



February 12, 2010
Project No. 10-01-33

Mr. Arten J. Avakian
MC 124
Municipal Solid Waste Permits Section
Texas Commission on Environmental Quality
P. O. Box 13087
Austin, Texas 78711-3087

Re: Response to a TCEQ Notice of Deficiency Letter Dated January 14, 2010, Permit Modification – Groundwater Monitoring System, City of Kerrville Landfill, MSW Permit No. 1506A, Kerr County, Texas; WWC 11995264 and 12931524; RN102000551 / CN602452286

Dear Mr. Avakian:

This letter is written to provide a response to the comments in a letter dated January 14, 2010, from the Texas Commission on Environmental Quality (TCEQ). The letter requested that the TCEQ comments be addressed within 30 days (February 13, 2010). The TCEQ's comment/questions are provided below in italics with our response immediately following.

Comment 1: *Point of Compliance (POC)*

The revised POC does not extend far enough on the northwest side of the landfill to cover the entire area downgradient of the landfill. Please extend the POC northeastward past the proposed location of MW-9, include a well at the endpoint, and add one or more wells as needed to limit well spacing to not more than 600 feet along the POC.

Response: The POC has been extended northeast as requested and one more additional well (MW-10) is proposed. The text on page 4(6)-1 and Figure 4-12 of permit Attachment 4 has been revised accordingly.

Comment 2: *Monitor Wells MW-6A and MW-7*

In our letter dated October 14, 2009, we requested that you retain MW-6A and MW-7 in the monitoring system. Your alternative proposal to retain MW-6A and MW-7 as water-level observation wells for hydraulic control at each sampling event, and to sample the two wells annually for the volatile organic compounds in Appendix I to Title 40 Code of Federal Regulations, Part 258 will be acceptable, with the following conditions:

a. Revise the text in the Groundwater Monitoring System section of the Geology Report to clarify that the water-level observations will be

recorded on a potentiometric surface map and reported along with other information for each monitoring event.

- b. Revise the text to clarify that the Appendix I sampling and analyses of MW-6A and MW-7 will be reported along with other information in each monitoring report.*
- c. Explain in the text precisely how you will use water-level observations and analytical results from MW-6A and MW-7. For example, describe in detail what is meant by the statement that water levels will be used for hydraulic control, and also detail how the Appendix I sampling results will be used to guide activities at the closed pre-Subtitle D unit. Please remember that the City must still address the apparent, ongoing release(s) from the closed unit.*

Response: Appropriate text has been added to the Groundwater Monitoring System section of the Geology Report as requested. Additionally, the facility proposes to sample all 40 CFR Part 258, Appendix I constituents on an annual basis rather than just volatile organic compounds. Revised pages of 4(6)-1 and 4(6)-2 are attached.

The adjacent pre-Subtitle D unit was closed in accordance with TCEQ (formerly TNRCC) regulations. Monitoring wells MW-6A and MW-7 were installed as perimeter wells for the City of Kerrville Landfill Subtitle D unit. As such, inclusion of details as to how MW-6A and MW-7 monitoring results will be used to guide activities at the adjacent closed pre-Subtitle D unit is inappropriate for this modification. As an alternative, Kerrville Landfill, LP and the City of Kerrville are amenable to further discussions with the TCEQ, as necessary, relative to analytical data derived from MW-6A and MW-7.

Concerning your comment about the need for the City to address the apparent ongoing release(s) from the closed unit, please note the City has taken previous actions concerning this matter by installing an additional perimeter well, MW-101, down-gradient of the closed Pre-Subtitle D Landfill. No confirmed organic compounds have been detected in MW-101 since its installation; thus, the apparent ongoing detection(s) from the closed unit is concluded to be of limited size. The perimeter well MW-101 will continue to be monitored semi-annually and The City of Kerrville Landfill perimeter wells MW-6A and MW-7 will be monitored annually as proposed.

