.	ug/L

NICKEL ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M122.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
NICKEL	BDL	50.	ug/L

SELENIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M128.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	50.	ug/L

SILVER ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M130.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	70.	ug/L

TIN ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M135.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
TIN	BDL	20.	ug/L

VANADIUM ICP SW846-6010B NELAC:N

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M138.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
VANADIUM	BDL	80.	ug/L

ZINC ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 12:46 Instrument: ICP Test: M139.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
ZINC	29.	20.	ug/L

ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8

Analyst: A. STOCKBURGER Analysis Date: 10-MAR-06 15:00 Instrument: PREP Test: P129.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ANTIMONY ICP/MS SW846-6020 NELAC:Y

Analyst: A. STOCKBURGER Analysis Date: 14-MAR-06 19:37 Instrument: ICP/MS Test: V102.3.0

Prep: ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8 P129.4.0

Parameter	Result	Det. Limit	Units
ANTIMONY	BDL	6.0	ug/L

1:5 Dilution.

THALLIUM ICP/MS SW846-6020 NELAC:Y

Analyst: A. STOCKBURGER Analysis Date: 14-MAR-06 19:37 Instrument: ICP/MS Test: V134.3.0

Prep: ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8 P129.4.0

Parameter	Result	Det. Limit	Units
THALLIUM	BDL	2.0	ug/L

1:5 Dilution.

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470A

Analyst: W. WATNESS Analysis Date: 03-MAR-06 14:00 Instrument: PREP Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	40		mL

FINAL VOLUME	40	mL

MERCURY CVAA SW846-7470A NELAC:Y

Analyst: S. O'NEAL Analysis Date: 06-MAR-06 12:03 Instrument: CVAA Test: M120.1.0

Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470A P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	3.50	0.20	ug/L

HPLC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: J. HESS Analysis Date: 07-MAR-06 Instrument: PREP Test: P233.8.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	5		mL

POLYNUCLEAR AROMATIC HYDROCARBONS BY HPLC SW846-8310 NELAC:Y

Analyst: D. EISELE Analysis Date: 09-MAR-06 00:53 Instrument: HPLC Test: O630.0.0

Prep: HPLC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C P233.8.0

Parameter	Result	Det. Limit	Units
BENZO(A)PYRENE	BDL	0.20	ug/L
...			
SURROGATE RECOVERY			

2-FLUOROBIPHENYL	89.0		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: L. STARKEY Analysis Date: 07-MAR-06 Instrument: PREP Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

APPENDIX IX SEMIVOLATILE ORGANICS SW846-8270C NELAC:Y

Analyst: C. WILLHITE Analysis Date: 08-MAR-06 16:17 Instrument: GC/MS SVOA Test: O508.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ACETOPHENONE	BDL	10	ug/L
2-ACETYLAMINOFLUORENE	BDL	10	ug/L
4-AMINOBIPHENYL	BDL	10	ug/L
ANILINE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZO(A)ANTHRACENE	BDL	10	ug/L

BENZO(B)FLUORANTHENE	BDL	10	ug/L
BENZO(K)FLUORANTHENE	BDL	10	ug/L
BENZO(G,H,I)PERYLENE	BDL	10	ug/L
BENZYL ALCOHOL	BDL	10	ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10	ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10	ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10	ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	6.0	ug/L
4-BROMODIPHENYL ETHER	BDL	10	ug/L
(BENZYLBUTYLPHTHALATE) BUTYLBENZYLPHTHALATE	BDL	10	ug/L
4-CHLOROANILINE	BDL	10	ug/L
CHLOROBENZILATE	BDL	10	ug/L
2-CHLORONAPHTHALENE	BDL	10	ug/L
4-CHLOROPHENYL-PHENYLETHER	BDL	10	ug/L
CHRYSENE	BDL	10	ug/L
DIALLATE	BDL	10	ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10	ug/L
DIBENZOFURAN	BDL	10	ug/L
DI-N-BUTYLPHTHALATE	BDL	10	ug/L
1,3-DICHLOROBENZENE (M-DICHLOROBENZENE)	BDL	10	ug/L
1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	BDL	10	ug/L
1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	BDL	10	ug/L
3,3'-DICHLOROBENZIDINE	BDL	20	ug/L
DIETHYLPHTHALATE	BDL	10	ug/L
DIMETHOATE	BDL	10	ug/L
4-(DIMETHYLAMINO)AZOBENZENE	BDL	10	ug/L
7,12-DIMETHYLBENZ(A)ANTHRACENE	BDL	20	ug/L
3,3'-DIMETHYLBENZIDINE	BDL	20	ug/L
DIMETHYL BENZENEETHANAMINE	BDL	20	ug/L
DIMETHYLPHTHALATE	BDL	10	ug/L
1,3-DINITROBENZENE (M-DINITROBENZENE)	BDL	50	ug/L
2,4-DINITROTOLUENE	BDL	10	ug/L
2,6-DINITROTOLUENE	BDL	10	ug/L
DI-N-OCTYLPHTHALATE	BDL	10	ug/L
DIPHENYLAMINE	BDL	10	ug/L
DI-N-PROPYLNITROSOAMINE	BDL	50	ug/L
ETHYL METHANESULFONATE	BDL	10	ug/L
FLUORANTHENE	BDL	10	ug/L
FLUORENE	BDL	10	ug/L
HEXACHLOROBENZENE	BDL	10	ug/L
HEXACHLOROBUTADIENE	BDL	10	ug/L

HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
HEXACHLOROPHENE	MR1	200	ug/L
HEXACHLOROPROPENE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
METHAPYRILENE	BDL	10	ug/L
3-METHYLCHOLANTHRENE	BDL	10	ug/L
METHYL METHANESULFONATE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
1,4-NAPHTHOQUINONE	BDL	50	ug/L
1-NAPHTHYLAMINE	BDL	50	ug/L
2-NAPHTHYLAMINE	BDL	10	ug/L
3-NITROANILINE (M-NITROANILINE)	BDL	50	ug/L
2-NITROANILINE (O-NITROANILINE)	BDL	50	ug/L
4-NITROANILINE (P-NITROANILINE)	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSODI-N-BUTYLAMINE	BDL	10	ug/L
N-NITROSODIETHYLAMINE	BDL	10	ug/L
N-NITROSODIMETHYLAMINE	BDL	10	ug/L
N-NITROSODIPHENYLAMINE	BDL	10	ug/L
N-NITROSOMETHYLETHYLAMINE	BDL	10	ug/L
N-NITROSOMORPHOLINE	BDL	10	ug/L
N-NITROSOPIPERIDINE	BDL	10	ug/L
N-NITROSOPYRROLIDINE	BDL	10	ug/L
4-NITROQUINOLINE-OXIDE	BDL	10	ug/L
5-NITRO-O-TOLUIDINE	BDL	10	ug/L
PENTACHLOROBENZENE	BDL	10	ug/L
PENTACHLOROETHANE	BDL	10	ug/L
PENTACHLORONITROBENZENE	BDL	10	ug/L
PHENACETIN	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
1,2,4,5-TETRACHLOROBENZENE	BDL	10	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
THIONAZIN	BDL	10	ug/L
O,O,O-TRIETHYL PHOSPHOROTHIOATE	BDL	10	ug/L
SYM-(1,3,5)-TRINITROBENZENE	BDL	20	ug/L
O-TOLUIDINE	BDL	10	ug/L

P-PHENYLENEDIAMINE	BDL	20	ug/L
2-SEC-BUTYL-4,6-DINITROPHENOL (DINOSEB)	BDL	10	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2-METHYLPHENOL (O-CRESOL)	BDL	10	ug/L
4-METHYLPHENOL (P-CRESOL)	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,6-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-O-CRESOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
3-METHYLPHENOL (M-CRESOL)	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
2,3,4,6-TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	10	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
ARAMITE	BDL	10	ug/L
DIELDRIN	BDL	10	ug/L
CHLORDANE	BDL	50	ug/L
P,P'-DDT	BDL	10	ug/L
P,P'-DDE	BDL	10	ug/L
P,P'-DDD	BDL	10	ug/L
DISULFOTON	BDL	10	ug/L
FAMPHUR	MR1	200	ug/L
ISODRIN	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
ISOSAFROLE	BDL	10	ug/L
KEPONE	MR1	200	ug/L
PARATHION	BDL	10	ug/L
METHYL PARATHION	BDL	10	ug/L
PHORATE	BDL	10	ug/L
PRONAMIDE	BDL	10	ug/L
SAFROLE	BDL	10	ug/L
TETRAETHYL DITHIOPYROPHOSPHATE (SULFOTEPP)	BDL	10	ug/L
...			
SURROGATE RECOVERY			

2-FLUOROPHENOL	44		% Rec
PHENOL-D5	25		% Rec

NITROBENZENE-D5	76	% Rec
2-FLUOROBIPHENYL	76	% Rec
2,4,6-TRIBROMOPHENOL	76	% Rec
TERPHENYL-D14	44	% Rec

APPENDIX IX VOLATILE ORGANICS, CAPILLARY COLUMN TECHNIQUE SW846-8260B NELAC:Y

Analyst: R. SHAMP Analysis Date: 07-MAR-06 12:20 Instrument: GC/MS VOA Test: O509.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	100	ug/L
ACETONITRILE	BDL	100	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5.0	ug/L
BROMODICHLOROMETHANE	BDL	5.0	ug/L
BROMOFORM	BDL	5.0	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5.0	ug/L
CARBON TETRACHLORIDE	BDL	5.0	ug/L
CHLOROBENZENE	BDL	5.0	ug/L
CHLORODIBROMOMETHANE	BDL	5.0	ug/L
CHLOROETHANE	BDL	10	ug/L
2-CHLORO-1,3-BUTADIENE (CHLOROPRENE)	BDL	5.0	ug/L
CHLOROFORM	BDL	5.0	ug/L
CHLOROMETHANE	BDL	10	ug/L
3-CHLOROPROPENE (ALLYL CHLORIDE)	BDL	20	ug/L
DIBROMOMETHANE	BDL	5.0	ug/L
TRANS-1,4-DICHLORO-2-BUTENE	BDL	20	ug/L
DICHLORODIFLUOROMETHANE	BDL	10	ug/L
1,1-DICHLOROETHANE	BDL	5.0	ug/L
1,2-DICHLOROETHANE	BDL	5.0	ug/L
TRANS-1,2-DICHLOROETHENE	BDL	5.0	ug/L
1,1-DICHLOROETHENE	BDL	5.0	ug/L
1,2-DICHLOROPROPANE	BDL	5.0	ug/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	5.0	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5.0	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5.0	ug/L
1,4-DIOXANE	BDL	1000	ug/L
ETHYL BENZENE	BDL	5.0	ug/L
ETHYL CYANIDE (PROPIONITRILE)	BDL	5.0	ug/L
ETHYL METHACRYLATE	BDL	5.0	ug/L
2-HEXANONE	BDL	10	ug/L

IODOMETHANE	BDL	10	ug/L
ISOBUTANOL (ISOBUTYL ALCOHOL)	BDL	50	ug/L
METHACRYLONITRILE	BDL	20	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
METHYL METHACRYLATE	BDL	5.0	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5.0	ug/L
1,1,1,2-TETRACHLOROETHANE	BDL	5.0	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5.0	ug/L
TETRACHLOROETHENE	BDL	5.0	ug/L
TOLUENE	BDL	5.0	ug/L
1,1,1-TRICHLOROETHANE	BDL	5.0	ug/L
1,1,2-TRICHLOROETHANE	BDL	5.0	ug/L
TRICHLOROETHENE	BDL	5.0	ug/L
TRICHLOROFLUOROMETHANE	BDL	5.0	ug/L
1,2,3-TRICHLOROPROPANE	BDL	5.0	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	2.0	ug/L
XYLENES (O/M/P-XYLENE)	BDL	5.0	ug/L

...

SURROGATE RECOVERY

DICHLOROETHANE-D4	112	% Rec
TOLUENE-D8	97	% Rec
4-BROMOFLUOROBENZENE	92	% Rec

Prep Method SW846-5030B Purge and Trap

Sample Comments

AMENDED REPORT - KLF - 24-MAR-06 :REMOVED MANGANESE - NOT AN APP IX PARAMETER.

BDL Below Detection Limit

MR1 BDL, Initial Calibration > 15% RSD

Sample was received on ice at temperature 3 C.
Sample chain of custody number 42901.

As indicated, some testing was performed at the following locations:

ENO RIVER LABORATORIES (FORMERLY TRIANGLE)
2445 SOUTH ALSTON AVENUE, DURHAM, NC 27713

Karen A. Fullmer

Approved by: KAREN FULLMER 24-MAR-06

HERITAGE

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE ENVIRONMENTAL SERVICES, LLC COMMERCIAL LABORATORY OPERATIONS 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	02-MAR-06		A727450
	Completed	PO Number	
	15-MAR-06	CREDIT CARD	
	Printed	Sampled	
	24-MAR-06	01-MAR-06 14:44	

Report To	Bill To
DUSTIN WILLIAMS TYLER PIPE COMPANY 11721 US HIGHWAY 69 NORTH TYLER, TX 75706	KEVIN CAREL CAREL CORPORATION, THE 136 PECAN STREET KELLER, TX 76248

Sample Description

CLIENT ID: MW-4
MATRIX TYPE: NON-SPECIFIC WATER
SUBMITTER CODE: 9163
LOCATION: TYLER PIPE
DESCRIPTION: APPENDIX II WITH DRINKING WATER MCL

GC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: C. HIPSKIND | Analysis Date: 08-MAR-06 | Instrument: PREP | Test: P233.1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	10		mL

PCB/PESTICIDE SCAN GC:ECD SW846-8081 NELAC:Y

Analyst: M. WRIGHT | Analysis Date: 09-MAR-06 05:39 | Instrument: GC/ECD | Test: O305.1.0

Prep: GC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C P233.1.0

Parameter	Result	Det. Limit	Units
ALPHA-BHC	BDL	0.05	ug/L
BETA-BHC	BDL	0.05	ug/L
DELTA-BHC	BDL	0.05	ug/L
GAMMA-BHC (LINDANE)	BDL	0.05	ug/L
HEPTACHLOR	BDL	0.05	ug/L
ALDRIN	BDL	0.05	ug/L
HEPTACHLOR EPOXIDE	BDL	0.05	ug/L
ENDOSULFAN I	BDL	0.05	ug/L
DIELDRIN	BDL	0.1	ug/L
4,4'-DDE	BDL	0.1	ug/L
ENDRIN	BDL	0.1	ug/L
ENDOSULFAN II	BDL	0.1	ug/L
4,4'-DDD	BDL	0.1	ug/L
ENDOSULFAN SULFATE	BDL	0.1	ug/L
4,4'-DDT	BDL	0.1	ug/L

METHOXYCHLOR	BDL	0.5	ug/L
ENDRIN ALDEHYDE	BDL	0.1	ug/L
ENDRIN KETONE	BDL	0.1	ug/L
ALPHA-CHLORDANE	BDL	0.5	ug/L
GAMMA-CHLORDANE	BDL	0.5	ug/L
TOXAPHENE	BDL	1	ug/L
PCB AROCLOR 1016	BDL	0.5	ug/L
PCB AROCLOR 1221	BDL	0.5	ug/L
PCB AROCLOR 1232	BDL	0.5	ug/L
PCB AROCLOR 1242	BDL	0.5	ug/L
PCB AROCLOR 1248	BDL	0.5	ug/L
PCB AROCLOR 1254	BDL	1	ug/L
PCB AROCLOR 1260	BDL	1	ug/L
...			
SURROGATE RECOVERY			

DECACHLOROBIPHENYL (DCB)	83.9		% Rec

DIAZOMETHANE HERBICIDE DERIVATIZATION SW846-8151A

Analyst: D. EISELE Analysis Date: 07-MAR-06 Instrument: PREP Test: P201.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	10		mL

CHLORINATED HERBICIDES (2,4 D, SILVEX AND 2,4,5-T) SW846-8151A NELAC:Y

Analyst: B. VANSLAVENS Analysis Date: 07-MAR-06 22:47 Instrument: GC/ECD Test: O253.1.0

Prep: DIAZOMETHANE HERBICIDE DERIVATIZATION SW846-8151A P201.4.0

Parameter	Result	Det. Limit	Units
2,4-DICHLOROPHENOXYACETIC ACID	BDL	10	ug/L
SILVEX (2,4,5-TP)	BDL	1	ug/L
2,4,5-TRICHLOROPHENOXYACETIC ACID (2,4,5-T)	BDL	1	ug/L
DINOSEB	BDL	1	ug/L
PENTACHLOROPHENOL	BDL	1	ug/L
...			
SURROGATE RECOVERY			

DCAA	77.2		% Rec

MICROEXTRACTION FOR EDB & DBCP SW846-8011

Analyst: B. VANSLAVENS Analysis Date: 03-MAR-06 Instrument: PREP Test: P425.2.0

Parameter	Result	Det. Limit	Units

INITIAL WEIGHT OR VOLUME	33.68	mL
FINAL VOLUME	2	mL

EDB & DBCP BY MICRO-EXTRACTION AND GC/ECD SW846-8011 NELAC:Y

Analyst: M. WRIGHT Analysis Date: 03-MAR-06 16:39 Instrument: GC/ECD Test: O425.2.0

Prep: MICROEXTRACTION FOR EDB & DBCP SW846-8011 P425.2.0

Parameter	Result	Det. Limit	Units
1,2-DIBROMOETHANE (EDB)	BDL	0.05	ug/L
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	BDL	0.2	ug/L
...			
SURROGATE RECOVERY			
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(1) 2-CHLOROBIPHENYL	112.1		% Rec

POLYCHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURANS SW846-8280A NELAC:Y

Vendor: ENO RIVER LABORATORIES (FORMERLY TRIANGLE) Analysis Date: 10-MAR-06 Instrument: GC/MS SVOA Test: O519.3.0

Parameter	Result	Det. Limit	Units
2,3,7,8-TCDD	BDL	0.5	ppt
1,2,3,7,8-PENTACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,7,8-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,6,7,8-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,7,8,9-HEXACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,6,7,8-HEPTACHLORODIBENZODIOXIN	BDL	0.5	ppt
1,2,3,4,6,7,8,9-OCDD	BDL	0.5	ppt
2,3,7,8-TETRACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,7,8-PENTACHLORODIBENZOFURAN	BDL	0.5	ppt
2,3,4,7,8-PENTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	BDL	0.5	ppt
1,2,3,4,6,7,8,9-OCDF	BDL	0.5	ppt

CYANIDE DISTILLATION SW846-9010B

Analyst: G. COOPER Analysis Date: 07-MAR-06 07:15 Instrument: PREP Test: P101.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	250		mL
FINAL VOLUME	250		mL

CYANIDE, TOTAL (AUTOMATED) SW846-9012A NELAC:Y

Analyst: M. ADKINS Analysis Date: 08-MAR-06 12:00 Instrument: AUTO-ANALYZER Test: G101.4.0

Prep: CYANIDE DISTILLATION SW846-9010B P101.4.0

Parameter	Result	Det. Limit	Units
CYANIDE	BDL	0.005	mg/L

SULFIDE (TITRIMETRIC IODINE) SW846-9034 NELAC:N

Analyst: R. DALAL Analysis Date: 07-MAR-06 20:00 Test: G110.4.0

Parameter	Result	Det. Limit	Units
SULFIDE	BDL	1.0	mg/L

FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A

Analyst: J. KRAMER Analysis Date: 14-MAR-06 19:30 Instrument: PREP Test: P130.5.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ARSENIC ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M103.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
ARSENIC	BDL	10.	ug/L

BARIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M104.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
BARIUM	BDL	2000	ug/L

BERYLLIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M105.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
BERYLLIUM	BDL	4.0	ug/L

CADMIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M108.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
CADMIUM	BDL	5.0	ug/L

CHROMIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M110.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
CHROMIUM	BDL	100	ug/L

COBALT ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M111.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
COBALT	BDL	70.	ug/L

COPPER ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M112.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
COPPER	BDL	1300	ug/L

LEAD ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M116.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
LEAD	BDL	15.	ug/L

NICKEL ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M122.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
NICKEL	BDL	50.	ug/L

SELENIUM ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M128.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
SELENIUM	BDL	50.	ug/L

SILVER ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M130.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
SILVER	BDL	70.	ug/L

TIN ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M135.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
TIN	BDL	20.	ug/L

VANADIUM ICP SW846-6010B NELAC:N

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M138.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
VANADIUM	BDL	80.	ug/L

ZINC ICP SW846-6010B NELAC:Y

Analyst: J. KRAMER Analysis Date: 15-MAR-06 13:22 Instrument: ICP Test: M139.3.0

Prep: FAA OR ICP ACID DIGESTION OF AQUEOUS SAMPLES SW846-3010A P130.5.0

Parameter	Result	Det. Limit	Units
ZINC	220	20.	ug/L

ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8

Analyst: A. STOCKBURGER Analysis Date: 10-MAR-06 15:00 Instrument: PREP Test: P129.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL VOLUME	50		mL

ANTIMONY ICP/MS SW846-6020 NELAC:Y

Analyst: A. STOCKBURGER Analysis Date: 14-MAR-06 20:33 Instrument: ICP/MS Test: V102.3.0

Prep: ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8 P129.4.0

Parameter	Result	Det. Limit	Units
ANTIMONY	BDL	6.0	ug/L

1:5 Dilution.

THALLIUM ICP/MS SW846-6020 NELAC:Y

Analyst: A. STOCKBURGER Analysis Date: 14-MAR-06 20:33 Instrument: ICP/MS Test: V134.3.0

Prep: ICP ACID DIGESTION OF AQUEOUS SAMPLES, TOTAL RECOVERABLE EPA 200.7/200.8 P129.4.0

Parameter	Result	Det. Limit	Units
THALLIUM	BDL	2.0	ug/L

1:5 Dilution.

MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470A

Analyst: W. WATNESS Analysis Date: 03-MAR-06 14:00 Instrument: PREP Test: P131.6.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	40		mL

FINAL VOLUME	40	mL

MERCURY CVAA SW846-7470A NELAC:Y

Analyst: S. O'NEAL Analysis Date: 06-MAR-06 12:03 Instrument: CVAA Test: M120.1.0

Prep: MERCURY CVAA ACID DIGESTION OF AQUEOUS SAMPLES SW846-7470A P131.6.0

Parameter	Result	Det. Limit	Units
MERCURY	BDL	0.20	ug/L

HPLC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: J. HESS Analysis Date: 07-MAR-06 Instrument: PREP Test: P233.8.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	5		mL

POLYNUCLEAR AROMATIC HYDROCARBONS BY HPLC SW846-8310 NELAC:Y

Analyst: D. EISELE Analysis Date: 08-MAR-06 22:25 Instrument: HPLC Test: O630.0.0

Prep: HPLC SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C P233.8.0

Parameter	Result	Det. Limit	Units
BENZO(A)PYRENE	BDL	0.20	ug/L
...			
SURROGATE RECOVERY			

2-FLUOROBIPHENYL	87.5		% Rec

GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C

Analyst: L. STARKEY Analysis Date: 07-MAR-06 Instrument: PREP Test: P233.4.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	1000		mL
FINAL VOLUME	1.0		mL

APPENDIX IX SEMIVOLATILE ORGANICS SW846-8270C NELAC:Y

Analyst: C. WILLHITE Analysis Date: 08-MAR-06 16:55 Instrument: GC/MS SVOA Test: O508.3.0

Prep: GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510C P233.4.0

Parameter	Result	Det. Limit	Units
ACENAPHTHENE	BDL	10	ug/L
ACENAPHTHYLENE	BDL	10	ug/L
ACETOPHENONE	BDL	10	ug/L
2-ACETYLAMINOFLUORENE	BDL	10	ug/L
4-AMINOBIPHENYL	BDL	10	ug/L
ANILINE	BDL	10	ug/L
ANTHRACENE	BDL	10	ug/L
BENZO(A)ANTHRACENE	BDL	10	ug/L

BENZO(B)FLUORANTHENE	BDL	10 ug/L
BENZO(K)FLUORANTHENE	BDL	10 ug/L
BENZO(G,H,I)PERYLENE	BDL	10 ug/L
BENZYL ALCOHOL	BDL	10 ug/L
BIS(2-CHLOROETHOXY)METHANE	BDL	10 ug/L
BIS(2-CHLOROETHYL)ETHER	BDL	10 ug/L
BIS(2-CHLOROISOPROPYL)ETHER	BDL	10 ug/L
BIS(2-ETHYLHEXYL)PHTHALATE	BDL	6.0 ug/L
4-BROMODIPHENYL ETHER	BDL	10 ug/L
(BENZYLBUTYLPHTHALATE) BUTYLBENZYLPHTHALATE	BDL	10 ug/L
4-CHLOROANILINE	BDL	10 ug/L
CHLOROBENZILATE	BDL	10 ug/L
2-CHLORONAPHTHALENE	BDL	10 ug/L
4-CHLOROPHENYL-PHENYLETHER	BDL	10 ug/L
CHRYSENE	BDL	10 ug/L
DIALLATE	BDL	10 ug/L
DIBENZ(A,H)ANTHRACENE	BDL	10 ug/L
DIBENZOFURAN	BDL	10 ug/L
DI-N-BUTYLPHTHALATE	BDL	10 ug/L
1,3-DICHLOROBENZENE (M-DICHLOROBENZENE)	BDL	10 ug/L
1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	BDL	10 ug/L
1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	BDL	10 ug/L
3,3'-DICHLOROBENZIDINE	BDL	20 ug/L
DIETHYLPHTHALATE	BDL	10 ug/L
DIMETHOATE	BDL	10 ug/L
4-(DIMETHYLAMINO)AZOBENZENE	BDL	10 ug/L
7,12-DIMETHYLBENZ(A)ANTHRACENE	BDL	20 ug/L
3,3'-DIMETHYLBENZIDINE	BDL	20 ug/L
DIMETHYL BENZENEETHANAMINE	BDL	20 ug/L
DIMETHYLPHTHALATE	BDL	10 ug/L
1,3-DINITROBENZENE (M-DINITROBENZENE)	BDL	50 ug/L
2,4-DINITROTOLUENE	BDL	10 ug/L
2,6-DINITROTOLUENE	BDL	10 ug/L
DI-N-OCTYLPHTHALATE	BDL	10 ug/L
DIPHENYLAMINE	BDL	10 ug/L
DI-N-PROPYLNITROSOAMINE	BDL	50 ug/L
ETHYL METHANESULFONATE	BDL	10 ug/L
FLUORANTHENE	BDL	10 ug/L
FLUORENE	BDL	10 ug/L
HEXACHLOROBENZENE	BDL	10 ug/L
HEXACHLOROBUTADIENE	BDL	10 ug/L

HEXACHLOROCYCLOPENTADIENE	BDL	10	ug/L
HEXACHLOROETHANE	BDL	10	ug/L
HEXACHLOROPHENE	MR1	200	ug/L
HEXACHLOROPROPENE	BDL	10	ug/L
INDENO(1,2,3-CD)PYRENE	BDL	10	ug/L
2-METHYLNAPHTHALENE	BDL	10	ug/L
METHAPYRILENE	BDL	10	ug/L
3-METHYLCHOLANTHRENE	BDL	10	ug/L
METHYL METHANESULFONATE	BDL	10	ug/L
NAPHTHALENE	BDL	10	ug/L
1,4-NAPHTHOQUINONE	BDL	50	ug/L
1-NAPHTHYLAMINE	BDL	50	ug/L
2-NAPHTHYLAMINE	BDL	10	ug/L
3-NITROANILINE (M-NITROANILINE)	BDL	50	ug/L
2-NITROANILINE (O-NITROANILINE)	BDL	50	ug/L
4-NITROANILINE (P-NITROANILINE)	BDL	50	ug/L
NITROBENZENE	BDL	10	ug/L
N-NITROSODI-N-BUTYLAMINE	BDL	10	ug/L
N-NITROSODIETHYLAMINE	BDL	10	ug/L
N-NITROSODIMETHYLAMINE	BDL	10	ug/L
N-NITROSODIPHENYLAMINE	BDL	10	ug/L
N-NITROSOMETHYLETHYLAMINE	BDL	10	ug/L
N-NITROSOMORPHOLINE	BDL	10	ug/L
N-NITROSOPIPERIDINE	BDL	10	ug/L
N-NITROSOPYRROLIDINE	BDL	10	ug/L
4-NITROQUINOLINE-OXIDE	BDL	10	ug/L
5-NITRO-O-TOLUIDINE	BDL	10	ug/L
PENTACHLOROBENZENE	BDL	10	ug/L
PENTACHLOROETHANE	BDL	10	ug/L
PENTACHLORONITROBENZENE	BDL	10	ug/L
PHENACETIN	BDL	10	ug/L
PHENANTHRENE	BDL	10	ug/L
2-PICOLINE	BDL	50	ug/L
PYRENE	BDL	10	ug/L
PYRIDINE	BDL	50	ug/L
1,2,4,5-TETRACHLOROBENZENE	BDL	10	ug/L
1,2,4-TRICHLOROBENZENE	BDL	10	ug/L
THIONAZIN	BDL	10	ug/L
O,O,O-TRIETHYL PHOSPHOROTHIOATE	BDL	10	ug/L
SYM-(1,3,5)-TRINITROBENZENE	BDL	20	ug/L
O-TOLUIDINE	BDL	10	ug/L

P-PHENYLENEDIAMINE	BDL	20	ug/L
2-SEC-BUTYL-4,6-DINITROPHENOL (DINOSEB)	BDL	10	ug/L
4-CHLORO-3-METHYLPHENOL	BDL	10	ug/L
2-CHLOROPHENOL	BDL	10	ug/L
2-METHYLPHENOL (O-CRESOL)	BDL	10	ug/L
4-METHYLPHENOL (P-CRESOL)	BDL	10	ug/L
2,4-DICHLOROPHENOL	BDL	10	ug/L
2,6-DICHLOROPHENOL	BDL	10	ug/L
2,4-DIMETHYLPHENOL	BDL	10	ug/L
4,6-DINITRO-O-CRESOL	BDL	50	ug/L
2,4-DINITROPHENOL	BDL	50	ug/L
3-METHYLPHENOL (M-CRESOL)	BDL	10	ug/L
2-NITROPHENOL	BDL	10	ug/L
4-NITROPHENOL	BDL	50	ug/L
PHENOL	BDL	10	ug/L
2,3,4,6-TETRACHLOROPHENOL	BDL	10	ug/L
2,4,5-TRICHLOROPHENOL	BDL	10	ug/L
2,4,6-TRICHLOROPHENOL	BDL	10	ug/L
ARAMITE	BDL	10	ug/L
DIELDRIN	BDL	10	ug/L
CHLORDANE	BDL	50	ug/L
P,P'-DDT	BDL	10	ug/L
P,P'-DDE	BDL	10	ug/L
P,P'-DDD	BDL	10	ug/L
DISULFOTON	BDL	10	ug/L
FAMPHUR	MR1	200	ug/L
ISODRIN	BDL	10	ug/L
ISOPHORONE	BDL	10	ug/L
ISOSAFROLE	BDL	10	ug/L
KEPONE	MR1	200	ug/L
PARATHION	BDL	10	ug/L
METHYL PARATHION	BDL	10	ug/L
PHORATE	BDL	10	ug/L
PRONAMIDE	BDL	10	ug/L
SAFROLE	BDL	10	ug/L
TETRAETHYL DITHIOPYROPHOSPHATE (SULFOTEPP)	BDL	10	ug/L

...

SURROGATE RECOVERY

2-FLUOROPHENOL	42	% Rec
PHENOL-D5	24	% Rec

NITROBENZENE-D5	73	% Rec
2-FLUOROBIPHENYL	73	% Rec
2,4,6-TRIBROMOPHENOL	72	% Rec
TERPHENYL-D14	46	% Rec

APPENDIX IX VOLATILE ORGANICS, CAPILLARY COLUMN TECHNIQUE SW846-8260B NELAC:Y

Analyst: R. SHAMP Analysis Date: 07-MAR-06 12:45 Instrument: GC/MS VOA Test: O509.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	100	ug/L
ACETONITRILE	BDL	100	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5.0	ug/L
BROMODICHLOROMETHANE	BDL	5.0	ug/L
BROMOFORM	BDL	5.0	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5.0	ug/L
CARBON TETRACHLORIDE	BDL	5.0	ug/L
CHLOROBENZENE	BDL	5.0	ug/L
CHLORODIBROMOMETHANE	BDL	5.0	ug/L
CHLOROETHANE	BDL	10	ug/L
2-CHLORO-1,3-BUTADIENE (CHLOROPRENE)	BDL	5.0	ug/L
CHLOROFORM	BDL	5.0	ug/L
CHLOROMETHANE	BDL	10	ug/L
3-CHLOROPROPENE (ALLYL CHLORIDE)	BDL	20	ug/L
DIBROMOMETHANE	BDL	5.0	ug/L
TRANS-1,4-DICHLORO-2-BUTENE	BDL	20	ug/L
DICHLORODIFLUOROMETHANE	BDL	10	ug/L
1,1-DICHLOROETHANE	BDL	5.0	ug/L
1,2-DICHLOROETHANE	BDL	5.0	ug/L
TRANS-1,2-DICHLOROETHENE	BDL	5.0	ug/L
1,1-DICHLOROETHENE	BDL	5.0	ug/L
1,2-DICHLOROPROPANE	BDL	5.0	ug/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	5.0	ug/L
CIS-1,3-DICHLOROPROPENE	BDL	5.0	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5.0	ug/L
1,4-DIOXANE	BDL	1000	ug/L
ETHYL BENZENE	BDL	5.0	ug/L
ETHYL CYANIDE (PROPIONITRILE)	BDL	5.0	ug/L
ETHYL METHACRYLATE	BDL	5.0	ug/L
2-HEXANONE	BDL	10	ug/L

IODOMETHANE	BDL	10	ug/L
ISOBUTANOL (ISOBUTYL ALCOHOL)	BDL	50	ug/L
METHACRYLONITRILE	BDL	20	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
METHYL METHACRYLATE	BDL	5.0	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5.0	ug/L
1,1,1,2-TETRACHLOROETHANE	BDL	5.0	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5.0	ug/L
TETRACHLOROETHENE	BDL	5.0	ug/L
TOLUENE	BDL	5.0	ug/L
1,1,1-TRICHLOROETHANE	BDL	5.0	ug/L
1,1,2-TRICHLOROETHANE	BDL	5.0	ug/L
TRICHLOROETHENE	BDL	5.0	ug/L
TRICHLOROFLUOROMETHANE	BDL	5.0	ug/L
1,2,3-TRICHLOROPROPANE	BDL	5.0	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	2.0	ug/L
XYLENES (O/M/P-XYLENE)	BDL	5.0	ug/L

...

SURROGATE RECOVERY

DICHLOROETHANE-D4	110	% Rec
TOLUENE-D8	96	% Rec
4-BROMOFLUOROBENZENE	87	% Rec

Prep Method SW846-5030B Purge and Trap

Sample Comments

AMENDED REPORT - KLF - 24-MAR-06 :REMOVED MANGANESE - NOT AN APP IX PARAMETER.

BDL Below Detection Limit

MR1 BDL, Initial Calibration > 15% RSD

Sample was received on ice at temperature 3 C.
Sample chain of custody number 42901.

