Limited Scope Amendment Application
MSW Permit No. 2310

J-V Dirt + Loam Facility – Travis County, Texas

Walker Aero Environmental LLC, Permittee

Prepared for:

J-V Dirt + Loam
3600 FM 973
Austin, Texas 78725

This document is issued for MSW permitting only.



Prepared by:

6/4/2025

INTERA Incorporated

Texas Registered Engineering Firm F-4722

INTERA Incorporated
9600 Great Hills Trail, Suite 300W
Austin, Texas, 78759

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INTERA Incorporated 6/4/2025

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1.0 Plain Language Summary Forms

Texas Commission on Environmental Quality

Plain Language Summary of Municipal Solid Waste Permit or Permit Amendment Application

Applicants are required by public notice rules in Title 30 Texas Administrative Code, Chapter 39, Section 39.405(k)[1] to provide this summary of an application.

A. Purpose of the Proposed Facility

The J-V Dirt+Loam facility is an existing resource recovery and composting facility authorized by TCEQ under MSW Permit No. 2310. This permit amendment application requests to modify the groundwater monitoring system and reduce the size of the permitted facility due to the widening of adjacent FM 973.

B. Information About the Applicant

Name: Walker Aero Environmental, LLC

Applicant Type: corporation

Facility Name: J-V Dirt + Loam

Permit Application Number: Permit No. 2310

Customer Number (CN): CN604364968

Regulated Entity Reference Number (RN): RN101495976

C. Location of the Proposed Facility

Facility Address (or description of site location if no address):

3600 North FM 973, Austin, Travis County, Texas 78725

Link to Map of Facility Location (TCEQ Location Mapper[2]): https://arcg.is/1yuLLq0

D. Information about Facility Operation

What types of waste would be received?

The permit authorizes the following wastes: municipal sewage sludge, septage, grease trap waste, animal manure, and positively sorted material (cardboard, wood, and vegetative food matter).

What geographical area would the wastes come from?

Wastes are received from the greater Austin area including Travis, Williamson, Hays, Caldwell and Bastrop counties.

[1] www.tceq.texas.gov/goto/view-30tac
[2] www.tceq.texas.gov/gis/hb-610-viewer

What days and hours would the facility operate?

Normal operations are conducted during daylight hours Mon. through Sat. The permit authorizes operation up to 24 hrs/day, 7 days/wk.

At what rate would wastes be accepted?

The facility currently receives up to approximately 500 tons/day of solid and liquid feedstock for composting operations on a typical day.

How would wastes be managed?

Waste feedstock is blended with bulking agent (typically clean wood), and the blended material is placed into windrows on a pad where aerobic composting occurs. After completing the composting process, the material is cured and passes quality control testing before the finished compost is sold.

E. Pollution Control Methods

What methods would the facility use for containing wastes and odors, and monitoring for releases?

The facility contains waste in its below-grade composting area that is surrounded by a berm, with composting and curing operations being conducted on low-permeability clay-lined pads below ground level. Groundwater from the facility's monitoring well network is routinely sampled and analyzed. The below-grade location of waste management operations helps to control dust and odors. Dust is further controlled using water sprays, and odors are further controlled by the addition of fresh ground wood to the feedstock. This application requests to modify the facility's groundwater monitoring system by removing three, ineffective monitoring wells and installing a new, properly screened well.

What methods would the facility use or require for preventing litter or spills, and for cleanup of litter and spills?

Procedures include the requirement to have adequate covers or other means of containment for feedstock vehicles. The facility's earth-moving equipment and personnel are available if necessary to clean up spills.

Comisión de Calidad Ambiental de Texas

Resumen en lenguaje sencillo de la solicitud de permiso municipal de residuos sólidos o de modificación del permiso

Los solicitantes están obligados por las normas de notificación pública del Título 30 del Código Administrativo de Texas, Capítulo 39, Sección 39.405(k)[1] a proporcionar este resumen de una solicitud.

A. Objetivo de la instalación propuesta

La instalación J-V Dirt+Loam es una instalación existente de recuperación de recursos y compostaje autorizada por la TCEQ bajo el permiso MSW No. 2310. Esta solicitud de modificación del permiso pide que se modifique el sistema de control de las aguas subterráneas y se reduzca el tamaño de la instalación autorizada debido a la ampliación de la FM 973 adyacente.

B. Información sobre el solicitante

Nombre: Walker Aero Environmental, LLC

Tipo de solicitante: corporación

Nombre de la instalación: J-V Dirt + Loam

Número de solicitud de permiso: 2310

Número de cliente (CN): CN604364968

Número de referencia de la entidad regulada (RN): RN101495976

C. Ubicación de la instalación propuesta

Dirección del establecimiento (o descripción de la ubicación del sitio si no hay dirección):

3600 North FM 973, Austin, Texas 78725

Enlace al mapa de ubicación de las instalaciones en TCEQ Location Mapper[2]:

https://arcg.is/1yuLLq0

D. Información sobre el funcionamiento de las instalaciones

¿Qué tipos de residuos se recibirían?

El permiso autoriza los siguientes residuos: lodos de depuradora municipales, residuos sépticos, residuos de trampas de grasa, estiércol animal y material clasificado positivamente (cartón, madera y materia vegetal alimentaria).

¿De qué zona geográfica procederían los residuos?

Los residuos proceden de la zona metropolitana de Austin, incluidos los condados de Travis, Williamson, Hays, Caldwell y Bastrop.

[1] www.tceq.texas.gov/goto/view-30tac
[2] www.tceq.texas.gov/gis/hb-610-viewer

¿Qué días y horas funcionará la instalación?

Las operaciones normales se llevan a cabo durante las horas diurnas de lunes a sábado. El permiso autoriza el funcionamiento hasta 24 horas al día, 7 días a la semana.

¿A qué ritmo se aceptarían los residuos?

En la actualidad, las instalaciones reciben hasta 500 toneladas diarias de materias primas sólidas y líquidas para las operaciones de compostaje en un día normal.

¿Cómo se gestionarían los residuos?

Los residuos se mezclan con un agente de carga (normalmente madera limpia) y el material mezclado se coloca en hileras en una plataforma donde se produce el compostaje aeróbico. Una vez completado el proceso de compostaje, el material se cura y se somete a pruebas de control de calidad antes de que se venda el compost terminado.

E. Métodos de control de la contaminación

¿Qué métodos utilizará la instalación para contener los residuos y los olores, y para controlar las emisiones?

La instalación contiene residuos en su zona de compostaje subterránea, que está rodeada por una berma, y las operaciones de compostaje y curado se llevan a cabo en plataformas revestidas de arcilla de baja permeabilidad situadas bajo el nivel del suelo. Las aguas subterráneas de la red de pozos de control de la instalación se muestrean y analizan de forma rutinaria. La ubicación por debajo del nivel del suelo de las operaciones de gestión de residuos ayuda a controlar el polvo y los olores. El polvo se controla aún más mediante pulverizaciones de agua, y los olores se controlan aún más añadiendo madera recién molida a la materia prima. Esta solicitud pide que se modifique el sistema de control de las aguas subterráneas de la instalación mediante la eliminación de tres pozos de control ineficaces y la instalación de un nuevo pozo debidamente cribado.

¿Qué métodos utilizaría o exigiría la instalación para evitar la basura o los derrames, y para la limpieza de la basura y los derrames?

Los procedimientos incluyen el requisito de disponer de cubiertas adecuadas u otros medios de contención para los vehículos de materias primas. El equipo de movimiento de tierras y el personal de la instalación están disponibles en caso necesario para limpiar los vertidos.

2.0 Public Involvement Plan Form

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

Per the instructions for this form, neither of these boxes appear to be applicable. However, TCEQ has indicated that this New Activity box should be checked and the form submitted despite the statement in this section, below.

☐ New Permit or Registration Application

☒ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☒ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☐ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☒ Amendment ☐ Standard Permit ☐ Title V

Waste ☒ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☐ Underground Injection Control

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

- ☐ Texas Land Application Permit (TLAP)
- ☐ State Only Concentrated Animal Feeding Operation (CAFO)
- ☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

The J-V Dirt+Loam facility is an existing resource recovery and composting facility authorized by TCEQ under MSW Permit No. 2310. This permit amendment application requests to modify the groundwater monitoring system and reduce the size of the permitted facility due to the widening of adjacent FM 973.

Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.

Austin

(City)

Travis

(County)

ZCTA5 78725

(Census Tract)

Please indicate which of these three is the level used for gathering the following information.

☐ City ☐ County ☒ Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

85%

(b) Per capita income for population near the specified location

$102,819 median

(c) Percent of minority population and percent of population by race within the specified location

American Indian/Alaskan Native: 1.0%
Asian: 1.3%
Black/African American: 10.6%

(d) Percent of Linguistically Isolated Households by language within the specified location

Spanish: 35.4%
Asian and Pacific Islander: 1.9%
Other Indo-European Languages:1.5%

(e) Languages commonly spoken in area by percentage

English:60.6%
Spanish: 35.4%
Asian and Pacific Islander: 1.9%

(f) Community and/or Stakeholder Groups

none known

(g) Historic public interest or involvement

The original permit issued in 2005 was contested.

Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☒ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☒ No

If Yes, please describe.

If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.

(c) Will you provide notice of this application in alternative languages?

☐ Yes ☐ No

Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.

If yes, how will you provide notice in alternative languages?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☐ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☐ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

☐ TCEQ Regional Office ☐ TCEQ Central Office

☐ Public Place (specify)

Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

3.0 Application Form TCEQ 00653b

Texas Commission on Environmental Quality

Application for Compost Permit

(Compost Form No. 3)

Who Should Use This Form

Use this form to apply for a new permit, or to amend an existing permit for a composting operation that composts mixed municipal solid waste or grease trap waste.

This application is required by Title 30, Texas Administrative Code (30 TAC) Chapter 332, Subchapter D. In addition, in accordance with 30 TAC 332.42, you must provide certification by a registered professional engineer, establish ownership or control of the property, and have the facility inspected by the TCEQ before operations can begin.

Submit an original and two copies of all application documents including this form to the Municipal Solid Waste Permits Section MC-124, TCEQ, P.O. Box 13087, Austin, TX 78711-3087. If you have any questions about this form, contact us at (512) 239-2335.

Application Type

☐ New Facility ☒ Amendment for an Existing Facility *

MSW Permit Number (for existing facility): 2310

Application Fee

Indicate how the application fee was paid, and attach a copy of the fee receipt.

☐ Paid by Check ☒ Paid Online

If you are paying by check please send checks directly to the TCEQ Cashier's Office MC-214, TCEQ, P.O. Box 13087, Austin, TX 78711-3087.

If paid online, provide e-Pay Confirmation Number: 582EA000643516

Facility Information (must match regulated entity information on Core Data Form)

Facility Name: J-V Dirt + Loam

Physical Address: 3600 North FM 973 Site Elevation: varies Feet above msl.

City: Austin State: TX Zip code: 78725 County: Travis

Facility Owner Information (must match customer information on Core Data Form)

Facility Owner Name: Walker Aero Environmental, LLC

Mailing Address: 12141 Wickchester Ln. Suite 325

City: Houston State: TX Zip code: 77079 County: Harris

Attach a complete Core Data Form for the facility owner. The Core Data Form and instructions are available at <www.tceq.texas.gov/goto/coredata>.

* This application is submitted pursuant to 30 TAC 305.62(a) relating to amendment requested by the permittee and 30 TAC 305.62(j)(2) regarding limited scope major amendments.