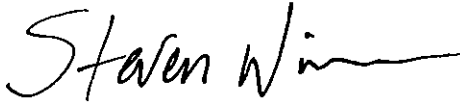
Comment 3: *Miscellaneous*

Please revise the rule citation on page 4(6)-2 to refer to 30 TAC §330.421 for monitor well construction specifications.

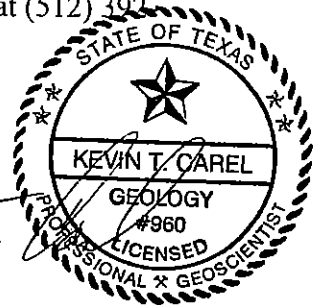
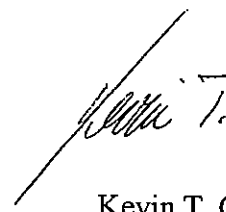
Response: The requested change has been made to permit Attachment 4 page 4(6)-2.

We trust this information meets your needs, please call Mr. Michael Stewart at (512) 392-9105 or Mr. Kevin T. Carel at (817) 337-0112 if you have any questions.

Sincerely,
THE CAREL CORPORATION



Steven J. Wimmer
Remedial and Environmental Services Manager



Kevin T. Carel, P.G. 2-12-10
President

Attachment 1: TCEQ Part 1 Application Page 1 and Signature Page

Attachment 2: Permit Attachment 4 Geology Report – Underlined/Strikeout Replacement Pages

Attachment 3: Permit Attachment 4 Geology Report – Clean Replacement Pages

cc: TCEQ Region 13 Office
Michael Stewart – Republic Services, Inc.
Mark Allendorf – Republic Services, Inc. (e-copy)
Robert Walker – City of Kerrville Landfill
David Vasquez – City of Kerrville

ATTACHMENT 1

TCEQ Part 1 Application Page 1 and Signature Page



Texas Commission on Environmental Quality

Permit or Registration Application for Municipal Solid Waste Facility

Part I

A. General Information

Facility Name:	Kerrville Sanitary Landfill			
Physical or Street Address (if available):	3315 Loop 534			
(City) (County)(State)(Zip Code):	Kerrville	Kerr	TX	78028
(Area Code) Telephone Number:	830-257-3831			
Charter Number:				

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

Operator Name ¹ :	Kerrville Landfill TX, LP			
Mailing Address:	3315 Loop 534			
(City) (County)(State)(Zip Code):	Kerrville	Kerr	TX	78028
(Area Code) Telephone Number:	830-257-3831			
(Area Code) FAX Number:	830-896-6066			
Charter Number:				

If the permittee is the same as the operator, type "Same as Operator".

Permittee Name:	City of Kerrville			
Physical or Street Address (if available):	800 Junction Highway			
(City) (County)(State)(Zip Code):	Kerrville	Kerr	TX	78028
(Area Code) Telephone Number:	803-792-8322			
Charter Number:				

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.

Agent Name:	CT Corporation System			
Mailing Address:	350 N. St. Paul Street			
(City) (County)(State)(Zip Code):	Dallas	Dallas	TX	75201
(Area Code) Telephone Number:	214-979-1172			
(Area Code) FAX Number:	214-754-0921			

Application Type:

<input checked="" type="checkbox"/>	Permit	<input type="checkbox"/>	Major Amendment	<input type="checkbox"/>	Minor Amendment
<input type="checkbox"/>	Registration	<input checked="" type="checkbox"/>	Modification	<input type="checkbox"/>	Temporary Authorization
		<input checked="" type="checkbox"/>	w/Public Notice		
		<input type="checkbox"/>	w/out Public Notice	<input checked="" type="checkbox"/>	Notice of Deficiency Response

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].

Signature Page

I, Todd Parton, City 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: [Handwritten Signature] Date: 2/11/10

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, N/A, hereby designate N/A
(Print or Type Operator Name) (Print or Type Representative 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.