As indicated, some testing was performed at the following locations:

ENO RIVER LABORATORIES (FORMERLY TRIANGLE)
2445 SOUTH ALSTON AVENUE, DURHAM, NC 27713

Karen A. Fullmer

Approved by: KAREN FULLMER 24-MAR-06

HERITAGE

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE ENVIRONMENTAL SERVICES, LLC COMMERCIAL LABORATORY OPERATIONS 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8304	02-MAR-06		A727451
	Completed	**PO Number**	
	09-MAR-06	CREDIT CARD	
	Printed	**Sampled**	
	24-MAR-06	01-MAR-06	

Report To	Bill To
DUSTIN WILLIAMS TYLER PIPE COMPANY 11721 US HIGHWAY 69 NORTH TYLER, TX 75706	KEVIN CAREL CAREL CORPORATION, THE 136 PECAN STREET KELLER, TX 76248

Sample Description

CLIENT ID: TRIP BLANK
MATRIX TYPE: NON-SPECIFIC WATER
SUBMITTER CODE: 9163
LOCATION: TYLER PIPE
DESCRIPTION: APPENDIX II WITH DRINKING WATER MCL

MICROEXTRACTION FOR EDB & DBCP SW846-8011

Analyst: B. VANSLAVENS | Analysis Date: 03-MAR-06 | Instrument: PREP | Test: P425.2.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	33.20		mL
FINAL VOLUME	2		mL

EDB & DBCP BY MICRO-EXTRACTION AND GC/ECD SW846-8011 NELAC:Y

Analyst: M. WRIGHT | Analysis Date: 03-MAR-06 16:39 | Instrument: GC/ECD | Test: O425.2.0

Prep: MICROEXTRACTION FOR EDB & DBCP SW846-8011 P425.2.0

Parameter	Result	Det. Limit	Units
1,2-DIBROMOETHANE (EDB)	BDL	0.05	ug/L
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	BDL	0.2	ug/L
...			
SURROGATE RECOVERY			
---			
(1) 2-CHLOROBIPHENYL	113.2		% Rec

APPENDIX IX VOLATILE ORGANICS, CAPILLARY COLUMN TECHNIQUE SW846-8260B NELAC:Y

Analyst: R. SHAMP | Analysis Date: 07-MAR-06 13:11 | Instrument: GC/MS VOA | Test: O509.3.0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	100	ug/L
ACETONITRILE	BDL	100	ug/L
ACROLEIN	BDL	50	ug/L
ACRYLONITRILE	BDL	70	ug/L
BENZENE	BDL	5.0	ug/L

BROMODICHLOROMETHANE	BDL	5.0	ug/L
BROMOFORM	BDL	5.0	ug/L
BROMOMETHANE	BDL	10	ug/L
CARBON DISULFIDE	BDL	5.0	ug/L
CARBON TETRACHLORIDE	BDL	5.0	ug/L
CHLOROBENZENE	BDL	5.0	ug/L
CHLORODIBROMOMETHANE	BDL	5.0	ug/L
CHLOROETHANE	BDL	10	ug/L
2-CHLORO-1,3-BUTADIENE (CHLOROPRENE)	BDL	5.0	ug/L
CHLOROFORM	BDL	5.0	ug/L
CHLOROMETHANE	BDL	10	ug/L
3-CHLOROPROPENE (ALLYL CHLORIDE)	BDL	20	ug/L
DIBROMOMETHANE	BDL	5.0	ug/L
TRANS-1,4-DICHLORO-2-BUTENE	BDL	20	ug/L
DICHLORODIFLUOROMETHANE	BDL	10	ug/L
1,1-DICHLOROETHANE	BDL	5.0	ug/L
1,2-DICHLOROETHANE	BDL	5.0	ug/L
TRANS-1,2-DICHLOROETHENE	BDL	5.0	ug/L
1,1-DICHLOROETHENE	BDL	5.0	ug/L
1,2-DICHLOROPROPANE	BDL	5.0	ug/L
DICHLOROMETHANE (METHYLENE CHLORIDE)	BDL	5.0	ug/L
CIS-1.3-DICHLOROPROPENE	BDL	5.0	ug/L
TRANS-1,3-DICHLOROPROPENE	BDL	5.0	ug/L
1,4-DIOXANE	BDL	1000	ug/L
ETHYL BENZENE	BDL	5.0	ug/L
ETHYL CYANIDE (PROPIONITRILE)	BDL	5.0	ug/L
ETHYL METHACRYLATE	BDL	5.0	ug/L
2-HEXANONE	BDL	10	ug/L
IODOMETHANE	BDL	10	ug/L
ISOBUTANOL (ISOBUTYL ALCOHOL)	BDL	50	ug/L
METHACRYLONITRILE	BDL	20	ug/L
METHYL ETHYL KETONE	BDL	10	ug/L
METHYL METHACRYLATE	BDL	5.0	ug/L
4-METHYL-2-PENTANONE	BDL	10	ug/L
STYRENE	BDL	5.0	ug/L
1,1,1,2-TETRACHLOROETHANE	BDL	5.0	ug/L
1,1,2,2-TETRACHLOROETHANE	BDL	5.0	ug/L
TETRACHLOROETHENE	BDL	5.0	ug/L
TOLUENE	BDL	5.0	ug/L
1,1,1-TRICHLOROETHANE	BDL	5.0	ug/L
1,1,2-TRICHLOROETHANE	BDL	5.0	ug/L

TRICHLOROETHENE	BDL	5.0	ug/L
TRICHLOROFLUOROMETHANE	BDL	5.0	ug/L
1,2,3-TRICHLOROPROPANE	BDL	5.0	ug/L
VINYL ACETATE	BDL	10	ug/L
VINYL CHLORIDE	BDL	2.0	ug/L
XYLENES (O/M/P-XYLENE)	BDL	5.0	ug/L
...			
SURROGATE RECOVERY			

DICHLOROETHANE-D4	107		% Rec
TOLUENE-D8	94		% Rec
4-BROMOFLUOROBENZENE	93		% Rec

Prep Method SW846-5030B Purge and Trap

Sample Comments

BDL Below Detection Limit

Sample was received on ice at temperature 3 C.
Sample chain of custody number 42901.

Approved by: CHRISTINE SARKAN 17-MAR-06

Appendix XI.C.

Compliance Monitoring Program

PROFESSIONAL GEOLOGIST CERTIFICATION STATEMENT

Compliance Monitoring Program Report (Appendix XI.C)
Tyler Pipe Permit Renewal Application

General Site Information

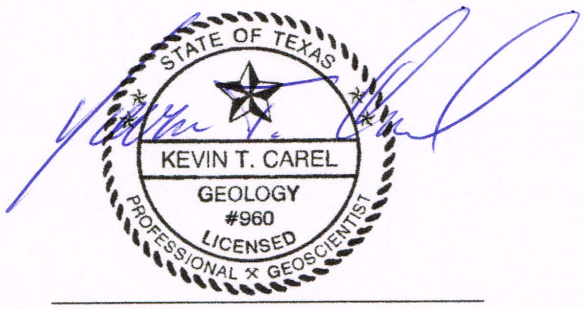
Facility: McWane, Inc. (Tyler Pipe Company)

Site Location: 11910 County Road 492, Tyler, Texas 75706

TCEQ Registration No.: 30140

Professional Geologist Certification Statement

I, Kevin T. Carel, am a licensed professional geoscientist in the State of Texas (license number 960) and a qualified groundwater scientist as defined in 30 TAC §330.3. I have reviewed the Compliance Monitoring Program Report (which was originally prepared by others) and supporting data contained herein. In my professional opinion, the report is in compliance with the requirements specified in 30 TAC §335.165. Where necessary, I have updated the report to correct errors and make it current as of the date of my signature below. The only warranty made by me in connection with this document is that I have used that degree of care and skill ordinarily exercised under similar conditions by reputable members of my profession, practicing in the same or similar locality. No other warranty, expressed nor implied, is intended.



Signature: _____

Kevin T. Carel, P.G.
No. 960-Texas

Date: 6-1-2020

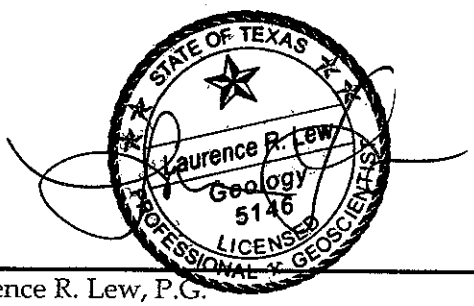
Firm/Address: The Carel Corporation
136 Pecan Street
Keller, Texas 76248
Texas Geoscience Firm # 50137

Professional Geologist Certification Disclaimer

Compliance Monitoring Program (Appendix XI.C.)

Permit Renewal Application
McWane, Inc. (Tyler Pipe Company) - Tyler, Texas
July 2009

The *Compliance Monitoring Program Report* presented herein was compiled from information and drawings developed by others and previously provided to and approved by the Texas Commission on Environmental Quality (TCEQ) and/or its predecessor agency, the Texas Natural Resource Conservation Commission (TNRCC) within various assessment reports, permit renewal applications, and permit modification requests. Whereas RMT, Inc. contributed to the development and compilation of the descriptive text (which was conducted under my supervision), none of the included drawings was originally developed by RMT, Inc. As such, the professional geologist certification provided herein is exclusive of any of the figures presented.



Laurence R. Lew, P.G.
Senior Consultant
RMT, Inc.

Corporate Texas Geosciences Registration
No. 50292

Appendix XI.C.
Compliance Monitoring Program

A discussion of the proposed compliance monitoring program for the closed *sludge disposal area* (NOR Unit No. 082) at the Tyler Pipe facility is presented herein.

1. Groundwater Monitoring Program Description

The proposed groundwater monitoring system to be used to monitor compliance with the Groundwater Protection Standard (GWPS) is described herein. Monitoring well construction diagrams have been previously provided in ***Attachment XI.A-2*** (see ***Appendix XI.A***), which indicate the depth all monitor wells included in the groundwater monitoring system. The wells proposed for the compliance monitoring system for the sludge disposal area are specifically identified in ***CP Table V*** of the Part B Application forms and include the following:

- OW-6 (upgradient)
- OW-7 (downgradient)
- OW-8 (downgradient)

The proposed parameter monitoring list and the applicable practical quantitation limits (PQLs) for compliance monitoring are identified in ***CP Table IV*** of the Part B Application forms and include the following:

- *Cadmium*: PQL = 0.0002 mg/L
- *Chromium*: PQL = 0.002 mg/L
- *Lead*: PQL = 0.001 mg/L
- *Mercury*: PQL = 0.0002 mg/L
- *Zinc*: PQL = 0.003 mg/L

The proposed parameter monitoring list (and the applicable GWPS values for compliance monitoring) is identified in ***CP Table IVA*** of the Part B Application forms and include the following:

- *Cadmium*: GWPS = 0.005 mg/L
- *Chromium*: GWPS = 0.100 mg/L
- *Lead*: GWPS = 0.015 mg/L
- *Mercury*: GWPS = 0.002 mg/L
- *Zinc*: GWPS = 7.30 mg/L

The list of groundwater monitoring parameters proposed to be analyzed under the compliance monitoring program for the sludge disposal area is based on the results of the detection monitoring program previously conducted for this unit and the results of Appendix IX analyses conducted in March 2006 (see ***Appendix XI.B***). Tyler Pipe conducted quarterly sampling of well OW-6 prior to issuance of this Compliance Plan in order to determine whether background concentrations of the compliance monitoring parameters are higher than the PQLs identified in ***CP Table IV*** (or higher than the GWPS values identified in ***CP Table IVA***).

The groundwater sampling and analysis plan (GWSAP) that has been developed by Tyler Pipe for the proposed *compliance monitoring program* at the closed sludge disposal area (formerly NOR Unit No. 082) is provided in ***Attachment XI.C-1***. It is noted that the GWSAP that has been developed by Tyler Pipe for the groundwater *detection monitoring program* that is currently being conducted for the closed landfill (NOR Unit No. 001) is provided within Section VI (Geology Report) of this permit renewal application.

The geologic and hydrogeologic conditions in the vicinity of the Tyler Pipe facility and proximal to the closed landfill (detection monitoring) and closed sludge disposal area (compliance monitoring) are presented in a combined version of the Geology and Facility Groundwater Reports that were developed for Section VI of the Part B application. This geology/hydrogeology report was previously provided in ***Attachment XI.A-1*** (see ***Appendix XI.A***).

1.1 Evaluation of Compliance with the GWPS

Constituents concentrations that are obtained from groundwater samples collected from monitor wells OW-6, OW-7, and OW-8 during each semiannual monitoring event will be directly compared to the GWPS values identified herein and in ***CP Table IVA***. Compliance with the GWPS within a particular monitor well will be verified if the reported concentration of each hazardous constituent within that well is below the established GWPS value. A re-sampling event will be conducted at any well that is deemed non-compliant with the GWPS based on the initial analytical results within 30 days of making the determination.

1.2 Compliance Period

The sludge disposal area was certified closed in September 2003. As such, the RCRA-specified post-closure period for this unit is 30 years *(i.e.*, post-closure period will end in September 2033). The compliance period based on active life of the unit has been established as 13 years (see ***CP Table VI*** of the Part B Application forms) and will also potentially last until September 2033 based on the compliance monitoring program utilizing wells OW-6, OW-7, and OW-8 beginning in 2009. Tyler Pipe proposes to petition the TCEQ to re-establish a detection monitoring program for the sludge disposal area in the event each of the proposed compliance monitoring parameters remains below proposed GWPS value and do not exceed

detection monitoring statistical limits for a period of six (6) consecutive semiannual groundwater monitoring events (three years).

1.3 Financial Assurance

An updated cost estimate for financial assurance is provided in ***Table XI.E.3*** of the Part B Application forms. The total cost for the 13-year compliance period is estimated to be $118,000.

1.4 Reporting

Compliance monitoring reports will be prepared on a semi-annual basis. Data evaluations will be completed within sixty (60) days of collection of the last sample unless QA/QC procedures show that the data is unacceptable and reanalysis or resampling must be performed.

2. Waste Management Units Monitored

The sludge disposal area is currently under a compliance monitoring program since statistically significant increases (SSI) above background were indicated in 2005 within the downgradient (point-of-compliance) wells during the initial phase of the post-closure period. These SSIs were determined to be present within former detection monitoring program wells MW-2 through MW-4.

However, monitor wells MW-1 through MW-4 have been deemed unacceptable by the TCEQ since these wells are screened in saturated soils with a very low hydraulic conductivity (< $1x10^{-5}$ cm/sec) and do not meet the requirements of a groundwater-bearing unit (GWBU) as defined under the Texas Risk Reduction Program (TRRP). As such, Tyler Pipe has proposed utilizing wells OW-6 (upgradient), OW-7 (downgradient), and OW-8 (downgradient) that were installed in 2008. Construction logs for these monitor wells are included within ***Attachment XI.A-2*** (see ***Appendix XI.A***).

The locations of the sludge disposal area monitor wells are shown on previously presented ***Figure XI.A-1S*** (see ***Appendix XI.A).*** No known features are present in the sludge disposal area that may serve as conduits for subsurface contamination.

3. Implementation Schedule

Information regarding the Compliance Schedule is presented in ***CP Table VIII*** of the Part B Application forms.

Attachment XI.C-1
Groundwater Sampling and Analysis Plan for the Sludge Disposal Area

GROUNDWATER SAMPLING

AND ANALYSIS PLAN

CLOSED LANDFILL FACILITY UNIT

AND

SLUDGE DISPOSAL AREA

MCWANE INC.

TYLER, TEXAS

PERMIT NO. HW-50141-000

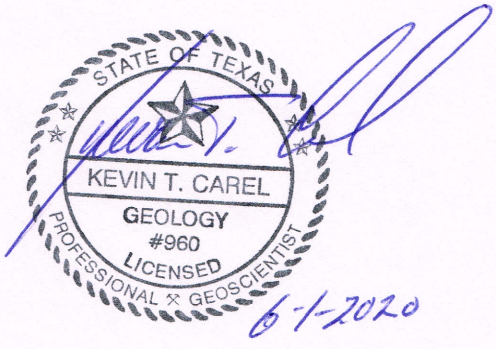
EPA ID NO. TXD066349770

Prepared November 2004

Revised July 2007

Revised July 23, 2012

Revised June 2020



Prepared by

The CAREL CORPORATION

136 Pecan Street
Keller, Texas 76248

TABLE OF CONTENTS

FIGURES AND TABLES

FIGURES

TABLES

ATTACHMENTS

1.0 INTRODUCTION

This Groundwater Sampling and Analysis Plan (GWSAP) has been developed by McWane Inc. (Tyler Pipe Company) to provide operational procedures and statistical evaluation methods to conduct groundwater monitoring at our closed landfill facility unit (CLFU) and Sludge Disposal Area (SDA) in Tyler, Texas. It conforms to the operational requirements for a groundwater monitoring system as specified in our Solid Waste Permit Number HW-50141 and is consistent with current Environmental Protection Agency (EPA) and Texas Commission on Environmental Quality (TCEQ) sampling protocol. No deviations from these procedures will be made without prior approval by McWane Inc. and the TCEQ.

1.1 MONITORING WELL STATUS

Each of the monitoring wells at the CLFU are currently in detection monitoring. Groundwater monitoring in the CLFU will be conducted in accordance with this GWSAP, TCEQ regulations, and the facility permit.

Each of the monitoring wells at the SDA are currently in compliance monitoring. Groundwater monitoring in the SDA will be conducted in accordance with this GWSAP, TCEQ regulations, and the SDA Compliance Plan.

2.0 GROUNDWATER SAMPLING FREQUENCY AND ANALYTICAL PARAMETERS

Any new monitoring wells will be sampled quarterly during the first year of detection or compliance monitoring to establish the concentration of each detection and/or compliance monitoring parameter. Existing monitor wells are sampled semi-annually. Monitoring well locations are provided on Figures 1 and 2. A typical monitoring well construction diagram is provided on Figure 3. Table 1 presents the sampling schedule and general analytical requirements for all monitoring wells. Table 2 details analytical testing methodology.

3.0 GROUNDWATER SAMPLING PROTOCOL

This section presents sampling procedures and equipment specifications for conducting groundwater sampling at McWane Inc. Included are procedures for conducting well inspections, groundwater gauging, pre-sample purging, interwell sampling order and sample capture.

3.1 WELL INSPECTIONS

Prior to conducting groundwater level measurements, the integrity of each monitoring well will be inspected to assess conditions that could impact groundwater sample quality. This will include inspecting the well casing and concrete pad for cracks or fissures; determining that the well cap is securely closed and locked; and checking for any signs of damage caused by vandalism, animals, or equipment, etc. It will also include noting the proximity of the well to potential sources of surface contaminations such as waste piles, roads or runoff areas that could impact groundwater quality. All observations will be recorded in the groundwater sample log sheet that will be completed for each well (see example in Attachment A).

3.2 GROUNDWATER LEVEL MEASUREMENTS

Prior to well purging, groundwater level measurements to establish groundwater flow for the site. Groundwater level measurements at each event shall proceed from upgradient to downgradient wells unless contamination is known to be present. If contamination is known to be present, measurements will proceed from the generally least to most contaminated wells, to minimize the potential for any cross-contamination. Interwell measurements will also be conducted over a short enough time period to avoid temporal variations in water level.

An electronic measuring probe will be used to measure the depth to groundwater for each well. All measurements will be made to the nearest hundredth foot and will be referenced to a measuring point scored on top the each well casing. This same measuring point will be used for all subsequent groundwater measurements for each well.

3.3 TOTAL DEPTH MEASUREMENTS

The total well depth of CLFU detection monitoring wells with dedicated pumps shall be measured when pumps are removed for maintenance. At a minimum, the detection monitoring wells with dedicated pumps will be checked for siltation every three (3) years. The measured total depths shall be compared to the total depth recorded on the well construction log. Should an analysis of the measured and the recorded total depth reveal that a well is silted in, actions necessary to enable the well to function properly shall be performed (redevelopment, replacement, etc.). The aforementioned procedures are per Permit Provision VI.D.2.d(4).

The total well depth of SDA compliance monitoring wells with dedicated pumps shall be measured when: 1) pumps are removed for maintenance; or 2) the groundwater production rate of the dedicated pump decreases by 25% from the initial production rate when the pump was installed. The measured total depth shall be compared to the total depth recorded on the well construction log. Should a comparison of the measured and recorded total depth reveal that greater than 20% of the well screen has been silted in, actions necessary to enable the well to function properly shall be performed (redevelopment, replacement, etc.). The aforementioned procedures are per Permit Provision XI.F.3.d(4).

3.4 GROUNDWATER PURGING

All monitoring wells will be purged prior to sampling to help assure a representative sample of native groundwater is collected for laboratory analysis. Interwell purging at each event shall proceed from upgradient to downgradient wells unless contamination is known to be present. If contamination is known to be present, interwell purging will be collected from the generally least to most contaminated wells, to minimize the potential for any cross-contamination. Purge procedures are discussed in Section 3.5 of this GWSAP.

Dedicated Bladder Pumps. McWane Inc. has installed dedicated bladder pumps in each of its monitor wells to accomplish groundwater purging and sampling. Use of dedicated pumps will help reduce the possibility of cross contamination during sampling and will reduce the risk of inadvertent contaminants entering the well during any sampling event.

Groundwater purging will be accomplished by connecting a portable oiless air compressor or bottled compressed nitrogen to the input portal of the well cap and adjusting purge rates using an in-line controller device.

All data collected during each sampling event will be recorded on a groundwater sample log sheet (see example in Attachment A) that will be completed for each well and will include the following information at a minimum: initial depth to water; measured well depth or depth to bladder pump;; purge rate; total purge time; purge volume; measurements of purge fluid pH, specific conductance and temperature; well inspection information; and any other pertinent information.

In the event that a dedicated pump is found to be inoperative and a portable pump or bailer was used to purge the well, samples will be collected by means of a new disposable bailer. Sampling procedures for disposable bailers are described in the following section.

Non-Dedicated Equipment

In the event of a non-operative dedicated pump, the pump and tubing apparatus will be removed for repairs or replacement, and the well will be purged by means of either a disposable bailer or a portable pump until such time the pump is repaired/replaced and rededicated to the well.

Equipment:

- Non-dedicated pump/bailer
- Pump controller (if required)
- Generator or other power source/driving mechanism for pumps / appropriate disposable string or rope for bailer, downrigger (optional)
- New disposable tubing
- New disposable gloves of appropriate material (nitrile).
- Graduated pail or other appropriate container.
- Field parameter measurement device(s)

- Container for laboratory grade, non-phosphate soap/organic-free water solution
- Container for organic-free water rinse

Operating Instructions (Specific operating instructions vary depending on the type of portable pump used. The steps listed below are generalized procedures.):

- Don a new pair of gloves.
- Cleanse portable pump/bailer with a non-phosphate, laboratory grade detergent solution followed by an organic-free water rinse. Sufficient water should be passed through a non-dedicated pump to ensure proper cleansing.
- Attach new disposable tubing to pump or new disposable string to bailer.
- Insert pump and tubing/bailer into well.
- Start the portable pump by the appropriate method and adjust flow to desired rate / initiate removal of water from well with bailer. Ensure bailer and string do not touch ground during purging.

When purging with a bailer, introduce bailer into water column slowly (i.e. do not "drop" into water column) to avoid agitation of water in the well and immediate formation area.

Non-dedicated equipment will be constructed of chemically inert materials, and will be decontaminated at each well with a non-phosphate detergent followed with an organic-free water rinse. Additional cleaning procedures will be performed as deemed necessary.

Rate of discharge and volume purged will be checked periodically with a graduated bucket and/or timer. Field parameter (temperature, pH, and specific conductivity) measurements will be recorded after each well volume of water removed during purging.

3.5 PURGE VOLUME

Detection and compliance monitoring wells may be sampled using either Low Flow Purging, Three Well Volume Purging, or an equivalent method as necessary to complete the groundwater sampling event. Dedicated pumps have been installed in groundwater monitoring

wells at the site and will be used to purge and sample the wells. The method of well purging is discussed below.

3.5.1 Low Flow Purging

Low-flow purging may be performed using dedicated sampling pumps. Well purging will be conducted at a rate of approximately 100 milliliters per minute until a minimum of two (2) pump and tubing volumes have been removed and stabilization of field parameters is achieved. The minimum criteria for low-flow purging and sampling is determined by the parameter stabilization provided in Section 3.5.3. Field parameters include temperature, specific conductivity, pH, and turbidity.

Measurements will be recorded on the field data sheet every three to five minutes. Water level measurement will also be taken every three to five minutes and recorded on the field data sheet. An initial decrease in water level may be expected due to pump and tubing evacuation, however, no subsequent continuous drawdown is to be expected.

In the event the stabilization requirements listed in Section 3.5.3 are not met in a particular well(s) during low flow purging, the well(s) will be purged a minimum of three (3) well volumes of water and until stabilization of field parameters is achieved or until dryness if occurring prior to three (3) well volumes. Monitoring of temperature, pH, conductivity, and turbidity will be performed after each well volume and prior to sampling. Measurements will be recorded on Field Data Sheets (see Appendix A) or equivalent form.

3.5.2 Three Well Volume Purging

Three well volume purging may be conducted using dedicated sampling pumps. Wells will be purged a minimum of three (3) well volumes of water and until stabilization of field parameters is achieved or until dryness if occurring prior to three (3) well volumes. Parameter stabilization is defined in Section 3.5.3. Monitoring of temperature, pH, conductivity, and turbidity will be performed after each well volume and prior to sampling. Measurements will be recorded on Field Data Sheets (see Appendix A) or equivalent form.

3.5.3 Parameter Stabilization

Parameter stabilization will be defined as:

- Specific Conductivity = ± three (3) percent for three (3) consecutive measurements
- pH = ± 0.1 standard pH units for three (3) consecutive measurements
- Temperature = ± three (3) percent for three (3) consecutive measurements
- Turbidity = ± ten (10) percent for three (3) consecutive measurements unless the turbidity is below ten (10) NTU. Three (3) consecutive turbidity measurements below ten (10) NTU will be considered stable.

3.6 DURATION AND ORDER OF GROUNDWATER SAMPLING EVENT

Groundwater sampling in detection and compliance monitoring wells should occur immediately following low-flow purging. In the event a well(s) is purged of three well volumes or to dryness, sampling in the well(s) should commence within 24 hours of purging or after groundwater has reached 90% of prepurge levels. For wells that recharge slowly, however, groundwater sampling may commence as soon as sufficient groundwater is available for sampling. Once groundwater sampling begins, interwell sampling should be conducted within the shortest time frame practical to avoid temporal changes in water chemistry.

Analytical results from the most recent groundwater sampling event will be reviewed to establish the order of interwell sampling. Monitor well sampling at each event shall proceed from upgradient to downgradient wells unless contamination is known to be present. If contamination is known to be present, samples will be collected from the generally least to most contaminated wells, to minimize the potential for any cross-contamination. Samples will be collected and containerized according of the volatility of the requested analyses. A specific collection order per TCEQ guidance (TNRCC, 1994) is as follows:

- Field Parameters
- Volatile Organics
- Metals
- Inorganics

3.7 SAMPLE COLLECTION

McWane Inc. has established groundwater sampling procedures using dedicated pumps in order to provide representative samples of the groundwater. A single sample will be collected at each monitor well location.

Dedicated Bladder Pumps. McWane Inc. has installed dedicated bladder pumps on each of its monitor wells to accomplish groundwater purging and sampling. Use of these pumps will greatly reduce the possibility of cross contamination during any sampling event and will reduce the risk of inadvertent contaminants entering the well during any sampling event.

Non-Dedicated Equipment. In the event that a dedicated pump is inoperative and the dedicated pump and tubing apparatus have been pulled for replacement or repair, the sample will be collected by means of a new disposable bailer as per the following procedure:

a. Remove non-operative or non-dedicated purge equipment from well.
b. Attach new string to a new disposable bailer.
c. Insert bailer into well. Do not "drop" bailer into water column to avoid agitation of water.

Remove bailer from well and slowly pour water from bailer directly into required sample containers in accordance with the sample collection order described in Section 3.6. Repeat as necessary to collect sufficient sample for analysis. Ensure bailer and string do not touch the ground during sampling.

All excess water generated during sample collection will be temporarily stored in appropriately labeled drums and/or tanks. The drums and/or tanks will be transported to the Tyler Pipe Company Water Treatment Plant where disposal will be conducted according to EPA and State environmental guidelines.

3.8 FIELD INSTRUMENTS AND MEASUREMENTS

Water Level Indicator(s) – Water level indicator(s) will be decontaminated prior to initial site arrival by hand washing the sensor probe and entire length of tape in a laboratory grade non-phosphate detergent followed by rinsing with organic-free water. While the tape is reeled back onto the carrying spool, the tape and probe will be wiped down with a clean dry paper towel.

Field Parameter (Temperature, pH, Specific Conductivity, Turbidity) Measuring Device(s) – Field parameter measuring device(s) will be decontaminated by hand washing the sample cells in a laboratory grade non-phosphate detergent followed by rinsing with organic-free water. Meters will then be checked for proper calibration and operation as per the manufacturer's instructions. A two (2) point calibration shall be utilized for pH. Any malfunctioning meters will be replaced prior to packing.

In the case of equipment failure, at least one back-up instrument will be in the sample crew's possession. If a back-up instrument is not available, or fails in addition to the primary equipment, sampling should not proceed until the proper equipment is made available.

3.9 SAMPLE CONTAINER, PRESERVATION AND HOLDING TIMES

Table 3 presents sample container requirements, preservation requirements and maximum hold times that will be observed during the sampling program. The requirements are specific to the metals being analyzed and are consistent with current EPA protocol

Sample labels will be completed in the field with indelible ink and will include the following information at a minimum:

- Sample designation number
- Well number
- Site identification
- Required analysis

- Chemical preservatives added
- Date
- Time
- Signature or initials of person conducting sampling

4.0 SAMPLE STORAGE AND TRANSPORT

Samples will be placed on ice immediately after collection and labeling. Dry ice will not be used. Ice chest lids will remain closed as much as possible to shield against chemical alteration due to exposure to ultraviolet light. Regardless of shipment method, all samples will be delivered to the analytical laboratory within 24 to 48 hours of collection.

The lid and drain plug of the cooler will be secured with tape prior to shipment as a deterrent to premature opening. A custody seal will also be attached across the door seal to allow the detection of tampering during sample shipment. Analytical laboratory personnel will document the integrity of the custody seal upon receipt of the cooler.

4.1 DOCUMENTATION

This section presents all documentation that will be prepared in support of each groundwater sampling event.

4.2 FIELD RECORDS

Documentation of all instrument calibrations, surface conditions, well conditions and any repairs made to wells, a record of all field measurements such as well depths, groundwater depths, purge volumes and times; and a record of field tests such as pH, conductivity and temperature will be maintained in the field. All pertinent field information is recorded on Attachment A or an equivalent form, see Section 4.3.

4.3 FIELD DATA SHEETS

A groundwater sampling field data sheet (see example in Attachment A) will be completed for each well during each sampling event. The log sheet will contain information on purge volumes and purge times, purging and sampling techniques, a record of all field measurements and field tests, descriptions of water sample appearance (clarity, color, etc.), information on site conditions and any observations made in the field. The data sheet will also include the names and signatures of the sampling team.

4.4 CHAIN-OF-CUSTODY DOCUMENTATION

Chain-of-Custody (COC) documentation will be prepared to document all changes in sample possession beginning with the field sampler and ending with the analytical laboratory. A separate COC will accompany each ice chest. The COC documentation will accompany the samples at all times and individuals relinquishing and receiving samples will sign their name and note the date and time of sample transfer.

Chain-of-custody documentation will include the following applicable data:

- Field sample number and site name;
- Date and time sample taken;
- Date sample submitted to the laboratory;
- Sample taken by (signature)
- Information describing source of sample and sample itself;
- Remarks:
- Preservation technique;
- Number and type of shipping containers;
- Sample containers (number, type, condition, seal inscription)
- Signature of persons relinquishing and obtaining custody of samples.

5.0 DECONTAMINATION

This section presents decontamination procedures that will be used for all reusable sampling equipment and sample containers, if used.

5.1 REUSABLE SAMPLING EQUIPMENT

McWane Inc. plans to use disposable, single-use sampling equipment (gloves, etc.) and dedicated sampling equipment to the maximum extent possible to avoid the potential for cross contamination between sampling points. All single-use sampling equipment will be discarded after initial use. All reusable sampling equipment i.e., field meters will be properly decontaminated before and after each use according to the following procedures.

Nitrile or latex gloves will be worn during decontamination and sampling procedures. A new pair of gloves will be worn between each sampling point. Equipment decontamination will take place so that fluids will be collected and disposed of with other fluids from the purging operation.

The first step in the cleaning process will be a thorough rinsing of reagent-grade water. This will be followed by a phosphate-free soap and reagent-grade water mixture scrub. Equipment scrubbing will take place with the use of cleaning brushes or new paper towels. The soap and water scrub will be followed with a thorough reagent-grade water rinse. This rinse will continue until all visible evidence of soap is gone. A final rinse will be performed utilizing reagent-grade water.

6.0 QUALITY ASSURANCE AND QUALITY CONTROL

McWane Inc. plans to utilize the services of a contract laboratory to conduct all analytical work with the exception of field measurements. Field measurements will be conducted in the field. The contract laboratory will meet quality assurance and quality control (QA/QC) standards detailed in Test Methods for Evaluating Solid Waste Physical/Chemical Methods (EPA Pub. No.

SW-846) and the specific methods referenced by this plan. Sample handling procedures will be documented by the use of a chain of custody form.

All laboratory data generated after June 30, 2008 will be produced by a lab accredited by the TCEQ or the laboratory and data shall meet an exemption. The laboratory's accreditation will include the field of accreditation (matrix, method, analyte) for the data being submitted to the agency.

All data generated by the contract laboratory will meet the requirements of TRRP and TRRP-13 Guidance.

7.0 PURGE WATER AND SOLID WASTE MANAGMENT

All liquid waste generated during sampling activities including purge water and spent decontamination fluids will be temporarily stored in drums and/or tanks. All drums and/or tanks will be clearly labeled showing their contents, date filled and site contact information. The drums will be transported to the Tyler Pipe Company Water Treatment Plant where disposal will be conducted according to EPA and State environmental guidelines. A purge water manifest shall be filled out each sampling event.

All solid waste generated during sampling activities (i.e., disposable gloves, paper towels, etc.) will be placed into plastic garbage bags. Based on prior analytical knowledge the solid waste will be disposed of at a municipal landfill.

8.0 HEALTH AND SAFETY

It is the responsibility of the field sampling staff to be aware of any potential safety hazards and take all necessary mitigating actions. Potential hazards basically include any normal slip, trip, and fall dangers. The members of the sampling team will take measures to avoid direct skin contact with the withdrawn groundwater. Nitrile or latex disposable gloves will be worn by all personnel directly involved in the sampling process. The gloves will be discarded in plastic trash bags after

evacuation of each well. The consumption of food, beverages or cigarettes will not be allowed on-site during any sampling event.

9.0 STATISTICAL METHODS – DETECTION MONITORING

McWane Inc. will use the Tolerance Intervals method as described in EPA Publication No. EPA 530-R-09-007, "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-, March 2009; to determine when a statistically significant change (SSC) in groundwater quality has occurred.

This will involve comparing compliance well analytical results to the tolerance intervals calculated using appropriate back ground data that has been corrected for outliers. These comparisons will occur for all detection monitoring wells within 60 days of collection of the last sample from a given sampling event unless QA/QC procedures show that data is unacceptable and re-analysis or re-sampling must be performed (Permit Provision VI.D.4.a). In such cases, the Executive Director will be notified as soon as it becomes apparent that the 60 day time limit will not be met.

If a determination is made that any downgradient value exceeds the tolerance limit, a statistically significant change in groundwater quality will be reported to the Executive Director. Prior to reporting this change, however, a resampling event may be conducted to confirm this information.