Property Owner Information (must match Customer information on Core Data Form)

☒ Check this box if property owner is different from facility owner. If the property owner is different from the facility owner, include a separate Core Data Form for the property owner, and have the property owner complete the Property Owner Affidavit section of this form.

Property Owner Name: Walker Aero Capital LLC (owned by American AllWaste)

Mailing Address: 12141 Wickchester Ln. Suite 325

City: Houston State: TX Zip code: 77079 County: Harris

Applicant Contact Information

Person's Name: Adam Mihalick Title: Chief Operating Officer - Texas

Company: Walker Aero Environmental LLC

Mailing Address: 12141 Wickchester Ln, Suite 325

City: Houston State: TX Zip code: 77079

Phone: 713-828-5487 E-mail:

Consulting Engineer Information

Engineer's Name: Kathy McGee Firm Name: INTERA Incorporated

Mailing Address: 9600 Great Hills Trail, Suite 300W

City: Austin State: TX Zip code: 78759

Phone: 512 425-2057 E-mail:

Electronic Versions of Application

TCEQ will publish electronic versions of the application online. Applicants must provide a clean copy of the administratively complete application and technically complete application. TCEQ will also publish electronic versions of NOD responses online.

Publishing Information

Party responsible for publishing notice:

☐ Applicant ☒ Consultant

Is an alternative language notice required for this application? Yes ☒ No ☐

(For determination, refer to Alternative Language Checklist on the Public Notice Verification Form TCEQ-20244-Waste.)

Name of the public place application is located: Austin Public Library - Cepeda Branch

Physical Address: 651 N Pleasant Valley Road

City: Austin State: TX Zip Code: 78702

Phone: 512 974-7372

Feedstock Information - **NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.**

Indicate all feedstocks that will be composted at the facility:

☐ Mixed Municipal Solid Waste	☐ Grease Trap Waste	☐ Manure	☐ Grease
☐ Municipal Sewage Sludge	☐ Yard Trimmings	☐ Clean Wood	☐ Paper
☐ Positively-sorted Organic	☐ Dairy Materials	☐ Meat	☐ Oil
☐ Vegetative Material	☐ Animal Carcasses	☐ Fish	

☐ Disposable Diapers or paper products soiled by human excreta

☐ Paper Production Sludge (must comply with special requirements in 30 TAC 332.33(b))

☐ Other Feedstocks: _____

_____

Describe all bulking agents that will be used in the process: _____

_____

General Requirements Statement

☒ By checking this box you will comply with the general requirements for this facility as described under 30 TAC 332.4(1)-(9) and (12).

Excluded Feedstocks Statement

The following wastes must be managed in accordance with 30 TAC Chapter 335 (relating to Industrial Solid Waste and Municipal Hazardous Waste):

- Any nonhazardous industrial solid wastes listed in 30 TAC 332.4(10) that are *not* managed in accordance with the requirements of Chapter 332.
- Any nonhazardous industrial solid wastes *not* listed in subsection 30 TAC 332.4(10).
- All hazardous wastes (30 TAC 332.4(11)).

☒ Check this box to indicate you will comply with these feedstock limitations.

Variance Request

You may request a variance in accordance with 30 TAC 332.5. A variance may not be approved for procedural requirements. Indicate if you are requesting a variance. ☐ Yes ☒ No

If yes, attach your written variance request with this application.

Air Quality Requirements - **NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.**

General

Composting operations required to obtain a permit must meet the requirements in 30 TAC 332.8(e) to be covered under an air quality standard permit.

☐ Check this box to indicate you will comply with air quality requirements to be covered by an air quality standard permit. By not checking this box you are indicating you will apply for an air quality permit under 30 TAC Chapter 116.

Dust Suppression - NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

Indicate dust suppression method(s) that will be used for all permanent in-plant roads and vehicle work areas:

☐ Watered

☐ Treated with dust-suppressant chemicals

☐ Paved and cleaned as necessary to achieve maximum dust control

Are all facility grinders located in an enclosed building? ☐ Yes ☐ No

If No, describe controls that will be used to suppress dust: T

Are all facility conveyors located in an enclosed building? ☐ Yes ☐ No

If No, describe controls that will be used to suppress dust:

Odor Control - NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

Prior to receiving any material with a high odor potential such as dairy material, meat, fish, and oil and grease, the operator must ensure that there is an adequate volume of bulking agent to blend with or cover the material, and must begin processing the material in a manner that prevents nuisances.

☐ Check this box to indicate you will comply with requirements for managing high odor material at this facility in accordance with 30 TAC 332.8(e)(6).

General Location Description and Map Requirements

Enter description for the physical location: 3600 N FM 973, Austin, Texas 78725

In accordance with 30 TAC 305.45(a)(6), attach a map(s) which shows the facility and each of its intake and discharge structures and any other structure or location regarding the regulated facility and associated activities. Map(s) must depict the approximate boundary of the facility, be on a scale of not less than one inch equals one mile and extend at least one mile beyond the approximate boundaries.

Facility Legal Description

In accordance with TAC 332.47(8), attach a legal description of the facility. At minimum the legal description should include a metes and bounds description and drawing prepared and sealed by a registered surveyor.

Landowners List and Map

Attach a mailing list of landowner names and addresses within one-half mile of the facility and a map locating the property owned by these persons. In accordance with 30 TAC 39.5(b) mailing lists should be provided electronically or on mailing labels.

Coordination with Government Agencies

Provide information in accordance with 30 TAC 281.5(7) about government agencies representing the area where the facility will be located. Attach copies of letters demonstrating coordination with those agencies, and copies of received responses.

Texas Department of Transportation (TxDOT)

TxDOT District Name and Number: Austin District

District Engineer's Name: Tucker Ferguson, P.E.

Mailing Address: P.O. Box 15426

City: Austin State: TX Zip code: 78761 County: Travis

Local Authority for road maintenance: TxDOT Austin District

U.S. Army Corps of Engineers (USACE)

Select the district the facility is located within:

☐ Albuquerque, NM ☒ Ft. Worth, TX ☐ Galveston, TX ☐ Tulsa, OK

Local Council of Governments (COG)

COG Name: Capital Area Council of Governments

COG Representative's Name: Ken May

COG Representative's Title: Solid Waste Program Manager

Mailing Address: 6800 Burleson Road, Building 310, Suite 165

City: Austin State: TX Zip code: 78744 County: Travis

River Basin Authority

River Basin Authority Name: Lower Colorado River Authority

Contact Person's Name: Timothy Timmerman

Watershed Sub-Basin Name: Carson Creek & Decker Creek

Mailing Address: 3700 Lake Austin Blvd

City: Austin State: TX Zip code: 78703 County: Travis

Federal Aviation Administration (FAA)

☒ Check this box if the facility will be located within six (6) miles of an airport. If this box is checked documentation of coordination with FAA must be included.

Texas Historical Commission (THC)

Attach correspondence with the THC.

Texas Parks and Wildlife Department (TPWD)

Attach correspondence with the TPWD.

State Elected Officials

Texas House District No. 51

Representative Name: Maria Luisa "Lulu" Flores

District Office Address: P.O. Box 2910 (Capitol Address)

City: Austin State: TX Zip code: 78768 County: Travis

Phone: 512 463-0674 E-Mail:

Texas Senate District No. 14

Senator Name: Sarah Eckhardt

District Office Address: P.O. Box 12068 (Capitol Station)

City: Austin State: TX Zip code: 78711 County: Travis

Phone: 512 463-5949 E-Mail:

Local Government Jurisdiction and Ordinances

Provide information in accordance with 30 TAC 281.5(7) about local government jurisdiction.

Within the city limits of:

Within extraterritorial jurisdiction of: Austin

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage or processing of municipal or industrial solid waste? ☐ Yes ☒ No

If yes, attach a copy of the ordinance or order.

Local Government Officials

City Mayor

Name: Kirk Watson E-Mail:

Office Address: P.O. Box 1088 Phone: 512 978 2100

City: Austin State: TX Zip code: 78767 County: Travis

City Health Authority

Name: Austin Public Health

Office Address: P.O. Box 1088 Phone: 512 972 5000

City: Austin State: TX Zip code: 78767 County: Travis

County Judge

Name: Andy Brown E-Mail:

Office Address: P.O. Box 1748 Phone: 512 854 9555

City: Austin State: TX Zip code: 78767 County: Travis

County Health Authority

Name: Ana Almaguel - Public Health Division Dir. E-Mail:

Office Address: P.O. Box 1748 Phone: 512 854 4120

City: Austin State: TX Zip code: 78767 County: Travis

General Application Requirements

Application and Reporting

Permitted compost facilities are required to submit an annual report and monthly final product testing results in accordance with 30 TAC 332.43(2) and (3).

- Attach an engineer's appointment in accordance with 30 TAC 332.43(4).

Location Standards - NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

- Attach a map indicating compliance with setback distances to surface water, public and private wells as described under 30 TAC 332.44(4) and (5).
- Depict on a map or drawing a minimum of a 50 foot setback is maintained between the facility boundary and receiving, processing and storage processes

  Indicate which map or drawing you used: Attachment _____
- The facility must not significantly alter existing draining patterns.
- The facility must not be located in wetlands
- Is the facility located in a 100-year floodplain? ☐ Yes ☐ No

If yes, you must submit additional documentation in accordance with 332.44(1).

- Is this facility located in an Edwards Aquifer Recharge Zone? ☐ Yes ☐ No

If yes, you must comply with requirements in 30 TAC Chapter 213.

Operational Requirements

Permitted compost facilities are required to comply with all requirements under 30 TAC 332.45.

Records Requirements

The operator must maintain at minimum the facility's operating permit, a log of abnormal events, final product testing results and copies of the annual report in accordance with 30 TAC 332.46(a) and (b).

☒ Check this box to indicate you will comply with Reporting, Location Standards, Operational, and Records requirements of a permit.

Land Use - NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

In accordance with 30 TAC 332.47(4), attach descriptions and map(s) necessary to evaluate the impact of the facility on the surrounding area. At minimum the attachment should include:

- a description of the zoning at and within one mile of the facility;
- a description of the character of surrounding land uses within one mile of the facility;
- proximity to residences and other uses with an approximate number of residences and business within one mile and direction/distance to nearest residence and business;
- a discussion showing the compatibility of the facility with the surrounding land uses; and
- a land use map showing all listed facilities under 30 TAC 332.47(4)(E) within 500 feet of the facility.

Access - NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

In accordance with 30 TAC 332.47(5), attach data, analysis and map(s) necessary to evaluate the impact of the facility on the surrounding area. At minimum the attachment should include:

- data on roadways, within one mile, used for facility access. The data should include dimensions, surfacing, general conditions, capacity and load limits;
- data on volume of traffic on roadways used for facility access, within one mile;
- existing and projected traffic during the life of the facility (for projected traffic include both traffic generated by the facility and anticipated increase without the facility);
- an analysis of the impact the facility will have on area roadways with discussion on mitigating measures; and
- an access roadway map showing all roadways within one mile of the facility.

Facility Development

In accordance with 30 TAC 332.47(6), to assist in evaluating the environmental impact of the facility, include the following items with this application:

Surface Water Protection Plan - NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

Attach a Surface Water Protection Plan in accordance with 30 TAC 332.47(6)(A).

Geologic/Hydrogeologic Report

Attach a Geologic/Hydrogeologic Report in accordance with 30 TAC 332.47(6)(B).

Groundwater Protection Plan (GPP)

Attach a GPP in accordance with 30 TAC 332.47(6)(C).