N/A
Printed or Typed Name of Operator or Principal Executive Officer

N/A
Signature

SUBSCRIBED AND SWORN to before me by the said Todd Parton

On this 11th day of February, 2010

My commission expires on the 24th day of Sept., 2013



[Handwritten Signature]
Notary Public in and for
Kerr County, Texas

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

ATTACHMENT 2

**Permit Attachment 4 Geology Report –
Underlined/Strikeout Replacement Pages**

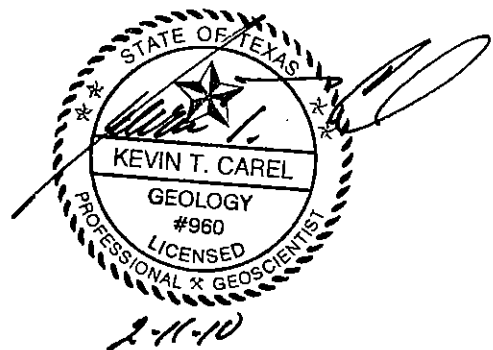
**ATTACHMENT 4
GEOLOGY REPORT**

**CITY OF KERRVILLE SANITARY LANDFILL
KERRVILLE, TEXAS
KERR COUNTY**

Applicant:

City of Kerrville
800 Junction Highway
Kerrville, Texas 78028

Revised: ~~December 2009~~ February 2010

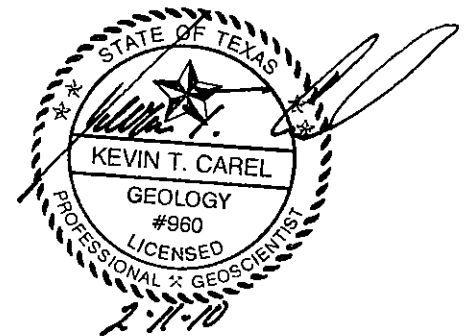


LIST OF TABLES**TABLE**

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- 4-2 Summary of Borings and Well Locations and Depths
- 4-3 Summary of Water Levels in Borings and Wells
- 4-4 Historic Water Level Data
- 4-5 Summary of Hydraulic Conductivity Data
- 4-6 Perched Zone and Saturated Zone Thickness
- 4-7 Summary of Existing Well Construction Data

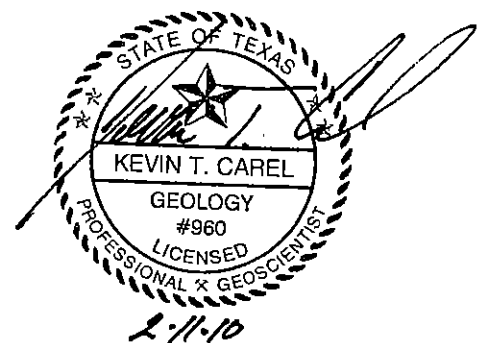
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- 4-2 Regional Geologic Map
- 4-3 Site-Specific Geologic Column
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- 4-5 Location of Borings, Monitor Wells and Piezometer
- 4-6 Correlation of Geophysical Logs for SBP-1 and SBP-2
- 4-7 Cross Sections A-A' and B-B'
- 4-8 Cross Sections C-C' and D-D'
- 4-9 Comparison of Gamma Logs, Screened Intervals, and Water Levels
- 4-10 Conceptual Model of Hydrogeology Regime in the Vicinity of the Kerrville Landfill
- 4-11 Measured Water Level Elevation and Water Level Elevation Contours
- 4-12 Proposed Groundwater Monitoring Network



APPENDICES

- 4A Regional Cross-Sections and Groundwater Use Data from Texas Water Development Board Report 102 Groundwater Resources of Kerr County, Texas
- 4B Previous Investigations
- 4C Results of Subsurface Investigation
- 4D Well Construction Records
- 4E Geotechnical Laboratory Test Data Summary Sheets
- 4F Interface Direct Shear Test Report
- 4G Settlement Analysis
- 4H Underdrain Design
- 4I Slope Stability Analysis