In accordance with TAC § 335.164.7 (F), the owner /operator may demonstrate that a statistically significant change in groundwater quality is the result of a source other than the regulated unit, such as error in sampling, analysis, statistical evaluation, or natural variation in the groundwater. In such cases, the owner/operator must:

- Notify the Executive Director in writing within seven days that the owner/operator intends to make a demonstration.

- Submit a report, within 90 days, to the Executive Director that demonstrates that a source other than the regulated unit caused the contamination or that the contamination was a result from error in sampling, analysis, or evaluation.
- Submit to the Executive Director, within 90 days, an application for a permit amendment or modification to make any changes to the detection monitoring program at the facility.
- Continue to monitor ground water in accordance with the detection monitoring program at the facility.

9.1 DETECTION MONITORING REPORTING FREQUENCY

Detection groundwater monitoring reports shall be submitted on an annual basis and contain applicable information listed in Permit Provision VI.G. The annual detection monitoring report shall be submitted by March 1st of each year in accordance with Permit Provision II.B.10. All data will be submitted in a manner consistent with TCEQ Quality Control and Assurance Project Plan for Monitoring and Measurements Activities Relating to RCRA and UIC (TCEQ QAPP) and will be maintained at the facility record.

10.0 COMPLIANCE MONITORING DATA EVALUATION

No statistical analysis will be used for compliance monitoring wells. Rather, comparison of sampling data directly to groundwater protection standards (GWPS) will be applied. These comparisons will occur for all compliance monitoring wells within 60 days of collection of the last sample from a given sampling event unless QA/QC procedures show that data is unacceptable and re-analysis or re-sampling must be performed (Permit Provision XI.F.3.b). In such cases, the Executive Director will be notified as soon as it becomes apparent that the 60 day time limit will not be met. Table 1 of this GWSAP lists the compliance monitoring parameters and their respective GWPS. The aforementioned information is also located in the facility Compliance Plan (Permit Provision XI).

If a determination is made that any compliance monitoring parameter exceeds its GWPS, the exceedance will be reported to the Executive Director within seven days of the determination

per 30 TAC §335.165(8)(A). Additionally, a verification resample will be collected within 30 days of the determination. Should the verification resample results confirm the presence of a compliance monitoring parameter at levels greater than its GWPS, the following steps may be followed:

In accordance with 30 TAC §335.165(9), the owner /operator may demonstrate that a GWPS exceedance is the result of a source other than the regulated unit, such as error in sampling, analysis, or natural variation in the groundwater. In such cases, the owner/operator must:

- Notify the Executive Director in writing within seven days that the owner/operator intends to make a demonstration.
- Submit a report, within 90 days, to the Executive Director that demonstrates that a source other than the regulated unit caused the GWPS exceedance or that the GWPS exceedance was a result from error in sampling, analysis, or evaluation.
- Submit to the Executive Director, within 90 days, an application for a permit amendment or modification to make any changes to the compliance monitoring program at the facility.
- Continue to monitor groundwater in accordance with the compliance monitoring program at the facility.

In the event the regulated unit is determined to be the source of the GWPS exceedance the owner/operator must perform the following in accordance with 30 TAC §335.165(8)(B):

- Submit an investigation report, within 180 days, to the Executive Director to establish a corrective action program meeting the requirements of 30 TAC §335.166.

10.1 COMPLIANCE MONITORING REPORTING FREQUENCY

Compliance groundwater monitoring reports shall be submitted on a semi-annual basis and contain applicable information listed in Compliance Plan Table VII of the facility Permit.

11.0 REFERENCES

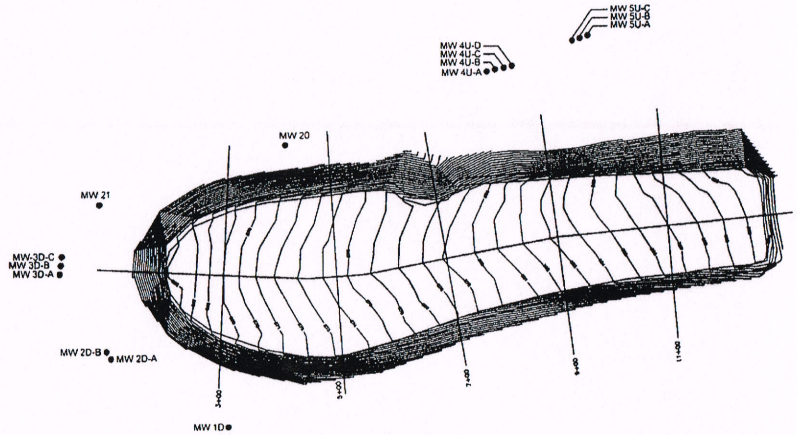
McWane, Inc. (Tyler Pipe Company) Permit, Issued December 14, 2010. Hazardous Waste Permit No. 50141, EPA ID No. TXD066349770, ISWR No. 30140.

Texas Natural Resources Conservation Commission (TNRCC), 1994. TNRCC Technical Guidance Municipal Solid Waste Division Guidelines for Preparing a Groundwater Sampling and Analysis Plan (GWSAP).

U.S. Environmental Protection Agency, November 1986. Test Methods for Evaluating Solid Waste – Physical/Chemical Methods, Third Edition (revised), SW-846. Office of Solid Waste and Emergency Response, Washington, D.C.

U.S. Environmental Protection Agency (EPA). March 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance. EPA 530-R-09-007.

Figures



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

6-1-2020

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

LEGEND:

● MONITOR WELL LOCATION

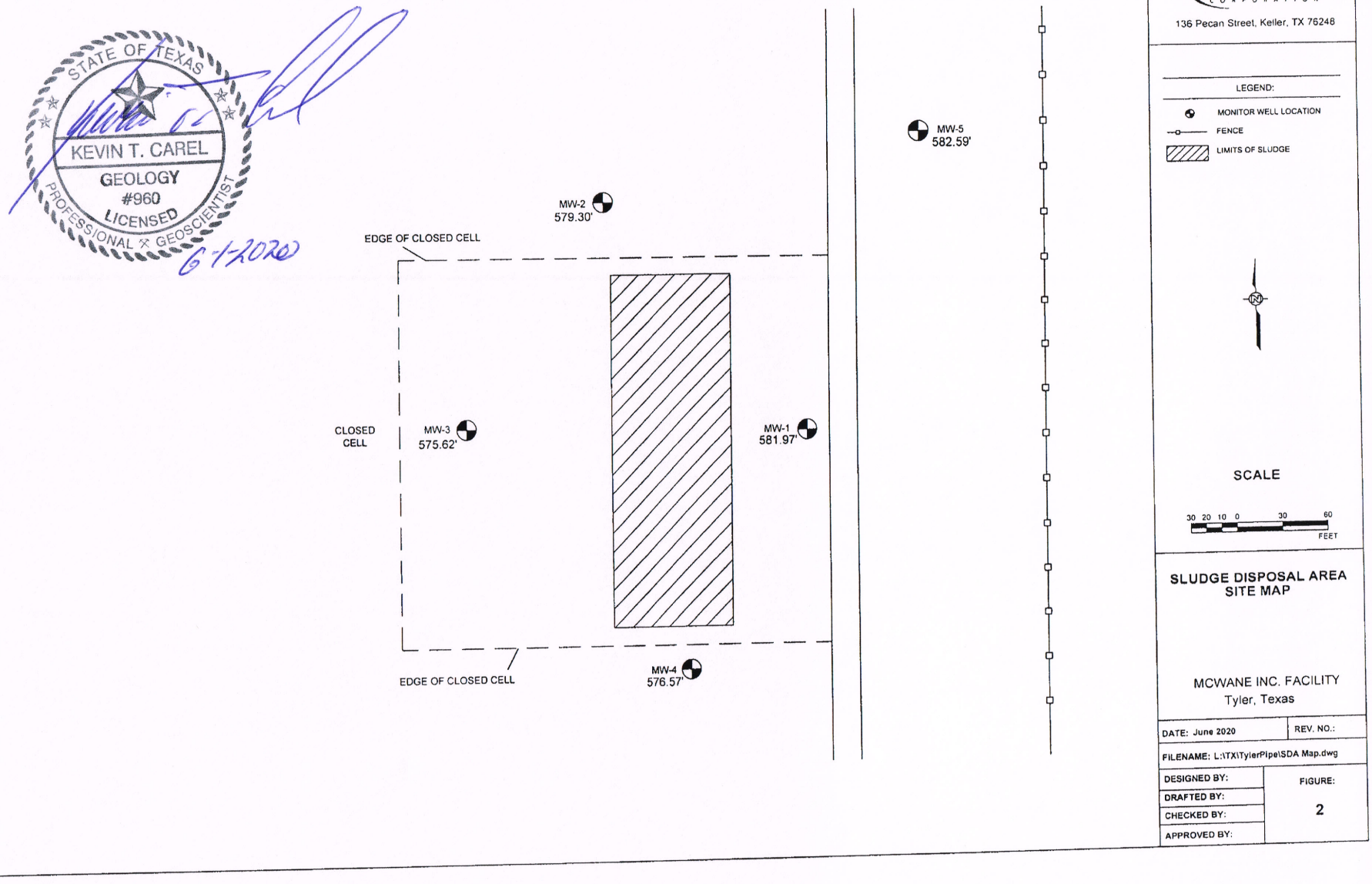
SCALE:

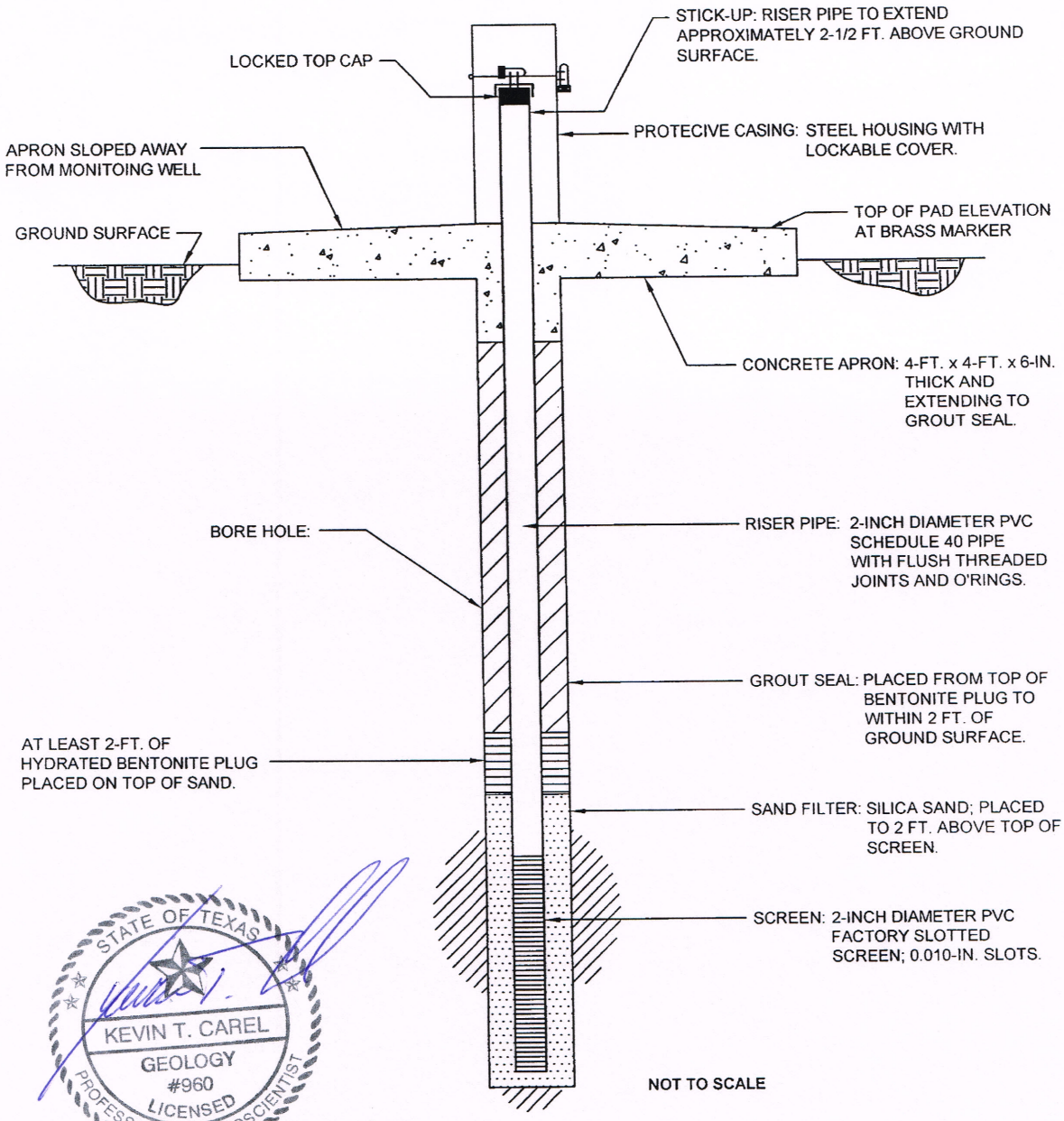
0 100 200
FEET

CLOSED LANDFILL SITE MAP

MCWANE INC. FACILITY
CLASS I HAZARDOUS WASTE LANDFILL
Tyler, Texas

DATE: June 2020	REV. NO.:
FILENAME: R:\TEXAS\Tyler Pipe\GWSAP\2020\TylerPipe.dwg	
DESIGNED BY:	FIGURE:
DRAFTED BY:	1
CHECKED BY:	
APPROVED BY:	


STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
6-1-2020
MW-2
579.30'
EDGE OF CLOSED CELL
MW-5
582.59'
CLOSED
CELL
MW-3
575.62'
MW-1
581.97'
EDGE OF CLOSED CELL
MW-4
576.57'
The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248
LEGEND:
MONITOR WELL LOCATION
FENCE
LIMITS OF SLUDGE
N
SCALE
30 20 10 0 30 60
FEET
SLUDGE DISPOSAL AREA
SITE MAP
MCWANE INC. FACILITY
Tyler, Texas
DATE: June 2020
REV. NO.:
FILENAME: L:\TX\TylerPipe\SDA Map.dwg
DESIGNED BY:
DRAFTED BY:
CHECKED BY:
APPROVED BY:
FIGURE:
2



STATE OF TEXAS
KEVIN T. CAREL
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PROFESSIONAL GEOSCIENTIST

6-1-2020

The Carel Corporation *Providing Environmental, Ground-Water and Waste Management Services* *136 Pecan Street, Keller, TX 76248*	**NEW MONITORING WELL CONSTRUCTION DIAGRAM** **TYLER PIPE LANDFILL** **TYLER, TEXAS**	DATE: June 2020 FILENAME: G:\Templates\Well Detail.dwg DRAWN BY: DRAFTED BY: FIGURE: 3

Tables

Permit No. HW-50141-000

McWane, Inc. (Tyler Pipe Company)

GWSAP TABLE 1

PERMIT TABLE VI.B.3.c

MCWANE, INC.

GROUNDWATER DETECTION MONITORING PARAMETERS

Closed Landfill Well No(s) 1D, 2D-A, 2D-B, 3D-A, 3D-B, 3D-C,4U-A, 4U-B, 4U-C, 4U-D, 5U-A, 5U-B, 5U-C, MW-20, MW-21

Parameter	Sampling Frequency[1]	Detection Limits[2] (ppm)
Cadmium	Semi-Annually	0.0002
Chromium	Semi-Annually	0.002
Lead	Semi-Annually	0.001
Zinc	Semi-Annually	0.003
pH	Semi-Annually	Not applicable
Specific conductance	Semi-Annually	Not applicable

[1]Detection Sampling Frequency
[2]Laboratory Specific Practical Quantitation Limit
All units in parts per million

GROUNDWATER COMPLIANCE MONITORING PARAMETERS

Sludge Disposal Area Well No(s) OW-6, OW-7, and OW-8

Parameter	Sampling Frequency[1]	Detection Limits[2] (ppm)	GWPS[3] ($^{GW}GW_{ing}$)
Cadmium	Semi-Annually	0.0002	0.005
Chromium	Semi-Annually	0.002	0.005
Lead	Semi-Annually	0.001	0.015
Mercury	Semi-Annually	0.003	0.0002
Zinc	Semi-Annually	0.005	0.020
pH	Semi-Annually	Not applicable	Not applicable
Specific conductance	Semi-Annually	Not applicable	Not applicable

[1]Compliance Sampling Frequency
[2]Laboratory Specific Practical Quantitation Limit
[3]Groundwater Protection Standard

GWSAP TABLE 2

ANALYTICAL METHODS

MCWANE, INC.

PERMIT PARAMETERS

Parameter	Analytical Method[1,2]	PQL[3]
Cadmium	SW-846 6010 or 6020 EPA Method 200.7 or 200.8	0.0002 mg/L
Chromium	SW-846 6010 or 6020 EPA Method 200.7 or 200.8	0.002 mg/L
Lead	SW-846 6010 or 6020 EPA Method 200.7 or 200.8	0.001 mg/L
Mercury	SW-846 7470	0.0002 mg/L
Zinc	SW-846 6010 or 6020 EPA Method 200.7 or 200.8	0.003 mg/L
pH	measured in field	not applicable
Specific Conductance	measured in field	not applicable

[1]40 Code of Federal Regulations 264, Appendix IX (SW 846) latest revision.

[2]Analyses will be performed using the above listed methods or an equivalent or better EPA-approved method.

[3]Laboratory Specific Practical Quantitation Limit

NOTE: All metals are total analysis. Samples are not to be filtered prior to analysis.

TABLE 3

SAMPLE CONTAINER
AND PRESERVATION REQUIREMENTS
MCWANE, INC.

Parameter Group	Container Size	Number of Containers	Container Material	Holding Time	Preservation
Metals	250 ml	1	Polyethylene	180 days	4°C,HNO_3 to pH <2

ATTACHMENT A
GROUNDWATER SAMPLING FIELD DATA SHEET

McWane Inc. (Tyler Pipe)

Hazardous Waste Landfill (Unit 001)
Smith County, Texas
Permit No. HW-50141-000

GROUNDWATER SAMPLING FIELD DATA SHEET

Well Number: MW-
Project Number: 20-01-02

Project: 1st '20 S/A GME
Personnel: _____

Date: _____
Weather Conditions: _____ Air Temp: _____

WELL DATA:

Casing Diameter: _____ (in) ☐ PVC ☐ Other: _____
DEPTH TO: Static Water Level (WL): _____ (ft)
DATUM: ☐ Top of Well Casing ☐ Top of Protective Casing ☐ Other: _____
CONDITION: Is well clearly labeled? ☐ Yes ☐ No
Is prot. casing in good cond.? (not bent or corroded) ☐ Yes ☐ No
Is concrete pad intact? (not cracked or frost heaved) ☐ Yes ☐ No-
Is padlock functional? ☐ Yes ☐ No Is inner casing intact? ☐ Yes ☐ No
Is inner casing properly capped and vented? ☐ Yes ☐ No Reference Point Present? ☐ Yes ☐ No

PURGE DATA: Low-Flow Purging Used? ☐ Yes ☐ No

METHOD: ☐ Bladder Pump ☐ Bailer ☐ Other: _____ {if no – Water Standing in Well _____ (gal)
MATERIALS: Type of Pump: QED Well Wizard To be Purged _____ (gal)
Tubing: ☐ Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field-Cleaned
PROCEDURES: Pump & Tubing Vol.: _____(ml) Pumping Rate: _____ (ml/min)
CALIBRATION: pH Meter Model: _____ Meter S/N: _____ Time: _____
Cond. Meter Model: _____ Meter S/N: _____ Time: _____

TIME SERIES DATA:

Time:							
Cum. Volume Removed (ml)	Start						
Temp. (°C):	---						
pH (s.u.):	---						
Spec. Cond. (µmhos/cm):	---						
Turbidity (NTU):	---						
Water Level (ft.)	---						
Other:	---						

SAMPLING DATA:

Sample Collection Time: _____
Water Level at Time of Sample: _____
METHOD: ☐ Bladder Pump ☐ Bailer ☐ Other: _____
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☐ Field-Cleaned ☐ Disposable
APPEARANCE: ☐ Clear Turbid (NTU): _____Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: Temp. (°C):_____pH (s.u.):_____Spec. Cond. (µmhos/cm): _____
☐ Background ☐ Detection ☐ Assessment ☐ Quarterly ☐ Other

REMARKS:_____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature:_____ Date:_____

CP Table I - Waste Management Units and Areas Subject to Groundwater Corrective Action and Compliance Monitoring

A. Corrective Action[1] (30 TAC Section 335.166)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
Reserved		

B. Compliance Monitoring[1] (30 TAC Section 335.165)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
Sludge Disposal Area	082	Not Applicable

C. Corrective Action[2] (30 TAC Section 335.167)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
Reserved		

D. Alternative Corrective Action[3] (30 TAC Section 335.151)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
Reserved		

E. Facility Operations Area (FOA)[4] (30 TAC Section 335.156 and Chapter 350)

Unit Name	Notice of Registration (NOR) Number, if applicable	Date Program Requirement and Remedy Standard Completed[4]
Reserved		

Foot Note:

1. Program applies to RCRA-regulated units only.

2. Program applies to releases from solid waste management units (SWMUs) and/or areas of concern (AOCs).

3. Program applies to commingled releases from RCRA-regulated unit and from one or more SWMUs and/or AOCs.

4. List SWMUs, additional units/areas of Investigation, AOCs, RCRA-regulated units within the FOA that are subject to corrective action. For RCRA units, SWMUs and/ or AOC outside the FOA boundary for which compliance monitoring and/ or corrective action applies should be listed separately in Items A, B or C as appropriate.

5. For the purpose of maintaining a historical record to verify the units/areas have met the program requirements in accordance with Permit Provisions XI.A.2, XI.A.3., XI.A.4. and/or XI.A.5., the permittee shall update CP Table I to reflect the new status of the unit/area to include the remedy standard achieved for all media of concern and the date of the Commission's No Further Action (NFA) approval letter. The units/area shall not be deleted from CP Table I until the program objectives have been completed and no further action has been approved through modification or amendment to the Permit.

CP Table II: Solid Waste Management Units and/or Areas of Concern Addressed in Permit Section XI.H. for which Corrective Action Applies Pursuant to 30 TAC Section 335.167

Unit Name	NOR Number, if applicable	SWMU or AOC	Affected Media[1]	Date Program Requirement and Remedy Standard Completed[2]
Reserved				

SWMU= Solid Waste Management Units

AOC= Area of Concern

Foot Note:

1. Specify the affected media [i.e. soil, groundwater (GW), surface water (SW), sediment (SED)].
2. For each SWMU or AOC, specify the Remedy Standard that was completed and the date of the Commission's No Further Action (NFA) letter for the media of concern.
3. For sites with FOA authorization, list the SWMUs and/or AOCs that are subject to corrective action at the site. Please separate the SWMUs and/or AOCs that are located within the FOA boundary from the SWMUs and/or AOCs that are located outside of the FOA boundary.

Note:

CP Table II lists SWMUs and/or AOCs which have been identified in the RCRA Facility Assessment (RFA) Report as having a release(s) or a potential release(s) of hazardous waste, hazardous constituents, or other constituents of concern. The permittee is thus required to meet Corrective Action Objectives for the SWMUs and/or AOCs in accordance with Permit Section XI.H. and 30 TAC Section 335.167.

The permittee shall update CP Table II when a new SWMU and/or AOC that requires corrective action is identified. The permittee shall also update CP Table II as outlined in Footnote 2 when the corrective action status of a media for a SWMU or AOC has changed.

SWMUs and/or AOCs shall not be deleted from this table when the Corrective Action Objectives have been completed and a No Further Action (NFA) determination has been approved for the SWMU and/or AOC. In accordance with Permit Section XI.H., CP Table II is intended to be a historical record of the facility's corrective actions and to reflect when the Corrective Action Objectives have been met for each SWMU/AOC.

There may be cases in which the permittee fulfills the Corrective Action Objectives for soils at a SWMU/AOC, but long-term groundwater monitoring and corrective action may be necessary to meet the groundwater Corrective Action Objectives. In such instances, the SWMU/AOC would be listed in CP Table I, Item C, and would be subject to all applicable provisions of this Compliance Plan. If a release from a SWMU/AOC is commingled with a RCRA-regulated unit, then the unit and the SWMU/AOC would be listed in CP Table I, Item D. In accordance with

Permit Section XI.H., once the Corrective Action Objectives for groundwater are completed, the permittee shall modify or amend the Compliance Plan to reassign the SWMU/AOC in CP Table I, Item C or Item D, to CP Table II. CP Table II should reflect the new status of the SWMU/AOC. It should include the Remedy Standard achieved for all media of concern and the date of the Commission's NFA approval letter for each SWMU/AOC.

CP Table III: Corrective Action Program Table of Detected Hazardous and Solid Waste Constituents and the Groundwater Protection Standard

Unit Name	**Column A** Hazardous Constituents	**Column B** Groundwater Protection Standards (mg/l) at the POC [2]		**Column C** Groundwater Protection Standards (mg/l) at the POE or APOE, or FBOC [1,2]	
Reserved	*parameter*	0.00		0.00	
	parameter	0.00		0.00	
	parameter	0.00		0.00	
	parameter	0.00		0.00	
	parameter	0.00		0.00	
	parameter	0.00		0.00	

Notes:

a) If the Corrective Action Program (Provision XI.E.) does not apply to the RCRA-regulated units, SWMUs, or AOCs at the facility, mark "Reserved" next to the CP Table III heading.

b) CP Table III represents the long list of hazardous constituents that are reasonably expected to be in, or derived from, the waste placed in each RCRA-regulated unit, SWMU, and/or AOC listed in the table. CP Table III also lists the hazardous constituents that have been historically detected in the groundwater for each RCRA-regulated unit, SWMU, and/or AOC. These hazardous constituents are monitored in accordance with Provision XI.F.3.c.(1).

c) In accordance with Provision XI.D.6., the Groundwater Protection Standards (GWPS) must be met before the RCRA-regulated unit, SWMU, and/or AOC can exit the Corrective Action Program.

d) If applicable, "Appendix IX" can be used in Column A for a unit instead of listing each chemical of concern (COC). The permittee may petition the Executive Director for the deletion of a specific COC from the Appendix IX analysis if the permittee can demonstrate that the COC was never used in the facility's operations nor was disposed of in the waste management area.

e) Attenuation monitoring point (AMP) wells, corrective action system (CAS) wells, and corrective action observation (CAO) wells should not be listed in CP Table III. These wells should only be depicted in the CP Attachment A maps. Once an AMP, CAS, or CAO well meets its respective attenuation action levels (AALs) or GWPS, then the Permittee may propose to discontinue monitoring that well without modification to the Permit. If the AMP, CAS, or CAO well is listed in CP Table III, then any proposed change to the well would require modification to the Permit. Changes to the wells depicted in the CP Attachment A maps can be approved in the Groundwater Monitoring Report required by CP Table VII and become a part of the Permit by reference.

Footnotes:

1. Use Column C to specify the GWPS assigned at a POE or APOE (i.e. for sites with MNA or PMZ proposals as applicable under TRRP), or FBOC for those sites with FOA authorization. Put "N/A" if a specific program or column item is not applicable.
2. For each COC, select the appropriate GWPS designation and definition to demonstrate that the corrective action program objectives are being achieved either under the Risk Reduction Rules (RRR) pursuant to 30 TAC Chapter 335 or the Texas Risk Reduction Program (TRRP) pursuant to 30 TAC Chapter 350. The RRR and TRRP GWPS designations and definitions may not be combined pursuant to 30 TAC Section 350.2(m).

CP Table IIIA: Corrective Action Program Table of Indicator Parameters and the Groundwater Protection Standard

Unit Name	**Column A** Hazardous Constituents	**Column B** Groundwater Protection Standards (mg/l) at POC [2]		**Column C** Groundwater Protection Standards (mg/l) at the POE or APOE, or FBOC[1,2]	
Reserved	*parameter*	0.00		0.00	
	parameter	0.00		0.00	
	parameter	0.00		0.00	
	parameter	0.00		0.00	
	parameter	0.00		0.00	
	parameter	0.00		0.00	

Notes:

a) If the Corrective Action Program (Provision XI.E.) does not apply to the RCRA-regulated units, SWMUs, or AOCs at the facility, mark "Reserved" next to the CP Table III heading.

b) CP Table III represents the long list of hazardous constituents that are reasonably expected to be in, or derived from, the waste placed in each RCRA-regulated unit, SWMU, and/or AOC listed in the table. CP Table III also lists the hazardous constituents that have been historically detected in the groundwater for each RCRA-regulated unit, SWMU, and/or AOC. These hazardous constituents are monitored in accordance with Provision XI.F.3.c.(1).

c) In accordance with Provision XI.D.6., the Groundwater Protection Standards (GWPS) must be met before the RCRA-regulated unit, SWMU, and/or AOC can exit the Corrective Action Program.

d) If applicable, "Appendix IX" can be used in Column A for a unit instead of listing each chemical of concern (COC). The permittee may petition the Executive Director for the deletion of a specific COC from the Appendix IX analysis if the permittee can demonstrate that the COC was never used in the facility's operations nor was disposed of in the waste management area.

e) Attenuation monitoring point (AMP) wells, corrective action system (CAS) wells, and corrective action observation (CAO) wells should not be listed in CP Table III. These wells should only be depicted in the CP Attachment A maps. Once an AMP, CAS, or CAO well meets its respective attenuation action levels (AALs) or GWPS, then the Permittee may propose to discontinue monitoring that well without modification to the Permit. If the AMP, CAS, or CAO well is listed in CP Table III, then any proposed change to the well would require modification to the Permit. Changes to the wells depicted in the CP Attachment A maps can be approved in the Groundwater Monitoring Report required by CP Table VII and become a part of the Permit by reference.

Footnotes:

1. Use Column C to specify the GWPS assigned at a POE or APOE (i.e. for sites with MNA or PMZ proposals as applicable under TRRP), or FBOC for those sites with FOA

authorization.

Put "N/A" if a specific program or column item is not applicable.

2. For each COC, select the appropriate GWPS designation and definition to demonstrate that the corrective action program objectives are being achieved either under the Risk Reduction Rules (RRR) pursuant to 30 TAC Chapter 335 or the Texas Risk Reduction Program (TRRP) pursuant to 30 TAC Chapter 350. The RRR and TRRP GWPS designations and definitions may not be combined pursuant to 30 TAC Section 350.2(m).

   ACL = alternative concentration limit; PQL = practical quantitation limit; PCL = protective concentration level; RSA = Remedy Standard A; RSB = Remedy Standard B

CP Table IV: Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Quantitation Limits

Unit Name	Column A Hazardous Constituents[2]	Column B Concentration Limits (mg/l)[1]	
Sludge Disposal Area	Cadmium	0.0002	PQL
	Chromium	0.002	PQL
	Lead	0.001	PQL
	Mercury	0.0002	PQL
	Zinc	0.003	PQL
		Add Row	

Notes:

a) If there are no RCRA-regulated units subject to the Compliance Monitoring Program , mark "Reserved" next to the CP Table IV heading.

b) CP Table IV represents the long list of hazardous constituents that are reasonably expected to be in, or derived from, waste placed in a RCRA-regulated unit, but may not be detected in groundwater above the constituents' respective quantitation limits.

c) CP Table IV constituents are to be monitored annually in accordance with Provision XI.F.3.(2). Any CP Table IV constituents detected in the groundwater should be carried over to CP Table IVA.

Footnotes:

1) For each constituent of concern, select the appropriate quantitation limit designation and definition according to either the Risk Reduction Rules (RRR) pursuant to 30 TAC Chapter 335 or the Texas Risk Reduction Program (TRRP) pursuant to 30 TAC Chapter 350.

2) If applicable, "Appendix IX" can be used in Column A for a unit instead of listing each chemical of concern (COC). The permittee may petition the Executive Director for the deletion of a specific COC from the Appendix IX analysis if the permittee can demonstrate that the COC was never used in the facility's operations nor was disposed of in the waste management area.

CP Table IVA: Compliance Monitoring Program Table of Detected Hazardous Constituents and the Groundwater Protection Standard

Unit Name	Column A Hazardous Constituents	Column B Concentration Limits (mg/l)	
Sludge Disposal Area	Cadmium	0.005	GW GW Ing
	Chromium	0.100	GW GW Ing
	Lead	0.015	GW GW Ing
	Mercury	0.002	GW GW Ing
	Zinc	7.300	GW GW Ing
		Add Row	

Notes:

a) If there are no RCRA-regulated units subject to the Compliance Monitoring Program (Provision ?), mark "Reserved" next to the CP Table IVA heading.

b) CP Table IVA represents the short list of hazardous constituents detected in groundwater above the quantitation limits specified in CP Table IV.

c) CP Table IVA constituents are monitored semiannually in accordance with Provision XI.F.3.c.(2) to verify that the groundwater protection standards (GWPS) are being met.

Footnotes:

1. Use Column C, specify the GWPS assigned at a POE or APOE (i.e. as applicable under TRRP). (i.e. modify Table and Footnotes to support the establishment of GWPS at POC, POE or APOE monitoring points, as appropriate). Put "N/A" if a specific program or column item is not applicable.
2. For each constituent of concern (COC), select the appropriate GWPS designation and definition to demonstrate that the compliance monitoring program objectives are being achieved either under the Risk Reduction Rules (RRR) pursuant to 30 TAC Chapter 335 or the Texas Risk Reduction Program (TRRP) pursuant to 30 TAC Chapter 350. The RRR and TRRP GWPS designations and definitions may not be combined pursuant to 30 TAC Section 350.2(m). Delete all designations and definitions that are not applicable.

   ACL = alternative concentration limit; PQL = practical quantitation limit; PCL = protective concentration level; RSA = Remedy Standard A; RSB = Remedy Standard B

CP Table V: Designation of Wells

Point of Compliance Wells
Sludge Disposal Area
Well Numbers: OW-7, OW-8
2. Unit Name
Well Numbers:
Point of Exposure Wells
Point of Exposure Wells
Point of Exposure Wells
None
Well Numbers:
2. Unit Name
Well Numbers:
Alternate Point of Exposure Wells
Alternate Point of Exposure Wells
Alternate Point of Exposure Wells
NONE
Well Numbers:
2. Unit Name
Well Numbers:
Background Wells
Sludge Disposal Area
Well Numbers: OW-6
2. Unit Name
Well Numbers:

FOA Boundary of Compliance Wells
FOA Boundary of Compliance Wells
FOA Boundary of Compliance Wells
Exposure Pathway: (e.g. SWGW - Groundwater to surface water PCL for Brazos River or Barge Canal, etc)
NONE
Well Numbers:

Wells that are not listed in this table, but are required by Permit Section XI.B.2 (e.g. AMP wells, CAO wells, etc.,) and depicted only in CP Attachment A are subject to change, upon approval by the Executive Director, without modification to the Compliance Plan.

