



December 11, 2009
Project No. 09-10-23

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 October 14, 2009, City of Kerrville Landfill, MSW Permit No. 1506A, Kerr County, Texas; WWC 11995264; RN102000551 / CN602452286

Dear Mr. Avakian:

This letter is written to provide a response to the comments in a letter dated October 14, 2009, from the Texas Commission on Environmental Quality (TCEQ). The letter requested that the TCEQ comments be addressed within 60 days (December 13, 2009). The TCEQ's comment/questions are provided below in italics with our response immediately following.

Comment 1: *Point of Compliance (POC)*

- a. *Please revise the POC to extend along all downgradient edges of the MSW unit, and add monitor wells at the end points of the POC. According to groundwater contour maps in monitoring reports (for example, for the April 2007, April 2008, and April 2009 monitoring events), the edges of the landfill southeast of existing well MW-4 and northeast of proposed well MW-9 are downgradient from waste, and therefore should be included in the POC.*
- b. *Please document the distances between POC monitor wells in the proposed system, as measured along the POC.*

- Response:
- a. The POC has been revised as requested. MW-4 is proposed to be decommissioned and replaced with MW-4A. MW-4A is located at the end of the POC and will be within 600 feet of the next proposed adjacent well (MW-8A). The location of proposed well MW-9 has been moved northeast of the initially proposed location to the end of the POC and is within 600 feet of existing, adjacent well MW-5.
 - b. Per your request, distances between POC monitor wells have been added to Figure 4-12. The revised figure is provided in Attachment 3 of this response.

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

Please retain MW-6A and MW-7 in the monitoring system. Both wells have detected trace to moderate levels of volatile organic compounds, and may be useful in monitoring contaminants or contaminant plumes that may originate from the closed unit, or other sources, and move along flow paths that are within the capture zones of monitor wells downgradient from the active Subtitle D unit.

Response: The facility will retain MW-6A and MW-7 in the monitoring system as requested. However, given the hydraulic position of MW-6A and MW-7, the facility proposes to retain MW-6A and MW-7 as observation wells only. 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. Furthermore, the facility proposes to sample MW-6A and MW-7 on an annual basis, for 40 CFR Part 258, Appendix I volatile organic compounds (VOCs). The text in the permit and Figure 4-12 have been revised to state the above. Both the text and Figure 4-12 are provided in Attachment 3 of this response.

Comment 3: *Internet Posting of Application*

As a reminder, in accordance with 30 TAC §330.57(i), please update the posting of this application on the Internet to include revisions and supplements to the application (including cover letters, the Part I form, the narrative describing the application, and any other materials provided with the application). The posting should also include copies of revised pages that are marked to show the changes.

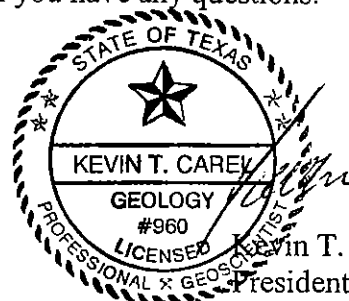
Response: The internet posting will be updated as requested.

We trust this information meets your needs, please call Mr. Michael Stewart at (512) 392-9105 or Mr. Steven Wimmer 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.
President

Mr. Arten J. Avakian
December 11, 2009
Page 3

Att: TCEQ Part 1 Application Page 1 and Signature Page
Permit Attachment 4 Geology Report – Underlined/Strikeout Replacement Pages
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

Signature Page

I, Todd Barton (Operator) City 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: [Handwritten Signature] Date: 12/10/09

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

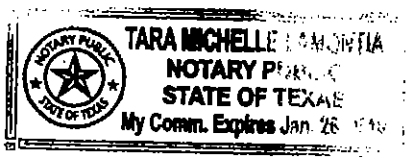
I, N/A (Print or Type Operator Name) hereby designate N/A (Print or Type Representative Name)

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 Barton
On this 10th day of December, 2009
My commission expires on the Jan day of 2010



[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**

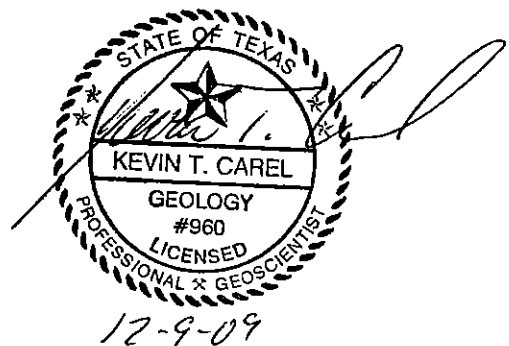
**ATTACHMENT 4
GEOLOGY REPORT**

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

Applicant:

City of Kerrville
800 Junction Highway
Kerrville, Texas 78028

Revised: ~~March 2008~~ December 2009



LIST OF TABLES

TABLE

- 4-1 Surrounding Well Use and Water Levels
- 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

LIST OF FIGURES

FIGURE

- 4-1 Site Location Map
- 4-2 Regional Geologic Map
- 4-3 Site-Specific Geologic Column
- 4-4 Seismic Acceleration Figure
- 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 ~~two~~ three additional point of compliance groundwater monitoring wells (MW-4A, MW-8A and MW-9) be installed. Additionally, it is proposed to decommission MW-4 MW-7 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 ~~downgradient~~ 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 ~~upgradient~~ background and five ~~downgradient~~ point of compliance monitor wells. The 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 ~~upgradient~~ background well is MW-3. The five ~~downgradient~~ point of compliance monitor wells are MW-2, MW-4A, MW-5, MW-8A and MW-9. The spacing between all ~~downgradient~~ 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). Therefore it is proposed to be converted to a piezometer and will be used for hydraulic control and as a potential sampling point ~~if warranted in the future~~ an observation well. 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. Additionally, MW-6A and MW-7 will be sampled on an annual basis, for 40 CFR Part 258, Appendix I volatile organic compounds (VOCs). 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 §330.242 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

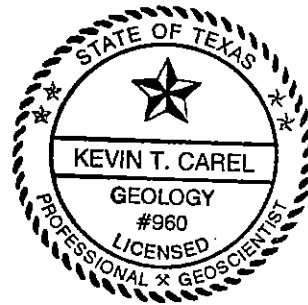
Site Location: 3315 Loop 534, Kerrville, Texas

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*
Kevin T. Carel, P.G.
No. 690-Texas

Date: 12-9-09





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: November 30, 2009 | REV. NO.: 2