330.403(a) GROUNDWATER MONITORING SYSTEM

The current groundwater monitoring plan was approved for the permitted Subtitle D Landfill and is appropriate for the site-specific conditions. In accordance with 30 TAC 330.403(a), "A groundwater monitoring system must be installed that consists of a sufficient number of monitoring wells, installed at appropriate locations and depths, to yield representative groundwater samples from the uppermost aquifer as defined in 330.3 of this title (relating to Definitions).(2) The point of compliance monitoring system must include monitoring wells installed to allow determination of the quality of groundwater passing the point of compliance as defined in 330.3 of this title and to ensure detection of groundwater contamination in the uppermost aquifer."

To satisfy the above requirements and based on direction of groundwater flow, it is proposed that ~~three-four~~ additional point of compliance groundwater monitoring wells (MW-4A, MW-8A, MW-9, and MW-910) be installed. Additionally, it is proposed to decommission MW-4 and MW-8. MW-3 will be designated as the background well for the facility, to allow determination of the quality of back-ground water that has not been affected by leakage from the proposed landfill cells. The proposed groundwater monitoring system is illustrated on Figure 4-12.

Groundwater movement in the uppermost aquifer occurs in a stair-step manner generally westward, dominated by horizontal flow in perched zones which discharge to a continuous saturated zone in the weathered rock along the hillslope. Minor vertical movement may also occur to the basal saturated zone, which discharges westward to the lower portion of the hillslope saturated zone.

The point of compliance monitor wells are located and constructed to monitor the flow through the hillslope saturated zone, which is composed of discharges from the perched zones and the basal saturated zone and collectively characterize the uppermost aquifer. Consequently, they allow determination of groundwater quality passing the point of compliance in the uppermost aquifer.

The proposed groundwater monitoring system consists of one background well, two observation wells, and ~~five-six~~ point of compliance monitor wells. The background and point of compliance wells are sampled on a semi-annual basis. Table 4-7 provides a summary of the well-construction details, and copies of well-construction diagrams for each of the existing wells are provided in Appendix 4D.

The background well is MW-3. The ~~five-six~~ point of compliance monitor wells are MW-2, MW-4A, MW-5, MW-8A, MW-9, and MW-109. The spacing between all point of compliance wells is less than 600 feet. Monitor well MW-6A is located downgradient and has been impacted by an adjacent Pre-Subtitle D closed landfill, and does not provide adequate background water quality per 30 TAC 330.403(a)(1). Please note the City has taken previous actions concerning MW-6A by installing an additional well, MW-101, down gradient of the closed Pre-Subtitle D Landfill. No confirmed organic compounds have been detected in MW-101 since its installation; thus, the apparent ongoing release(s) from the closed unit is concluded to be of limited size. Therefore ~~it~~ MW-6A is proposed to be converted to an observation well. Monitor well MW-7A is also located downgradient of the adjacent Pre-Subtitle D closed landfill. It is also proposed to convert MW-7 to an observation well. Water-levels will be collected from MW-6A and MW-7 during routine detection and assessment monitoring events and will be used for hydraulic control to monitor groundwater flow direction on the northeast side of the permitted Subtitle D Landfill.

Additionally, measured water levels from MW-6A and MW-7 will be used to interpret the direction of groundwater flow from the adjacent Pre-Subtitle D closed landfill unit located hydraulically upgradient of MW-6A and MW-7. Water-level observations for MW-6A and MW-7 will be recorded on potentiometric surface maps, contoured with all other groundwater surface elevations, and reported along with other information for each monitoring event. Additionally, MW-6A and MW-7 will be sampled on an annual basis for 40 CFR Part 258, Appendix I metals and volatile organic compounds (VOCs). Statistical analysis of metals in observations wells MW-6A and MW-7 will not be conducted; however, laboratory results for metals and VOCs will be submitted with annual groundwater monitoring reports. The 40 CFR Part 258, Appendix I constituent results for MW-6A and MW-7 will be used to evaluate background conditions (e.g. potential releases from the hydraulically upgradient Pre-Subtitle D closed landfill).