CP Table VI: Compliance Period for RCRA-Regulated Units

Sludge Disposal Area	Year or Number of Years
Year Waste Management Activities Initiated	1979
Year Closed	2003
Compliance Period (years)	13 Years
Compliance Period Began	2007
Remove Last Unit	Add Unit

CP Table VII: Reporting Requirements

Item	Program	Reporting Frequency	Requirements
1.	All programs	Semiannual	Each report shall be certified by a qualified engineer and/or geoscientist.
2.	Corrective Action and/or Compliance Monitoring	Semiannual	A table of all modifications and amendments made to this Compliance Plan with their corresponding approval dates by the Executive Director or the Commission and a brief description of each action;
3.	Corrective Action and/or Compliance Monitoring	Semiannual	A summary of any activity within an area subject to institutional control.
4.	Corrective Action and/or Compliance Monitoring	Semiannual	Tabulation of well casing elevations in accordance with CP Attachment C;
5.	Corrective Action and/or Compliance Monitoring	Semiannual	Certification and well installation diagram for any new well installation or replacement and certification for any well plugging and abandonment;
6.	Corrective Action and/or Compliance Monitoring	Semiannual	Recommendation for any changes to the program;
7.	Corrective Action and/or Compliance Monitoring	Semiannual	Any other items requested by the Executive Director;
8.	Corrective Action and/or Compliance Monitoring	Semiannual	Water table maps shall be prepared from the groundwater data collected pursuant to Permit Provision XI.G. and shall be evaluated by the permittee with regard to the following parameters: a. Development and maintenance of a cone of depression during operation of the system; b. Direction and gradient of groundwater flow; c. Effectiveness of hydrodynamic control of the contaminated zone during operation; and d. Estimation of the rate and direction of groundwater contamination migration.

Item	Program	Reporting Frequency	Requirements
9.	Corrective Action and/or Compliance Monitoring	Semiannual	The permittee shall submit a report to each recipient listed in Provision XI.I.3., which includes the all applicable information listed in this table (CP Table VII: Reporting Requirements), determined since the previously submitted report, if those items are applicable. If both Corrective Action and Compliance Monitoring Programs are authorized, then the Groundwater Monitoring Report required by CP Table VII shall contain information required for both programs.
10.	Corrective Action and/or Compliance Monitoring	Semiannual	The Corrective Action System(s) authorized under Provision XI.B.3. in operation during the reporting period and a narrative summary of the evaluations made in accordance with Permit Sections XI.E., XI.F., and XI.G. for the preceding reporting period. The reporting periods shall be January 1 through June 30 and July 1 through December 31 for Corrective Action Monitoring, unless an alternative semiannual schedule is approved by the Commission. The period for Compliance Monitoring shall be based on the calendar year.
11.	Corrective Action and/or Compliance Monitoring	Semiannual	The method(s) utilized for management of recovered/purged groundwater shall be identified in accordance with Provision XI.B.8. The permittee shall maintain this list as part of the facility operating record and make it available for inspection upon request.

Item	Program	Reporting Frequency	Requirements
12.	Corrective Action and/or Compliance Monitoring	Semiannual	An updated table and map of all monitoring and corrective action system wells. The wells to be sampled shall be those wells proposed in the Compliance Plan Application referenced in Provision I.B. and any changes subsequently approved by the Executive Director pursuant to Provision XI.B.3. Provide in chronological order, a list of those wells which have been added to, or deleted from, the groundwater monitoring and remediation systems since original issuance of the Compliance Plan. Include the date of the Commission's approval for each entry;
13.	Corrective Action and/or Compliance Monitoring	Semiannual	The results of the chemical analyses, submitted in a tabulated format acceptable to the Executive Director which clearly indicates each parameter that exceeds the Groundwater Protection Standard (GWPS). Copies of the original laboratory report for chemical analyses showing detection limits and quality control and quality assurance data shall be provided if requested by the Executive Director;
14.	Corrective Action and/or Compliance Monitoring	Semiannual	Tabulation of all water level elevations required in Provision XI.F.3.d.(1), depth to water measurements, and total depth of well measurements collected since the data that was submitted in the previous monitoring report;
15.	Corrective Action and/or Compliance Monitoring	Semiannual	Potentiometric surface maps showing the elevation of the water table at the time of sampling, delineation of the radius of influence of the Corrective Action System, and the direction of groundwater flow gradients outside any radius of influence;
16.	Corrective Action and/or Compliance Monitoring	Semiannual	Tabulation of all data evaluation results pursuant to Provision XI.F.4. and status of each well with regard to compliance with the Corrective Action objectives and compliance with the GWPS;
17.	Corrective Action and/or Compliance Monitoring	Semiannual	An updated summary as required by CP Table VIII;

Item	Program	Reporting Frequency	Requirements
18.	Corrective Action and/or Compliance Monitoring	Semiannual	Summary of any changes made to the monitoring/ corrective action program and a summary of well inspections, repairs, and any operational difficulties;
19.	Corrective Action and/or Compliance Monitoring	Semiannual	A notation of the presence or absence of non-aqueous phase liquids (NAPLs), both light and dense phases, in each well during each sampling event since the last event covered in the previous monitoring report and tabulation of depth and thickness of NAPLs, if detected;
20.	Corrective Action only	Semiannual	Quarterly tabulations of quantities of recovered groundwater and NAPLs, and graphs of monthly recorded flow rates versus time for the Recovery Wells during each reporting period. A narrative summary describing and evaluating the NAPL recovery program shall also be submitted;
21.	Corrective Action only	Semiannual	Tabulation of the total contaminant mass recovered from each recovery system for each reporting period;
22.	Corrective Action only	Semiannual	Maps of the contaminated area where GWPSs are exceeded depicting concentrations of CP Table IIIA constituents and any newly detected CP Table III constituents as isopleth contours or discrete concentrations if isopleth contours cannot be inferred. Areas where concentrations of constituents exceed the GWPS should be clearly delineated. Depict the boundary of the plume management zone (PMZ), if applicable;
23.	Corrective Action only	Semiannual	Maps and tables indicating the extent and thickness of the NAPLs both light and dense phases, if detected;

Item	Program	Reporting Frequency	Requirements
24.	Corrective Action only	Semiannual	Corrective Measures Implementation (CMI) Progress Report or Response Action Effectiveness Report or Response Action Completion Report to be submitted as a section of the Compliance Plan report in accordance with Provision XI.H.6., if necessary. The permittee will include a narrative summary of the status of the approved final corrective measures conducted in accordance with the approved CMI Workplan or RAP, and that the requirements of Provision XI.H.7. are being met.
25.	Corrective Action only	Semiannual	The permittee will include a narrative summary of the status of each Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) subject to the requirements of Permit Provision XI.H. and ICM Program for a SWMU and/or AOC which documents that the objectives of Provision XI.H.8.b. are being achieved. This summary shall be included as a section of the Compliance Plan groundwater monitoring report.
26.	PMZ	Not Applicable	A summary evaluating the effectiveness of the corrective action system in controlling migration beyond the downgradient boundary and vertical limit of the PMZ to achieve the GWPS. The summary shall include an evaluation of whether the attenuation action levels are not exceeded at their respective attenuation monitoring points pursuant to 30 TAC Sections 350.33(f)(4)(A) and 350.33(f)(4)(D)(ii), if applicable;
27.	PMZ	Not Applicable	An estimate of the percentage of the response action which has been completed within the PMZ, if applicable;
28.	PMZ	Not Applicable	An estimate in years of the additional time necessary to complete the response actions for the PMZ, if applicable;
29.	PMZ	Not Applicable	A determination whether sufficient progress is being made to achieve the selected remedy standard within a reasonable time frame given the circumstance of the affected property in the PMZ, if applicable.

Item	Program	Reporting Frequency	Requirements
30.	Facility Operations Area (FOA)	Not Applicable	The following additional reporting requirements to fulfill requirements of 30 TAC Section 350.134 and 30 TAC Section 350.135. These include but are not limited to: a. Provide an average of both lost workday injury case rates and injury incidence rates for the most recent three (3) year period compared to the most recent specific industry national average published by the Bureau of Labor Statistics. (continued on next page)

Item	Program	Reporting Frequency	Requirements
30. (contd.)	Facility Operations Area (FOA)	Not Applicable	b. Document that the worker health and safety program meets the requirements of the Occupational Safety and Health Administration (OSHA) by providing records of the OSHA compliance history or the results of the most recent audit of the health and safety programs by the OSHA or a third party certified professional industrial hygienist and safety specialist. An audit is required anytime there is a significant change to the health and safety program, or at a minimum every three (3) years, the results of which indicate the program is satisfactory c. Document a compliance history ranking of average or better for the TCEQ. d. Document the pollution prevention program that has a goal of prevention of releases of COCs to environmental media within the FOA. e. Provide a statement that the program required in 30 TAC Section 350.134(a)(7) to protect workers within the FOA from environmental media having concentrations of COCs greater than PCLs or action levels based on the health and safety program is still in effect. In addition, the permittee shall provide, for the preceding year, an updated map delineating areas where the Soil Response Action Plan has been implemented pursuant to 30 TAC Section 350.135(a)(5). f. Document there have not been any significant outstanding non_compliance issues resulting from inspections for compliance with the RCRA permit or order, if any.

Item	Program	Reporting Frequency	Requirements
30. (contd.)	Facility Operations Area (FOA)	Not Applicable	g. Document areas of ecological impact identified within the FOA and procedures for responding to these identified ecologically impacted areas on a continual basis. Review any ecologically impacted areas annually and report any new ecological impacts within thirty (30) days of verification of impact. h. Document activity associated with tracking and responding to releases to soil and groundwater above reportable quantities, which occur within the FOA after the issuance of the Compliance Plan, in accordance with 30 TAC Section 350.135(a)(7). i. Document any NAPL occurrences and any procedure(s) used to address known NAPLs and any NAPLs identified during the operational life of the FOA. This should include any previously discovered NAPL occurrences. j. Provide documentation that access is restricted to the FOA.

CP Table VIII: Compliance Schedule

Item	**Compliance Schedule** (from the date of issuance of the Compliance Plan unless otherwise specified)	**Regulatory Citation**	**Requirement**
A.	60	Compliance Plan	Submit to the Executive Director a schedule summarizing all activities required by the Compliance Plan. The schedule shall list the starting dates of all routine activities. The permittee shall include an updated schedule in the groundwater monitoring report required by Provision XI.G.3. The schedule shall list the activity or report, the Compliance Plan Section which requires the activity or report and the calendar date the activity or report is to be completed or submitted (if this date can be determined.)
B.	60	30 TAC §335.163(4) and Provision XI.F.2.	Submit to the Executive Director for review and approval a Sampling & Analysis Plan (SAP) unless the SAP has been submitted with the application and referenced in Provision I.B.
C.	During the first thirty (30) days of each first and third quarter	30 TAC §350.31(g)	Corrective action monitoring shall be conducted on a semiannual basis for any RCRA-regulated units subject to corrective action program, listed in CP Table I.A program.
D.	During the first thirty (30) days of each first and third quarter	30 TAC §350.33(k)	Compliance monitoring shall be conducted on a semiannual basis for any RCRA-regulated units subject to corrective action program listed in CP Table I.B.
E.	During the first thirty (30) days	30 TAC §335.167	For SWMUs and/or AOCs subject to alternative corrective monitoring, corrective action monitoring shall be conducted on a semiannual basis for the solid waste management units (SWMUs) and/or areas of concern (AOC) listed in CP Table I.C.

Item	**Compliance Schedule** (from the date of issuance of the Compliance Plan unless otherwise specified)	**Regulatory Citation**	**Requirement**
F	During the first thirty (30) days	30 TAC §335.151	For units subject to alternative corrective action, alternative corrective action shall be conducted on a semiannual basis for those units listed in CP Table I.D.
G.	During the first thirty (30) days	30 TAC Section 335.156 and Chapter 350	Corrective action monitoring shall be conducted on a semiannual basis for the RCRA Units, solid waste management units (SWMUs) and/or areas of concern (AOC) listed in CP Table I.E. located within the FOA Boundary
H.	120	30 TAC §350.31(g)	If a PMZ has been authorized, submit to the Executive Director proof of compliance with institutional control requirements which provides notice of the existence and location of the Plume Management Zone (PMZ) which prevents exposure to groundwater from this zone until such a time as constituents of concern may be reduced to below the GWPS of CP Table III.
I.	Notify within 30 days	30 TAC §350.33(k)	If a PMZ has been authorized, after an unexpected event occurs, or a condition is detected, during post-response action care period which indicates that additional response actions will be required at an affected property.
			See Note 2
			See Note 2
			See Note 2

Item	**Compliance Schedule** (from the date of issuance of the Compliance Plan unless otherwise specified)	**Regulatory Citation**	**Requirement**

[1]Note: Please note that Corrective action monitoring is conducted on semiannual basis unless a less frequent monitoring schedule is approved based on plume stability and achievement of corrective action objectives.

[2]Note: Add other site specific activities listed in the implementation schedule of the application that are not completed at the time of application submittal or issuance of the final draft compliance plan. Otherwise, delete requirement if no additional items necessary}. Some common examples are listed below..*

Example (PMZ-specific items that haven't been completed):

Within sixty (60) days of issuance of the Compliance Plan (or other specified time frame), the Permittee shall submit a schedule for completion of the following activities:

Designation/establishment of Attenuation Monitoring Point (AMP) well locations, AMP-xx, AMP-xx that provides appropriate hydraulically upgradient location within the groundwater protective concentration level exceedance (PLCE) zone and continuing down the approximate central flow path of the constituent of concern (COC in the downgradient extent of (unit/area) in accordance with 30 TAC Section 350.33(f)(4)(D).

Establishment/calculate Attenuation Action Levels (AALs) for AMP, AMP-xx, AMP-xx, in accordance with 30 TAC Section 350.33(f)(4)(D)(ii).

Example (installation of additional monitor wells):

Within sixty (60) days of issuance of the Compliance Plan (or other specified time frame), the Permittee shall submit a schedule for completion of the following activities:

The installation of additional wells MW-xx, MW-xx, POE-xx, etc., as depicting in CP Attachment A-monitor well location map. All newly installed wells must meet the requirements of XI.C and CP Attachment C.

CP Table IX: Description of Uppermost Aquifer

The term "Uppermost Aquifer" as referenced in this Compliance Plan refers to the:

The Tyler Pipe facility is excavated into the Eocene age Sparta Formation. The Sparta Formation underlying the facility is predominantly silty sand, silt, and clay and is approximately 100 feet thick. The Sparta Formation is a minor aquifer of Texas. Underlying the Sparta Formation is the Weches Formation. The Weches Formation is approximately 70 feet thick and varies in lithology across short distances, but is predominantly a low permeability hard shale. The Weches Formation acts as an aquitard to vertical groundwater movement.

The average depth to groundwater is about 40.8 feet below the top of casing. The hydraulic gradient is typically about 0.01 ft./ft. or less. The hydraulic conductivity for the uppermost saturated zone is 1.01 x 10-4 cm/sec. and the average effective porosity is estimated to be 19 percent. The groundwater velocity beneath the SDA is about 5 feet per year toward the southwest.

XII. Hazardous Waste Permit Application Fee

Provide all Part B responsive information in Appendix XII. When preparing the physical format organize your submittal using the Format of Hazardous Waste permit Application and Instructions.

In accordance with 30 TAC 305.53, complete Tables XII.A. - Hazardous Waste Units (For Application Fee Calculations) and XII.B. - Hazardous Waste Permit Application Fee Worksheet. Use the following information in calculating your fee. The application fee will be non-refundable once an initial review of the application has been completed. The applicant's fees are subject to evaluation by the technical staff of the Texas Commission on Environmental Quality (TCEQ). However, the TCEQ reserves the right to assess further fees as may be necessary.

A. The minimum permit application fee for a permit or a permit renewal for each hazardous waste facility to be used for Storage, Processing, Disposal, or Closure/Post-Closure Care (disposal has already occurred) of hazardous waste shall be $2,000, plus notice fee, and the maximum shall be $50,000, calculated according to these instructions:

1. Process Analysis - $1,000.00.

2. Management/Facility Analysis - $500.00.

3. A facility unit(s) analysis of $500 per unit is charged for the following:

   a. each cell of a landfill (note that multiple cells that are identical in type and use are subject to a single $500 fee);

   b. tanks and container storage areas (note that multiple tanks and container storage areas that are identical in type and use are subject to a single $500 fee)

   c. identical in type and use means the following:
      (1) made of the same material and same design;
      (2) the same size/capacity within + 10%;
      (3) store the same waste (as identified by USEPA hazardous waste number - 40 CFR 261 Subparts C & D); and
      (4) have the same management characteristics (e.g., storage only).

   d. Each incinerator, boiler/industrial furnace unit, surface impoundment, waste pile, land treatment unit, drip pad, miscellaneous unit, or containment building.

4. Site Evaluation - $100 per acre of surface used for hazardous waste management up to 300 acres. No additional fee thereafter. This shall be calculated as any acreage which will be permitted to manage hazardous waste. This shall include, for example, the entire area within the secondary containment of a tank farm, the area within a fence that surrounds individual units (other than the facility fence), or the area defined by the toe of the dike surrounding a landfill or impoundment, etc.

5. An applicant shall also include with each initial application a fee of $50 to be applied toward the cost of providing the required notice. An additional notice

fee of $15 is required with each application for renewal.

B. The application fee for a major amendment or a Class 2 or 3 modification to a hazardous waste permit for operation, closure, or post-closure care is subject to the fees listed below:

1. A management/facility analysis fee of $500.

2. The notice fee is $50.

3. If a unit is added or a unit area is expanded for any purpose, $100 per additional acre is assessed, until the total additional acreage reaches 300 acres.

4. If one or more of the following reports are added or are significantly revised, the process analysis fee of $1000 is assessed:

   a. waste analysis plan;

   b. site-specific or regional geology report;

   c. site-specific or regional geohydrology report;

   d. groundwater and/or unsaturated zone monitoring;

   e. closure and/or post-closure care plan; or

   f. RCRA Facility Assessments (RFAs), or corrective action reports;

   g. Alternate Concentration Limit (ACL) demonstration or Development of Protective Concentration Limits (PCLs);

   h. Regulated Unit Facility Assessment, Corrective Action (CA) work plans or reports for Regulated Units; and/or

   i. RCRA Facility Investigation (RFI)/Affected Property Assessment (APA), Remedy Selection, Corrective Measure Implementation (CMI)/Remedial Action Plan for solid waste management units, and/or areas of concern;

   j. Facility Operations Area (FOA).

5. A unit analysis fee of $500 per unit is assessed if any of the following occur:

   a. if a unit is added (even if identical to units already in place, using the criteria discussed in A.3 above);

   b. if there are design changes in an existing unit; or

   c. if a unit status changes from closure to post-closure care;

   d. Changes in the number, location, depth, or design of wells approved in compliance plan or a permit (unless it is a replacement well);

   e. Changes in point of compliance and compliance monitoring program;

   f. Changes in Groundwater Protection Standards, indicator parameters, Alternate Concentration Limits or Protective Concentration Limits; and/or

   g. Changes in corrective action program.

C. The application fee for a minor amendment, a Class 1, or a Class 1^1 modification of a

hazardous waste permit is $100 plus the notice fee of $50.

Table XII.A. - Hazardous Waste Units (For Application Fee Calculations)

Verbal Description of Unit	Rated Capacity	Surface Acreage[1]	# of Unit Types[2]	Identical Unit Justification[3]
Landfill (closed)	720,000 CY	8.00	1	not applicable
Sludge Disposal Area (closed)	1,500 CY	0.60	1	not applicable
		Total[4] 9	Total[4] 2	

1. Number of calculated acres.
2. Enter number of units except for units identical in type and use which only count toward a single $500.00 fee.
3. Explain justification for any units claimed as identical in type and use.
4. Enter these totals on the worksheet.

Table XII.B. - Hazardous Waste Permit Application Fee Worksheet

Name of Facility: McWane, Inc. (Tyler Pipe Company)

Solid Waste Registration Number: 30140

1.Process Analysis - $1,000..... $ 1,000

2.Facility Management Analysis - $500..... $ 500

3.Unit Analysis - 2 units @ $500 per unit..... $ 1,000

4.Site Evaluation - 8.60 acres @ $100 per acre..... $ 860

(Maximum of 300 acres)

5.Minor amendment, Class 1, or Class 1[1] modification - $100..... $ 0

6.Cost of Providing Notice - $50 (+ $15 for a renewal) ..... $ 65

Pay This Amount **Total $** 3,425

Make Checks Payable To:

Texas Commission on Environmental Quality - Fund
549 *(your canceled check will be your receipt)*

Complete And Return With Payment To:

Texas Commission on Environmental
Quality Financial Administration Division -
MC 214 P.O. BOX 13088
Austin, Texas 78711-3088

The applicant's fees are subject to evaluation by the technical staff of the Texas Commission on Environmental Quality (TCEQ). However, the TCEQ reserves the right to assess further fees as may be necessitated.

Please do not submit a photocopy of the check (or equivalent transaction submittal) with your application packet but provide only the following account information:

Check No.	Date of Check	Check Amount
359994	5/22/20	$3,425.00

August 13, 2020
Project No. 20-08-23

Ms. Cynthia Scoggins
TCEQ, MC-130
Industrial & Hazardous Waste Section
Waste Permits Division
P.O. Box 13087
Austin, TX 78711-3087

Re: Responses to Technical Notice of Deficiencies
Permit Renewal/Compliance Plan with Minor Amendment
McWane Inc. (Tyler Pipe Company) Facility
Hazardous Waste Permit No. HW-50141-000
Industrial Solid Waste Permit No. 30140
Smith County, Texas
Tracking No. 25211542

Dear Ms. Scoggins:

This letter is written on behalf of the McWane Inc. (Tyler Pipe Company) Facility, in response to a Texas Commission on Environmental Quality (TCEQ) Technical Notice of Deficiency (NOD) email dated August 11, 2020. The TCEQ NODs are provided below in italics and responses immediately follow. Each response contains revised page(s). Where possible redline/strikeout versions are also provided. New Applicant Authorization Pages for Part A and Part B are provided in Attachment 1.

NOD T1: *Correct the Facility Name and Operator to use McWane, Inc. – Tyler Pipe Company in Section I (numerous places).*

Response: The Facility Name has been revised in Part A, Section I.A., C., and D as requested, replacement pages are provided in Attachment 2.

NOD T2: *Correct the total acreage discrepancy between Part B page 4, 678 acres, with the legal description of approximately 174.87 (173.9158 + 0.597) acres total. Correct all maps accordingly.*

Response: The acreage discrepancy between Part B page 4 and the legal description has been corrected. The entire tract of land surrounding the facility is 678 acres. The landfill is 173.9158 acres and the sludge disposal area is 0.597 acres. The two areas have a combined area of 174.87 acres. The total area of the facilities being permitted has been changed from 678 to 174.87

in Part B, Section I, Table I, page 4 of 6. The revised page can be found in Attachment 3.

NOD T3: *Include the location of the Sludge Disposal Area on the Facility Boundary Map.*

Response: The Facility Boundary Map in Part A, Section III, Attachment C has been revised as requested and is provided in Attachment 4.

NOD T4: *Label the Process Flow Diagram and provide a short narrative on Process Description to depict the current facility status i.e. post closure care with compliance plan (the diagram and description provided are of the manufacturing facility that were included in this permit at one time).*

Response: The narrative description regarding Facility Processes and Process Flow Diagram (Part B, Section III, Attachment E) have been modified to describe the current facility status. Revised pages including a redline-strikeout of the narrative description are provided in Attachment 5.

NOD T5: *Respond yes or no to the questions regarding location requirements for landfills.*

Response: Three (3) questions in Part B, Section II, Table II contained "Not Applicable" as responses in the original permit renewal application. Those responses were chosen based on the applicants understanding of TAC 335.201(b). In response to NOD T5, the responses to those three (3) questions have been modified to be "yes" or "no" as applicable based on currently available information. Revised pages of Table II are provided in Attachment 6.

NOD T6: *Evaluate whether the facility is located within a 100-year flood plain using the most recent NOAA (2018) information and provide additional information/calculations/maps accordingly if applicable.*
https://www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas14_Volume11.pdf
https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=tx

Response: As requested, NOAA Atlas 14 Volume 11 (NA14) was reviewed to determine whether Tyler Pipe Facility Units 001 and 082 are located within a 100-year flood plain using the most recent NOAA (2018) information[1]. NA14 contains precipitation frequency estimates for selected durations and frequencies and supplementary information on the

[1] NOAA, 2018. Precipitation-Frequency Atlas of the United States, Volume 11 Version 2.0: Texas. https://www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas14_Volume11.pdf

temporal distribution of heavy precipitation, analysis of seasonality and trends in annual maximum series data, etc., for the state of Texas.

NA14 contains a comparison of precipitation frequency estimates developed during its preparation in relation to corresponding estimates from NOAA Technical Memorandum NWS HYDRO-35 (HYDRO35) for the 60-minute duration and the Weather Bureau Technical Paper No. 40 (TP40) for the 24-hour duration. HYDRO35 and TP40 were prepared in 1977 and 1961, respectively. Figure 7.3 of NA14 illustrates the differences between NA14 and TP40 100-year 24-hour estimates in inches.

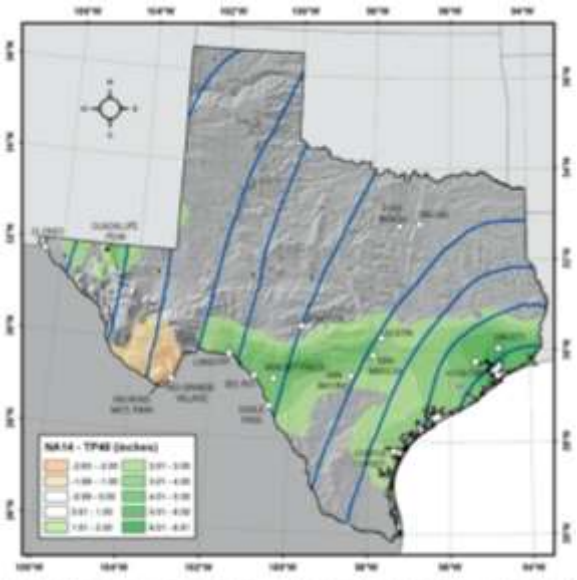


Figure 7.3. Map showing differences in 100-year 24-hour estimates (in inches) between NA14 and TP40 for Texas. Superimposed on the map are isopluvials (blue lines) from TP40.

Based on this comparison, the 100-year 24-hour precipitation frequency estimates changed between -2.63 and 6.91 inches for various locations across Texas. Increases in estimates are shaded green on Figure 7.3 while decreases in estimated precipitation are shaded orange. Increases occurred in the area surrounding the Guadalupe Mountains in West Texas and much of South and Southeast Texas along the Gulf Coast. Estimates decreased in Southwest Texas, in and around the vicinity of Big Bend National Park. There is no shading in the vicinity of the Tyler Pipe facilities which indicating there is no change to the 100-year 24-hour precipitation frequency estimates. Based on this information, no changes to the 100 year flood plain in the vicinity of the Tyler Pipe Facility are required, the 100 year flood plain illustrated by the FEMA Flood Map Service Center[2] (see below), is current and the Tyler Pipe Facility continues to be located outside of the 100 year flood plain. A notation to

[2] https://msc.fema.gov/portal/search?AddressQuery=Tyler%2C%20texas#searchresultsanchor

this effect has been added to Appendix II.F, a revised version is provided in Attachment 7.

NOD T7: *List only those waste streams that are/were managed in permitted units. Correct inconsistencies between Tables IV.B and V.G.1.*

Response: Tables IV.B and V.G.1. have been modified to list only those waste streams that were managed in the permitted units. Revised Tables IV.B and V.G.1. can be found in Attachment 8 and 9, respectively.

NOD T8: *Provide the Waste No. from first column of Table IV.B. rather than the TCEQ Waste Form Codes.*

Response: Table V.G.1. has been modified to provide the Waste Nos. from Table IV.B rather than the TCEQ Waste Form Codes. The revised Table V.G.1. is provided in Attachment 9.

NOD T9: *Provide a legible map and update with current NOAA rainfall data, https://www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas14_Volume11.pdf. https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=tx*

Response: A legible version of Figure V.A.5. has been created with current rainfall data. Additionally, the local water wells have been updated and the facility monitor wells have been added to the map. The revised Figure V.A.5. is provided in Attachment 10.

NOD T10: *Provide details and calculations on post closure cost estimates for NORs 001 and 082. For example, use specific number of units versus "lump" in tables.*

Response: The Post-Closure Cost Estimates in Part B, Section VII, Appendix VII.D have been modified to provide specific numbers and units as requested.

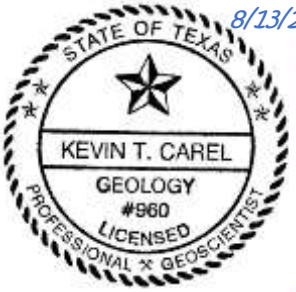
A few line items continue to be lump sum estimates as necessary. The revised post-closure cost estimates are provided in Attachment 11.

NOD T11: *Provide source of information. (See section below Table VII.D.)*

Response: The source of the information for Part B, Section VII, Table VII.D. was a January 15, 2010 NOD response to the 2010 Permit Renewal Application. Table VII.D has been revised to state the source of the information as requested.

It is noted that the approved 2010 cost estimate values were total costs for the remaining post closure care period. The values required for Table VII.D are annual costs. Thus the approved 2010 estimates were converted from total values to annual values for this 2020 permit renewal application. Excerpts of the approved 2010 cost estimates (i.e. the January 15, 2010 NOD response), examples of the conversation calculations for selected line items and a revised version of Table VII.D. are provided in Attachment 12.

We trust this information is acceptable to you. An original and three copies of this letter are enclosed for your use and distribution. Please call Scott Harris at (903) 882-2687 or me at (817) 991-7370 if you have any questions.



8/13/2020

Sincerely,
THE CAREL CORPORATION
Texas Geoscience Firm # 50137

Kevin T. Carel, P.G.
President

Att: 1 – Signature Pages
2 – Revised Facility and Operator Name, Part A, Section I.A, C., and D.
3 – Revised Acreage, Part B, Page 4
4 – Revised Attachment C, Part A, Section III
5 – Revised Process Flow Diagram and Narrative, Part A, Section III, Attachment E
6 – Revised Responses, Table II, Part B, Section II
7 – Revised Appendix II.F, Part B, Section II
8 – Revised Table IV.B., Part B
9 – Revised Table V.G.1., Part B
10 – Revised Figure V.A.5., Part B, Section V
11 – Revised Appendix VII.D., Part B, Section VII

cc: Scott Harris – McWane Inc. (Tyler Pipe Company)

ATTACHMENT 1

Signature Pages

Signature Page

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Operator Signature: Greg Simmons Date: 8-11-20

Name and Official Title (type or print): **Greg Simmons, General Manager**

Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

Owner Signature: _____ Date: _____

Name and Official Title (type or print): _____

To be completed by the operator if the application is signed by an authorized representative for the operator

I, _____ hereby designate _____
(operator) (authorized representative)
as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

(Note: Application Must Bear Signature & Seal of Notary Public)

Subscribed and sworn to before me by the said Greg Simmons on this 11th day of August, 2020.

My commission expires of the 27th day of May, 2020

Sandra C Smith
Notary Public in and for Smith County, Texas

SANDRA CAROL SMITH
Notary ID #11373159
My Commission Expires
May 27, 2023

Signature Page

I, Greg Simmons, General Manager,
(Operator) *(Title)*

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Greg Simmons Date: 8-11-20

To be completed by the Operator if the application is signed by an Authorized Representative for the Operator

I, _____, hereby designate _____
[Print or Type Name] *[Print or Type Name]*

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

SUBSCRIBED AND SWORN to before me by the said

On this 11th day of August, 2020

My commission expires on the 27th day of May, 2023

Notary Public in and for Smith County, Texas

*[**Note**: Application Must Bear Signature & Seal of Notary Public]*

SANDRA CAROL SMITH
Notary ID #11373159
My Commission Expires
May 27, 2023

Sandra C Smith

ATTACHMENT 2

Revised Facility and Operator Name
Part A, Section I.A., C., and D

Texas Commission on Environmental Quality
Permit Application for a Hazardous Waste Storage/Processing/Disposal Facility
Part A - Facility Background Information

I. General Information

A. Facility Name: McWane, Inc. - Tyler Pipe Company
(Individual, Corporation, or Other Legal Entity Name)

TCEQ Solid Waste Registration No: 30140 EPA I.D. No.: TXD066349770

Street Address (If Available): 11910 County Road 492

City: Tyler, State: Texas Zip Code: 75706

County: Smith

Telephone Number: (903) 882-5511 Charter Number: 7116506

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.

B. Facility Contact

1. List those persons or firms who will act as primary contact for the applicant during the processing of the permit application. Also indicate the capacity in which each person may represent the applicant (engineering, legal, etc.). The person listed first will be the primary recipient of correspondence regarding this application. Include the complete mailing addresses and phone numbers.

   Scott Harris
   Environmental Manager
   McWane, Inc. (Tyler Pipe Company)
   11910 County Road 492
   Tyler, Texas 75706
   (903) 882-2687

2. If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.

   C.T. Corporation Systems
   350 North St. Paul Street
   Dallas, TX 75201

C. Operator[1]: Identify the entity who will conduct facility operations.

Operator Name: McWane, Inc. - Tyler Pipe Company

Address: 11910 County Road 492

City: Tyler, State: Texas Zip Code: 75706

Telephone Number: (903) 882-5511 Charter Number: 7116506

[1] The operator has the duty to submit an application if the facility is owned by one person and operated by another [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on this application [Section 361.087 Texas Health and Safety Code].

D. Owner

1. Indicate the ownership status of the facility:

   a. Private _____X_____

      (1) ____X_____Corporation
      (2) _____Partnership
      (3) _____Proprietorship
      (4) _____Non-profit organization

   b. Public _____

      (1) _____Federal
      (2) _____Military
      (3) _____State
      (4) _____Regional
      (5) _____County
      (6) _____Municipal
      (7) _____Other (specify)

2. Does the operator own the facility units and facility property?

   ☒ Yes ☐ No

   If you checked "no",

   a. Submit as "Attachment A" a copy of the lease for use of or the option to buy said facility units and/or facility property, as appropriate; and

   b. Identify the facility units' owner(s) and/or facility property owner(s). Please note that the owner(s) is/are required to sign the application on page 5.

Owner Name: ____McWane, Inc. - Tyler Pipe Company_____

Address: _____11910 County Road 492_____

City: _____Tyler_____, State: ___Texas_____ Zip Code: _75706_____

Telephone Number: ____(903) 882-5511_____

Owner Name: _____

Address: _____

City: _____, State: _____ Zip Code: _____

Telephone Number: _____

E. Type of Application Submittal:

Initial _____ or Revision ____X____

F. Registration and Permit Information

ATTACHMENT 3

Revised Acreage
Part B, Page 4

Description of Application Changes

Complete Table I.1 - Description of Proposed Application Changes.

Note: List all changes requested in Table I.1. Unlisted requests risk remaining unaddressed or possibly denied if brought to the permit application reviewer's attention at a later time.