Facility Plan and Layout -NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

Attach a facility plan and layout prepared by a registered professional engineer. The drawings must clearly indicate all proposed facilities, structures and improvements. Minimum requirements for the facility plan and layout are described in 30 TAC 332.47(6)(D).

Process Description - NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

Attach a process description material sourcing to product distribution. Minimum requirements for the process description are described in 30 TAC 332.47(6)(E).

Site Operating Plan NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

Attach a Site Operating Plan containing the information specified in 30 TAC 332.47(7).

Closure Plan and Cost Estimate NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

Prepare and attach a cost estimate and closure plan for closure of the facility in accordance with 30 TAC 332.47(9). Financial assurance mechanisms must be established and maintained in accordance with Chapter 37, Subchapter J, and Financial assurance must be submitted 60 days prior to receiving any material, or within 60 days of permit issuance.

Indicate the total closure cost estimate: $_____

Source Separated Recycling and Household Hazardous Waste Collection - NOT APPLICABLE; the facility is an existing, permitted composting facility and this is a limited scope amendment to update the facility boundary and groundwater monitoring system.

Will this facility accept waste from a governmental unit for composting purposes? ☐ Yes ☐ No

If yes, attach a plan to comply with 30 TAC 332 Subchapter E (source-separated recycling) and F (household hazardous waste collection)

Other Permit or Construction Approvals

List any permit or construction approvals listed under 30 TAC 305.45(a)(7)(A)-(K) that you have received or are pending. If more space is needed, attach a separate sheet and reference the sheet here.

Permit type: TPDES Permit #WQ0005181000 renewal and amendment Status: active/pending

Permit type: MSW Recycling NOI #100450 Status: active

Permit type: MSW Compost Facility NOI 47021 Status: active

Permit type: PST Registration #53573 Status: active

Permit type: MSW Tire Registration # 170009 Status: active

Compost Facility Permit Application Attachments

The application for a compost facility permit is composed of the application form and attachments. The order of attachments is listed below. Check each box to indicate that the document is enclosed and provide the corresponding attachment number.

☒ Title Page	
☒ Table of Contents	
☒ Application for Compost Permit Form	
☒ Fee Receipt	Attachment A
☒ Core Data Form(s)	Attachment B
☒ Legal Authority, provide verification of your legal status in accordance with 30 TAC §281.5(3). Normally, this is a one page certificate of incorporation issued by the Office of the Secretary of State.	Attachment C
☐ Variance Request (*if applicable)*	Attachment NA
☒ General Location Map	Attachment D
☒ Legal Description of the facility	Attachment E
☒ Landowners List and Map	Attachment F
☐ Copies of Local Government Ordinance(s) (*if applicable*)	Attachment N/A
☒ Notices of Coordination with Government Agencies	Attachment G
☒ Notice of Engineer's Appointment	Attachment H
☐ Water Well and Surface Water Setback Maps	Attachment N/A
☐ Land Use Description, Discussion and Map	Attachment N/A
☐ Access Data, Discussion and Map	Attachment N/A
☐ Facility Development Plan	
☐ Surface Water Protection Plan	
☒ Geologic/Hydrogeologic Report	Attachment I
☒ Groundwater Protection Plan	Attachment J
☐ Facility Layout and Plan	
☐ Process Description	
☐ Site Operating Plan	Attachment N/A
☐ Closure Plan and Cost Estimate	Attachment N/A
☐ Source Separated Recycling Plan (*if applicable*)	Attachment N/A
☐ Household Hazardous Waste Collection Plan (*if applicable*)	Attachment N/A

Applicant's Certification

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.

Signature of Owner: _____ Date: 1/9/25

Printed Name: Adam Mihalick Title: Chief Operations Officer - Texas

Notary Public's Certification:

Subscribed and sworn to before me, by the said Diane Garcia

On this 9 day of January , 2025

My commission expires on the 9 day of April , 2028

Diane Garcia

Notary Public in and for

Travis County, Texas.

DIANE GARCIA
Notary ID #134843035
My Commission Expires
April 9, 2028

Property Owner's Affidavit

The owner of the property must sign the following statement:

- I acknowledge that the State of Texas may hold the property owner of record either jointly or severally responsible for the operation, maintenance, and closure or post-closure care of the facility.
- I acknowledge that the facility owner or operator and the State of Texas shall have access to the property during the active life and post-closure care period, if required, after closure for the purpose of inspection and maintenance.

Signature of Owner: _____ Date: 1/9/25

Printed Name: ADAM MIHALICK - COO-TX - WAE

Applicant's Certification

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.

Signature of Owner: [signature] - COO - TEXAS OPERATIONS Date: 1/30/25

Printed Name: Adam Mihalick Title: Chief Operations Officer - Texas

Notary Public's Certification:

Subscribed and sworn to before me, by the said ADAM M. MIHALICK

On this 30 day of January, 2025

My commission expires on the 9 day of April, 2025

Diane Garcia

Notary Public in and for

Travis county County, Texas.

DIANE GARCIA
Notary ID #134843035
My Commission Expires
April 9, 2028

Property Owner's Affidavit

The owner of the property must sign the following statement:

- I acknowledge that the State of Texas may hold the property owner of record either jointly or severally responsible for the operation, maintenance, and closure or post-closure care of the facility.
- I acknowledge that the facility owner or operator and the State of Texas shall have access to the property during the active life and post-closure care period, if required, after closure for the purpose of inspection and maintenance.

Signature of Owner: [signature] COO - TEXAS OPERATIONS Date: 1-30-25

Printed Name: ADAM MIHALICK

Applicant's Certification

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.

Signature of Owner: _____ Date: 6-2-25

Printed Name: Adam Mihalick COO-TX OFFICER Title: Chief Operations Officer - Texas

Notary Public's Certification:

Subscribed and sworn to before me, by the said Adam Mihalick

On this 2 day of June, 2025

My commission expires on the 9 day of April, 2025

Diane Garcia

Notary Public in and for

Travis County, Texas.

DIANE GARCIA
Notary ID #134843035
My Commission Expires
April 9, 2028

Property Owner's Affidavit

The owner of the property must sign the following statement:

- I acknowledge that the State of Texas may hold the property owner of record either jointly or severally responsible for the operation, maintenance, and closure or post-closure care of the facility.
- I acknowledge that the facility owner or operator and the State of Texas shall have access to the property during the active life and post-closure care period, if required, after closure for the purpose of inspection and maintenance.

Signature of Owner: _____ Date: 6-2-25

Printed Name: ~~ADAM~~ MIHALICK COO-TEXAS-OFFICER

ATTACHMENT A
FEE RECEIPT

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

Transaction Information

Trace Number:
Date: 01/13/2025 05:32 AM
Payment Method: CC - Authorization 0000013256
ePay Actor: KATHY MCGEE
Actor Email:
IP: 1
TCEQ Amount: $150.00
Texas.gov Price: $153.63*

* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

Payment Contact Information

Name: KATHY MCGEE
Company: KATHY MCGEE
Address: 13508 OVERLAND PASS, BEE CAVE, TX 78738
Phone: 512-263-2260

Cart Items

Click on the voucher number to see the voucher details.

Voucher	Fee Description	AR Number	Amount
740702	MSW PERMIT/REGISTRATION/AMEND/MOD/TEMP AUTHORIZATIONS APPLICATION FEE		$100.00
740703	30 TAC 305.53B MWP NOTIFICATION FEE		$50.00
		TCEQ Amount:	$150.00

ePay Again Exit ePay

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt for your records.

© 2002-2025 Texas Commission on Environmental Quality

ATTACHMENT B
CORE DATA FORMS

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing 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 **MSW limited scope permit amendment**

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 604364968		[redacted]5976

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	1/13/2025

☐ 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:*

Walker Aero Environmental LLC

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** (*if applicable*)
0801798660	32051225798	46-3009312	

11. Type of Customer:
☒ Corporation ☐ Individual ☐ Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ 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 ☐ VCP/BSA Applicant ☐ Other: ____

15. Mailing Address:								
	12141 Wickchester Ln							
	Suite 325							
	City	Houston	**State**	TX	**ZIP**	77079	**ZIP + 4**	1139

16. Country Mailing Information (*if outside USA*)	**17. E-Mail Address** (*if applicable*)
	[redacted]

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** (*if applicable*)
(713) 828-5487		(713)364-1523

[redacted]

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ 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 Core 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.)*

J-V Dirt + Loam

23. Street Address of the Regulated Entity: *(No PO Boxes)*	[redacted]						
	City		**State**		**ZIP**		**ZIP + 4**	
24. County	[redacted]						

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

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)

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

34. Mailing Address:							
	City		**State**		**ZIP**		**ZIP + 4**	
35. E-Mail Address:	**adam@wastewaterts.com**						

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(713) 828-5487		**(713) 364-1523**

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.

[redacted]

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste

[redacted]

☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

[redacted]

40. Name:	Kathy L. McGee, P.E.	41. Title:	Principal Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 427-2057		( ) -	[redacted]

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:	Walker Aero Environmental	Job Title:	Chief Operating Officer - Texas
Name *(In Print)*:	Adam Mihalick	Phone:	(712) 828- 5487
Signature:	[signature]	Date:	1/10/25

[redacted]

[redacted]

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing 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 **MSW limited scope permit amendment**

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 604364992		[redacted]5976

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	1/13/2025

☐ 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:*

Walker Aero Capital LLC	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID**	**10. DUNS Number** (*if applicable*)
0801798667	32051225756	(9 digits)	

11. Type of Customer:

☒ Corporation ☐ Individual ☐ Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ 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 ☐ VCP/BSA Applicant ☒ Other: Property Owner

15. Mailing Address:								
	12141 Wickchester Ln							
	Suite 325							
	City	Houston	**State**	TX	**ZIP**	77079	**ZIP + 4**	1139

16. Country Mailing Information (*if outside USA*)	**17. E-Mail Address** (*if applicable*)
	[redacted]

18. Telephone Number	**19. Extension or Code**	**20. Fax Number** (*if applicable*)
(713) 828-5487		( ) -

[redacted]

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ 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 Core 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.)*

J_V Dirt + Loam

23. Street Address of the Regulated Entity: *(No PO Boxes)*	[redacted]						
	City		**State**		**ZIP**		**ZIP + 4**	
24. County	[redacted]						

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

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)

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

34. Mailing Address:							
	City		**State**		**ZIP**		**ZIP + 4**	
35. E-Mail Address:	**adam@wastewaterts.com**						

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(713) 828-5487		**( ) -**

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.