Also, MW-2 is set to include strata below the bottom aquitard. Based on the gamma log for MW-2, these lower materials include a three- to four-foot-thick limestone underlain by a four- to five-foot-thick shale. The temporary piezometers SBP-1 and SBP-2 were installed to identify the lower confining unit and to evaluate water levels in the basal saturated zone.

All new monitor wells will be constructed in accordance with 30 TAC §330.242421 using the following specifications.

Well Materials	2" diameter sched. 40 PVC, flush threaded with screw joints, and o-rings.
Screen	Approximately 10 ft section, machine slotted with 0.010" slots.
Filter Pack	Inert silica sand extending approx. 2 ft above top of screen.
Annular Seal	3 ft thick, composed of hydrated sodium bentonite pellets or granules.
Casing Seal	Bentonite grout placed from the annular seal to within 2 ft. of the surface.

Because of the different methods and times of construction, a "typical" construction diagram is not available for the existing wells. Copies of construction diagrams are included in Appendix 4D and construction data are summarized in Table 4-7. In general, the monitor wells consist of either two- or four-inch-diameter PVC casing. The screened intervals consist of slotted PVC pipe, and the wells are sand-packed. The sand pack extends a few feet above the top of the PVC screen. A two- to four-foot-thick bentonite seal is placed on top of the sand pack. The annular material above the seal may consist of a bentonite slurry, neat cement, or a mixed grout.

The surface completion of each of the wells includes a concrete pad and protective lockable steel casing. In the case of MW-3, the protective casing extends only a few inches above the pad surface. The surface pad at MW-3 is approximately two feet square and is flush with the ground surface. Each of the monitor wells is equipped with a variable-rate submersible pump to facilitate groundwater purging and sampling.

330.403(e) GROUNDWATER MONITORING SYSTEM DESIGN CERTIFICATION

General Site Information

Site: The City of Kerrville Landfill

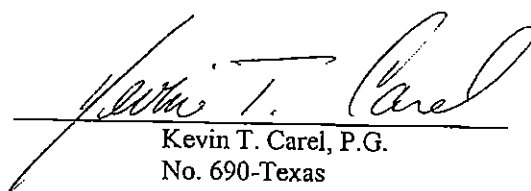
Site Location: 3315 Loop 534, Kerrville, Texas

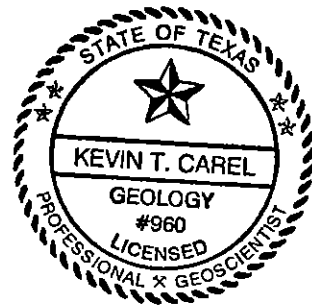
MSW Permit No.: 1506-A

Qualified Groundwater Scientist Statement

I, Kevin T. Carel, am a licensed professional geoscientist in the State of Texas and a qualified groundwater scientist as defined in 30 TAC §330.3. I have reviewed the groundwater monitoring system and supporting data contained herein. In my professional opinion, the groundwater monitoring system is in compliance with the groundwater monitoring requirements specified in 30 TAC §330.401 through §330.421 (March 27, 2006 rule references). This system has been designed for specific application to the City of Kerrville Landfill (Permit No. MSW 1506-A). 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.