Total acreage of the facility being permitted:	175
Identify the name of the drainage basin and segment where the facility is located:	Drainage area of Segment 0606 in the

Facility Siting Summary:

Is the facility located or proposed to be located:

Within a 100-year floodplain?	No
In the critical habitat of an endangered species of plant or animal?	No
On the recharge zone of a sole-source aquifer?	No
In an area overlying a regional aquifer?	Yes
Within 0.5 mile (2,640 feet) of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park?[7] [30 TAC 335.202] If Yes: the TCEQ shall not issue a permit for this facility.	No
In an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste? If Yes: provide a copy of the ordinance or order.	No

Wastewater and Stormwater Disposition

Is the disposal of any waste to be accomplished by a waste disposal well at this facility?	No
If Yes: List WDW Permit No(s):	

ATTACHMENT 4

Revised Attachment C
Part A, Section III

P:\NRM\2004\4100401001\70_Enviro\SPCC_Revisions\Figures\Landfill SPCC 8.dwg on Apr 29, 2008 – 11:42am

BENHAM
an SAIC company

The Benham Companies, LLC
infrastructure & environment
3700 W. Robinson, Suite 200
Norman, Oklahoma 73072
(405) 321-3895
www.benham.com

FIGURE TITLE	**Facility Boundary Map**
	Revisions: Modified August 2020 by The Carel Corporation to illustrate the Sludge Disposal Area
CLIENT	TYLER PIPE COMPANY
LOCATION	SMITH COUNTY, TEXAS

DATE	4/29/2008
SCALE	NONE
DESIGNED BY	WLT
APPROVED BY	WLT
DRAWN BY	WLT

PROJECT NUMBER
4100401001
FIGURE NUMBER
Attachment C
Rev. 1 August 2020

ATTACHMENT 5

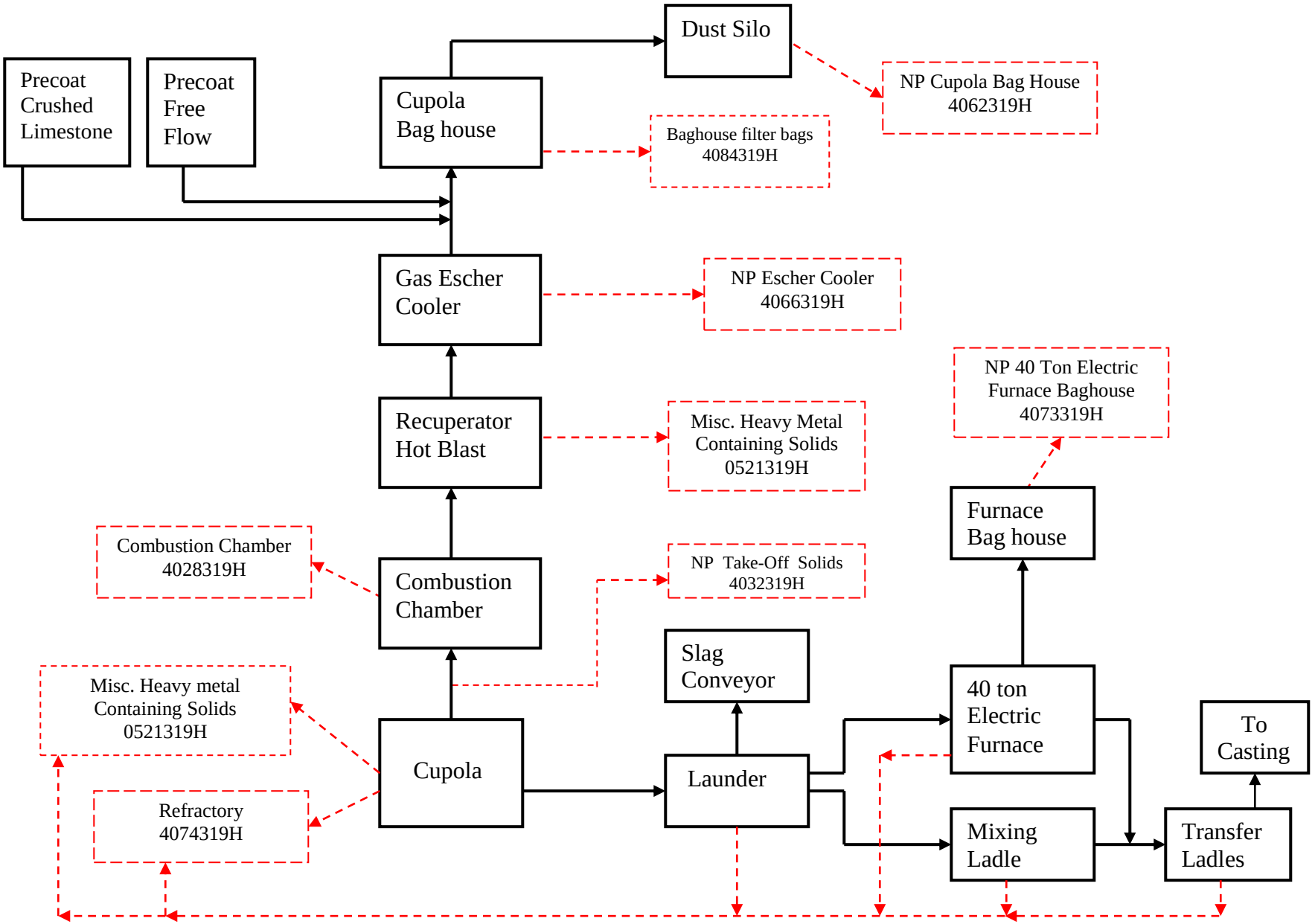
Revised Process Flow Diagram and Narrative
Part A, Section III, Attachment E

Attachment E
Process Flow Diagram/Descriptions

A Process Flow Diagram representing the manufacturing processes that generated the wastes which were historically disposed of in the Hazardous Waste Landfill (Unit 001) and/or the Sludge Disposal Area (Unit 082) regulated by Hazardous Waste Permit No. 50141 is provided in Attachment E. Units 001 and 082 are undergoing post closure care and monitoring with a compliance plan. The processes described on Attachment E are not part of Hazardous Waste Permit 50141. ~~Flow diagrams and step by step word descriptions of the process flow, depicting the handling, collection, storage, processing, and/or disposal of each of the *currently generated* hazardous wastes listed in this application are provided herein~~. The flow diagrams/descriptions include the following information: originating point of each waste; waste classification code; means of conveyance utilized during the process flow; and the name and function of each facility component through which the waste passes. Since the ultimate disposition of each waste is "offsite disposal", this is not indicated on the process flow diagrams.

Attachment E
Process Flow Diagram/Descriptions

A Process Flow Diagram representing the manufacturing processes that generated the wastes which were historically disposed of in the Hazardous Waste Landfill (Unit 001) and/or the Sludge Disposal Area (Unit 082) regulated by Hazardous Waste Permit No. 50141 is provided in Attachment E. Units 001 and 082 are undergoing post closure care and monitoring with a compliance plan. The processes described on Attachment E are not part of Hazardous Waste Permit 50141. The flow diagrams/descriptions include the following information: originating point of each waste; waste classification code; means of conveyance utilized during the process flow; and the name and function of each facility component through which the waste passes. Since the ultimate disposition of each waste is "offsite disposal", this is not indicated on the process flow diagrams.



Attachment E
Process Flow Diagram – Tyler Pipe Plant Melt Operations

The above Process Flow Diagram represents the manufacturing processes that generated the wastes which were historically disposed of in the Hazardous Waste Landfill (Unit 001) and/or the Sludge Disposal Area (Unit 082) regulated by Hazardous Waste Permit No. 50141. Units 001 and 082 are undergoing post closure care and monitoring with a compliance plan. The above processes are not part of Hazardous Waste Permit 50141.

Rev. #1 - August 2020

ATTACHMENT 6

Revised Responses Table II
Part B, Section II

Table II Facility Siting Criteria Information

Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills

Is the facility located or proposed to be located[1]:

In wetlands? [as applicable: 30 TAC 335.204(a)(2), (b)(2), (c)(2), (d)(2), and/or (e)(2)	No	
If Yes: the TCEQ shall not issue a permit for a new hazardous waste management facility or areal expansion of an existing facility into wetlands, pursuant to 30 TAC 335.205(a)(1).		
In the critical habitat of an endangered species of plant or animal?[6] [as applicable: 30 TAC 335.204(a)(8), (b)(10), (c)(9), (d)(9), and/or (e)(11)]	~~Not Applicable~~	No
If Yes: submit in Section V information demonstrating that design, construction, and operational features will prevent adverse effects on such critical habitat.		
On the recharge zone of a sole-source aquifer?2 [30 TAC 335.204(a)(3), (b)(3), (c)(3), (d)(3), and/or (e)(3)]	No	
If Yes: then for storage and processing facilities (excluding storage surface impoundments), submit in Section V information demonstrating that secondary containment is provided to preclude migration to groundwater from spills, leaks, or discharges.		
In an area overlying a regional aquifer? [as applicable: 30 TAC 335.204(a)(4), (b)(4), (c)(4), (d)(4), and/or (e)(4)]	Yes, See Below	
If Yes: submit site-specific information in Section V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1).		
In areas where soil unit(s) are within five feet of the containment structure, or treatment zone, as applicable, that have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10-5 cm/sec? [as applicable: 30 TAC 335.204(a)(5), (b)(5), (c)(5), (d)(5), and/or (e)(5)]	No	
If Yes: provide additional information in Sections V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1)		
In areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system?[6] [as applicable: 30 TAC 335.204 (a)(6), (b)(7), (c)(6), and/or (e)(8)].	~~Not Applicable~~	Yes
If Yes: provide information in Section V demonstrating compliance with 30 TAC 335.205(a)(1).		

In areas of active geologic processes, including but not limited to erosion, submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cuttings, or earthquakes?[6] [as applicable: 30 TAC 335.204(a)(7), (b)(8) ,(c)(7), (d)(7), and/ or (e)(9)]	~~Not Applicable~~ No
Within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures?[6] [as applicable: 30 TAC 335.204(a)(9), (b)(12) ,(c)(11), (d)(11), and/or (e)(13)]	No

If Yes: specify in Section V the design, construction, and operational features that will prevent adverse effects resulting from any fault movement.

If a fault is found to be present, the width and location of the actual or inferred surface expression of the fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, must be determined by a qualified geologist or geotechnical engineer and reported in Section VI.

Table II Facility Siting Criteria Information

Requirements for Storage or Processing Facilities, Land Treatment Facilities, Waste Piles, Storage Surface Impoundments, and Landfills

Is the facility located or proposed to be located[1]:

In wetlands? [as applicable: 30 TAC 335.204(a)(2), (b)(2), (c)(2), (d)(2), and/or (e)(2)	No
If Yes: the TCEQ shall not issue a permit for a new hazardous waste management facility or areal expansion of an existing facility into wetlands, pursuant to 30 TAC 335.205(a)(1).	
In the critical habitat of an endangered species of plant or animal?[6] [as applicable: 30 TAC 335.204(a)(8), (b)(10), (c)(9), (d)(9), and/or (e)(11)]	No
If Yes: submit in Section V information demonstrating that design, construction, and operational features will prevent adverse effects on such critical habitat.	
On the recharge zone of a sole-source aquifer?2 [30 TAC 335.204(a)(3), (b)(3), (c)(3), (d)(3), and/or (e)(3)]	No
If Yes: then for storage and processing facilities (excluding storage surface impoundments), submit in Section V information demonstrating that secondary containment is provided to preclude migration to groundwater from spills, leaks, or discharges.	
In an area overlying a regional aquifer? [as applicable: 30 TAC 335.204(a)(4), (b)(4), (c)(4), (d)(4), and/or (e)(4)]	Yes, See Below
If Yes: submit site-specific information in Section V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1).	
In areas where soil unit(s) are within five feet of the containment structure, or treatment zone, as applicable, that have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 10-5 cm/sec? [as applicable: 30 TAC 335.204(a)(5), (b)(5), (c)(5), (d)(5), and/or (e)(5)]	No
If Yes: provide additional information in Sections V and/or Section VI demonstrating compliance with 30 TAC 335.205(a)(1)	
In areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system?[6] [as applicable: 30 TAC 335.204 (a)(6), (b)(7), (c)(6), and/or (e)(8)].	Yes, See Below
If Yes: provide information in Section V demonstrating compliance with 30 TAC 335.205(a)(1).	

In areas of active geologic processes, including but not limited to erosion, submergence, subsidence, faulting, karst formation, flooding in alluvial flood wash zones, meandering river bank cuttings, or earthquakes?[6] [as applicable: 30 TAC 335.204(a)(7), (b)(8) ,(c)(7), (d)(7), and/ or (e)(9)]	No
Within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures?[6] [as applicable: 30 TAC 335.204(a)(9), (b)(12) ,(c)(11), (d)(11), and/or (e)(13)]	No
If Yes: specify in Section V the design, construction, and operational features that will prevent adverse effects resulting from any fault movement. If a fault is found to be present, the width and location of the actual or inferred surface expression of the fault, including both the identified zone of deformation and the combined uncertainties in locating a fault trace, must be determined by a qualified geologist or geotechnical engineer and reported in Section VI.	

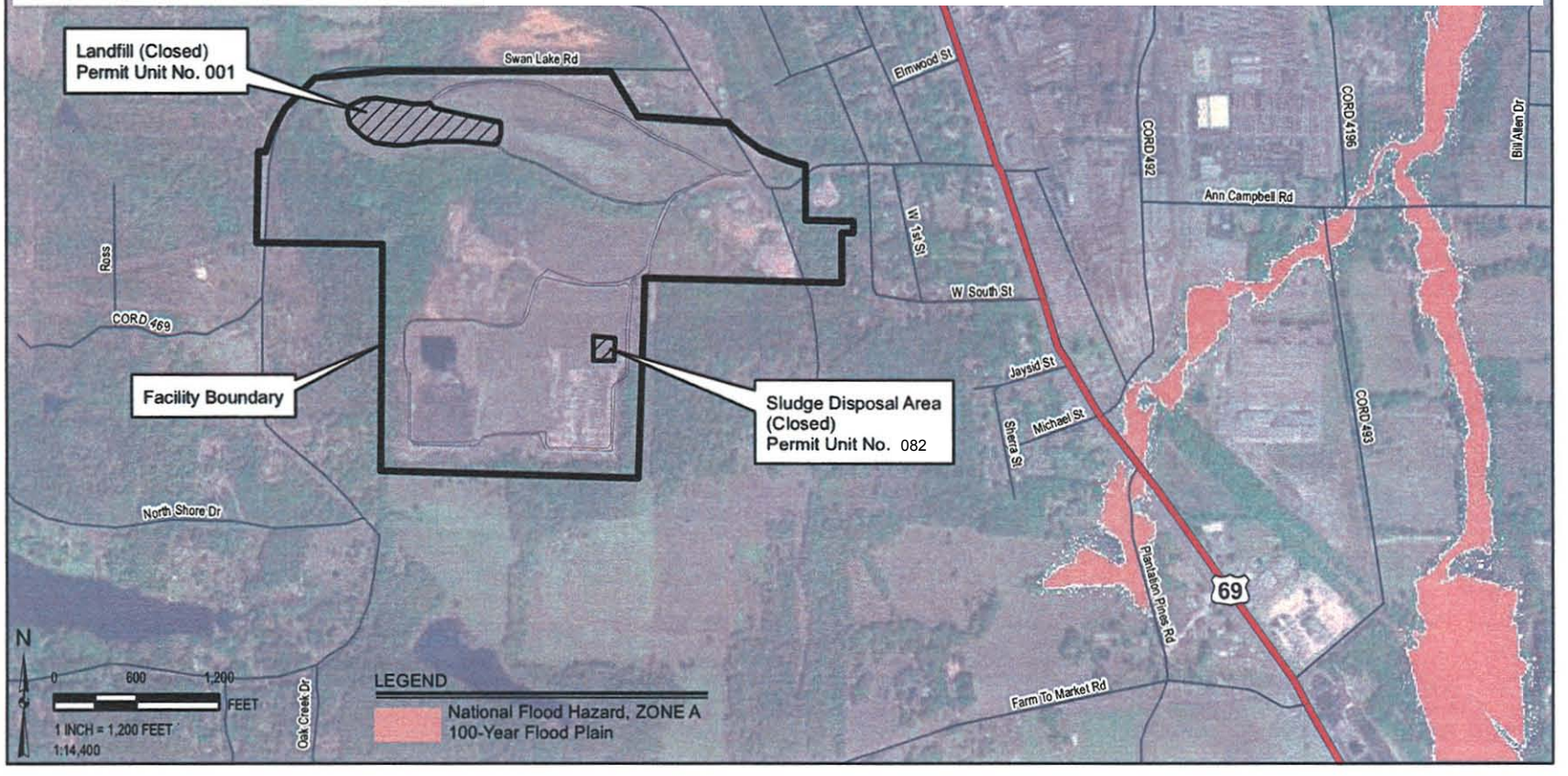
ATTACHMENT 7

Revised Appendix II.F
Part B, Section II

NOTE

1. The National Flood Hazard Layer is a computer database that contains the digital flood hazard information from FEMA's Flood Map Modernization program (Downloaded using the Web Map Service, January 2010)

2. As part of the 2020 Permit Renewal process, the most recent NOAA information (NOAA Atlas 14 Volume 11) was reviewed to determine whether Units 001 and 082 are located within the 100-year floodplain using the most recent NOAA information. Based on review of NOAA Atlas 14 Volume 11, the 100-year floodplain in the area has not changed and Units 001 and 082 are not located within it.



RMT
744 Heartland Trail
Madison, WI 53717 - 1934
P.O. Box 8923
Madison, WI 53708 - 8923
Phone: 608-831-4444
Fax: 608-831-3334

APPENDIX II.F
100-YEAR FLOOD PLAIN MAP

MCWANE, INC. (TYLER PIPE COMPANY)
TYLER, TEXAS

DRAWN BY:	S S WILSON
APPROVED BY:	B PAULES
PROJ. NO.:	00-07749.26
FILE NO.:	077492602_FLOOD
DATE:	JANUARY 2010

D:\07749\26\GIS\MXD\077492602_FLOOD.mxd 1/14/2010 13:48:15

Rev. #1 - August 2020

ATTACHMENT 8

Revised Table IV.B., Part B

Table IV.B. - Wastes Managed In Permitted Units

No.	Waste	EPA Hazardous Waste Numbers	TCEQ Waste Form Codes and Classification Codes
1	Mason-Dixon Plant Solids/ Cupola Wet Scrubbers	D006, D008	971460 0512319H

ATTACHMENT 9

Revised Table V.G.1., Part B

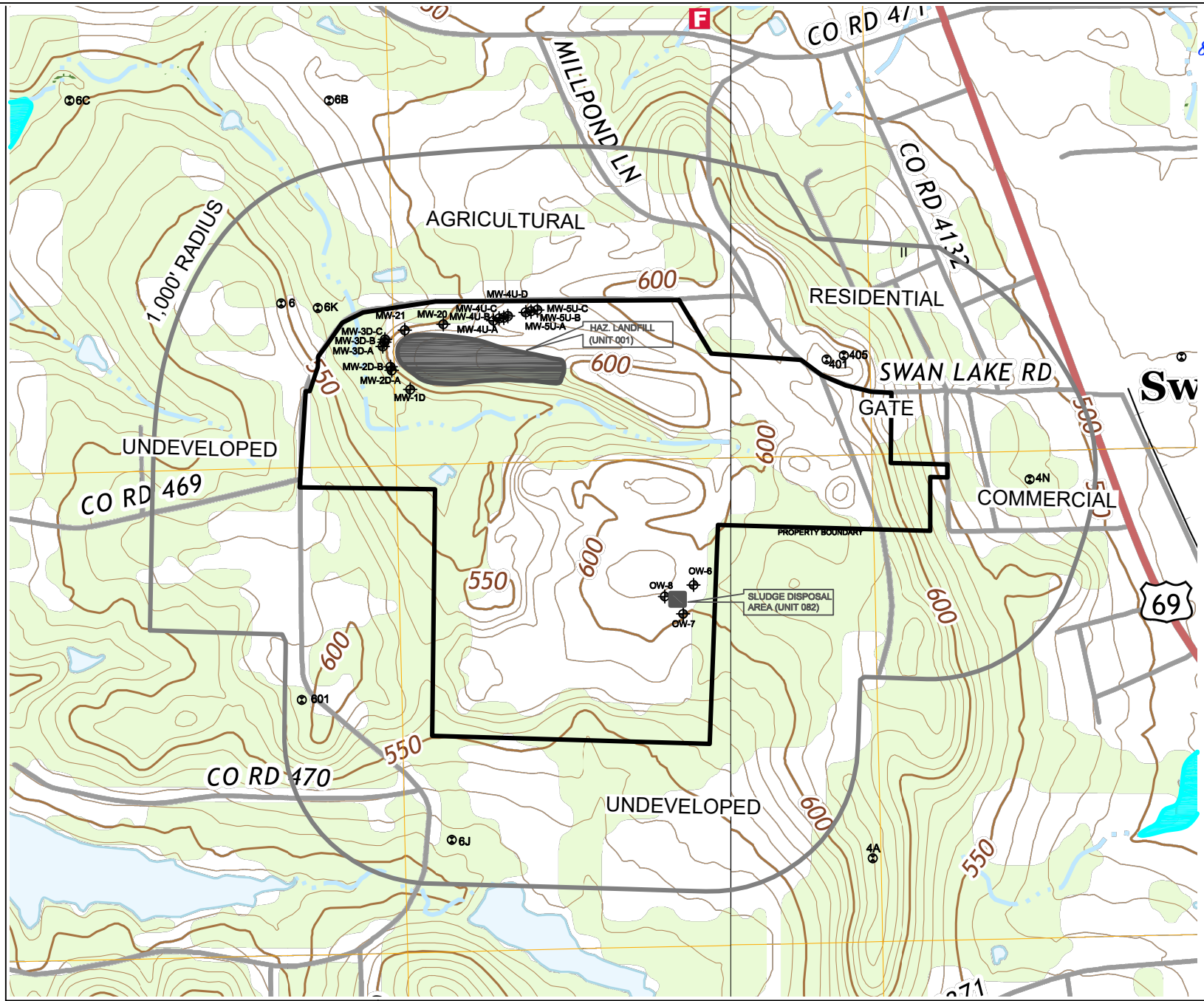
Table V.G.1. - Landfills

Permit Unit No.	Landfill	N.O.R. No.	Waste Nos.[1]	Rated Capacity	Dimensions[2]	Distance from lowest liner to groundwater	Action Leakage Rate (if required)	Unit will manage Ignitable, Reactive, Incompatible, or F020, F021, F022, F023, F026, and F027 Waste (state all that apply)
1	Landfill	001	1	720,000 cubic yards	1,100 feet x 250 feet x 0, 6.3 acres	15 feet	not required (unit closed)	No
2	Sludge Disposal Area	082	1	1,500 cubic yards	100 feet x 200 feet x 0, 0.46 acres	15 feet	not required (unit closed)	No

1from Table IV.B, first column
2Dimensions should be provided as average length, width and depth, also include the surface acreage for the unit.

ATTACHMENT 10

Revised Figure V.A.5.
Part B, Section V



8/12/2020

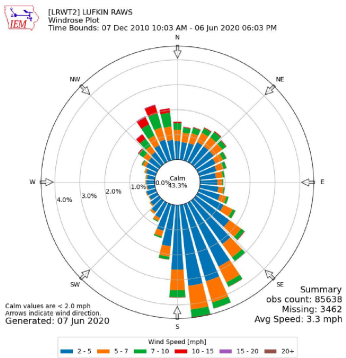
STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

LEGEND:

- GROUNDWATER MONITOR WELL
- WATER WELL

AVERAGE ANNUAL RAINFALL - 46.63 in.

WIND ROSE



100 YEAR FLOOD PLAIN
SOURCE: FEMA FLOOD MAP SERVICE CENTER

N

FEET

SCALE:

0 500 1000

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248

FACILITY TOPOGRAPHIC MAP

McWANE INC. - TYLER PIPE COMPANY

Tyler, Texas

Rev. #1 - August 2020

DATE: AUGUST 2020	
FILENAME: L:\TEXAS\Tyler Pipe\Plan View Map2.dwg	
DRAWN BY:	FIGURE V.A.5
DRAFTED BY:	

ATTACHMENT 11

Revised Appendix VII.D
Part B, Section VII

The annual cost breakdown for post-closure care of the closed ***landfill*** is presented in the following table.

Activity	Task	Units	No. of Units	Unit Cost	Subtotal
Groundwater Monitoring	Sampling and Laboratory Analysis (15 wells plus QA/QC samples)	~~Lump~~wells sampled	~~1~~30	$~~9,329~~310.95	$9,329
Cap Inspections and Maintenance	Inspect Cover, Fence, Wells, Drainage Structures	~~lump~~hours	~~1~~94.85	$~~7,114~~75	$7,114
	Maintenance and Repairs				
Recordkeeping and Reporting	Annual Groundwater Detection Monitoring Report	~~lump~~report	1	$5,000	$5,000
Other	General Maintenance of Vegetative Cover	~~lump~~acres	1.62	$~~3,337~~2,058	$3,337
Other	Well Maintenance/Replacement/Abandonment	lump	1	$3,597	$3,597
Other	Engineering, Fees, Oversight	lump	1	$10,133	$10,133
Other	Certification of Post Closure	lump	1	$8,000	$8,000
				Annual Subtotal	$46,510
				10% Contingency	$4,651
				Annual Total	$51,161
				Post-Closure Total (5 yrs)	**$255,805**

Sludge Disposal Area

The closed sludge disposal area (NOR Unit No. 076) has been in post-closure care since closure certification was approved by the TCEQ in September 2003 (*i.e.*, 17 years). As such, this HWM unit has only 13 years remaining of the RCRA-specified 30-year post-closure period. Therefore, the post-closure cost estimate provided herein is based on third-party costs over a 13-year period.

- **Groundwater Compliance Monitoring**
  The compliance monitoring system for the closed sludge disposal area is comprised of a total of 3 monitor wells (1 upgradient wells and 2 downgradient wells). These wells will be sampled on a *semiannual* basis during the remaining 13 years of the post-closure period, with one groundwater sample to be collected from each well for laboratory analysis of the following detection monitoring parameters: *cadmium*, *chromium*, *lead*, *mercury*, and *zinc*.

- **Cap Inspections and Maintenance**
  Post-closure inspections will be conducted on a monthly basis at the closed sludge disposal area pursuant to the requirements of 40 CFR §264.15(b), §264.33, and §264.303. These monthly inspections will be conducted to ensure the integrity of the cover system over this unit and to identify any damage requiring maintenance or re-seeding. Monitor wells will be inspected for any damage to pads or casings. All warning signs will be observed for placement and clarity. The perimeter fencing and electronic gates will also be inspected and

repaired if necessary. Structures intended to prevent stormwater run-on and to convey stormwater runoff will also be inspected and repaired/cleaned as necessary.

- **Recordkeeping and Reporting**
  Inspection checklists and maintenance reports for the closed sludge disposal area will be retained throughout the post-closure care period. Records will be maintained in Tyler Pipe's environmental file and made part of the facility operating record. Records will be provided to authorized local, state, and federal personnel upon request. Groundwater monitoring results obtained and inspection/maintenance activities conducted during each year of the post-closure care period will be documented within the *Semiannual Compliance Monitoring Program Reports*.

The annual cost breakdown for post-closure care of the closed ***sludge disposal area*** is presented in the following table.

Activity	Task	Units	No. of Units	Unit Cost	Subtotal
Groundwater Monitoring	Sampling and Laboratory Analysis (3 wells plus QA/QC samples)	~~Lump~~wells sampled	~~1~~6	$~~2,466~~411	$2,466
Cap Inspections and Maintenance	Inspect Cover, Fence, Wells, Drainage Structures	~~lump~~hours	13.82	$~~1,037~~75	$1,037
	Maintenance and Repairs				
Recordkeeping and Reporting	Semiannual Compliance Monitoring Reports	~~lump~~reports	~~1~~2	$~~5,000~~2,500	$5,000
Other	General Maintenance of Vegetative Cover	~~lump~~acres	~~1~~0.5	$~~1,029~~2,058	$1,029
Other	Well Maintenance/Replacement/Abandonment	lump	1	$793	$793
Other	Engineering, Fees, Oversight	lump	1	$5,135	$5,135
Other	Certification of Post Closure	lump	1	$385	$385
				Annual Subtotal	$15,845
				10% Contingency	$1,585
				Annual Total	$17,430
				Post-Closure Total (13yrs)	**$226,590**

The annual cost breakdown for post-closure care of the closed ***landfill*** is presented in the following table.

Activity	Task	Units	No. of Units	Unit Cost	Subtotal
Groundwater Monitoring	Sampling and Laboratory Analysis (15 wells plus QA/QC samples)	wells sampled	30	$310.95	$9,329
Cap Inspections and Maintenance	Inspect Cover, Fence, Wells, Drainage Structures	hours	94.85	$75	$7,114
	Maintenance and Repairs				
Recordkeeping and Reporting	Annual Groundwater Detection Monitoring Report	report	1	$5,000	$5,000
Other	General Maintenance of Vegetative Cover	acres	1.62	$2,058	$3,337
Other	Well Maintenance/Replacement/Abandonment	lump	1	$3,597	$3,597
Other	Engineering, Fees, Oversight	lump	1	$10,133	$10,133
Other	Certification of Post Closure	lump	1	$8,000	$8,000
				Annual Subtotal	$46,510
				10% Contingency	$4,651
				Annual Total	$51,161
				Post-Closure Total (5 yrs)	**$255,805**

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The closed sludge disposal area (NOR Unit No. 076) has been in post-closure care since closure certification was approved by the TCEQ in September 2003 (*i.e.*, 17 years). As such, this HWM unit has only 13 years remaining of the RCRA-specified 30-year post-closure period. Therefore, the post-closure cost estimate provided herein is based on third-party costs over a 13-year period.

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  The compliance monitoring system for the closed sludge disposal area is comprised of a total of 3 monitor wells (1 upgradient wells and 2 downgradient wells). These wells will be sampled on a *semiannual* basis during the remaining 13 years of the post-closure period, with one groundwater sample to be collected from each well for laboratory analysis of the following detection monitoring parameters: *cadmium*, *chromium*, *lead*, *mercury*, and *zinc*.

- **Cap Inspections and Maintenance**
  Post-closure inspections will be conducted on a monthly basis at the closed sludge disposal area pursuant to the requirements of 40 CFR §264.15(b), §264.33, and §264.303. These monthly inspections will be conducted to ensure the integrity of the cover system over this unit and to identify any damage requiring maintenance or re-seeding. Monitor wells will be inspected for any damage to pads or casings. All warning signs will be observed for placement and clarity. The perimeter fencing and electronic gates will also be inspected and repaired if necessary. Structures intended to prevent stormwater run-on and to convey stormwater runoff will also be inspected and repaired/cleaned as necessary.

- **Recordkeeping and Reporting**
  Inspection checklists and maintenance reports for the closed sludge disposal area will be retained throughout the post-closure care period. Records will be maintained in Tyler Pipe's environmental file and made part of the facility operating record. Records will be provided to authorized local, state, and federal personnel upon request. Groundwater monitoring results obtained and inspection/maintenance activities conducted during each year of the post-closure care period will be documented within the *Semiannual Compliance Monitoring Program Reports*.

The annual cost breakdown for post-closure care of the closed ***sludge disposal area*** is presented in the following table.

Activity	Task	Units	No. of Units	Unit Cost	Subtotal
Groundwater Monitoring	Sampling and Laboratory Analysis (3 wells plus QA/QC samples)	wells sampled	6	$411	$2,466
Cap Inspections and Maintenance	Inspect Cover, Fence, Wells, Drainage Structures	hours	13.82	$75	$1,037
	Maintenance and Repairs				
Recordkeeping and Reporting	Semiannual Compliance Monitoring Reports	reports	2	$2,500	$5,000
Other	General Maintenance of Vegetative Cover	acres	0.5	$2,058	$1,029
Other	Well Maintenance/Replacement/Abandonment	lump	1	$793	$793
Other	Engineering, Fees, Oversight	lump	1	$5,135	$5,135
Other	Certification of Post Closure	lump	1	$385	$385
				Annual Subtotal	$15,845
				10% Contingency	$1,585
				Annual Total	$17,430
				Post-Closure Total (13yrs)	**$226,590**

ATTACHMENT 12

Excerpts of Approved 2010 Cost Estimates, Example Conversation Calculations and Revised Table VII.D.

NOD T11

Examples Regarding Post Closure Care Cost Update for the Tyler Pipe 2020 Permit Renewal

Example 1 – Groundwater Monitoring

- The total projected groundwater monitoring cost for the remaining 15.12 years of post closure care was $141,049 or $9,328.64/year (see blue box on page 75 of pdf).
- The annual groundwater monitoring cost used in Table VII.D was $9,329.

Example 2 – Cap Inspections and Maintenance:

- The total projected cap inspection and maintenance (i.e. Maintenance, Repair and Inspection) cost for the remaining 15.12 years of post-closure care was $107,559 or $7,113.69/year (see light blue box on page 75 of pdf).
- The annual cap inspection and maintenance cost used in Table VII.D was $7,114.

Example 3 – Recordkeeping and Reporting

- The total projected recordkeeping and reporting cost for the remaining 15.12 years of post-closure care was $75,589 or $4,999.27/year (see orange box on page 75 of pdf).
- The annual cap recordkeeping and reporting cost used in Table VII.D was $5,000.

Example 4 – General Maintenance of Vegetative Cover & Well Maintenance/Replacement/Abandonment

- The total projected General Maintenance of Vegetative Cover cost for the remaining 15.12 years of post-closure care was $50,460 or $3,337.30/year (see yellow box on page 75 of pdf).
- The annual General Maintenance of Vegetative Cover cost used in Table VII.D was $3,337.30.
- The total projected Well Maintenance/Replacement/Abandonment cost for the remaining 15.12 years of post-closure care was $54,389 or $3,597.16/year (see green box on page 75 of pdf).
- The annual Well Maintenance/Replacement/Abandonment cost used in Table VII.D was $3,597.
- The two categories were placed in the same row because Table VII.D did not contain enough rows and the two numbers were added together for a total of $6,934.

January 15, 2010

Ms. Joy H. Archuleta, Project Manager
Industrial & Hazardous Waste Permits Section
Waste Permits Division (MC-130)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: Response to Technical Notice of Deficiency – Permit Renewal Application
McWane, Inc. (Tyler Pipe Company)
Hazardous Waste Permit/Compliance Plan No. 50141
Industrial Solid Waste No. 30140
EPA Identification No. TXD066349770
ARTS No. 12229327-1; RN102679867 / CN602243313

Dear Ms. Archuleta:

McWane, Inc. - Tyler Pipe Company (Tyler Pipe) acknowledges receipt of your technical notice of deficiency (NOD) letter dated December 16, 2009. This letter requests the submittal of revised and/or additional information pursuant to 30 Texas Administrative Code (TAC) Sections 305.45 and 305.50 and 40 Code of Federal Regulations (CFR) Parts 264 and 270. This information is required by the Texas Commission on Environmental Quality (TCEQ) in order to achieve technical completeness for the permit renewal application that was submitted by Tyler Pipe to the TCEQ on July 15, 2009 (and received by the agency's administrative review group on July 17, 2009).

Responses to your requests for revised/additional information are being provided by Tyler Pipe herein. Each of your requests for additional information is restated in *italics* below, followed by the Tyler Pipe response.

LANDFILL POST-CLOSURE CARE

Worksheet **PC-1**

DIVISION: Tyler Pipe

SITE: Tyler Pipe Landfill - PERMIT UNIT 001 (Closed HW Landfill)
County Road 468
Tyler, Texas 75706
Smith County

PERMIT REFERENCE: 50141

CLOSURE DATE: February 15, 1995

POST-CLOSURE TERM: 30 years

POST-CLOSURE END: February 15, 2025

COSTS UPDATED: July 16, 2009

DATE REVIEWED: January 7, 2010

REVIEWED BY: Sri Sridharan, Environmental Manager

Site (description):
Solid waste registration reference 30140
Area: Unit 001 = 8 acres
Lat: N 32° 26'05"; Long: W 095° 22'23"
Location: The Tyler Pipe Landfill entrance is approximately 0.3 miles west on County Road 468, from the intersection of 468 and Highway 69. Unit 001 is located in the northern portion of the landfill site.