[redacted]

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste

[redacted]

☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

[redacted]

40. Name:	Kathy L. McGee, P.E.	41. Title:	Principal Engineer

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 427-2057		( ) -	[redacted]

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:	Walker Aero Capital	Job Title:	Chief Operating Officer - Texas
Name *(In Print)*:	Adam Mihalick	Phone:	(713) 828- 5487
Signature:	[signature]	Date:	1/10/25

[redacted]

[redacted]

ATTACHMENT C
LEGAL AUTHORITY

TEXAS SECRETARY of STATE
JANE NELSON

BUSINESS ORGANIZATIONS INQUIRY - VIEW ENTITY

Filing Number:	801798660	**Entity Type:**	Domestic Limited Liability Company (LLC)
Original Date of Filing:	June 10, 2013	**Entity Status:**	In existence
Formation Date:	N/A		
Tax ID:	32051225798	**FEIN:**	
Duration:	Perpetual		

Name: Walker Aero Environmental LLC

Address: 3600 N FM 973
Austin, TX 78725 USA

REGISTERED AGENT | FILING HISTORY | NAMES | MANAGEMENT | ASSUMED NAMES | ASSOCIATED ENTITIES | INITIAL ADDRESS

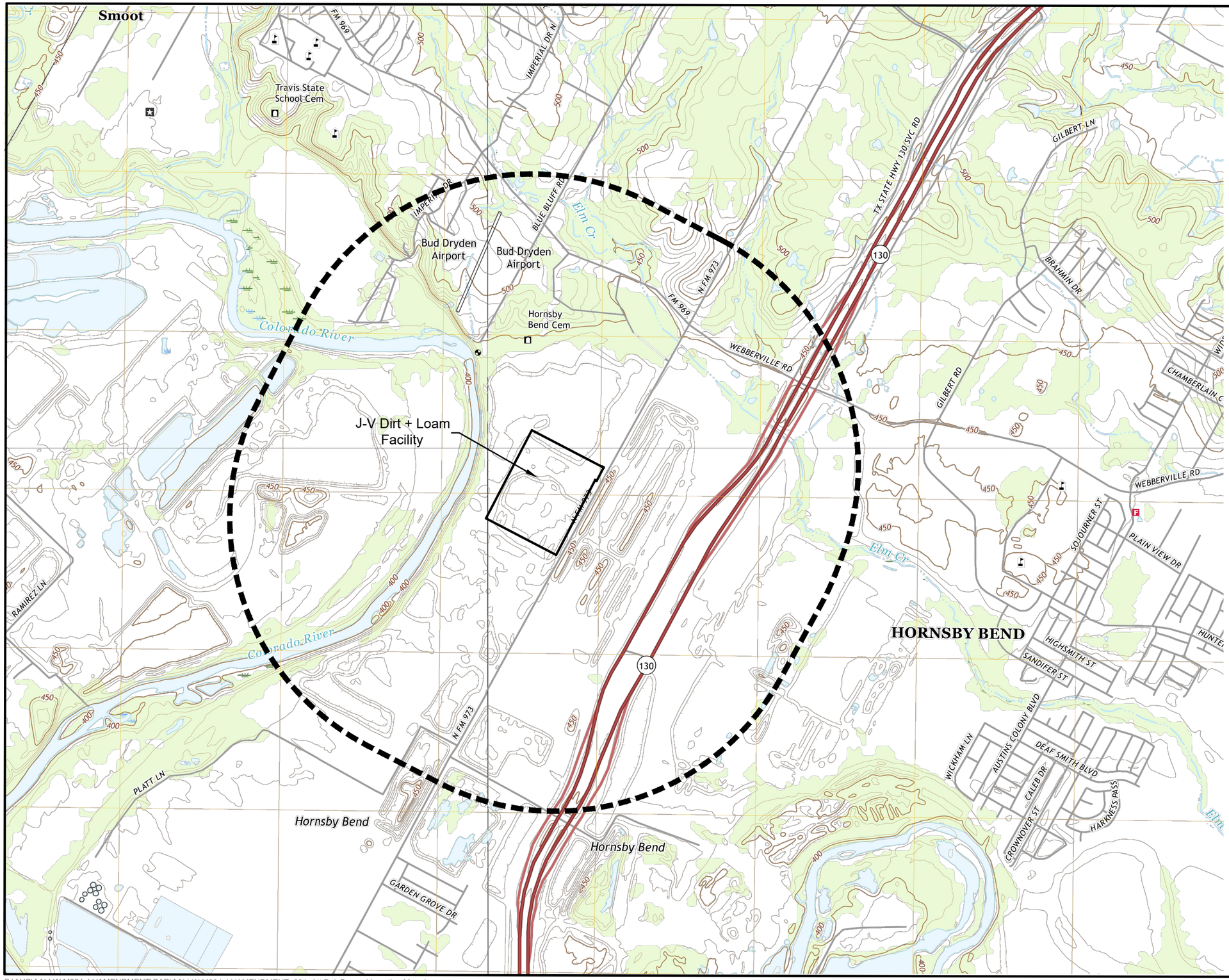
Name	Address	Inactive Date
Corporate Creations Network Inc.	5444 Westheimer #1000 Houston, TX 77056-0000 USA	

Order | Return to Search

Instructions:

- To place an order for additional information about a filing press the 'Order' button.

ATTACHMENT D
GENERAL FACILITY MAPS



Base Map Source:
USGS Store
Austin East Quadrangle: 2022
Manor Quadrangle: 2022
Montopolis Quadrangle: 2022
Webberville Quadrangle: 2022

REV.	DATE	DESCRIPTION	DR BY	APP BY

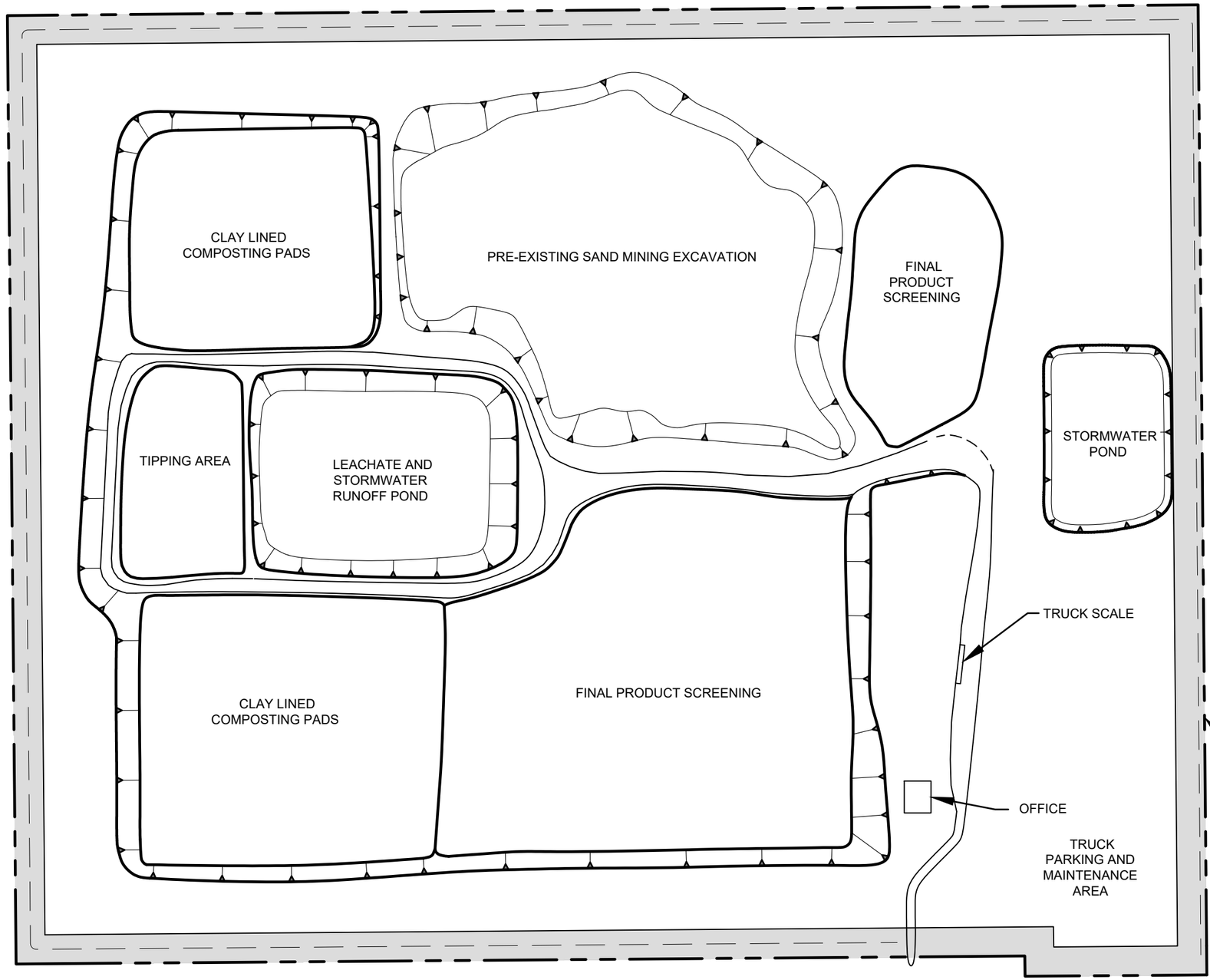
INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
General Location Map

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M000.J-VAMENDMENT
CHK BY	KLM		DWG NO. 001
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 1-13-2025			ATTACHMENT D-1
PURPOSE: TCEQ SUBMITTIAL			

S:\AUS\AALLW.M004.J-VAMENDMENT\CAD\AALLW.M004.J-VAMENDMENT_001 Att D-1 General Location Map.dwg



200 100 0 200

(SCALE IN FEET)

Legend

- 50-FT Buffer Zone
- Roads
- Berm

STATE OF TEXAS
KATHY L. McGEE
57783
LICENSED
PROFESSIONAL ENGINEER

6/4/2025

For MSW Permitting Only

Note: All Locations are Approximate.

Base Map Source:
Google Earth Pro
Dated 3-01-2024

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Facility Layout Map

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLM		DWG NO. 006
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 04-24-2025			ATTACHMENT NO. D-2
PURPOSE: TCEQ SUBMITTAL			

ATTACHMENT E
LEGAL DESCRIPTION

Attachment E
Legal Description of the J-V Dirt + Loam Facility

To facilitate an expansion project associated with Farm to Market Highway 973, the Texas Department of Transportation acquired 3.283 acres of highway right of way along the eastern boundary of the J-V Dirt + Loam facility. This resulted in the facility's size being reduced from 80.203 acres to 76.92 acres. A metes and bounds description and drawing of the 76.92-acre parcel prepared by a professional land surveyor registered in the State of Texas follows.

Chaparral
Professional Land Surveying, Inc.
Surveying and Mapping
Office: 512-443-1724
Fax: 512-389-0943
3500 McCall Lane
Austin, Texas 78744

76.92 ACRES
REUBEN HORNSBY SURVEY NO. 17, ABSTRACT NO. 15
TRAVIS COUNTY, TEXAS

A DESCRIPTION OF 76.92 ACRES IN THE REUBEN HORNSBY SURVEY NO. 17, ABSTRACT NO. 15 IN TRAVIS COUNTY, TEXAS, BEING THE REMAINDER PORTION OF A CALLED 80.203 ACRE TRACT CONVEYED TO WALKER AERO CAPITAL, LLC IN A SPECIAL WARRANTY DEED DATED SEPTEMBER 27, 2013 AND RECORDED IN DOCUMENT NO. 2013180094 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS; SAID 76.92 ACRES BEING DESCRIBED MORE PARTICULARLY BY METES & BOUNDS AS FOLLOWS:

BEGINNING at a TxDOT Type II disk found in concrete in the southerly line of said 80.203 acre tract, same being in the northerly line of a called 223.009 acre tract conveyed to Schumaker Enterprises, Inc in Document No. 2000015026 of the Official Public Records of Travis County, Texas, for the southwest corner of a called 3.2841 acre tract described as TxDOT Parcel P00056411 and the southeast corner hereof, from which a 1" iron pipe found in the existing right-of-way line of F.M. 973 (100' right-of-way width) for the southeast corner of the 80.203 acre tract, bears South 62°39'35" East a distance of 74.13 feet;

THENCE North 62°39'35" West, with the southerly line of the 80.203 acre tract and the northerly line of said 223.009 acre tract, a distance of **1627.33 feet** to a 1/2" rebar with plastic "Sam, Inc" cap found for the southwest corner of the 80.203 acre tract and hereof;

THENCE North 27°21'32" East, with the westerly line of the 80.203 acre tract and the easterly of the 223.009 acre tract, a distance of **2048.40 feet** to a 1/2" rebar with plastic "Chaparral" cap set for the northwest corner of the 80.203 acre tract and hereof;

THENCE South 62°38'34" East, with the northerly line of the 80.203 acre tract and the southerly line of the 223.009 acre tract, a distance of **1668.91 feet** to a TxDOT Type II disk found in concrete for the northwest corner of said 3.2841 acre tract and the northeast corner hereof, from which a 1" iron pipe found in the existing right-of-way line of F.M. 973 for the northeast corner of the 80.203 acre tract, bears South 62°38'34" East a distance of 41.42 feet;

THENCE with the westerly line of the 3.2841 acre tract, the following three (3) courses and distances:

1. **South 27°33'44" West**, a distance of **312.82 feet** to a TxDOT Type II disk found in concrete;

2. **North 62°44'36" West**, a distance of **34.88 feet** to a TxDOT Type II disk found in concrete;

3. **South 27°32'36" West**, passing TxDOT Type II disk found in concrete at a distance of 235.16 feet, and continuing for a total distance of **1735.05 feet** to the **POINT OF BEGINNING**, containing **76.92 acres** of land, more or less.