Firm/Address: The Carel Corporation
136 Pecan Street
Keller, Texas 76248

Signature: 
Kevin T. Carel, P.G.
No. 690-Texas



Date: 2-11-10





136 Pecan Street, Keller, TX 76248

LEGEND:

- APPROXIMATE SITE BOUNDARY
- - - 360 EXISTING SURFACE CONTOUR
- ⊙ EXISTING GROUNDWATER MONITORING WELL
- ⊕ PROPOSED MONITORING WELL
- ⊗ PROPOSED MONITORING WELL TO BE DECOMMISSIONED
- ▲ PROPOSED OBSERVATION WELL
- - - APPROXIMATE LIMIT OF WASTE
- - - POINT OF COMPLIANCE
- TURNING POINT



SCALE:



PROPOSED GROUNDWATER MONITORING NETWORK

CITY OF KERRVILLE LANDFILL
KERR COUNTY, TEXAS

DATE DRAFTED: February 1, 2010 REV. NO.: 2

FILENAME: L:\Texas\Kerrville\Permit Mod\1st NOD\Fig. 4-12.dwg

DESIGNED BY: KTC

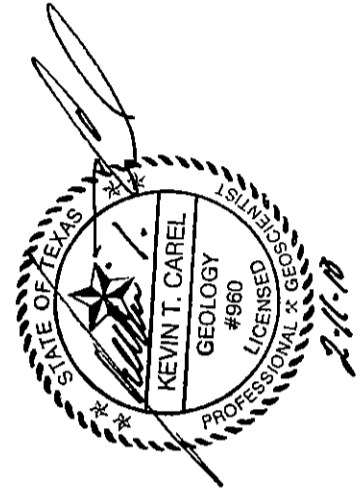
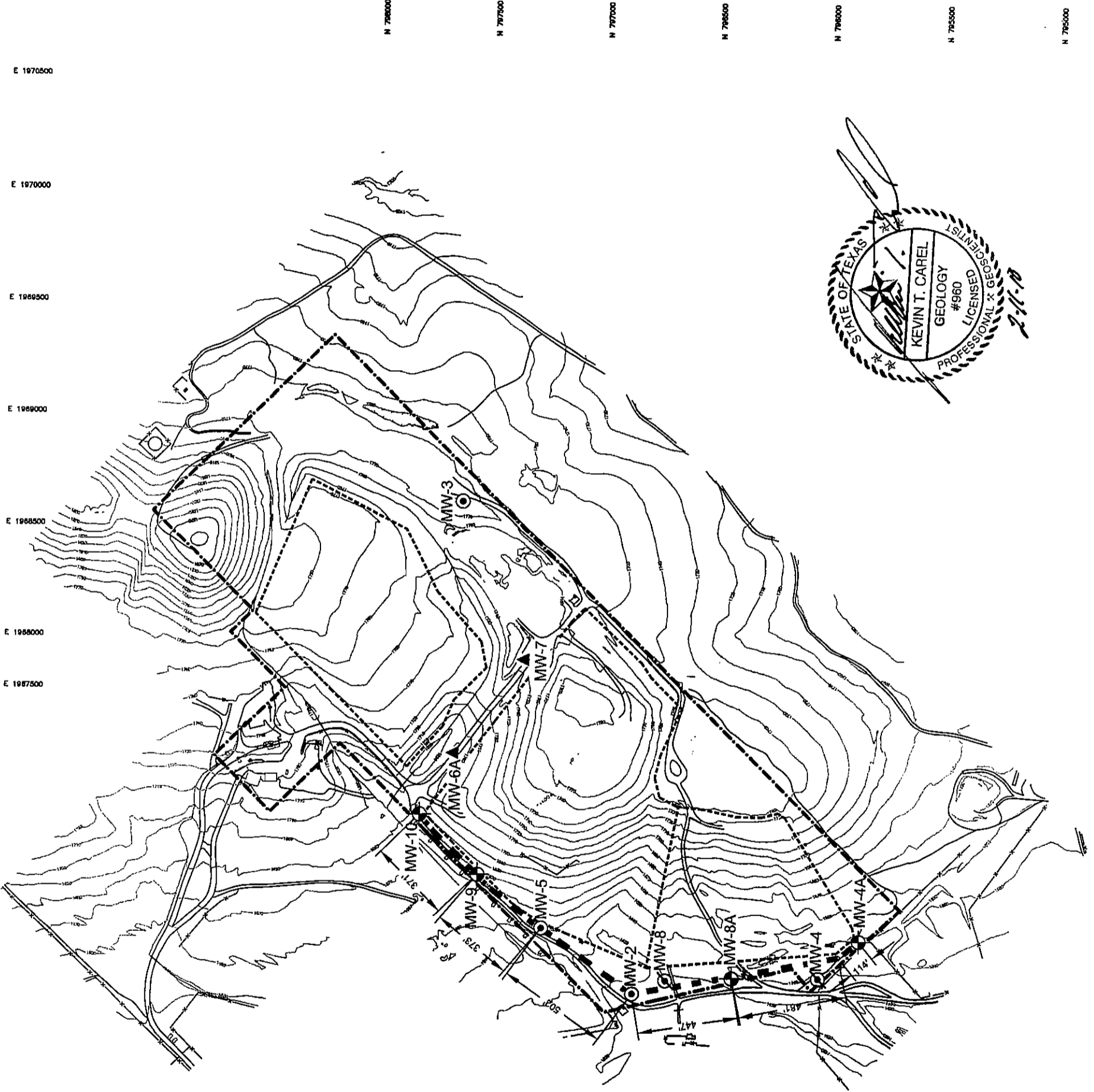
DRAWN BY: TDW