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

DESIGNED BY: KTC

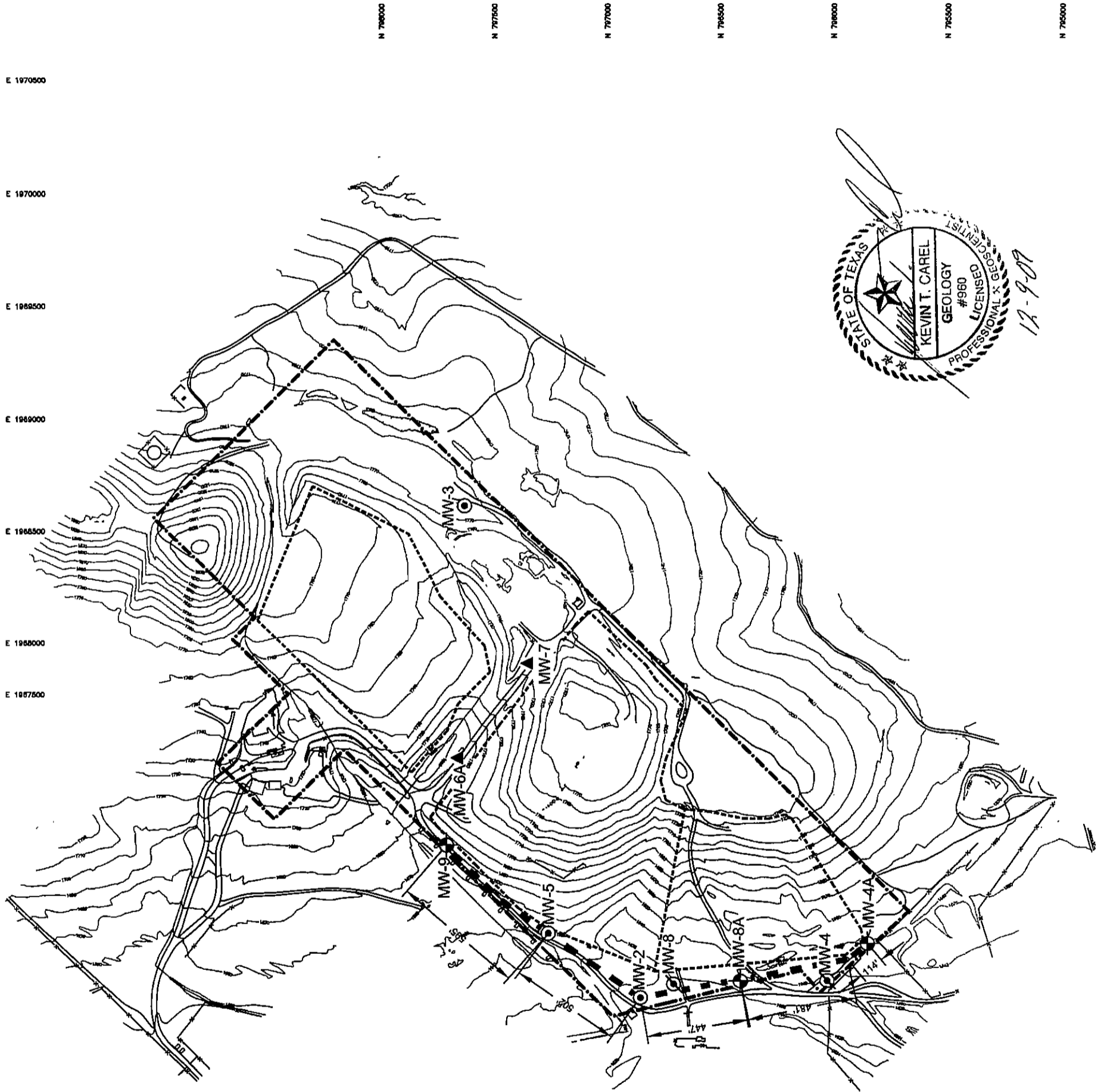
DRAWN BY: TDW

CHECKED BY: SJW

APPROVED BY: *KTC*

FIGURE:

4-12



ATTACHMENT 3

Permit Attachment 4 Geology Report – Clean Replacement Pages

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Revised: December 2009

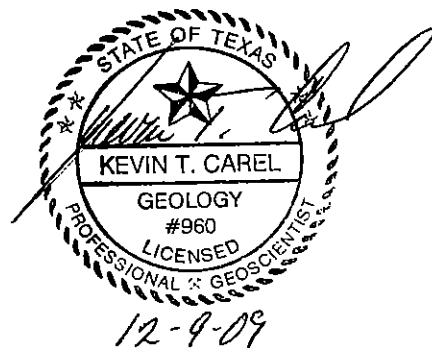


TABLE OF CONTENTS

ATTACHMENT 4

| | PAGE |
|--|-------------|
| INTRODUCTION | 4(1)-1 |
| REGIONAL PHYSIOGRAPHY AND TOPOGRAPHY | 4(1)-1 |
| REGIONAL GEOLOGY | 4(2)-1 |
| ACTIVE GEOLOGIC PROCESSES | 4(3)-1 |
| REGIONAL AQUIFERS | 4(4)-1 |
| SUBSURFACE INVESTIGATION | 4(5)-1 |
| GEOTECHNICAL REPORT | 4(5)-6 |
| Introduction | 4(5)-6 |
| Previous Geotechnical Investigation | 4(5)-6 |
| Geotechnical Table A Summary of Geotechnical Laboratory Testing Results for TETCO (1982) | 4(5)-8 |
| Geotechnical Table B Test Pit Logs and Sample Locations | 4(5)-10 |
| Geotechnical Table C Summary of Geotechnical Laboratory Testing Results | 4(5)-11 |
| Geotechnical Table D Summary of Interface Direct Shear Test Results | 4(5)-14 |
| GROUNDWATER INVESTIGATION REPORT | 4(5)-19 |
| GROUNDWATER MONITORING SYSTEM | 4(6)-1 |
| GROUNDWATER MONITORING SYSTEM DESIGN CERTIFICATION | 4(7)-1 |



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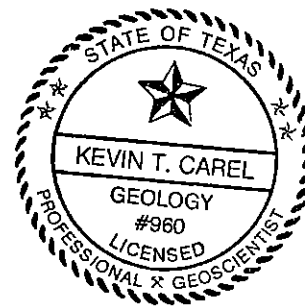
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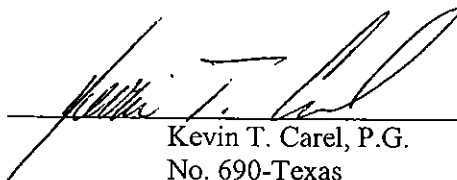
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Firm/Address: The Carel Corporation
136 Pecan Street
Keller, Texas 76248



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

Date: 12-9-09