Surveyed on the ground January 11, 2023.

Bearing basis: The Texas Coordinate System of 1983 (NAD83), Central Zone (4203), based on GPS Solutions from the National Geodetic Survey (NGS) On-line Positioning User Service (OPUS).

Attachments: 1925-001-BD

Paul J. Flugel 2-03-2023

Paul J. Flugel
Registered Professional Land Surveyor
State of Texas No. 5096
T.B.P.E.L.S. Firm No. 10124500



SKETCH TO ACCOMPANY A DESCRIPTION OF 76.92 ACRES IN THE REUBEN HORNSBY SURVEY NO. 17, ABSTRACT NO. 15 IN TRAVIS COUNTY, TEXAS, BEING A PORTION OF A CALLED 80.203 ACRE TRACT CONVEYED TO WALKER AERO CAPITAL, LLC IN A SPECIAL WARRANTY DEED DATED SEPTEMBER 27, 2013 AND RECORDED IN DOCUMENT NO. 2013180094 OF THE OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS.

LEGEND	
●	1/2" REBAR FOUND
●SAM	1/2" REBAR WITH "SAM, INC" CAP FOUND
●CAP	1/2" REBAR WITH PLASTIC CAP FOUND
⊙	1" IRON PIPE FOUND
◎	TxDOT TYPE II DISK FOUND
○	1/2" REBAR WITH "CHAPARRAL" CAP SET
( )	RECORD INFORMATION
[ ]	RECORD INFORMATION PER TxDOT PARCEL P00056411

LINE TABLE			
LINE	BEARING	DISTANCE	(RECORD)
L1	S27°33'44"W	312.82'	[S27°34'27"W 312.94']
L2	N62°44'36"W	34.88'	[N62°25'33"W 35.00']
L3	S62°38'34"E	41.42'	[S62°38'54"E 41.20']
L4	N27°38'41"E	1390.71'	(N30°16'07"E 1390.52')
L5	S62°39'35"E	74.13'	[S62°39'29"E 74.05']
L6	S27°10'52"W	670.11'	(S29°52'12"W 670.00')

STATE OF TEXAS
REGISTERED
PAUL J. FLUGEL
5096
PROFESSIONAL
LAND SURVEYOR

Paul J. Flugel

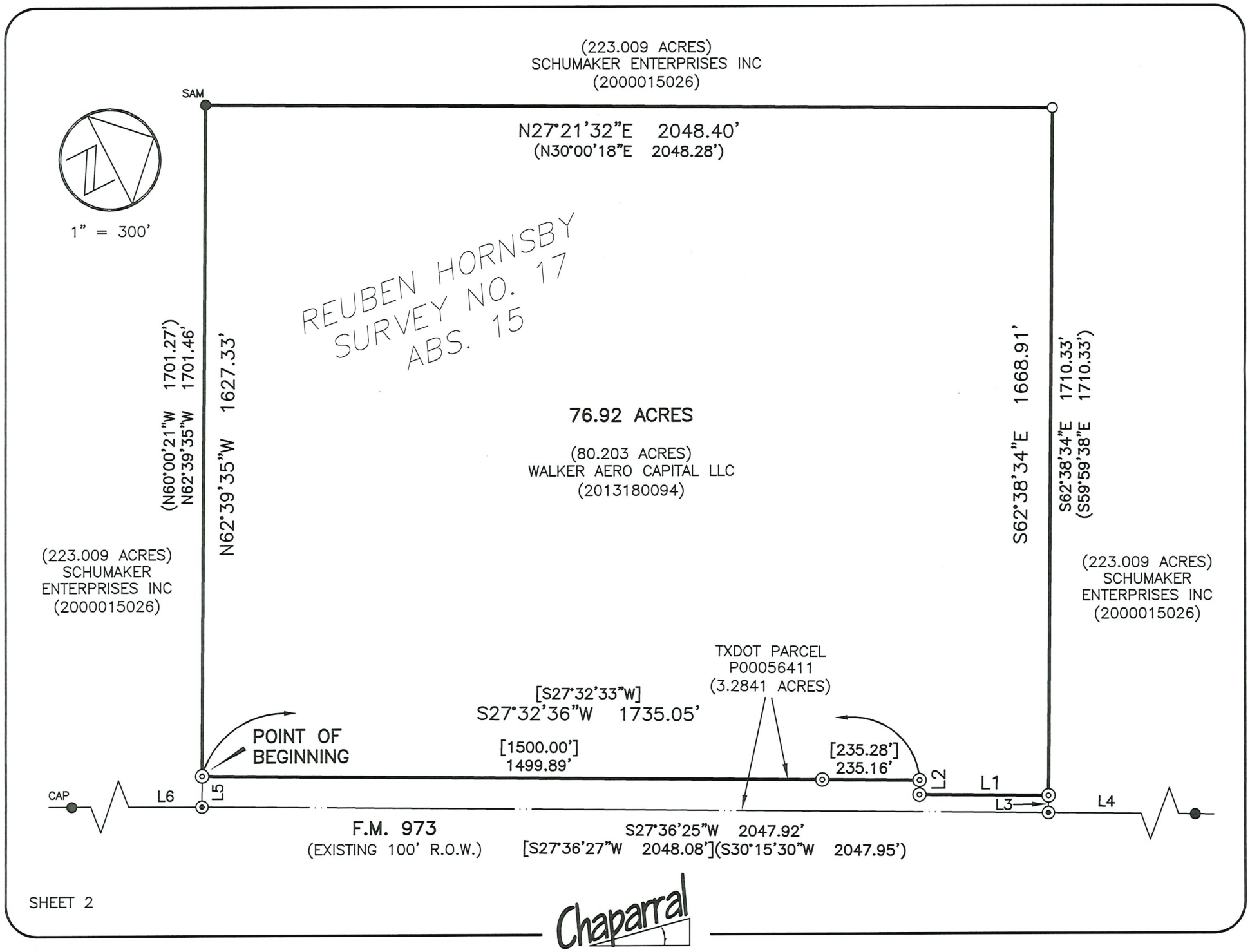
2-03-2023

DATE OF SURVEY: 01/11/2023
PLOT DATE: 02/02/2023
DRAWING NO.: 1925-001-BD
PROJECT NO.: 1925-001
T.B.P.E.L.S. FIRM NO. 10124500
DRAWN BY: PAQ
SHEET 1 OF 2

Chaparral

BEARING BASIS: THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83), CENTRAL ZONE (4203), BASED ON GPS SOLUTIONS FROM THE NATIONAL GEODETIC SURVEY (NGS) ON-LINE POSITIONING USER SERVICE (OPUS).

ATTACHMENTS: METES AND BOUNDS DESCRIPTION 1925-001-BD

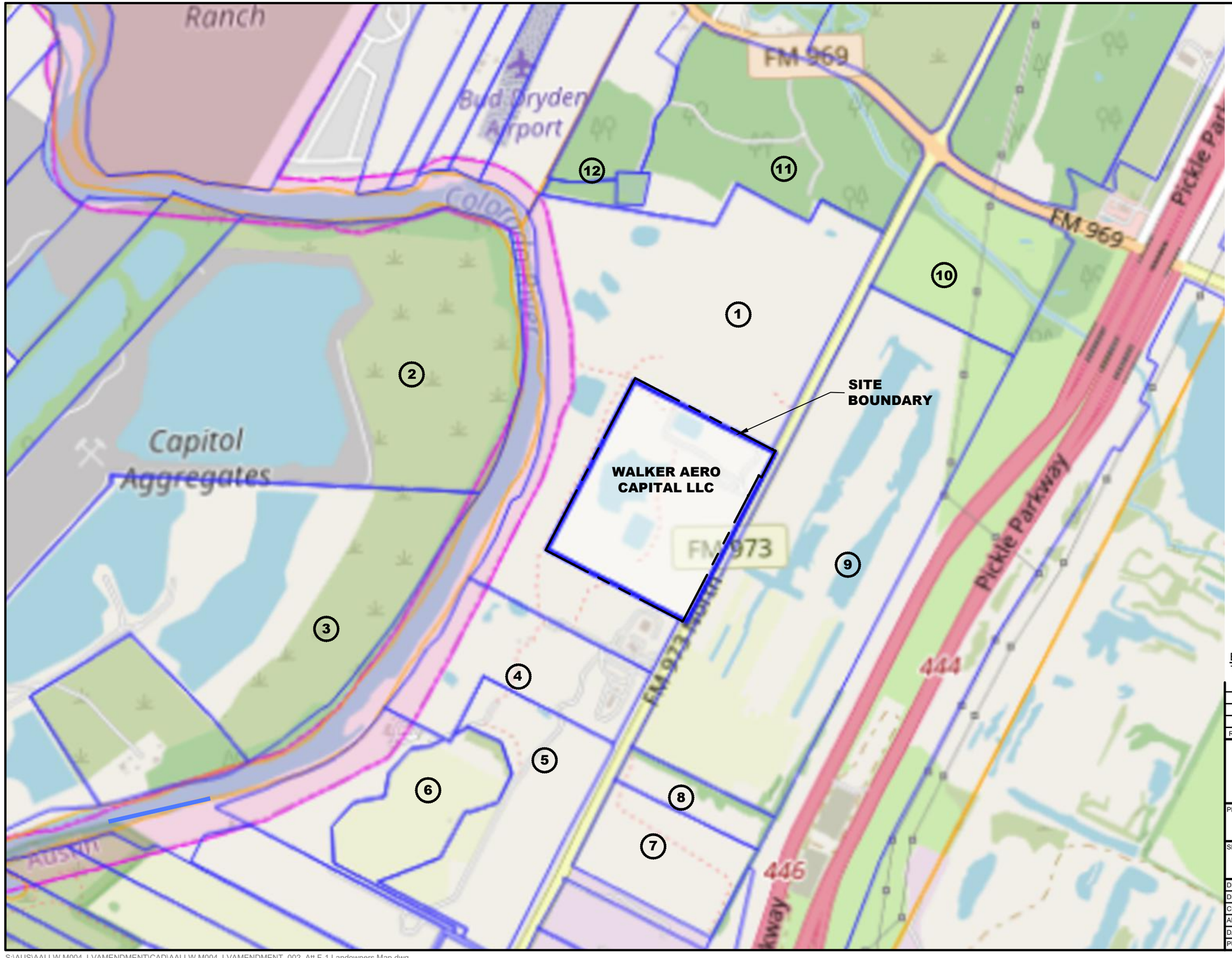


SHEET 2

Chaparral

Revision 2
4 June 2025

ATTACHMENT F
LANDOWNER LIST AND MAP



1000 500 0 1000

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

① KEY TO LANDOWNER LIST

BASE MAP SOURCE:
TRAVIS CENTRAL APPRAISAL DISTRICT

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt + Loam

SHEET TITLE:
LANDOWNERS MAP

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLL		DWG NO. 002
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 1-13-2025			ATTACHMENT F-1
PURPOSE: TCEQ SUBMITTAL			