Years Remaining as of
January 7, 2010 **15.12**

Note the below costs are based on 15.12 yrs.

[DATA ENTRY FIELDS ARE SHADED BLUE]

SUMMARY WORKSHEET

Item#	Activity	Applicable	Worksheet Number	Cost
1	Corrective Action	☐ Yes ☑ No	PC-2	$ -
2	Removal of Leachate	☐ Yes ☑ No	PC-3	$
3	Site Security & Benchmarks	☐ Yes ☑ No	PC-4	$ -
4	General Maintenance of Vegetative Cover	☑ Yes ☐ No	PC-5	$ 50,460
5	Maintenance, Repair, and Inspection	☑ Yes ☐ No	PC-6	$ 107,559
6	Well Maintenance/Replacement/Development/Abandonment	☑ Yes ☐ No	PC-7	$ 54,389
7	Groundwater Monitoring	☑ Yes ☐ No	PC-8	$ 141,049
8	Deed Notation	☐ Yes ☑ No	PC-9	$
9	Maintenance and Inspection of Asphalt or Concrete Cover	☐ Yes ☑ No	PC-10	$
10	Surface Emission Monitoring	☐ Yes ☑ No	PC-11	$ -
11	Gas Extraction System and Perimeter Probe Monitoring	☐ Yes ☑ No	PC-12	$ -
12	Other Detailed Costs	☐ Yes ☑ No	PC-13	$ -
13	Reporting	☑ Yes ☐ No	PC-14	$ 75,589
14	**Subtotal of Post-Closure Costs**			$ 4
15	Engineering, Fees, and Oversight	☑ Yes ☐ No	PC-15	$
16	Certification of Post-Closure	☑ Yes ☐ No	PC-16	$ 40,000
17	**Subtotal**			$ 519,712
18	Contingency Allowance - Percent Applied	☑ Yes ☐ No	10%	$ 51,971
19	Annual Inflation Factor	☐ Yes ☑ No	0.0%	$ -
TOTAL COST OF POST-CLOSURE CARE				$ 571,683

$7,113.69/yr

=$9,328.64/yr

$4,999.27/yr

	Annual Inflation Factor	Rate	Reference Yr
Source:	*Note: To be applied if cost values are not updated at the time of review*	2.2%	2008
	http://www.tceq.state.tx.us/admin_folder/financial_administration/revenue/annual_inflation_factors.html		

Notes:
1. Format for this template comes from the Ohio EPA and Texas Commission on Environmental Quality (TCEQ) post-closure care worksheets and financial assurance guidance.
2. Costs were adjusted on July 16, 2009 for current year pricing, therefore the Annual Inflation Factor did not apply.

Table VII.D. - Unit post-Closure Cost Estimate

Task	Cost
Landfill (NOR Unit No. 001)	
Groundwater Detection Monitoring: Sampling: Two events/year Analytical: Two events/year x 15 wells + 2 QA/QC samples	$9,329.00
Cap Inspections and Maintenance: Inspections: 12 events/year Maintenance: One event/year	$7,114.00
Recordkeeping and Reporting: Records: 12 events/year Reporting: Two reports/year	$5,000.00
Verbal description of task (waste amount generated x disposal cost/unit amount)	
General Maintenance of Vegetative Cover $3,337 Well Maintenance/Replacement/Abandonment $3,597	$6,934.00
Engineering, Fees, Oversight $10,133 Certification of Post Closure $8,000	18,133
Subtotal	46,510
Contingency (10% minimum)	$4,651.00
Total Unit Closure Cost	51,161

Task	Cost
Sludge Disposal Area (NOR Unit No. 082)	
Groundwater Compliance Monitoring: Sampling: Two events/year Analytical: Two events/year x 3 wells + 2 QA/QC samples	$2,466.00
Cap Inspections and Maintenance: Inspections: 12 events/year Maintenance: One event/year	$1,037.00
Recordkeeping and Reporting: Records: 12 events/year Reporting: Two reports/year	$5,000.00
Verbal description of task (waste amount generated x disposal cost/unit amount)	
General Maintenance of Vegetative Cover $1,029 Well Maintenance/Replacement/Abandonment $793	$1,822.00

Task	Cost
Engineering, Fees, Oversight $5,135 Certification of Post Closure $385	$5,520.00
Subtotal	15,845
Contingency (10% minimum)	$1,585.00
Total Unit Closure Cost	17,430

The estimates listed above were derived from the following sources:
The source of the information for Table VII.D. was a January 15, 2010 NOD response to the 2010 Permit Renewal Application.

September 3, 2020
Project No. 20-08-26

Satya Dwivedula, P.E.
TCEQ, MC-127
Corrective Action Section
Remediation Division
P.O. Box 13087
Austin, TX 78711-3087

Re: Responses to Remediation Technical Notice of Deficiencies
Permit Renewal/Compliance Plan with Minor Amendment
McWane Inc. (Tyler Pipe Company) Facility
Hazardous Waste Permit No. HW-50141-000
Industrial Solid Waste Permit No. 30140
Smith County, Texas
Tracking No. 25211542

Dear Mr. Dwivedula:

This letter is written on behalf of the McWane Inc. (Tyler Pipe Company) Facility, in response to a Texas Commission on Environmental Quality (TCEQ) Technical Notice of Deficiency (NOD) email dated August 14, 2020. The TCEQ NODs are provided below in italics and responses immediately follow. Some responses contain revised page(s). Where possible, redline/strikeout versions are also provided. New Applicant Authorization Pages for Part A and Part B are provided in Attachment 1. Additionally, this letter provides a correction to a previous NOD response letter dated August 13, 2020 which was written in response to a TCEQ NOD email dated August 11, 2020. The NOD is restated below followed by the correct response.

NOD T2: *Correct the total acreage discrepancy between Part B page 4, 678 acres, with the legal description of approximately 174.87 (173.9158 + 0.597) acres total. Correct all maps accordingly.*

Response: The acreage discrepancy between Part B page 4 and the legal description has been corrected. The landfill is 173.9158 acres which includes the sludge disposal area of 0.597 acres. The total area of the facilities being permitted has been changed from 678 to 174 in Part B, Section I, Table I, page 4 of 6. The revised page can be found in Attachment 2.

NOD CP-A1: *1) The following maps should be provided as attachments to Section XI – Compliance Plan. The maps should be provided in the following order and labeled as such for each individual figure:*

- *CP Attachment A, Sheet 1 of 3, Facility Site Map*
- *CP Attachment A, Sheet 2 of 3, RCRA and Solid Waste Management Unit Location Map*
- *CP Attachment A, Sheet 3 of 3, Well Location Map*

Please ensure that all standard map elements are included on each figure as appropriate. (i.e., north arrow, scale, property boundary, corresponding legend, etc.)

2) CP Attachment A, Sheet 2 of 3, RCRA and Solid Waste Management Unit Location Map

- *Please update this map to include the name and WMU number of all SWMUs located within the site's permitted boundary.*

3) CP Attachment A, Sheet 3 of 3, Well Location Map

- *The map should be updated with different symbology for the point of compliance wells and background wells.*

Response: CP Attachment A Sheets 1, 2 and 3 of 3 have been updated as requested. Sheet 1 of 3 has been revised to illustrate all Tyler Pipe property. In order to comply with the Part B Application Instructions relating to drawing scales, Sheet 2 of 3 has been divided into three separate drawings, Sheet 2 of 3, Sheet 2.1 of 3 and Sheet 2.2 of 3. The sheets illustrate only those RCRA, solid waste management units (SWMUs) and areas of concern (AOCs) listed on Table XI.A.1 within the permitted boundary. Sheet 3 of 3 has been modified to use different symbology for point of compliance wells and background wells. The drawings are provided in numerical order in CP Attachment A and copies of the drawings are provided in Attachment 3 of this letter.

NOD CP-A2: *CP Attachment A, Sheet 2 of 2 is separated from Sheet 1 of 2. Please ensure that the Sheets are in serial order in the application.*

Response: CP Attachment A Sheet 2 of 2 has been corrected and renamed CP Attachment A Sheet 3 of 3 and placed in serial order as requested.

NOD CP-T1: *1) The Sludge Disposal Area (NOR # 082) is not shown in the figure. Please revise.*

2) Also, each CP Attachment A Sheet is included as part of the Final Draft Permit (FDP). Therefore, Sheet 2 of 3 (RCRA and Solid Waste Management Unit Location Map) should legibly identify the location

of all RCRA-regulated units, solid water management units (SWMUs), areas of concern (AOCs), and facility property boundaries. The Sheet should be submitted as an 8.5" x 11" black and white figure because colored symbols and areas are not distinguishable when included in the FDP. Due to the size and complexity of the site, this information may need to be split over multiple pages. Please ensure all standard map elements (i.e., north arrow, scale, etc.) are included on the Sheet.

Response: Drawing CP Appendix XI.A-3 has been revised to illustrate the Sludge Disposal Area (SDA) as well as other facility SWMUs. As suggested, the drawing has been split into multiple pages. Four separate drawings have been created. Appendix XI.A-3.1 illustrates the entire area of Tyler Pipe operations. Appendix XI.A-3.2 is an enlarged drawing illustrating the SDA and proximal SWMUs. Appendix XI.A-3.3 and Appendix XI.A-3.4 are enlarged drawings illustrating the SWMUs in the northern and southern portions of the Tyler Pipe Manufacturing Plant, respectively. Copies of the new drawings are provided in Attachment 4.

NOD CP-A3: *The soil map is not legible. Provide a high-resolution map.*

Response: A high-resolution version of the Soil Map has been created. A copy is provided in Attachment 5.

NOD CP-T2: *CP Table II should include a site-specific historic list of all SWMUs and. AOCs previously, or currently, subject to RCRA Facility Investigation (RFI) corrective action*

Please include the SWMUs or AOCs listed in Table XI.A.1. which were recommended for further investigation and/or corrective action in the RCRA Facility Assessment (RFA).

For each SWMU/AOC, provide information on the media investigated and the regulatory status. If the Corrective Action Response Objectives have been achieved for a SWMU/AOC, specify the Remedy Standard that was completed and the approval date of "No Further Action."

Response: The Tyler Pipe Facility has conducted a searched for all RFI reports. To date one report is available, a RCRA Facility Investigation, Waste Extent Characterization and Soil and Groundwater Assessment was performed in 1997. The project investigated the SDA and concluded that there had not been a release to the environment. No corrective action was recommended and no AOCs were discussed.

CP Table II has been updated to include SWMUs 003,004, 005, 019 and 022 on the basis of a March 16, 1990 Tyler Pipe letter that discussed a

previous RFI and a June 30, 1999 TNRCC interoffice memorandum that indicates the five units have been closed out and require no further action. A revised copy of CP Table II is provided in Attachment 6.

NOD CP-T3: *For the Landfill (WMU 001), review the site's records and provide the estimated date when the waste was first placed in it. This information is necessary for calculating the compliance period. According to the Notice of Registration (NOR), the Landfill was deed recorded on June 24, 1977. Therefore, the active life of the landfill dates to at least 1977.*

Response: Table XI.A.1 has been updated with an estimated date of the first placement of hazardous waste in WMU 001 as requested. A revised version of Table XI.A.1 is provided in Attachment 7.

NOD CP-T4: *Section XI.E should provide a financial assurance demonstration for all units subject to groundwater monitoring and/or remedial activities as part of the Compliance Plan. Therefore, please remove the Landfill from Table XI.E since this unit is in Detection Monitoring and is not part of the Compliance Plan.*

Response: The landfill has been removed from Section XI.E as requested. A revised version of Section XI.E is provided in Attachment 8.

NOD CP-T5: *Replace the groundwater concentration limit designation "PQL" with the Texas Risk Reduction Program (TRRP) equivalent. On the CP Table IV PDF form, select the "TRRP Concentration Limit Designation" to view the options available under TRRP.*

Response: CP Table IV has been modified to use the TRRP Concentration Limit Designation (ND), as requested. A copy of the revised table is provided in Attachment 9.

NOD CP-T6: *The compliance period for the Sludge Disposal Area should be based on the active life of the unit, which is the time from when waste was first placed in the unit until the unit was closed (i.e., from 1979 to 2003). Please update the text in Section XI.C., Table XI.E, and CP Table VI to reflect the compliance period of the Sludge Disposal area (i.e., 24 years)*

Response: The text in Section XI.C, Table XI.E, and CP Table VI have been modified to reflect the correct compliance period (24 years). Copies of revised Section XI.C and CP Table VI are provided in Attachment 10.

NOD CP-T7: *The compliance period begins upon initiation of the first sampling event required by the Compliance Monitoring Program which meets the requirements of 30 TAC §335.165 (i.e., the first quarter of 2009). It is not*

based on the submittal date of the modification request to add the Compliance Monitoring Program to the permit (i.e., March 6, 2007).

Response: Section XI.C of Appendix XI.C and CP Table VI have been modified to state the correct compliance period. Copies of the updated documents are provided in Attachment 10.

NOD CP-T8: *Please update the text of Section XI.C to indicate when groundwater samples will be collected and when the required groundwater report(s) will be submitted. The text should match the sampling information provided in CP Tables VII and VIII. For CP Table VII, the "Reporting Frequency" column should specify the date of submission of the semi-annual groundwater monitoring reports.*

Response: Section 1.4 of Section XI.C has been updated to indicate when groundwater sampling events will occur and when groundwater monitoring reports will be submitted. Revised text is provided in Attachment 10. CP Table VII lists the reporting frequency as semiannual. The TCEQ Screening Tool does not allow for further elaboration of the reporting period. CP Table VIII states that compliance monitoring will be conducted during the first 30 days of the first and third quarters, which is consistent with the text in Section XI.C. No revisions are required for CP Tables VII or VIII.

NOD CP-T9: *a) Section 3.4: Include turbidity measurement for all groundwater samples; propose low-flow groundwater collection (e.g., using a peristaltic pump), instead of using bailers for sample extraction.*

b) Update Figure 2 for the Sludge Disposal Area to reflect the monitoring wells that are currently being used for the Compliance Monitoring Program. Please include all point of compliance, background, observation, and/or supplemental wells that are part of the Sludge Disposal Area's Compliance Monitoring Program.

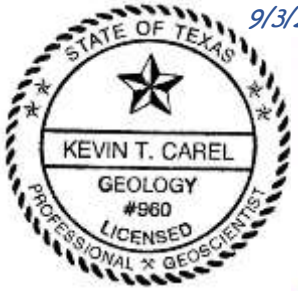
c) GWSAP Tables 1 and 2 – Compliance Monitoring Program: The values listed in these tables do not match each other and the values listed on CP Tables IV and IVA. Reference the CP Tables in the Sampling and Analysis Plan were possible, rather than listing testing parameters, chemicals of concern, and other information that is already contained in the CP Tables. This will allow fewer revisions to the Sampling and Analysis Plan when the permit is renewed or modified.

Response: Turbidity has been added to the GWSAP as requested. Low-flow purging and sampling using dedicated bladder pumps is already an approved sampling method for the facility. Bailers are listed as a potential sampling

method in the event a dedicated pump is inoperative. Figure 2 of the GWSAP has been modified to illustrate the monitor wells as requested. Copies of the revised documents are provided in Attachment 11.

The typographical error on Table 1 has been corrected. Referencing CP Tables IV and IVA is not practical because the document is intended for use with both the closed landfill (unit 001) and the SDA (unit 082) and the monitored parameters are slightly different between the two facilities.

We trust this information is acceptable to you. An original and three copies of this letter are enclosed for your use and distribution. Please call Scott Harris at (903) 882-2687 or me at (817) 991-7370 if you have any questions.



9/3/2020

Sincerely,
THE CAREL CORPORATION
Texas Geoscience Firm # 50137

Kevin T. Carel, P.G.
President

Att: 1 – Signature Pages
2 – Revised Acreage, Part B, Page 4
3 – Revised CP Attachment A Sheets 1, 2 and 3 of 3
4 – Revised CP Appendix XI.A-3
5 – Revised Soil Map
6 – Revised CP Table II
7 – Revised Table XI.A.1
8 – Revised Section XI.E
9 – Revised CP Table IV
10 - Revised Section XI.C and CP Table VI
11 – Revised Section 3.4, Figure 2 and Table 1 of GWSAP

cc: Scott Harris – McWane Inc. (Tyler Pipe Company)

ATTACHMENT 1

Signature Pages

Signature Page

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Operator Signature: Greg Simmons Date: 9-2-20

Name and Official Title (type or print): **Greg Simmons, General Manager**

Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

Operator Signature: _____ Date: _____

Name and Official Title (type or print): _____

Owner Signature: _____ Date: _____

Name and Official Title (type or print): _____

To be completed by the operator if the application is signed by an authorized representative for the operator

I, _____ hereby designate _____
(operator) (authorized representative)
as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

(Note: Application Must Bear Signature & Seal of Notary Public)

Subscribed and sworn to before me by the said Grey Simmons on this 2nd day of September, 2020.

My commission expires of the 27th day of May, 2023

Sandra C Smith
Notary Public in and for Smith County, Texas

NOTARY PUBLIC STATE OF TEXAS
SANDRA CAROL SMITH
Notary ID #11373159
My Commission Expires
May 27, 2023

Signature Page

I, Greg Simmons, General Manager,
(Operator) *(Title)*

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Greg Simmons Date: 9-2-20

To be completed by the Operator if the application is signed by an Authorized Representative for the Operator

I, _____, hereby designate _____
[Print or Type Name] *[Print or Type Name]*

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

SUBSCRIBED AND SWORN to before me by the said
On this 2nd day of September, 2020
My commission expires on the 27th day of May, 2023

Notary Public in and for Smith County, Texas
*[**Note**: Application Must Bear Signature & Seal of Notary Public]*

Sandra C Smith

SANDRA CAROL SMITH
Notary ID #11373159
My Commission Expires
May 27, 2023

ATTACHMENT 2

Revised Acreage
Part B, Page 4

Description of Application Changes

Complete Table I.1 - Description of Proposed Application Changes.

Note: List all changes requested in Table I.1. Unlisted requests risk remaining unaddressed or possibly denied if brought to the permit application reviewer's attention at a later time.

Total acreage of the facility being permitted:	**174**
Identify the name of the drainage basin and segment where the facility is located:	Drainage area of Segment 0606 in the

Facility Siting Summary:

Is the facility located or proposed to be located:

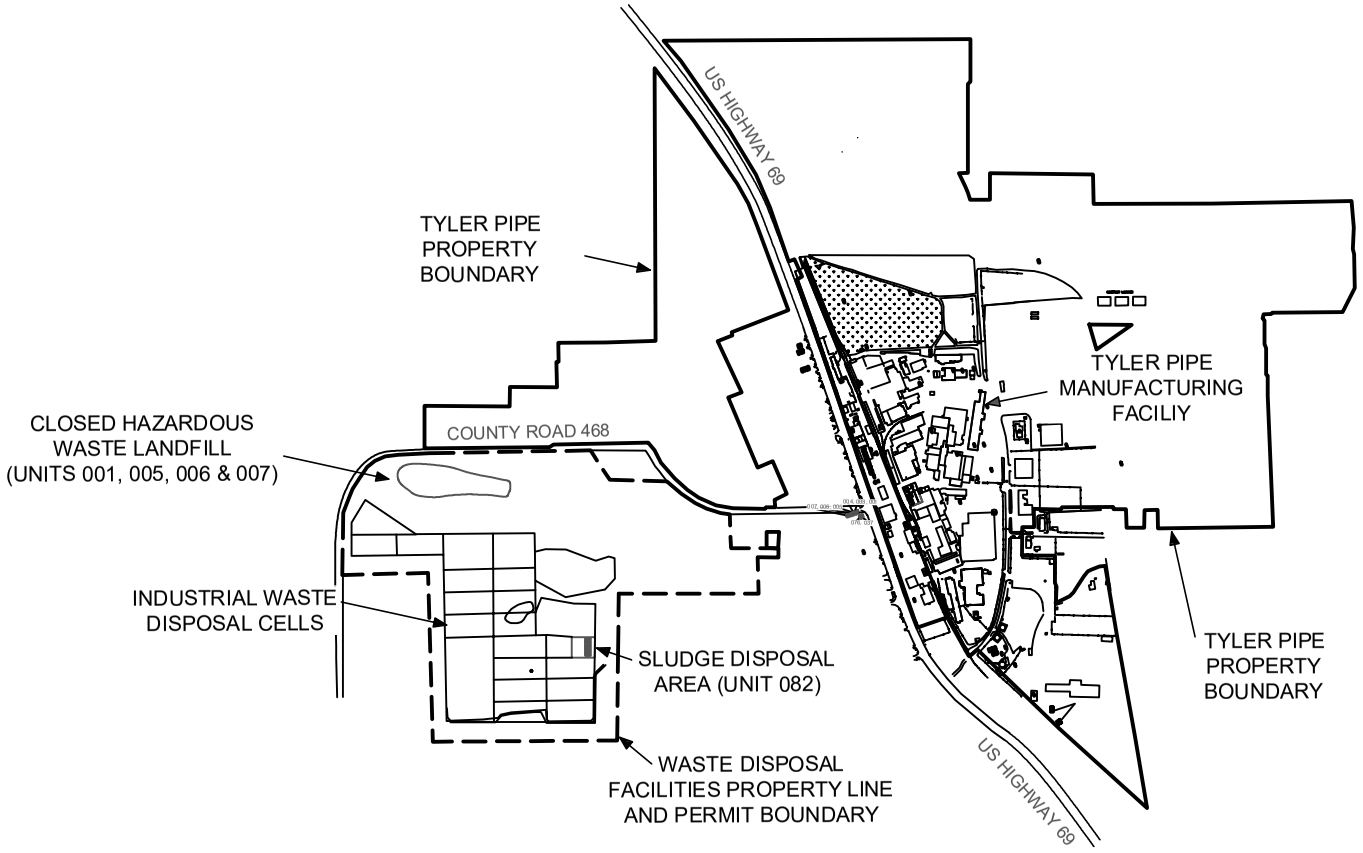
Within a 100-year floodplain?	No
In the critical habitat of an endangered species of plant or animal?	No
On the recharge zone of a sole-source aquifer?	No
In an area overlying a regional aquifer?	Yes
Within 0.5 mile (2,640 feet) of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park?[7] [30 TAC 335.202] If Yes: the TCEQ shall not issue a permit for this facility.	No
In an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste? If Yes: provide a copy of the ordinance or order.	No

Wastewater and Stormwater Disposition

Is the disposal of any waste to be accomplished by a waste disposal well at this facility?	No
If Yes: List WDW Permit No(s):	

ATTACHMENT 3

Revised CP Attachment A Sheets 1, 2 and 3 of 3



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST

9/3/2020

LEGEND:

PROPERTY LINE

PROPERTY LINE AND PERMIT BOUNDARY

N

SCALE:
0 1000' 2000'

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

FACILITY SITE MAP

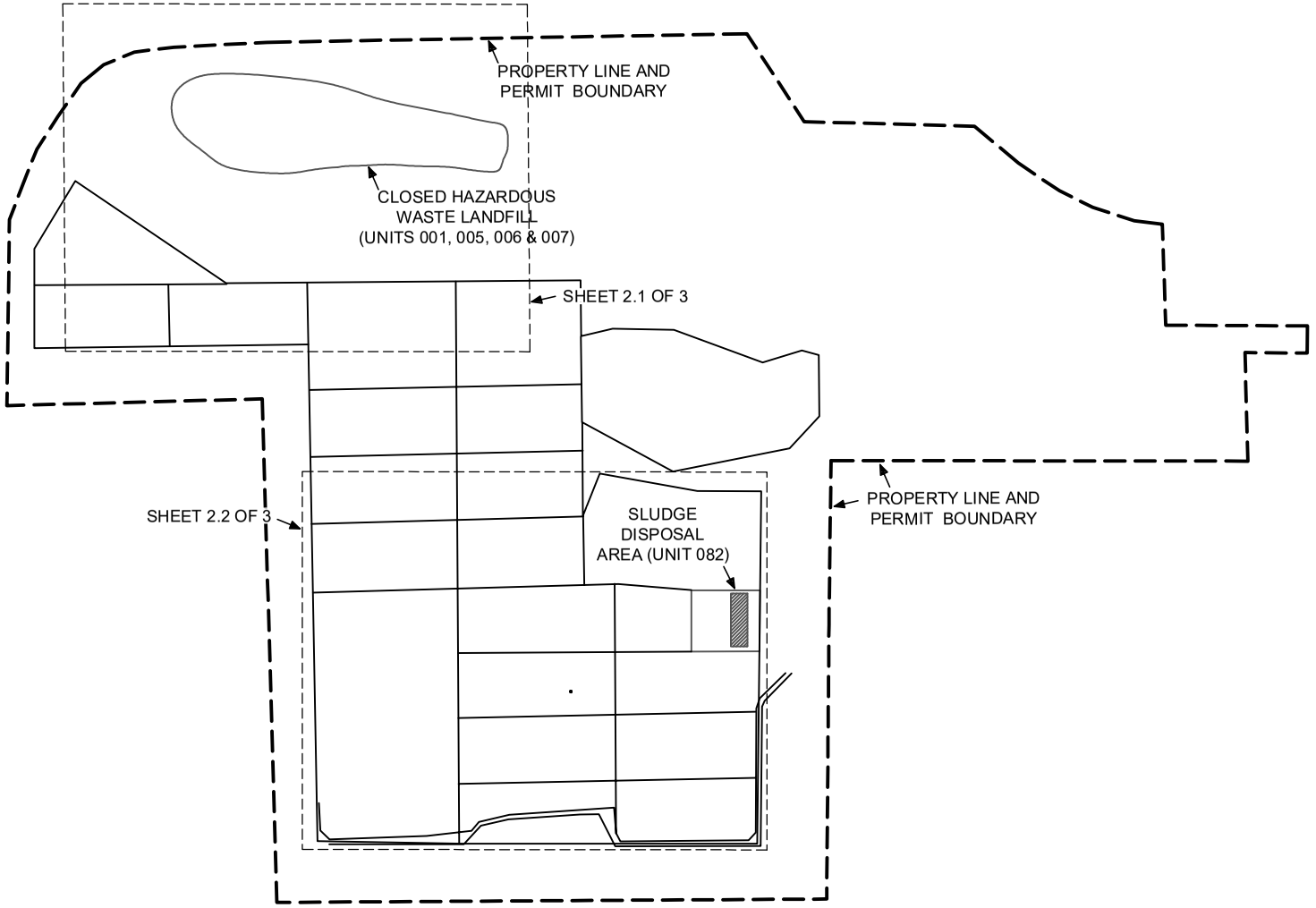
McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

DRAWN BY: KTC

REVISION 1, SEPT. 2020



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#960
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PROFESSIONAL GEOSCIENTIST

9/3/2020

LEGEND:

- — — PROPERTY LINE AND PERMIT BOUNDARY
- ——— INDUSTRIAL WASTE DISPOSAL CELLS
- - - - OUTLINE OF SHEETS 2.1 OF 3 & 2.2 OF 3

N

SCALE:
0 300' 600'

NOTES:
UNITS 005, 006 & 007 ARE PART OF UNIT 001

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

RCRA AND SOLID WASTE MANAGEMENT UNIT LOCATION MAP

McWANE INC. - TYLER PIPE COMPANY

Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

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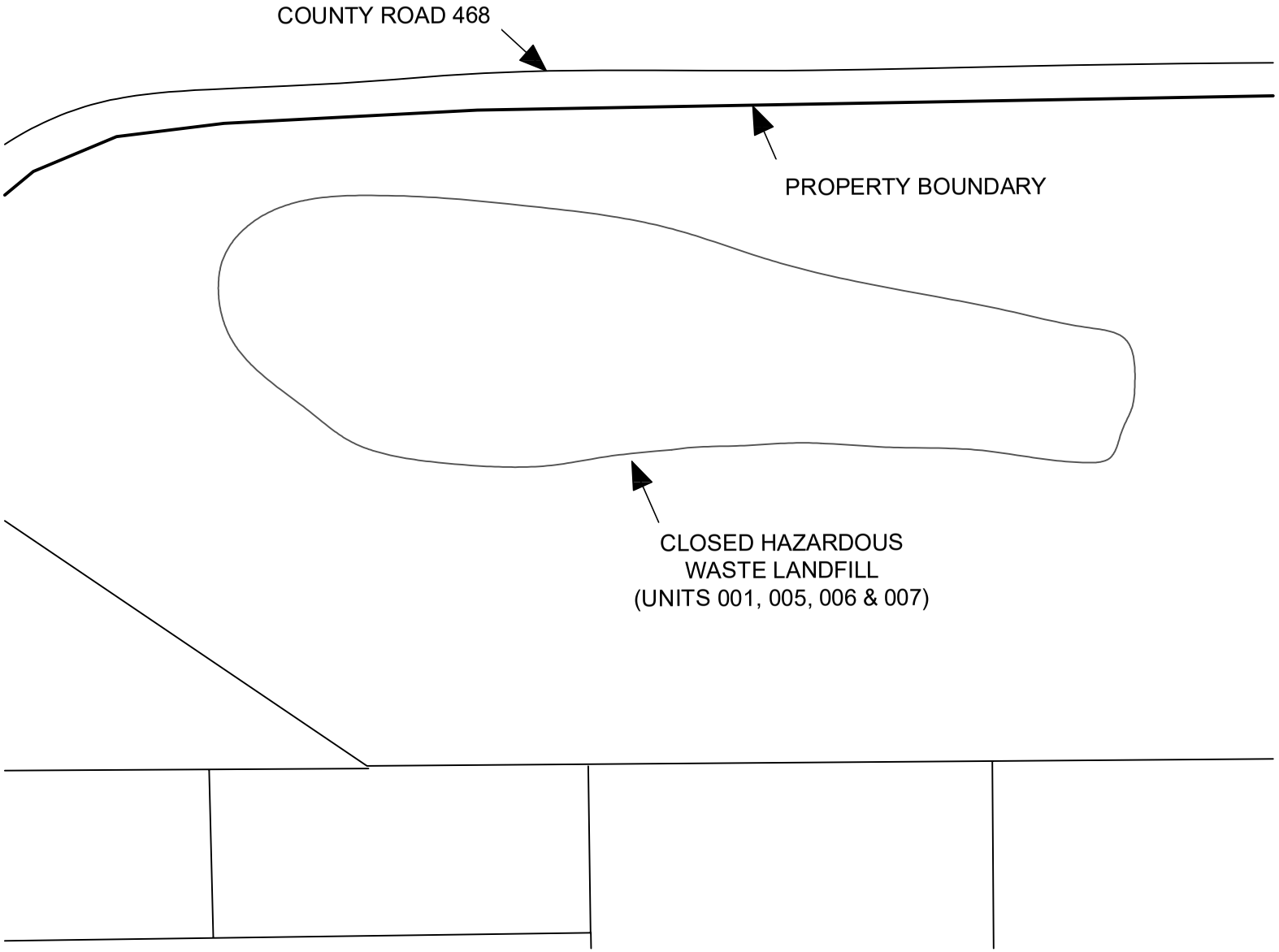
SHEET 2 OF 3



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9/2/2020

LEGEND:

N

SCALE:
0 100' 200'

NOTES:
UNITS 005, 006 & 007 ARE
PART OF UNIT 001

The CAREL CORPORATION
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RCRA AND SOLID WASTE MANAGEMENT UNIT LOCATION MAP

McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

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SHEET
2.1 OF 3

STATE OF TEXAS
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9/2/2020

LEGEND:

N

SCALE:
0 100' 200'

NOTES:
UNIT 068 IS A FORMER WOOD WASTE PILE THAT WAS REMOVED IN 2019.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

RCRA AND SOLID WASTE MANAGEMENT UNIT LOCATION MAP

McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

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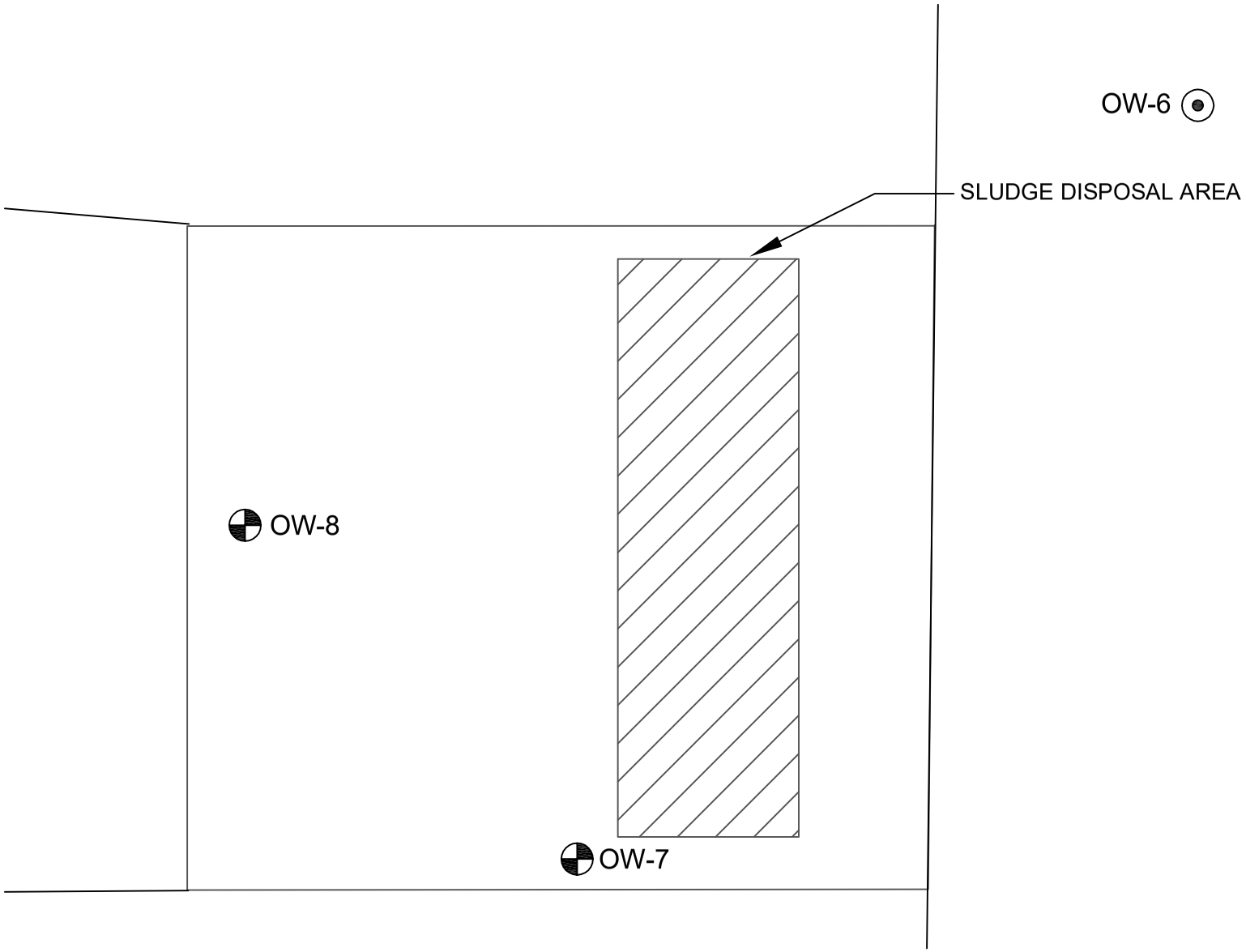

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9/2/2020

LEGEND:

BACKGROUND MONITOR WELL:

COMPLIANCE MONITOR WELL

N

SCALE:
0 25' 50'