CHECKED BY: SJW

APPROVED BY: **KTC**

FIGURE:

4-12



ATTACHMENT 3

Permit Attachment 4 Geology Report – Clean Replacement Pages

**ATTACHMENT 4
GEOLOGY REPORT**

**CITY OF KERRVILLE SANITARY LANDFILL
KERRVILLE, TEXAS
KERR COUNTY**

Applicant:

City of Kerrville
800 Junction Highway
Kerrville, Texas 78028

Revised: February 2010

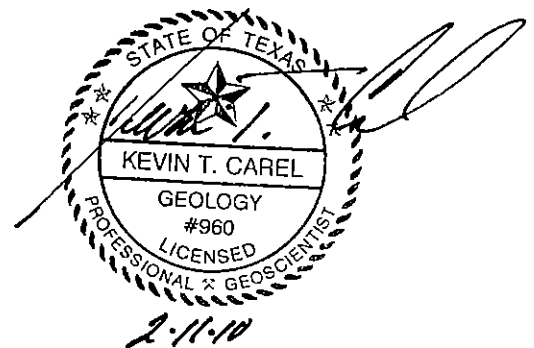
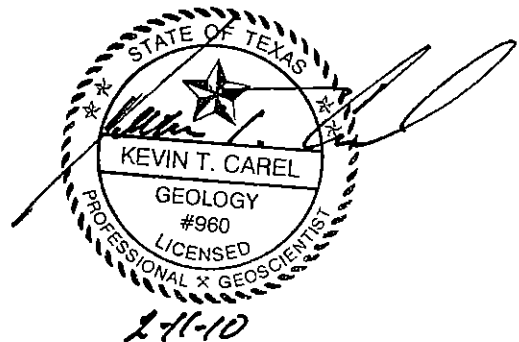


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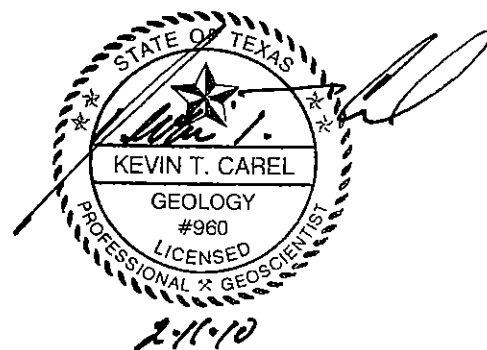


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