S:\AUS\AALLW.M004.J-VAMENDMENT\CAD\AALLW.M004.J-VAMENDMENT_002 Att F-1 Landowners Map.dwg

Attachment F-2
Adjacent Landowner Information

Map ID	Owner Name	Owner Address
1, 4, 5	SHUMAKER ENTERPRISES INC	SHUMAKER ENTERPRISES INC 2600 N FM 973 AUSTIN TX 78725-4201
2	FITZPATRICK BAR X RANCH LP	FITZPATRICK BAR X RANCH LP 3304 GREENLEE DR AUSTIN TX 78703-1539
3	BAILEY RANCH HOLDINGS LP	BAILEY RANCH HOLDINGS LP 1510 W LYNN ST AUSTIN TX 78703-3448
6	SINCLAIR TELECABLE INC	SINCLAIR TELECABLE INC 8309 N INTERSTATE HWY 35 AUSTIN TX 78753-5720
7	COVINGTON SCOTT & MARY	COVINGTON SCOTT & MARY 12408 CALISTOGA WAY AUSTIN TX 78732-2450
8	CSW CART INC	CSW CART INC 1703 WEST 5TH STREET, SUITE 850 AUSTIN TX 78703-5357
9	COLORADO RIVER PROJECT LLC	COLORADO RIVER PROJECT LLC 12832 S FRONTRUNNER BL STE 100 DRAPER UT 84020-5499
10	DPEG AUSTIN LP	DPEG AUSTIN LP 11333 FOUNTAIN LAKE DR STRAFFORD TX 77477
11, 12	BYERS FAMILY LLC	BYERS FAMILY LLC 143 TRICKHAMBRIDGE CV BRANDON MS 39042

ATTACHMENT G
COORDINATION WITH GOVERNMENT AGENCIES

INTERA Incorporated
9600 Great Hills Trail, Suite 300W
Austin, TX 78759
+1 (512) 425 2000
INTERA.com

January 13, 2025

Mr. Christopher Miller
Executive Director of Administrative Services
Capital Area Council of Governments
6800 Burleson Road
Building 310, Suite 165
Austin, TX 78744

Re: TCEQ Compost Amendment Application Coordination Notice
J-V Dirt + Loam Facility (MSW No. 2310)
Travis County, Texas

Dear Mr. Miller:

On behalf of our client, Walker Aero Environmental, INTERA Incorporated would like to inform you of an upcoming permit amendment application to the Texas Commission on Environmental Quality (TCEQ) for an existing composting facility (J-V Dirt + Loam) in Travis County, Texas. The facility is located at 3600 North FM 973 within the City of Austin. The amended application is requesting authorization to modify the site's groundwater monitoring network and update the facility's boundary. 30 TAC 332.34(8) of the composting regulations requires that we provide notice of coordination with local agencies.

The J-V Dirt + Loam facility receives and processes sewage sludge, grease trap waste, animal manure, and positively-sorted organic material (paper, cardboard, wood, and vegetative food matter) into compost.

A general location map of the facility is enclosed for your information. Please contact me at (512) 560-3786 or [redacted] if you need any additional information.

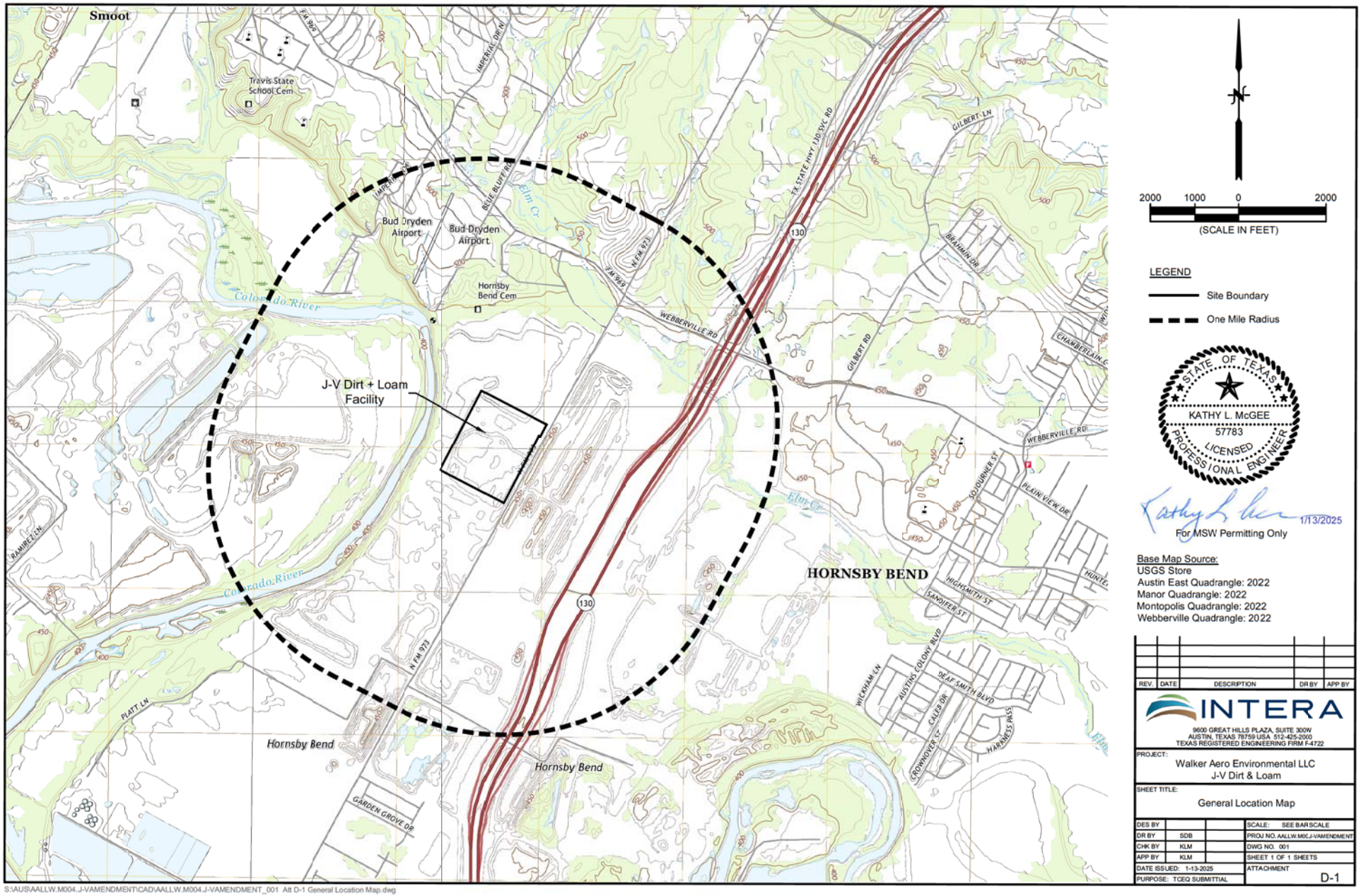
Sincerely,

Kevin Lonseth, P.G.

Senior Geoscientist

Enclosure: General Location Map

ENCLOSURE


Smoot
Travis State School Cem
Bud Dryden Airport
Hornsby Bend Cem
Colorado River
J-V Dirt + Loam Facility
HORNSBY BEND
Hornsby Bend
Elm Cr
WEBBERVILLE RD
GILBERT RD
BLUE BLUFF RD
N FM 973
FM 969
TX STATE HWY 130 SVC RD
130
GARDEN GROVE DR
PLATT LN
RAMIREZ LN
BRAHMIN DR
CHAMBERLAIN
SOJOURNER ST
BLAIN VIEW DR
HIGHSMITH ST
SANDIFER ST
AUSTINS COLONY BLVD
DEAF SMITH BLVD
CALEB DR
CROWNOVER CV
HARNESS PASS
WICKHAM LN
GILBERT LN
2000 1000 0 2000
(SCALE IN FEET)
LEGEND
Site Boundary
One Mile Radius
STATE OF TEXAS
KATHY L. McGEE
57783
LICENSED
PROFESSIONAL ENGINEER
1/13/2025
For MSW Permitting Only
Base Map Source:
USGS Store
Austin East Quadrangle: 2022
Manor Quadrangle: 2022
Montopolis Quadrangle: 2022
Webberville Quadrangle: 2022
REV. DATE DESCRIPTION DR BY APP BY
INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722
PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam
SHEET TITLE:
General Location Map
DES BY
DR BY SDB
CHK BY KLM
APP BY KLM
DATE ISSUED: 1-13-2025
PURPOSE: TCEQ SUBMITTIAL
SCALE: SEE BAR SCALE
PROJ NO. AALLW.M0CJ-VAMENDMENT
DWG NO. 001
SHEET 1 OF 1 SHEETS
ATTACHMENT
D-1
S:\AUS\AALLW.M004.J-VAMENDMENT\CAD\AALLW.M004.J-VAMENDMENT_001 Att D-1 General Location Map.dwg

INTERA Incorporated
9600 Great Hills Trail, Suite 300W
Austin, TX 78759
+1 (512) 425 2000
INTERA.com

January 13, 2025

Mr. Rob Lowe
Southwest Regional Administrator
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, TX 78177-1524

Re: TCEQ Compost Amendment Application Coordination Notice
J-V Dirt + Loam Facility (MSW No. 2310)
Travis County, Texas

Dear Mr. Lowe:

On behalf of our client, Walker Aero Environmental, INTERA Incorporated would like to inform you of an upcoming permit amendment application to the Texas Commission on Environmental Quality (TCEQ) for an existing composting facility (J-V Dirt + Loam) in Travis County, Texas. The amended application is requesting authorization to modify the site's groundwater monitoring network and update the facility's boundary. 30 TAC 332.34(8) of the composting regulations requires that we provide notice of coordination with local agencies.

The J-V Dirt + Loam facility receives and processes sewage sludge, grease trap waste, animal manure, and positively-sorted organic material (paper, cardboard, wood, and vegetative food matter) into compost.

The facility is located at 3600 North FM 973 within the City of Austin. The facility is located approximately 3 miles northeast of Austin Bergstrom International Airport and approximately 0.85 miles south of the privately owned Bud Dryden Airport. The J-V Dirt + Loam facility does not have a history of attracting birds due to the nature of their operations.

A general location map of the facility is enclosed for your information. Please contact me at (512) 560-3786 or [redacted] if you need any additional information.