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

WELL LOCATION MAP

McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

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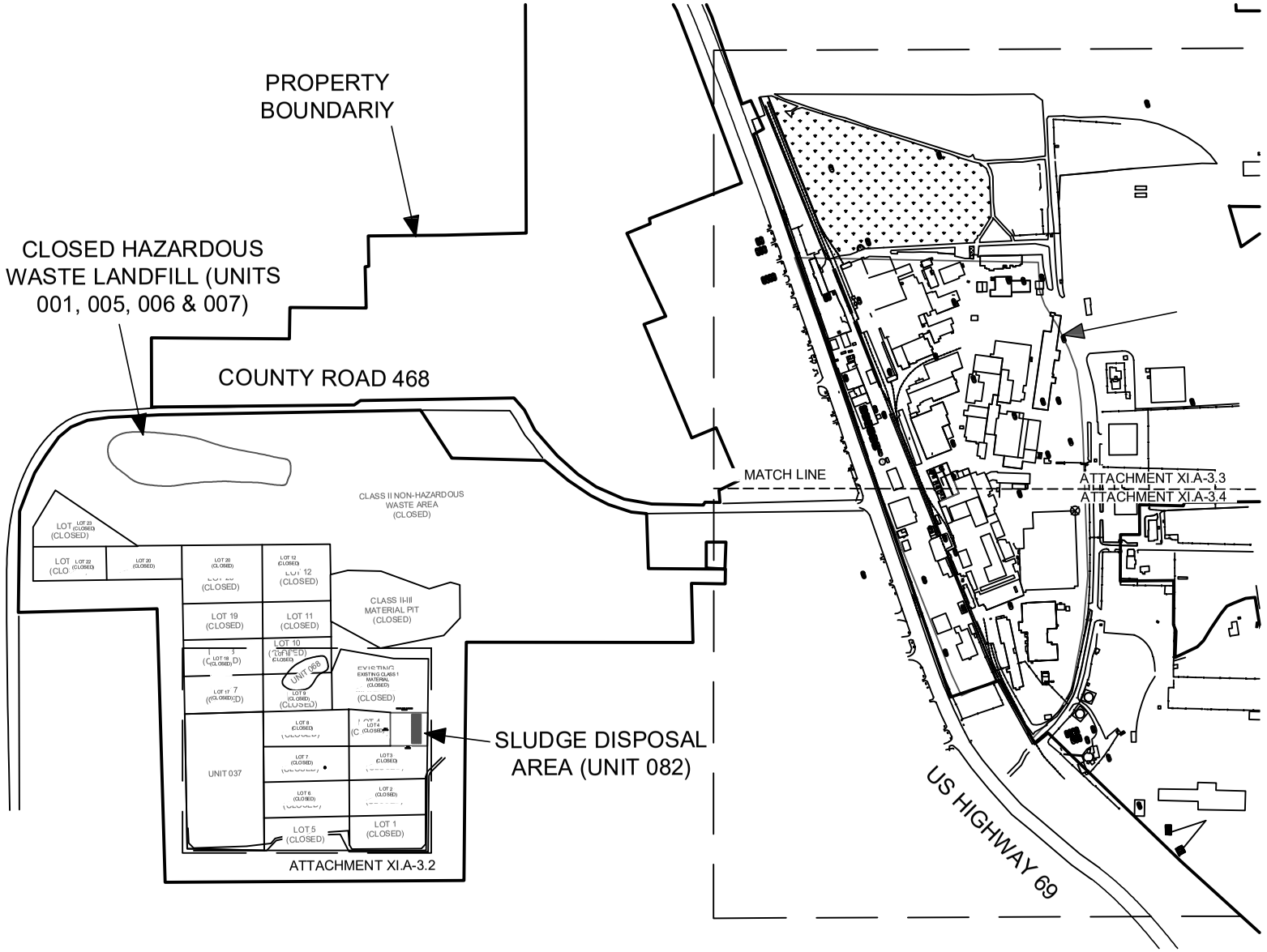
REVISION 1, SEPT. 2020

SHEET 3 OF 3

ATTACHMENT 4

Revised CP Appendix XI.A-3



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9/2/2020

LEGEND:

N

SCALE:
0 500' 1000'

NOTES:
1. SEE APPENDIX XI.A-3.1 FOR DETAILED SOLID WASTE MANAGEMENT UNITS WITHIN WEST WASTE DISPOSAL AREA
2. SEE APPENDIX XI.A-3.2 AND APPENDIX XI.A-3.3 FOR DETAILED SOLID WASTE MANAGEMENT UNITS WITHIN MANUFACTURING PLANT
3. UNITS 003 & 004 WERE CLOSED PRIOR TO PERMIT ISSUANCE. THEIR EXACT LOCATION IS UNKNOWN

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136 Pecan Street, Keller, TX 76248

APPENDIX XI.A-3.1

McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

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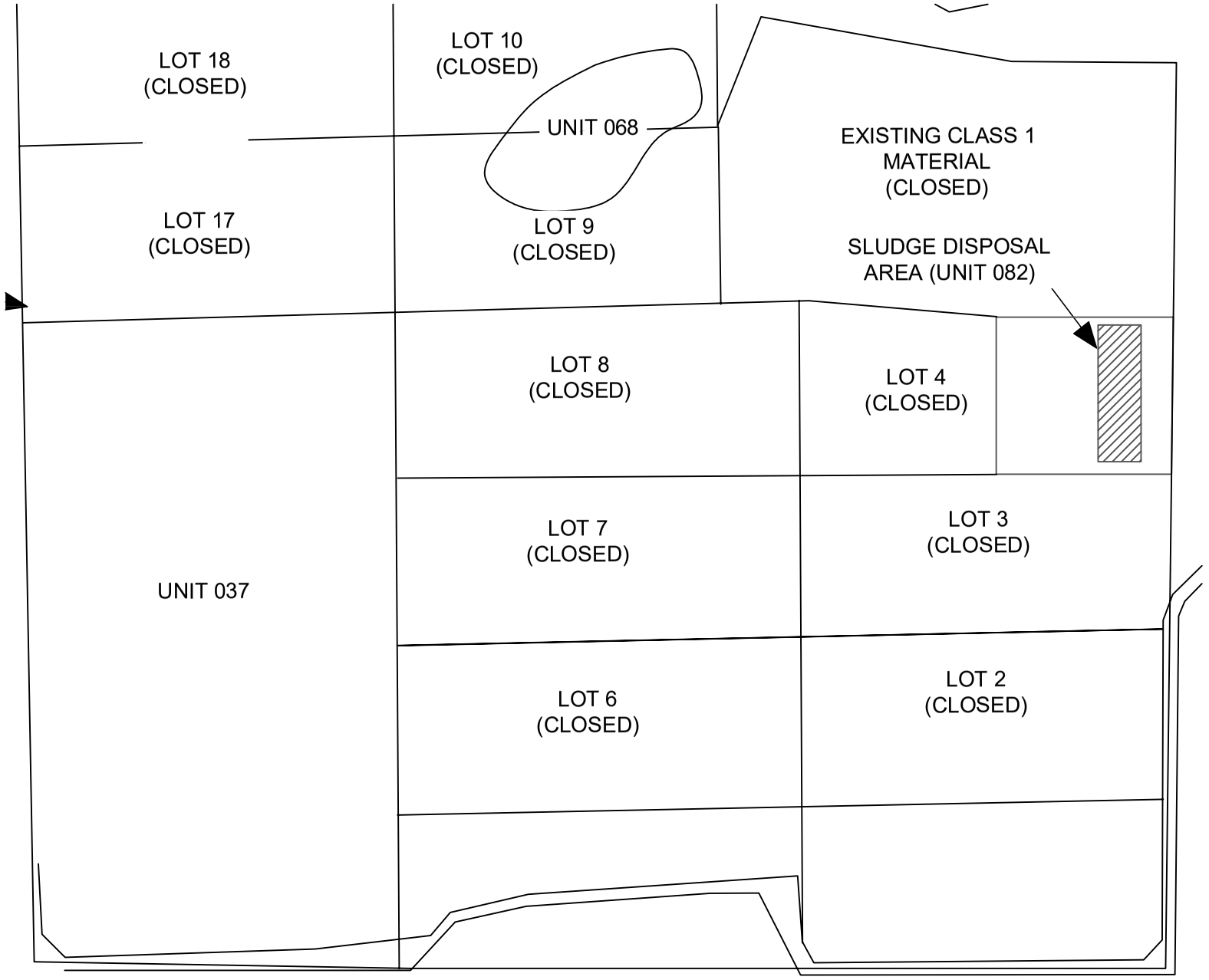

STATE OF TEXAS
KEVIN T. CAREL
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9/2/2020

LEGEND:

N

SCALE:
0 100' 200'

NOTES:
UNIT 068 IS A FORMER WOOD WASTE PILE THAT WAS REMOVED IN 2019.

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

APPENDIX XI.A-3.2

McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

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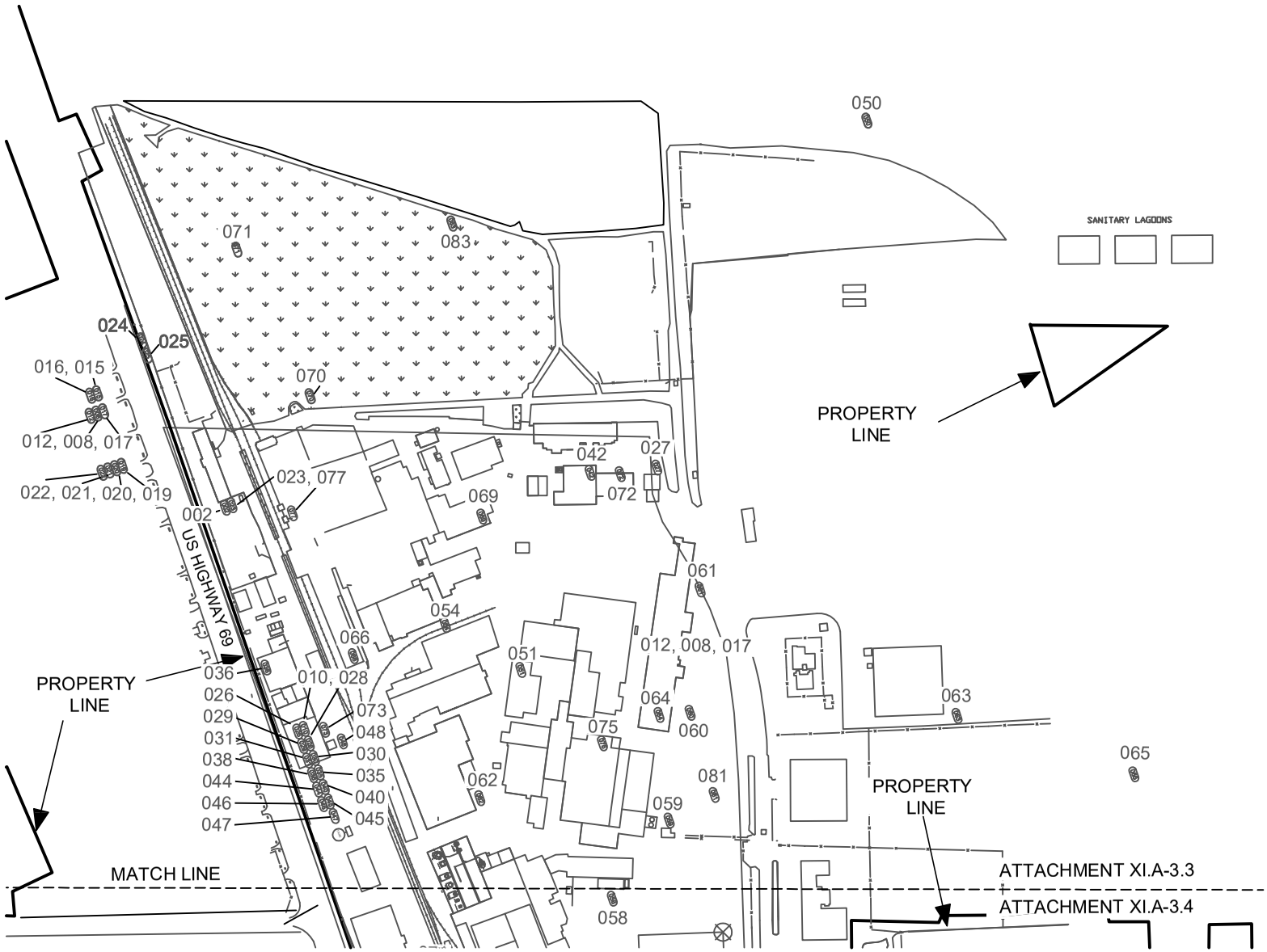
REVISION 1, SEPT. 2020



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GEOLOGY
#960
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PROFESSIONAL GEOSCIENTIST

9/2/2020

LEGEND:

(699) - SOLID WASTE MANAGEMENT UNIT

N

SCALE:
0 250' 500'

NOTES:
UNITS 003 AND 004 WERE CLOSED PRIOR TO PERMIT ISSUANCE. THEIR EXACT LOCATION IS UNKNOWN

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

APPENDIX XI.A-3.3

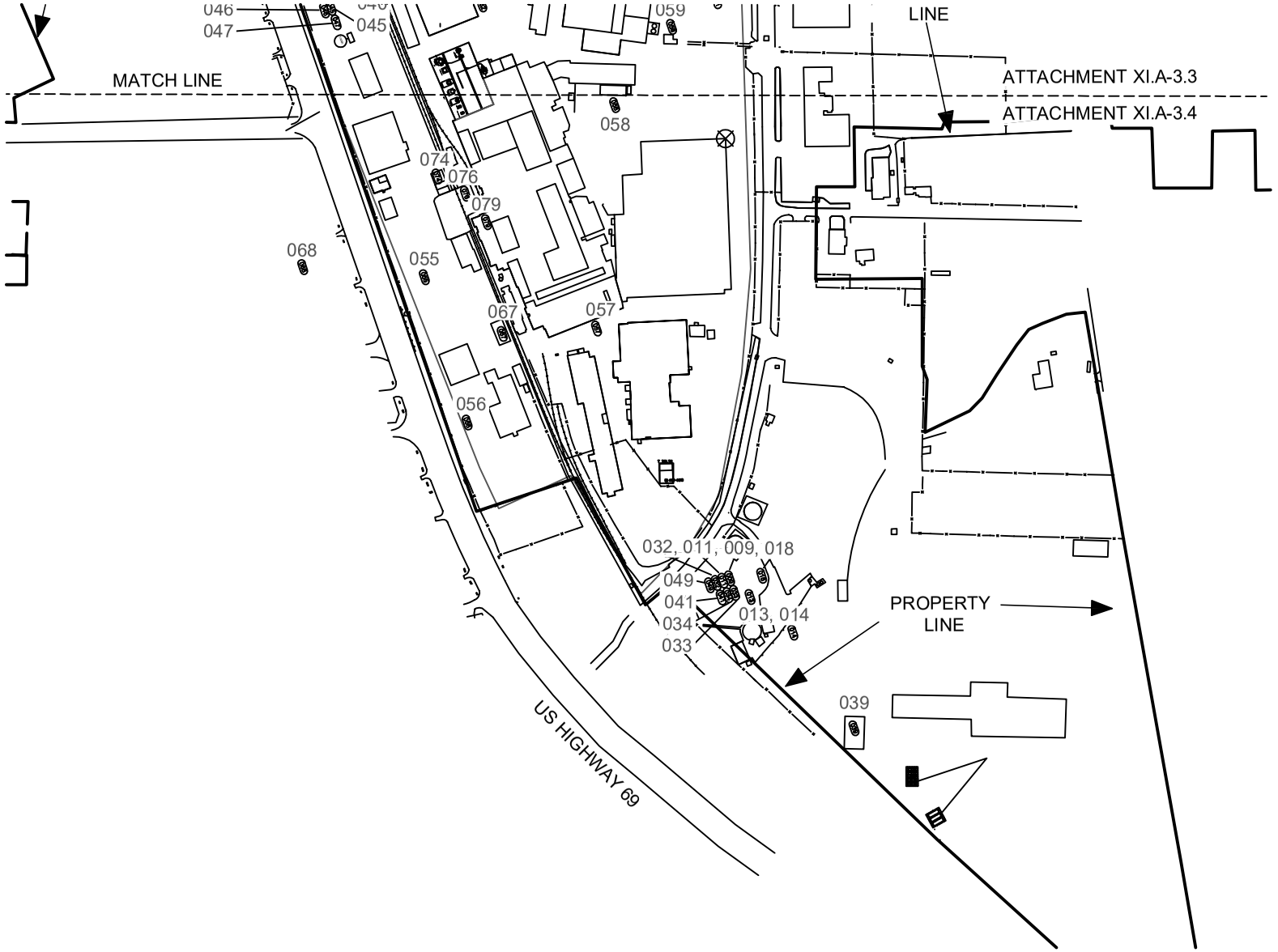
McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

DRAWN BY: KTC

REVISION 1, SEPT. 2020



STATE OF TEXAS
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9/2/2020

LEGEND:

(039) - SOLID WASTE MANAGEMENT UNIT

N

SCALE:
0 250' 500'

NOTES:
UNITS 003 AND 004 WERE CLOSED PRIOR TO PERMIT ISSUANCE. THEIR EXACT LOCATION IS UNKNOWN

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

ATTACHMENT XI.A-3.4

McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

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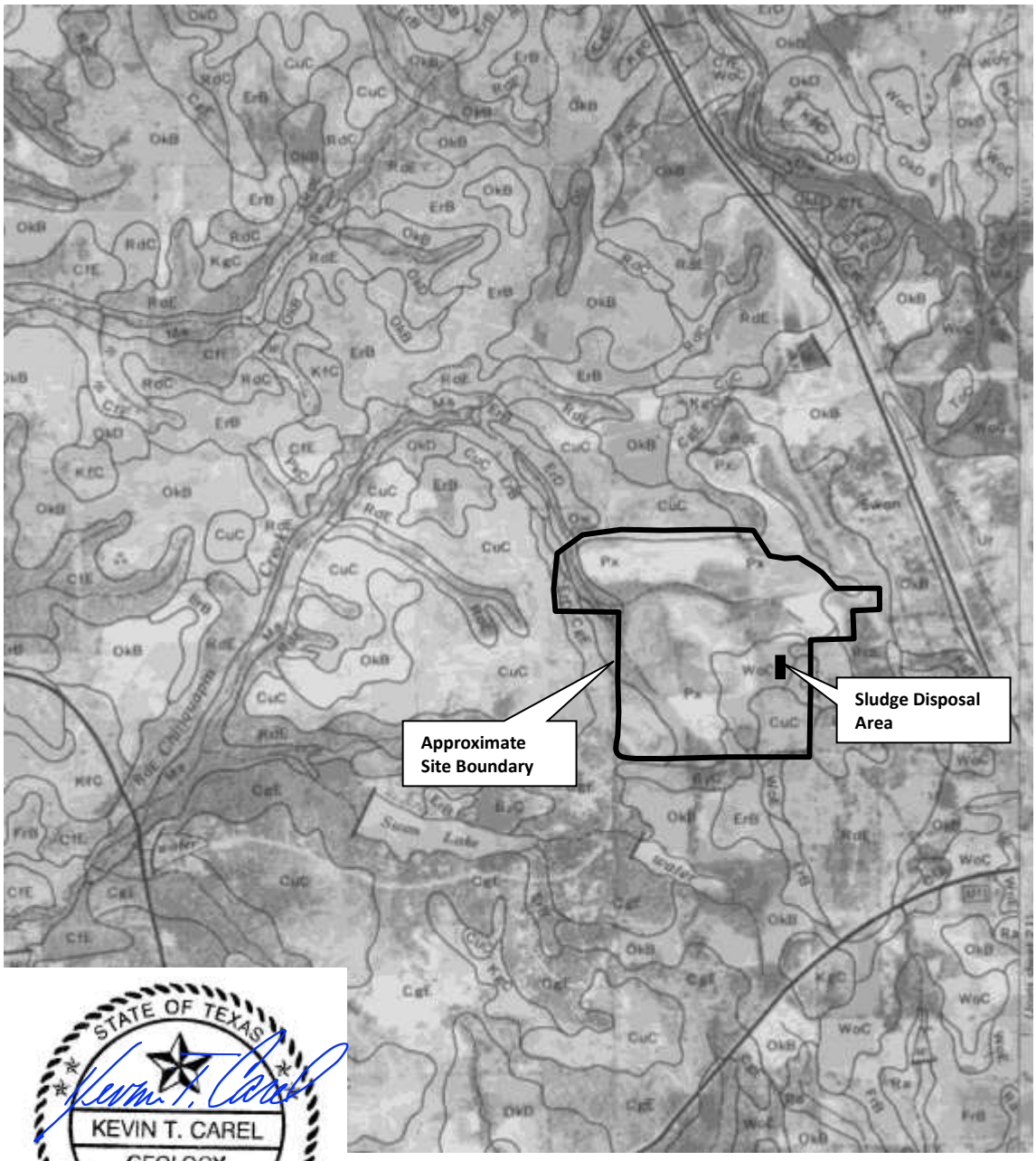
REVISION 1, SEPT. 2020

ATTACHMENT 5

Revised Soil Map



STATE OF TEXAS
KEVIN T. CAREL
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LICENSED
PROFESSIONAL GEOSCIENTIST

9/2/2020

Source: United States Department of Agriculture. Soil Conservatic
Service. Soil Survey of Smith County, Texas. Sheet number 20.

The CAREL CORPORATION

136 Pecan Street, Keller, TX 76248
(817) 337-0112

Tyler Pipe Facility
Sludge Disposal Area
Compliance Plan Application Part II
Site Specific Information

Soil Map

FIGURE

AI.A-10

Revision 1,
Sept. 2020

ATTACHMENT 6

Revised CP Table II

CP Table II: Solid Waste Management Units and/or Areas of Concern Addressed in Permit Section XI.H. for which Corrective Action Applies Pursuant to 30 TAC Section 335.167

Unit Name	NOR Number, if applicable	SWMU or AOC	Affected Media[1]	Date Program Requirement and Remedy Standard Completed[2]
Landfill	3	003	unknown	unknown
Landfill	4	004	unknown	unknown
Landfill	5	005	unknown	unknown
Tank	19	019	unknown	1993
Tank	22	022	unknown	1993

SWMU= Solid Waste Management Units

AOC= Area of Concern

Foot Note:

1. Specify the affected media [i.e. soil, groundwater (GW), surface water (SW), sediment (SED)].
2. For each SWMU or AOC, specify the Remedy Standard that was completed and the date of the Commission's No Further Action (NFA) letter for the media of concern.
3. For sites with FOA authorization, list the SWMUs and/or AOCs that are subject to corrective action at the site. Please separate the SWMUs and/or AOCs that are located within the FOA boundary from the SWMUs and/or AOCs that are located outside of the FOA boundary.

Note:

CP Table II lists SWMUs and/or AOCs which have been identified in the RCRA Facility Assessment (RFA) Report as having a release(s) or a potential release(s) of hazardous waste, hazardous constituents, or other constituents of concern. The permittee is thus required to meet Corrective Action Objectives for the SWMUs and/or AOCs in accordance with Permit Section XI.H. and 30 TAC Section 335.167.

The permittee shall update CP Table II when a new SWMU and/or AOC that requires corrective action is identified. The permittee shall also update CP Table II as outlined in Footnote 2 when the corrective action status of a media for a SWMU or AOC has changed.

SWMUs and/or AOCs shall not be deleted from this table when the Corrective Action Objectives have been completed and a No Further Action (NFA) determination has been approved for the SWMU and/or AOC. In accordance with Permit Section XI.H., CP Table II is intended to be a historical record of the facility's corrective actions and to reflect when the Corrective Action Objectives have been met for each SWMU/AOC.

There may be cases in which the permittee fulfills the Corrective Action Objectives for soils at a SWMU/AOC, but long-term groundwater monitoring and corrective action may be necessary to meet the groundwater Corrective Action Objectives. In such instances, the SWMU/AOC would be listed in CP Table I, Item C, and would be subject to all applicable provisions of this Compliance Plan. If a release from a SWMU/AOC is commingled with a RCRA-regulated unit, then the unit and the SWMU/AOC would be listed in CP Table I, Item D. In accordance with

ATTACHMENT 7

Revised Table XI.A.1

Table XI.A.1. - Facility History for Waste Management Units

Name of Waste Management Unit(1)	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit(2)	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed(3)	Is There Evidence of a Release of Hazardous Constituent(s)(4) to Groundwater? (Yes, No, or Unknown)
Landfill*	D80	1	~~Unknown~~ 1/1/1977	D006 D008	720,000 CY	720,000 CY	1/1/1994	1/1/1995	Feb 15, 1995	No
Sludge Disposal Area*	D80	82	1/1/1979	D006 D008	1,500 CY	1,500 CY	1/1/2003	1/1/2003	Sept 10, 2003	Yes
Container (inactive)*	S01	2	Unknown	Various	Unknown	0	1/1/2020	Pending	TBD	No
Landfill	D80	3	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	4	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	5	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	6	Unknown	Various	Unknown	Unknown	1/1/1992	1/1/1993	---	No
Landfill	D80	7	Unknown	Various	Unknown	Unknown	1/1/1991	1/1/1992	---	No
Tank*	T01	8	Unknown	Various	250,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Tank (active)	T01	9	1/1/1972	Various	250,000 G	--	1/1/2020	TBD	---	No
Tank (active)*	T01	10	1/1/1988	Various	9,000 G	---	1/1/2014	1/1/2014	Pending	No
Tank (active)	T01	11	1/1/1972	Various	9,000 G	___	1/1/2020	TBD	---	No
Surface Impndment*	T02	12	Unknown	Various	120,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No

Table XI.A.1. - Facility History for Waste Management Units

Name of Waste Management Unit(1)	Type of Waste Management Unit	Notice of Registration Unit Number	Date Waste Was *First* Placed in Unit	EPA Waste Code	Estimated Capacity of Unit	Quantity of Waste Left in Place	Date Waste Was Last Placed in Unit(2)	Date of Unit Closure Or Projected Closure	Date Unit Certified Closed(3)	Is There Evidence of a Release of Hazardous Constituent(s)(4) to Groundwater? (Yes, No, or Unknown)
Landfill*	D80	1	1/1/1977	D006 D008	720,000 CY	720,000 CY	1/1/1994	1/1/1995	Feb 15, 1995	No
Sludge Disposal Area*	D80	82	1/1/1979	D006 D008	1,500 CY	1,500 CY	1/1/2003	1/1/2003	Sept 10, 2003	Yes
Container (inactive)*	S01	2	Unknown	Various	Unknown	0	1/1/2020	Pending	TBD	No
Landfill	D80	3	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	4	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	5	Unknown	Various	Unknown	Unknown	Unknown	Unknown	---	No
Landfill	D80	6	Unknown	Various	Unknown	Unknown	1/1/1992	1/1/1993	---	No
Landfill	D80	7	Unknown	Various	Unknown	Unknown	1/1/1991	1/1/1992	---	No
Tank*	T01	8	Unknown	Various	250,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No
Tank (active)	T01	9	1/1/1972	Various	250,000 G	--	1/1/2020	TBD	---	No
Tank (active)*	T01	10	1/1/1988	Various	9,000 G	---	1/1/2014	1/1/2014	Pending	No
Tank (active)	T01	11	1/1/1972	Various	9,000 G	___	1/1/2020	TBD	---	No
Surface Impndment*	T02	12	Unknown	Various	120,000 G	0	1/1/1988	1/1/1990	Apr 4, 1990	No

ATTACHMENT 8

Revised Table XI.E

Table XI.E. -General Information

Waste Management Area/Units Description	N.O.R Unit No. (as applicable)	Compliance Period For WMA Year(s) [1] [2]
~~Landfill~~	~~001~~	~~5~~
Sludge Disposal Area	082	~~13~~ 24

1. (The compliance period is the number of years equal to the active life of the waste management area as defined in 30 TAC 335.162).
2. In instances where the compliance period is equal to or exceeds 30 years, the maximum amount of financial assurance required will be based on 30 years because the required post-closure care period to perform corrective action and groundwater monitoring is 30 years. In instances where the compliance period is less than 30 years, the financial assurance for corrective action or compliance monitoring will be based on the longest time frame established by one of the following criteria:
    a. the duration of your compliance plan;
    b. the time frame for clean-up based on model projections and historical data as approved by the Executive Director; or
    c. the compliance period for the unit/area.

Table XI.E. -General Information

Waste Management Area/Units Description	N.O.R Unit No. (as applicable)	Compliance Period For WMA Year(s) [1] [2]
Sludge Disposal Area	082	24

1. (The compliance period is the number of years equal to the active life of the waste management area as defined in 30 TAC 335.162).
2. In instances where the compliance period is equal to or exceeds 30 years, the maximum amount of financial assurance required will be based on 30 years because the required post-closure care period to perform corrective action and groundwater monitoring is 30 years. In instances where the compliance period is less than 30 years, the financial assurance for corrective action or compliance monitoring will be based on the longest time frame established by one of the following criteria:
    a. the duration of your compliance plan;
    b. the time frame for clean-up based on model projections and historical data as approved by the Executive Director; or
    c. the compliance period for the unit/area.

ATTACHMENT 9

Revised Section CP Table IV

CP Table IV: Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Quantitation Limits

Unit Name	Column A Hazardous Constituents[2]	Column B Concentration Limits (mg/l)[1]	
Sludge Disposal Area	Cadmium	0.0002	~~PQL~~ ND
	Chromium	0.002	~~PQL~~ ND
	Lead	0.001	~~PQL~~ ND
	Mercury	0.0002	~~PQL~~ ND
	Zinc	0.003	~~PQL~~ ND
		Add Row	

Notes:

a) If there are no RCRA-regulated units subject to the Compliance Monitoring Program , mark "Reserved" next to the CP Table IV heading.

b) CP Table IV represents the long list of hazardous constituents that are reasonably expected to be in, or derived from, waste placed in a RCRA-regulated unit, but may not be detected in groundwater above the constituents' respective quantitation limits.

c) CP Table IV constituents are to be monitored annually in accordance with Provision XI.F.3.(2). Any CP Table IV constituents detected in the groundwater should be carried over to CP Table IVA.

Footnotes:

1) For each constituent of concern, select the appropriate quantitation limit designation and definition according to either the Risk Reduction Rules (RRR) pursuant to 30 TAC Chapter 335 or the Texas Risk Reduction Program (TRRP) pursuant to 30 TAC Chapter 350.

2) If applicable, "Appendix IX" can be used in Column A for a unit instead of listing each chemical of concern (COC). The permittee may petition the Executive Director for the deletion of a specific COC from the Appendix IX analysis if the permittee can demonstrate that the COC was never used in the facility's operations nor was disposed of in the waste management area.

CP Table IV: Compliance Monitoring Program Table of Hazardous and Solid Waste Constituents and Quantitation Limits

Unit Name	**Column A** Hazardous Constituents[2]	**Column B** Concentration Limits (mg/l)[1]	
Sludge Disposal Area	Cadmium	0.0002	ND
	Chromium	0.002	ND
	Lead	0.001	ND
	Mercury	0.0002	ND
	Zinc	0.003	ND
		Add Row	

Notes:

a) If there are no RCRA-regulated units subject to the Compliance Monitoring Program , mark "Reserved" next to the CP Table IV heading.

b) CP Table IV represents the long list of hazardous constituents that are reasonably expected to be in, or derived from, waste placed in a RCRA-regulated unit, but may not be detected in groundwater above the constituents' respective quantitation limits.

c) CP Table IV constituents are to be monitored annually in accordance with Provision XI.F.3.(2). Any CP Table IV constituents detected in the groundwater should be carried over to CP Table IVA.

Footnotes:

1) For each constituent of concern, select the appropriate quantitation limit designation and definition according to either the Risk Reduction Rules (RRR) pursuant to 30 TAC Chapter 335 or the Texas Risk Reduction Program (TRRP) pursuant to 30 TAC Chapter 350.

2) If applicable, "Appendix IX" can be used in Column A for a unit instead of listing each chemical of concern (COC). The permittee may petition the Executive Director for the deletion of a specific COC from the Appendix IX analysis if the permittee can demonstrate that the COC was never used in the facility's operations nor was disposed of in the waste management area.

TRRP Quantitation Limit Designations and Definitions

ND Non-detectable at the method quantitation limit (MQL) as determined by the analytical methods of the most recent edition of EPA SW-846 and as listed in the July 8, 1987 edition of the Federal Register and later editions. MQL is indicated in parentheses. MQL is defined in 30 TAC Section 350.4(a)(54) as the lowest non-zero concentration standard in the laboratory's initial calibration curve and is based on the final volume of extract (or sample) used by the laboratory.

BKG Background as determined in accordance with Provision XI.F.1.

ATTACHMENT 10

Revised Section XI.C and CP Table VI

The list of groundwater monitoring parameters proposed to be analyzed under the compliance monitoring program for the sludge disposal area is based on the results of the detection monitoring program previously conducted for this unit and the results of Appendix IX analyses conducted in March 2006 (see ***Appendix XI.B***). Tyler Pipe conducted quarterly sampling of well OW-6 prior to issuance of this Compliance Plan in order to determine whether background concentrations of the compliance monitoring parameters are higher than the PQLs identified in ***CP Table IV*** (or higher than the GWPS values identified in ***CP Table IVA***).

The groundwater sampling and analysis plan (GWSAP) that has been developed by Tyler Pipe for the proposed *compliance monitoring program* at the closed sludge disposal area (formerly NOR Unit No. 082) is provided in ***Attachment XI.C-1***. It is noted that the GWSAP that has been developed by Tyler Pipe for the groundwater *detection monitoring program* that is currently being conducted for the closed landfill (NOR Unit No. 001) is provided within Section VI (Geology Report) of this permit renewal application.

The geologic and hydrogeologic conditions in the vicinity of the Tyler Pipe facility and proximal to the closed landfill (detection monitoring) and closed sludge disposal area (compliance monitoring) are presented in a combined version of the Geology and Facility Groundwater Reports that were developed for Section VI of the Part B application. This geology/hydrogeology report was previously provided in ***Attachment XI.A-1*** (see ***Appendix XI.A***).

1.1 Evaluation of Compliance with the GWPS

Constituents concentrations that are obtained from groundwater samples collected from monitor wells OW-6, OW-7, and OW-8 during each semiannual monitoring event will be directly compared to the GWPS values identified herein and in ***CP Table IVA***. Compliance with the GWPS within a particular monitor well will be verified if the reported concentration of each hazardous constituent within that well is below the established GWPS value. A re-sampling event will be conducted at any well that is deemed non-compliant with the GWPS based on the initial analytical results within 30 days of making the determination.

1.2 Compliance Period

The sludge disposal area was certified closed in September 2003. As such, the RCRA-specified post-closure period for this unit is 30 years *(i.e.*, post-closure period will end in September 2033). The compliance period based on active life of the unit has been established as ~~13~~ 24 years (see ***CP Table VI*** of the Part B Application forms) and will also potentially last until September 2033 based on the compliance monitoring program utilizing wells OW-6, OW-7, and OW-8 beginning in 2009. Tyler Pipe proposes to petition the TCEQ to re-establish a detection monitoring program for the sludge disposal area in the event each of the proposed compliance monitoring parameters remains below proposed GWPS value and do not exceed

detection monitoring statistical limits for a period of six (6) consecutive semiannual groundwater monitoring events (three years).

1.3 Financial Assurance

An updated cost estimate for financial assurance is provided in ***Table XI.E.3*** of the Part B Application forms. The total cost for the ~~13~~24-year compliance period is estimated to be $118,000.