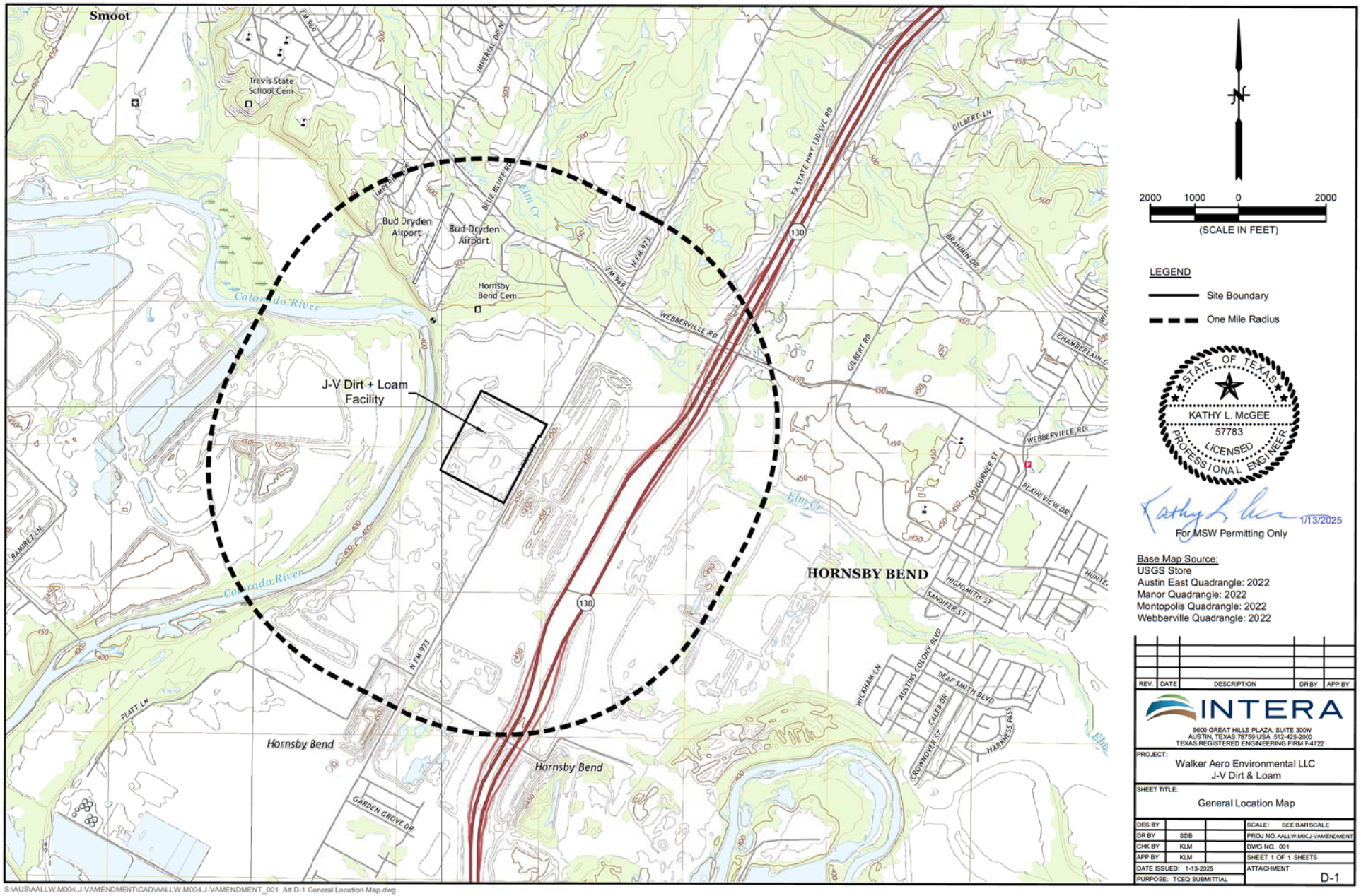
Sincerely,

Kevin Lonseth, P.G.

Senior Geoscientist

Enclosure: General Location Map

ENCLOSURE



S:\AUS\AALLW.M004.J-VAMENDMENT\CAD\AALLW.M004.J-VAMENDMENT_001 Att D-1 General Location Map.dwg

INTERA Incorporated
9600 Great Hills Trail, Suite 300W
Austin, TX 78759
+1 (512) 425 2000
INTERA.com

January 13, 2025

LCRA
P.O. Box 220
Austin, TX 87867

Re: TCEQ Compost Amendment Application Coordination Notice
J-V Dirt + Loam Facility (MSW No. 2310)
Travis County, Texas

To Whom it May Concern:

On behalf of our client, Walker Aero Environmental, INTERA Incorporated would like to inform you of an upcoming permit amendment application to the Texas Commission on Environmental Quality (TCEQ) for an existing composting facility (J-V Dirt + Loam) in Travis County, Texas. The amended application is requesting authorization to modify the site's groundwater monitoring network and update the facility's boundary. 30 TAC 332.34(8) of the composting regulations requires that we provide notice of coordination with local agencies.

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The facility is located at 3600 North FM 973 within the City of Austin. A TxDOT expansion project is currently underway on FM 973 in the area of the J-V Dirt + Loam facility. Due to this expansion, TxDOT acquired a portion of right of way along the east side of the J-V Dirt + Loam facility.

A general location map of the facility is enclosed for your information. Please contact me at (512) 560-3786 or [redacted] you need any additional information.

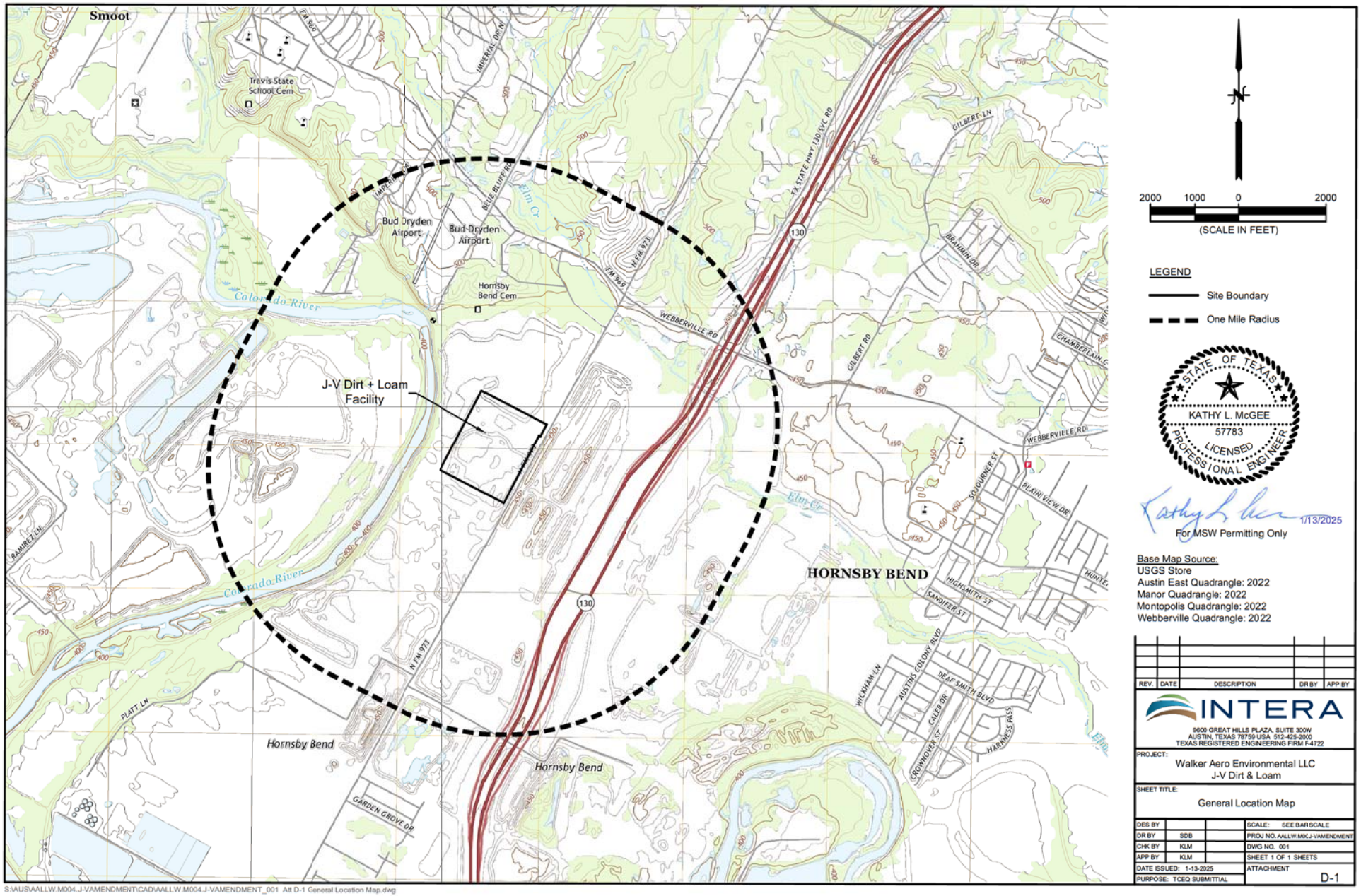
Sincerely,

Kevin Lonseth, P.G.

Senior Geoscientist

Enclosure: General Location Map

ENCLOSURE


Smoot
Travis State School Cem
Bud Dryden Airport
Hornsby Bend Cem
Colorado River
J-V Dirt + Loam Facility
HORNSBY BEND
Hornsby Bend
Elm Cr
WEBBERVILLE RD
GILBERT RD
BLUE BLUFF RD
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DEAF SMITH BLVD
CALEB DR
CROWNOVER CV
HARNESS PASS
WICKHAM LN
PLATT LN
GARDEN GROVE DR
RAMIREZ LN
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2000 1000 0 2000
(SCALE IN FEET)
LEGEND
Site Boundary
One Mile Radius
STATE OF TEXAS
KATHY L. McGEE
57783
LICENSED
PROFESSIONAL ENGINEER
1/13/2025
For MSW Permitting Only
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REV. DATE DESCRIPTION DR BY APP BY
INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722
PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam
SHEET TITLE:
General Location Map
DES BY
DR BY SDB
CHK BY KLM
APP BY KLM
DATE ISSUED: 1-13-2025
PURPOSE: TCEQ SUBMITTIAL
SCALE: SEE BAR SCALE
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DWG NO. 001
SHEET 1 OF 1 SHEETS
ATTACHMENT
D-1
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INTERA Incorporated
9600 Great Hills Trail, Suite 300W
Austin, TX 78759
+1 (512) 425 2000
INTERA.com

January 13, 2025

Mark Wolfe
Executive Director
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711-2276

Re: TCEQ Compost Amendment Application Coordination Notice
J-V Dirt + Loam Facility (MSW No. 2310)
Travis County, Texas

Dear Mr Wolfe:

On behalf of our client, Walker Aero Environmental, INTERA Incorporated would like to inform you of an upcoming permit amendment application to the Texas Commission on Environmental Quality (TCEQ) for an existing composting facility (J-V Dirt + Loam) in Travis County, Texas. The facility is located at 3600 North FM 973 within the City of Austin. The amended application is requesting authorization to modify the site's groundwater monitoring network and update the facility's boundary. 30 TAC 332.34(8) of the composting regulations requires that we provide notice of coordination with local agencies.

The J-V Dirt + Loam facility receives and processes sewage sludge, grease trap waste, animal manure, and positively-sorted organic material (paper, cardboard, wood, and vegetative food matter) into compost. Composting activities are conducted within a former gravel pit on constructed soil liners for groundwater protection.