1.4 Reporting

Compliance monitoring ~~reports will be prepared~~is conducted on a semi-annual basis during the months of January and July. Data evaluations will be completed and reports submitted within sixty (60) days of collection of the last sample unless QA/QC procedures show that the data is unacceptable and reanalysis or resampling must be performed.

2. Waste Management Units Monitored

The sludge disposal area is currently under a compliance monitoring program since statistically significant increases (SSI) above background were indicated in 2005 within the downgradient (point-of-compliance) wells during the initial phase of the post-closure period. These SSIs were determined to be present within former detection monitoring program wells MW-2 through MW-4.

However, monitor wells MW-1 through MW-4 have been deemed unacceptable by the TCEQ since these wells are screened in saturated soils with a very low hydraulic conductivity (< $1x10^{-5}$ cm/sec) and do not meet the requirements of a groundwater-bearing unit (GWBU) as defined under the Texas Risk Reduction Program (TRRP). As such, Tyler Pipe has proposed utilizing wells OW-6 (upgradient), OW-7 (downgradient), and OW-8 (downgradient) that were installed in 2008. Construction logs for these monitor wells are included within ***Attachment XI.A-2*** (see ***Appendix XI.A***).

The locations of the sludge disposal area monitor wells are shown on previously presented ***Figure XI.A-1S*** (see ***Appendix XI.A).*** No known features are present in the sludge disposal area that may serve as conduits for subsurface contamination.

3. Implementation Schedule

Information regarding the Compliance Schedule is presented in ***CP Table VIII*** of the Part B Application forms.

CP Table VI: Compliance Period for RCRA-Regulated Units

Sludge Disposal Area	Year or Number of Years
Year Waste Management Activities Initiated	1979
Year Closed	2003
Compliance Period (years)	~~13 Years~~ 24 Years
Compliance Period Began	~~2007~~ 2009
Remove Last Unit	Add Unit

The list of groundwater monitoring parameters proposed to be analyzed under the compliance monitoring program for the sludge disposal area is based on the results of the detection monitoring program previously conducted for this unit and the results of Appendix IX analyses conducted in March 2006 (see ***Appendix XI.B***). Tyler Pipe conducted quarterly sampling of well OW-6 prior to issuance of this Compliance Plan in order to determine whether background concentrations of the compliance monitoring parameters are higher than the PQLs identified in ***CP Table IV*** (or higher than the GWPS values identified in ***CP Table IVA***).

The groundwater sampling and analysis plan (GWSAP) that has been developed by Tyler Pipe for the proposed *compliance monitoring program* at the closed sludge disposal area (formerly NOR Unit No. 082) is provided in ***Attachment XI.C-1***. It is noted that the GWSAP that has been developed by Tyler Pipe for the groundwater *detection monitoring program* that is currently being conducted for the closed landfill (NOR Unit No. 001) is provided within Section VI (Geology Report) of this permit renewal application.

The geologic and hydrogeologic conditions in the vicinity of the Tyler Pipe facility and proximal to the closed landfill (detection monitoring) and closed sludge disposal area (compliance monitoring) are presented in a combined version of the Geology and Facility Groundwater Reports that were developed for Section VI of the Part B application. This geology/hydrogeology report was previously provided in ***Attachment XI.A-1*** (see ***Appendix XI.A***).

1.1 Evaluation of Compliance with the GWPS

Constituents concentrations that are obtained from groundwater samples collected from monitor wells OW-6, OW-7, and OW-8 during each semiannual monitoring event will be directly compared to the GWPS values identified herein and in ***CP Table IVA***. Compliance with the GWPS within a particular monitor well will be verified if the reported concentration of each hazardous constituent within that well is below the established GWPS value. A re-sampling event will be conducted at any well that is deemed non-compliant with the GWPS based on the initial analytical results within 30 days of making the determination.

1.2 Compliance Period

The sludge disposal area was certified closed in September 2003. As such, the RCRA-specified post-closure period for this unit is 30 years *(i.e.*, post-closure period will end in September 2033). The compliance period based on active life of the unit has been established as 24 years (see ***CP Table VI*** of the Part B Application forms) and will also potentially last until September 2033 based on the compliance monitoring program utilizing wells OW-6, OW-7, and OW-8 beginning in 2009. Tyler Pipe proposes to petition the TCEQ to re-establish a detection monitoring program for the sludge disposal area in the event each of the proposed compliance monitoring parameters remains below proposed GWPS value and do not exceed

detection monitoring statistical limits for a period of six (6) consecutive semiannual groundwater monitoring events (three years).

1.3 Financial Assurance

An updated cost estimate for financial assurance is provided in ***Table XI.E.3*** of the Part B Application forms. The total cost for the 24-year compliance period is estimated to be $118,000.

1.4 Reporting

Compliance monitoring is conducted on a semi-annual basis during the months of January and July. Data evaluations will be completed and reports submitted within sixty (60) days of collection of the last sample unless QA/QC procedures show that the data is unacceptable and reanalysis or resampling must be performed.

2. Waste Management Units Monitored

The sludge disposal area is currently under a compliance monitoring program since statistically significant increases (SSI) above background were indicated in 2005 within the downgradient (point-of-compliance) wells during the initial phase of the post-closure period. These SSIs were determined to be present within former detection monitoring program wells MW-2 through MW-4.

However, monitor wells MW-1 through MW-4 have been deemed unacceptable by the TCEQ since these wells are screened in saturated soils with a very low hydraulic conductivity (< $1x10^{-5}$ cm/sec) and do not meet the requirements of a groundwater-bearing unit (GWBU) as defined under the Texas Risk Reduction Program (TRRP). As such, Tyler Pipe has proposed utilizing wells OW-6 (upgradient), OW-7 (downgradient), and OW-8 (downgradient) that were installed in 2008. Construction logs for these monitor wells are included within ***Attachment XI.A-2*** (see ***Appendix XI.A***).

The locations of the sludge disposal area monitor wells are shown on previously presented ***Figure XI.A-1S*** (see ***Appendix XI.A).*** No known features are present in the sludge disposal area that may serve as conduits for subsurface contamination.

3. Implementation Schedule

Information regarding the Compliance Schedule is presented in ***CP Table VIII*** of the Part B Application forms.

CP Table VI: Compliance Period for RCRA-Regulated Units

Sludge Disposal Area	Year or Number of Years
Year Waste Management Activities Initiated	1979
Year Closed	2003
Compliance Period (years)	24 Years
Compliance Period Began	2009
Remove Last Unit	Add Unit

ATTACHMENT 11

Revised Section 3.4, Figure 2 and Table 1 of GWSAP

Groundwater purging will be accomplished by connecting a portable oiless air compressor or bottled compressed nitrogen to the input portal of the well cap and adjusting purge rates using an in-line controller device.

All data collected during each sampling event will be recorded on a groundwater sample log sheet (see example in Attachment A) that will be completed for each well and will include the following information at a minimum: initial depth to water; measured well depth or depth to bladder pump;; purge rate; total purge time; purge volume; measurements of purge fluid pH, specific conductance, ~~and~~ temperature and turbidity; well inspection information; and any other pertinent information.

In the event that a dedicated pump is found to be inoperative and a portable pump or bailer was used to purge the well, samples will be collected by means of a new disposable bailer. Sampling procedures for disposable bailers are described in the following section.

Non-Dedicated Equipment

In the event of a non-operative dedicated pump, the pump and tubing apparatus will be removed for repairs or replacement, and the well will be purged by means of either a disposable bailer or a portable pump until such time the pump is repaired/replaced and rededicated to the well.

Equipment:

- Non-dedicated pump/bailer
- Pump controller (if required)
- Generator or other power source/driving mechanism for pumps / appropriate disposable string or rope for bailer, downrigger (optional)
- New disposable tubing
- New disposable gloves of appropriate material (nitrile).
- Graduated pail or other appropriate container.
- Field parameter measurement device(s)

- Container for laboratory grade, non-phosphate soap/organic-free water solution
- Container for organic-free water rinse

Operating Instructions (Specific operating instructions vary depending on the type of portable pump used. The steps listed below are generalized procedures.):

- Don a new pair of gloves.
- Cleanse portable pump/bailer with a non-phosphate, laboratory grade detergent solution followed by an organic-free water rinse. Sufficient water should be passed through a non-dedicated pump to ensure proper cleansing.
- Attach new disposable tubing to pump or new disposable string to bailer.
- Insert pump and tubing/bailer into well.
- Start the portable pump by the appropriate method and adjust flow to desired rate / initiate removal of water from well with bailer. Ensure bailer and string do not touch ground during purging.

When purging with a bailer, introduce bailer into water column slowly (i.e. do not "drop" into water column) to avoid agitation of water in the well and immediate formation area.

Non-dedicated equipment will be constructed of chemically inert materials, and will be decontaminated at each well with a non-phosphate detergent followed with an organic-free water rinse. Additional cleaning procedures will be performed as deemed necessary.

Rate of discharge and volume purged will be checked periodically with a graduated bucket and/or timer. Field parameter (temperature, pH, ~~and~~ specific conductivity and turbidity) measurements will be recorded after each well volume of water removed during purging.

3.5 PURGE VOLUME

Detection and compliance monitoring wells may be sampled using either Low Flow Purging, Three Well Volume Purging, or an equivalent method as necessary to complete the groundwater sampling event. Dedicated pumps have been installed in groundwater monitoring

Permit No. HW-50141-000

McWane, Inc. (Tyler Pipe Company)

GWSAP TABLE 1

~~PERMIT TABLE VI.B.3.c~~

MCWANE, INC.

GROUNDWATER DETECTION MONITORING PARAMETERS

Closed Landfill Well No(s) 1D, 2D-A, 2D-B, 3D-A, 3D-B, 3D-C,4U-A, 4U-B, 4U-C, 4U-D, 5U-A, 5U-B, 5U-C, MW-20, MW-21

Parameter	Sampling Frequency[1]	Detection Limits[2] (ppm)
Cadmium	Semi-Annually	0.0002
Chromium	Semi-Annually	0.002
Lead	Semi-Annually	0.001
Zinc	Semi-Annually	0.003
pH	Semi-Annually	Not applicable
Specific conductance	Semi-Annually	Not applicable

[1]Detection Sampling Frequency
[2]Laboratory Specific Practical Quantitation Limit
All units in parts per million

GROUNDWATER COMPLIANCE MONITORING PARAMETERS

Sludge Disposal Area Well No(s) OW-6, OW-7, and OW-8

Parameter	Sampling Frequency[1]	Detection Limits[2] (ppm)	GWPS[3] ($^{GW}GW_{ing}$)
Cadmium	Semi-Annually	0.0002	0.005
Chromium	Semi-Annually	0.002	0.005
Lead	Semi-Annually	0.001	0.015
Mercury	Semi-Annually	0.00023~~3~~	0.0002
Zinc	Semi-Annually	0.003~~5~~	0.020
pH	Semi-Annually	Not applicable	Not applicable
Specific conductance	Semi-Annually	Not applicable	Not applicable

[1]Compliance Sampling Frequency
[2]Laboratory Specific Practical Quantitation Limit
[3]Groundwater Protection Standard

Groundwater purging will be accomplished by connecting a portable oiless air compressor or bottled compressed nitrogen to the input portal of the well cap and adjusting purge rates using an in-line controller device.

All data collected during each sampling event will be recorded on a groundwater sample log sheet (see example in Attachment A) that will be completed for each well and will include the following information at a minimum: initial depth to water; measured well depth or depth to bladder pump;; purge rate; total purge time; purge volume; measurements of purge fluid pH, specific conductance, temperature and turbidity; well inspection information; and any other pertinent information.

In the event that a dedicated pump is found to be inoperative and a portable pump or bailer was used to purge the well, samples will be collected by means of a new disposable bailer. Sampling procedures for disposable bailers are described in the following section.

Non-Dedicated Equipment

In the event of a non-operative dedicated pump, the pump and tubing apparatus will be removed for repairs or replacement, and the well will be purged by means of either a disposable bailer or a portable pump until such time the pump is repaired/replaced and rededicated to the well.

Equipment:

- Non-dedicated pump/bailer
- Pump controller (if required)
- Generator or other power source/driving mechanism for pumps / appropriate disposable string or rope for bailer, downrigger (optional)
- New disposable tubing
- New disposable gloves of appropriate material (nitrile).
- Graduated pail or other appropriate container.
- Field parameter measurement device(s)

- Container for laboratory grade, non-phosphate soap/organic-free water solution
- Container for organic-free water rinse

Operating Instructions (Specific operating instructions vary depending on the type of portable pump used. The steps listed below are generalized procedures.):

- Don a new pair of gloves.
- Cleanse portable pump/bailer with a non-phosphate, laboratory grade detergent solution followed by an organic-free water rinse. Sufficient water should be passed through a non-dedicated pump to ensure proper cleansing.
- Attach new disposable tubing to pump or new disposable string to bailer.
- Insert pump and tubing/bailer into well.
- Start the portable pump by the appropriate method and adjust flow to desired rate / initiate removal of water from well with bailer. Ensure bailer and string do not touch ground during purging.

When purging with a bailer, introduce bailer into water column slowly (i.e. do not "drop" into water column) to avoid agitation of water in the well and immediate formation area.

Non-dedicated equipment will be constructed of chemically inert materials, and will be decontaminated at each well with a non-phosphate detergent followed with an organic-free water rinse. Additional cleaning procedures will be performed as deemed necessary.

Rate of discharge and volume purged will be checked periodically with a graduated bucket and/or timer. Field parameter (temperature, pH, specific conductivity and turbidity) measurements will be recorded after each well volume of water removed during purging.

3.5 PURGE VOLUME

Detection and compliance monitoring wells may be sampled using either Low Flow Purging, Three Well Volume Purging, or an equivalent method as necessary to complete the groundwater sampling event. Dedicated pumps have been installed in groundwater monitoring

Permit No. HW-50141-000

McWane, Inc. (Tyler Pipe Company)

GWSAP TABLE 1

MCWANE, INC.

GROUNDWATER DETECTION MONITORING PARAMETERS

Closed Landfill Well No(s) 1D, 2D-A, 2D-B, 3D-A, 3D-B, 3D-C,4U-A, 4U-B, 4U-C, 4U-D, 5U-A, 5U-B, 5U-C, MW-20, MW-21

Parameter	Sampling Frequency[1]	Detection Limits[2] (ppm)
Cadmium	Semi-Annually	0.0002
Chromium	Semi-Annually	0.002
Lead	Semi-Annually	0.001
Zinc	Semi-Annually	0.003
pH	Semi-Annually	Not applicable
Specific conductance	Semi-Annually	Not applicable

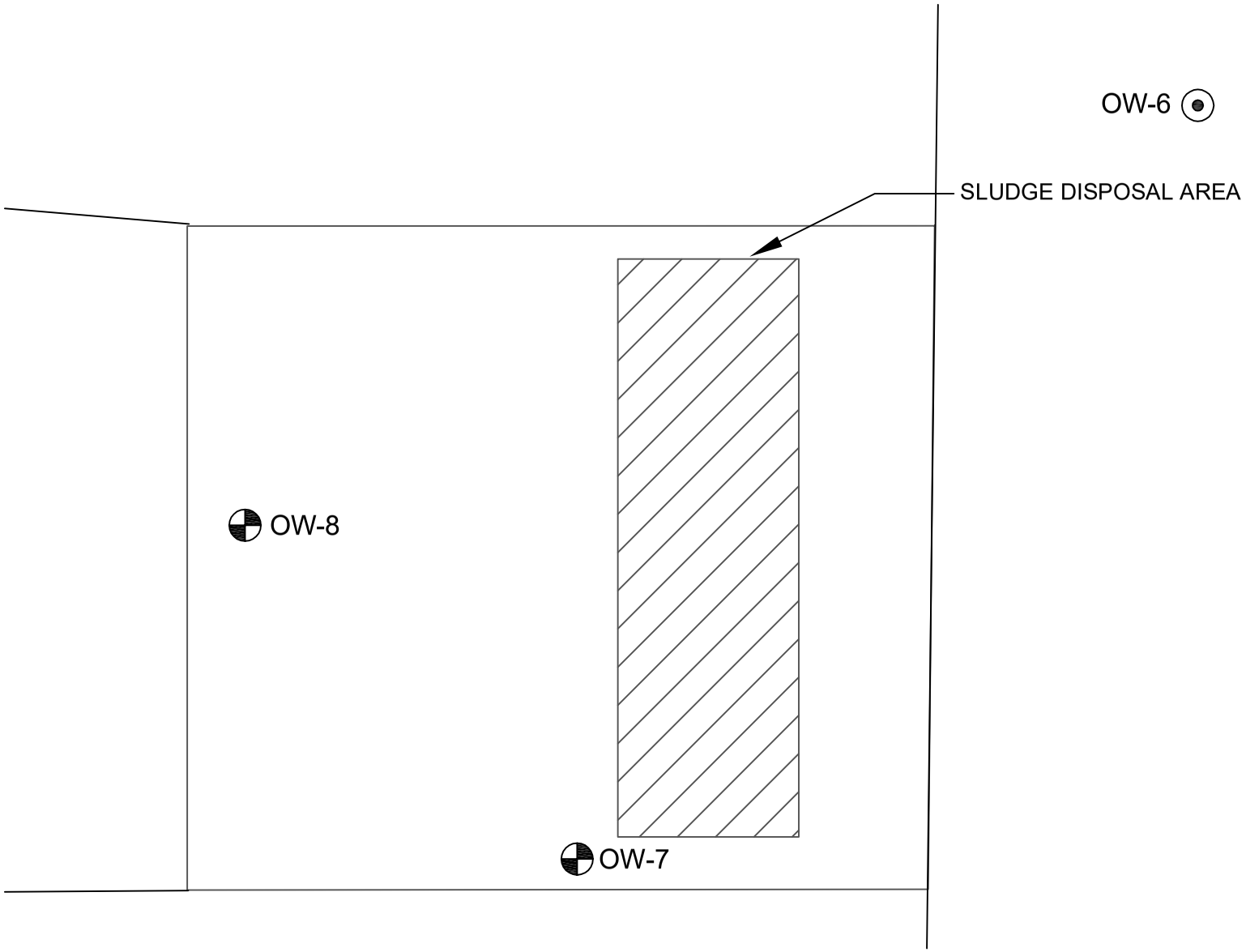
[1]Detection Sampling Frequency
[2]Laboratory Specific Practical Quantitation Limit
All units in parts per million

GROUNDWATER COMPLIANCE MONITORING PARAMETERS

Sludge Disposal Area Well No(s) OW-6, OW-7, and OW-8

Parameter	Sampling Frequency[1]	Detection Limits[2] (ppm)	GWPS[3] ($^{GW}GW_{ing}$)
Cadmium	Semi-Annually	0.0002	0.005
Chromium	Semi-Annually	0.002	0.005
Lead	Semi-Annually	0.001	0.015
Mercury	Semi-Annually	0.0002	0.0002
Zinc	Semi-Annually	0.003	0.020
pH	Semi-Annually	Not applicable	Not applicable
Specific conductance	Semi-Annually	Not applicable	Not applicable

[1]Compliance Sampling Frequency
[2]Laboratory Specific Practical Quantitation Limit
[3]Groundwater Protection Standard



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
9/2/2020

LEGEND:

BACKGROUND MONITOR WELL:

COMPLIANCE MONITOR WELL

N

SCALE:
0 25' 50'

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

WELL LOCATION MAP

McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: SEPTEMBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

DRAWN BY: KTC

REVISION 1, SEPT. 2020

FIGURE 2

October 12, 2020
Project No. 20-10-21

Rachel Vander Nat
TCEQ, MC-127
Corrective Action Section
Remediation Division
P.O. Box 13087
Austin, TX 78711-3087

Re: Responses to Remediation Technical Notice of Deficiencies
Permit Renewal/Compliance Plan with Minor Amendment
McWane Inc. (Tyler Pipe Company) Facility
Hazardous Waste Permit No. HW-50141-000
Industrial Solid Waste Permit No. 30140
Smith County, Texas
Tracking No. 25211542

Dear Ms. Vander Nat:

This letter is written on behalf of the McWane Inc. (Tyler Pipe Company) Facility, in response to a Texas Commission on Environmental Quality (TCEQ) Technical Notice of Deficiency (NOD) #2 email dated October 2, 2020. The TCEQ NODs are provided below in italics and responses immediately follow. Revised permit pages are provided as attachments. Where possible, redline/strikeout versions are provided. A new Applicant Authorization Page for Part B is provided in Attachment 1.

NOD CP-A1(2): *Please make the following changes to the figures submitted in response to NOD #1:*

1) Remove Sheets 2. 2.1, and 2.2; we recognize that the figures were made to comply with the instructions for the Part B Permit Application, which specified that the waste management units be presented at a scale of 1 inch equal to no more than 200 feet. However, splitting the area into two pages is not good in this case because, each of the splits is not usable by itself.

2) Provide a new Sheet 2 of 3, on making the following modifications to the figure provided as an attachment to this table.

a) Label the figure as Sheet 2 of 3 – "RCRA and Solid Waste Management Unit Location Map;

b) Ensure that WMU numbers for the Hazardous Waste Area (WMUs 001, 005, 006, and 007) and the Sludge Disposal Area (WMU 082) are included on the map;

c) *Do not include any other WMUs on the map, unless there are SWMUs/AOCs in this permitted area of the site that went through a RCRA Facility Investigation (RFI);*
d) *Remove the references to Sheet 2.1 of 3 and Sheet 2.2 of 3 on the map and in the map legend.*

Response: A new Sheet 2 of 3 has been created. The drawing is titled as requested, SWMU's 001, 005, 006, 007 and 082 are illustrated, no other SWMU's are illustrated that have not gone through a RCRA RFI and references to Sheet 2.1 of 3 and 2.2 of 3 have been removed. The new Sheet 2 of 3 is provided in Attachment 2.

NOD CP-T2(2): *Please review the Texas Natural Resource Conservation Commission's letter dated February 28, 1995 and the proposed draft of CP Table II for this permit renewal that are attached to this table.*

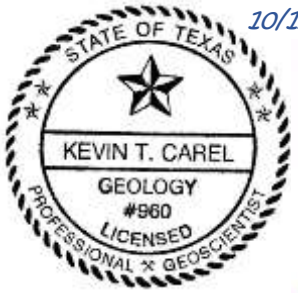
Please update the Revision Date and Number at the bottom of the CP Table II once you concur and/or edit the proposed draft and submit CP Table II as part of your NOD response.

Response: The proposed draft of CP Table II is acceptable. The revision date and number have been added and the new document is provided in Attachment 3.

NOD CP-T4(2): and CP-T6(2)
1) *Revise the costs in Table XI.E.3 to reflect 24 years of compliance monitoring (not 13 years);*
2) *In Section 1.3 of Attachment 10, the estimated financial assurance amount remained the same (at $118k), even after the compliance monitoring period is revised from 13 years to 24 years – please revise the dollar amount for financial assurance.*

Response: Table XI.E.3 and Section 1.3 of Attachment 10 have been updated with the correct financial assurance amount ($218,000) for 24 years of compliance monitoring. Revised versions of Table XI.E.3 and Section 1.3 are provided in Attachment 4.

We trust this information is acceptable to you. An original and three copies of this letter are enclosed for your use and distribution. Please call Scott Harris at (903) 882-2687 or me at (817) 991-7370 if you have any questions.



10/12/2020

Sincerely,
THE CAREL CORPORATION
Texas Geoscience Firm # 50137

Kevin T. Carel, P.G.
President

Att: 1 – Signature Page
2 – Revised CP Attachment A Sheet 2 of 3
3 – Revised CP Table II
4 – Revised Table XI.E.3 and Section 1.3 of Attachment 10

cc: Scott Harris – McWane Inc. (Tyler Pipe Company)

ATTACHMENT 1

Signature Pages

Signature Page

I, Greg Simmons, General Manager,
(Operator) *(Title)*

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Greg Simmons Date: 10-8-20

To be completed by the Operator if the application is signed by an Authorized Representative for the Operator

I, _____, hereby designate _____
[Print or Type Name] *[Print or Type Name]*

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

_____
Printed or Typed Name of Operator or Principal Executive Officer

_____
Signature

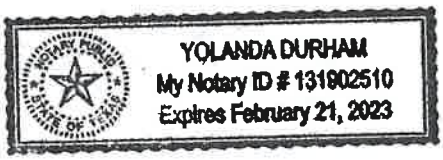
SUBSCRIBED AND SWORN to before me by the said

On this 8 day of October

My commission expires on the 21 day of February, _____

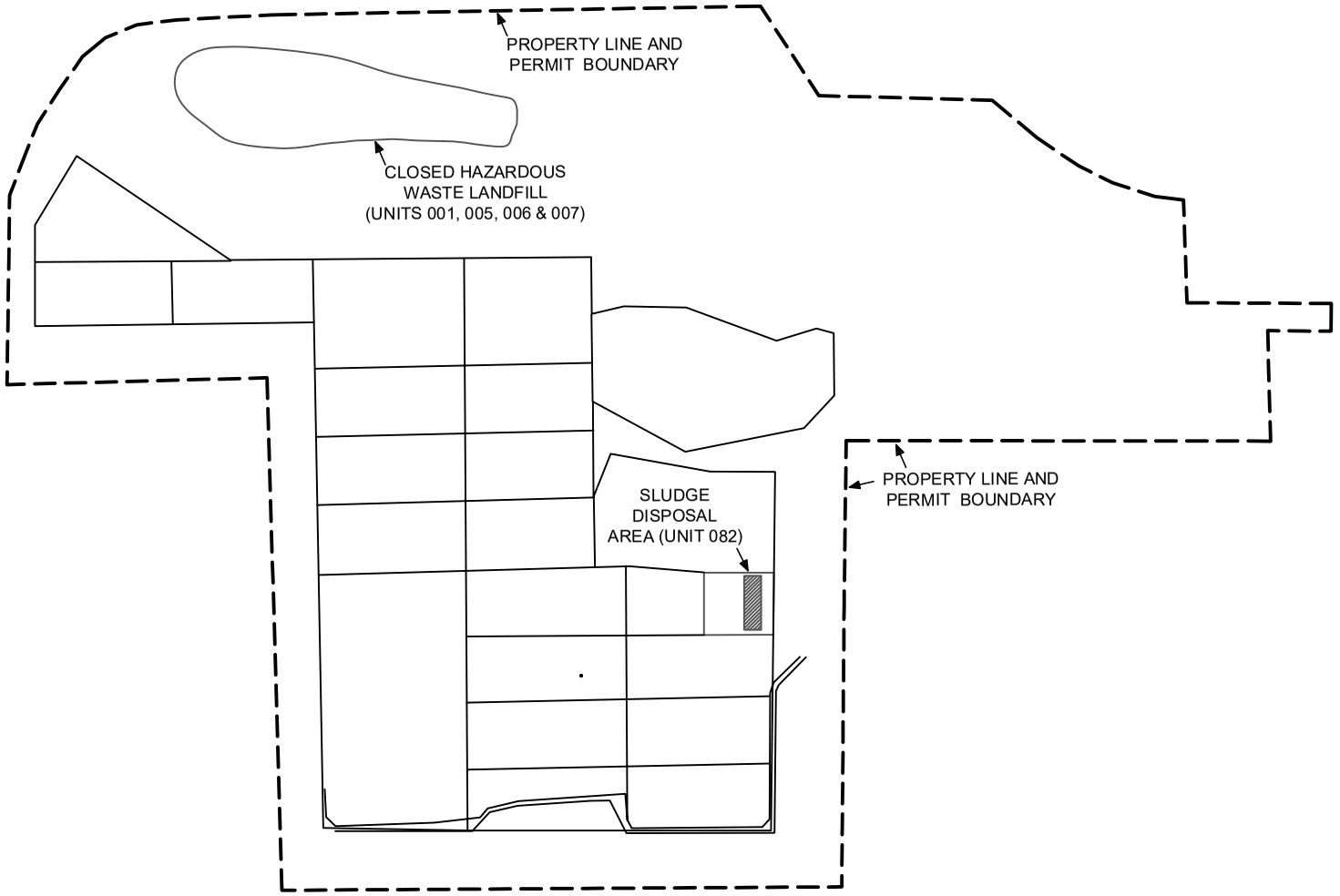
Notary Public in and for Smith County, Texas

[Note: *Application Must Bear Signature & Seal of Notary Public]*



ATTACHMENT 2

Revised CP Attachment A Sheet 2 of 3



STATE OF TEXAS
KEVIN T. CAREL
GEOLOGY
#960
LICENSED
PROFESSIONAL GEOSCIENTIST
10/12/2020

LEGEND:

— — PROPERTY LINE AND PERMIT BOUNDARY

——— INDUSTRIAL WASTE DISPOSAL CELLS

N

SCALE:
0 300' 600'

NOTES:
UNITS 005, 006 & 007 ARE PART OF UNIT 001

The CAREL CORPORATION
136 Pecan Street, Keller, TX 76248

RCRA AND SOLID WASTE MANAGEMENT UNIT LOCATION MAP

McWANE INC. - TYLER PIPE COMPANY
Tyler, Texas

DATE: OCTOBER 2020

FILENAME: \texas\tyler pipe\2020 permit renewal\09 2020 rem nods\cp sheets & cp appx xi.a-3.dwg

DRAWN BY: KTC

REVISION 2, OCT. 2020

SHEET 2 OF 3

ATTACHMENT 3

Revised CP Table II

CP Table II: Solid Waste Management Units and/or Areas of Concern Addressed in Permit Section XI.H. for which Corrective Action Applies Pursuant to 30 TAC Section 335.167

Unit Name	NOR Number, if applicable	SWMU or AOC	Affected Media[1]	Date Program Requirement and Remedy Standard Completed[2]
Landfill	003	SWMU	None	No Release / NFA - February 28, 1995
Landfill	004	SWMU	None	No Release / NFA - February 28, 1995
Landfill	005	SWMU	None	No Release / NFA - February 28, 1995
Tank	019	SWMU	Unknown	NFA - June 20, 1989
Tank	22	SWMU	None	No Release / NFA - February 28, 1995

SWMU= Solid Waste Management Units

AOC= Area of Concern

Foot Note:

1. Specify the affected media [i.e. soil, groundwater (GW), surface water (SW), sediment (SED)].
2. For each SWMU or AOC, specify the Remedy Standard that was completed and the date of the Commission's No Further Action (NFA) letter for the media of concern.
3. For sites with FOA authorization, list the SWMUs and/or AOCs that are subject to corrective action at the site. Please separate the SWMUs and/or AOCs that are located within the FOA boundary from the SWMUs and/or AOCs that are located outside of the FOA boundary.

Note:

CP Table II lists SWMUs and/or AOCs which have been identified in the RCRA Facility Assessment (RFA) Report as having a release(s) or a potential release(s) of hazardous waste, hazardous constituents, or other constituents of concern. The permittee is thus required to meet Corrective Action Objectives for the SWMUs and/or AOCs in accordance with Permit Section XI.H. and 30 TAC Section 335.167.

The permittee shall update CP Table II when a new SWMU and/or AOC that requires corrective action is identified. The permittee shall also update CP Table II as outlined in Footnote 2 when the corrective action status of a media for a SWMU or AOC has changed.

SWMUs and/or AOCs shall not be deleted from this table when the Corrective Action Objectives have been completed and a No Further Action (NFA) determination has been approved for the SWMU and/or AOC. In accordance with Permit Section XI.H., CP Table II is intended to be a historical record of the facility's corrective actions and to reflect when the Corrective Action Objectives have been met for each SWMU/AOC.

There may be cases in which the permittee fulfills the Corrective Action Objectives for soils at a SWMU/AOC, but long-term groundwater monitoring and corrective action may be necessary to meet the groundwater Corrective Action Objectives. In such instances, the SWMU/AOC would be listed in CP Table I, Item C, and would be subject to all applicable provisions of this Compliance Plan. If a release from a SWMU/AOC is commingled with a RCRA-regulated unit, then the unit and the SWMU/AOC would be listed in CP Table I, Item D. In accordance with

ATTACHMENT 4

Revised Table XI.E.3 and Section 1.3 of Attachment 10

Table XI.E.3. - Financial Assurance Summary

Task	Cost	
Annual Off-Site Liquid Treatment / Disposal Cost	$0.00	
Annual On-Site Treatment / Disposal Cost	$0.00	
Annual Inspection / Maintenance / Operation Cost For The Corrective Action Program	$0.00	
Annual Groundwater Monitoring Cost	$2466.00	
Annual Administrative Cost	$5000.00	
Annual Inspection And Maintenance Cost For The Groundwater Monitoring Program	$793.00	
Annual Sub Total	**$8259.00**	
Total Years Used For Calculating Financial Assurance for Corrective Action and/or Compliance Monitoring Program	~~13~~ Years	24
Remediation Cost (Annual Sub Total x Total Years Used)	~~107,367~~	198,216
On-Site Waste Water Treatment System Capital Cost Total Well Cost	$0.00	
10% Contingency	~~$10737.00~~	19,822
Total Cost	~~118,104~~	218,038
Grand Total Cost (round to nearest $1000)	~~**118,000**~~	218,000

Table XI.E.3. - Financial Assurance Summary

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Annual Off-Site Liquid Treatment / Disposal Cost	$0.00
Annual On-Site Treatment / Disposal Cost	$0.00
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Annual Groundwater Monitoring Cost	$2466.00
Annual Administrative Cost	$5000.00
Annual Inspection And Maintenance Cost For The Groundwater Monitoring Program	$793.00
Annual Sub Total	**$8259.00**
Total Years Used For Calculating Financial Assurance for Corrective Action and/or Compliance Monitoring Program	**24** Years
Remediation Cost (Annual Sub Total x Total Years Used)	198,216
On-Site Waste Water Treatment System Capital Cost Total Well Cost	$0.00
10% Contingency	$19,822
Total Cost	218,038
Grand Total Cost (round to nearest $1000)	**218,000**

statistical limits for a period of six (6) consecutive semiannual groundwater monitoring events (three years).

1.3 Financial Assurance

An updated cost estimate for financial assurance is provided in ***Table XI.E.3*** of the Part B Application forms. The total cost for the 24-year compliance period is estimated to be ~~$118,000~~$218,000.

1.4 Reporting

Compliance monitoring is conducted on a semi-annual basis during the months of January and July. Data evaluations will be completed and reports submitted within sixty (60) days of collection of the last sample unless QA/QC procedures show that the data is unacceptable and reanalysis or resampling must be performed.

2. Waste Management Units Monitored

The sludge disposal area is currently under a compliance monitoring program since statistically significant increases (SSI) above background were indicated in 2005 within the downgradient (point-of-compliance) wells during the initial phase of the post-closure period. These SSIs were determined to be present within former detection monitoring program wells MW-2 through MW-4.

However, monitor wells MW-1 through MW-4 have been deemed unacceptable by the TCEQ since these wells are screened in saturated soils with a very low hydraulic conductivity (< $1x10^{-5}$ cm/sec) and do not meet the requirements of a groundwater-bearing unit (GWBU) as defined under the Texas Risk Reduction Program (TRRP). As such, Tyler Pipe has proposed utilizing wells OW-6 (upgradient), OW-7 (downgradient), and OW-8 (downgradient) that were installed in 2008. Construction logs for these monitor wells are included within ***Attachment XI.A-2*** (see ***Appendix XI.A***).

The locations of the sludge disposal area monitor wells are shown on previously presented ***Figure XI.A-1S*** (see ***Appendix XI.A).*** No known features are present in the sludge disposal area that may serve as conduits for subsurface contamination.

3. Implementation Schedule

Information regarding the Compliance Schedule is presented in ***CP Table VIII*** of the Part B Application forms.

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