A general location map of the facility is enclosed for your information. Please contact me at (512) 560-3786 or [redacted] you need any additional information.

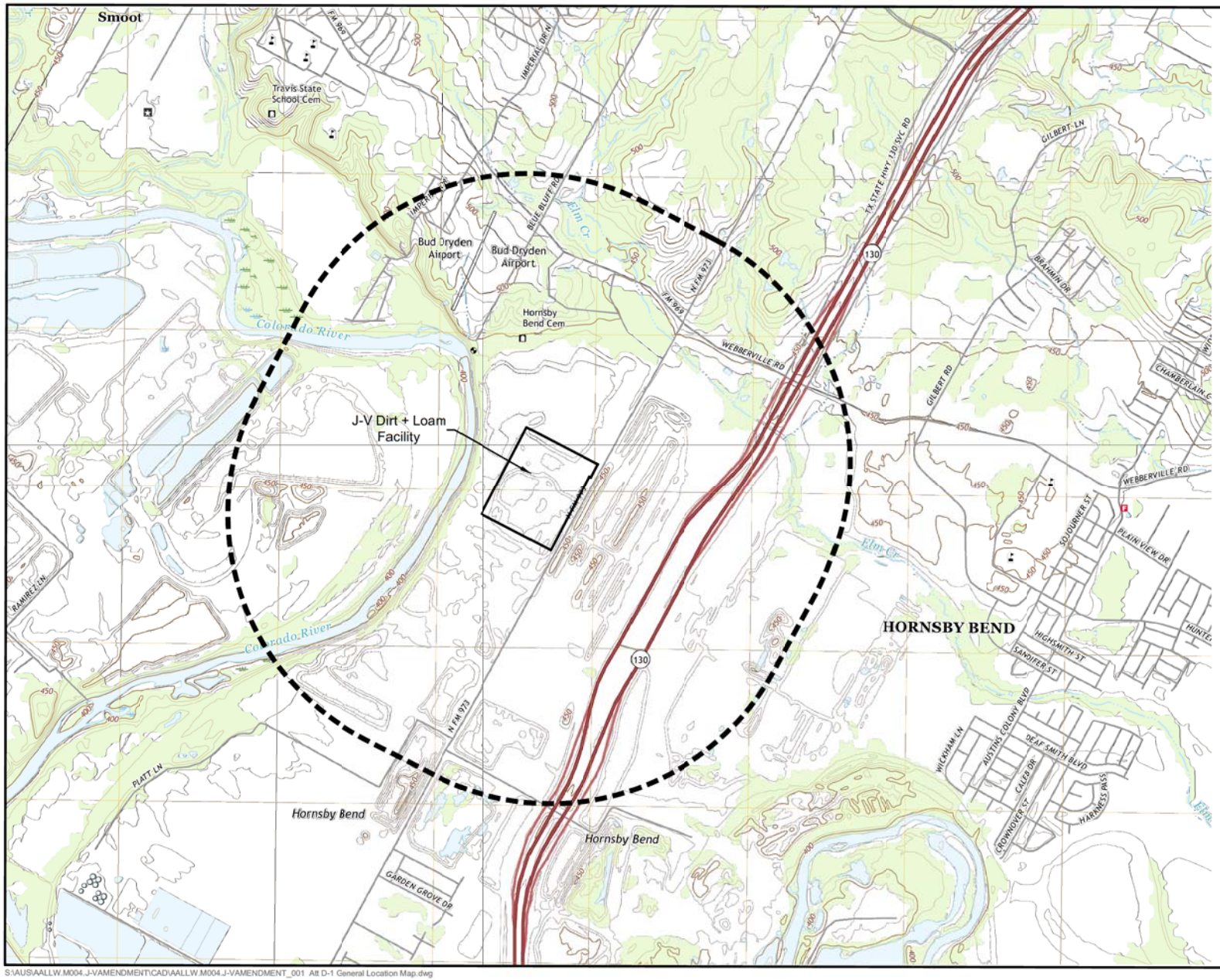
Sincerely,

Kevin Lonseth, P.G.

Senior Geoscientist

Enclosure: General Location Map

ENCLOSURE


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Travis State School Cem
Bud Dryden Airport
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J-V Dirt + Loam Facility
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Hornsby Bend
Elm Cr
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SANDIFER ST
AUSTINS COLONY BLVD
DEAF SMITH BLVD
CALEB DR
CROWNOVER CV
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RAMIREZ LN
PLATT LN
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(SCALE IN FEET)
LEGEND
Site Boundary
One Mile Radius
STATE OF TEXAS
KATHY L. McGEE
57783
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DWG NO. 001
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D-1
S:\AUS\AALLW.M004.J-VAMENDMENT\CAD\AALLW.M004.J-VAMENDMENT_001 Att D-1 General Location Map.dwg

INTERA Incorporated
9600 Great Hills Trail, Suite 300W
Austin, TX 78759
+1 (512) 425 2000
INTERA.com

January 13, 2025

Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Re: TCEQ Compost Amendment Application Coordination Notice
J-V Dirt + Loam Facility (MSW No. 2310)
Travis County, Texas

To Whom it May Concern:

On behalf of our client, Walker Aero Environmental, INTERA Incorporated would like to inform you of an upcoming permit amendment application to the Texas Commission on Environmental Quality (TCEQ) for an existing composting facility (J-V Dirt + Loam) in Travis County, Texas. The facility is located at 3600 North FM 973 within the City of Austin. The amended application is requesting authorization to modify the site's groundwater monitoring network and update the facility's boundary. 30 TAC 332.34(8) of the composting regulations requires that we provide notice of coordination with local agencies.

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A general location map of the facility is enclosed for your information. Please contact me at (512) 560-3786 or [redacted] you need any additional information.

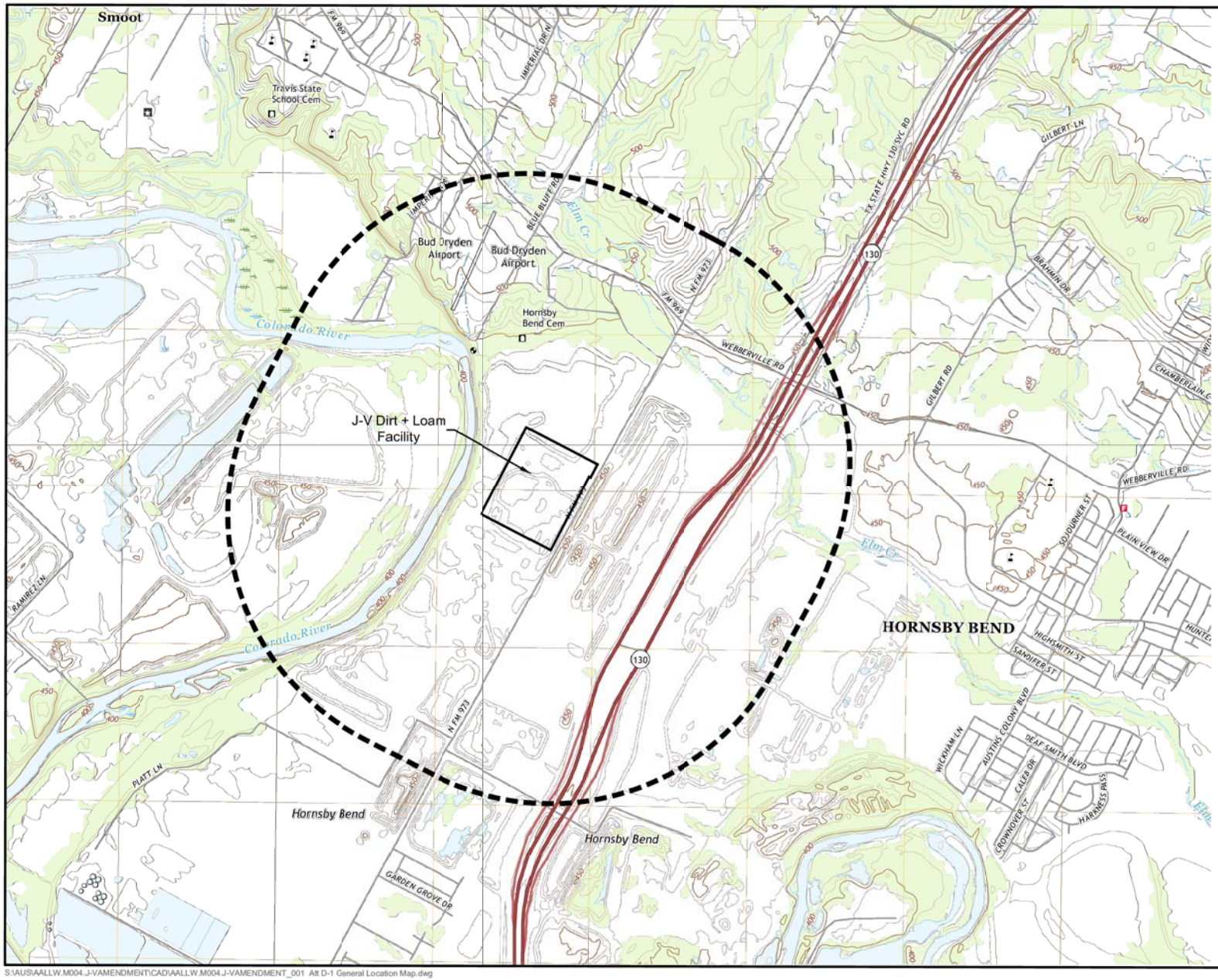
Sincerely,

Kevin Lonseth, P.G.

Senior Geoscientist

Enclosure: General Location Map

ENCLOSURE



S:\AUS\AALLW.M004.J-VAMENDMENT\CAD\AALLW.M004.J-VAMENDMENT_001 Att D-1 General Location Map.dwg

INTERA Incorporated
9600 Great Hills Trail, Suite 300W
Austin, TX 78759
+1 (512) 425 2000
INTERA.com

January 13, 2025

Mr. Tucker Furguson, P.E.
Texas Department of Transportation, Austin District
P.O. Box 15426
Austin, TX 78761

Re: TCEQ Compost Amendment Application Coordination Notice
J-V Dirt + Loam Facility (MSW No. 2310)
Travis County, Texas

Dear Mr. Furguson:

On behalf of our client, Walker Aero Environmental, INTERA Incorporated would like to inform you of an upcoming permit amendment application to the Texas Commission on Environmental Quality (TCEQ) for an existing composting facility (J-V Dirt + Loam) in Travis County, Texas. The amended application is requesting authorization to modify the site's groundwater monitoring network and update the facility's boundary. 30 TAC 332.34(8) of the composting regulations requires that we provide notice of coordination with local agencies.

The J-V Dirt + Loam facility receives and processes sewage sludge, grease trap waste, animal manure, and positively-sorted organic material (paper, cardboard, wood, and vegetative food matter) into compost.

The facility is located at 3600 North FM 973 in Austin, Texas with driveway access to the highway. A TxDOT expansion project is currently underway on FM 973 in the area of the J-V Dirt + Loam facility that will add a lane in each direction and a dedicated turn lane. Due to this expansion, TxDOT acquired a portion of right of way along the east side of the J-V Dirt + Loam facility. No added traffic will result from the proposed changes.

A general location map of the facility is enclosed for your information. Please contact me at (512) 560-3786 or [redacted] if you need any additional information.

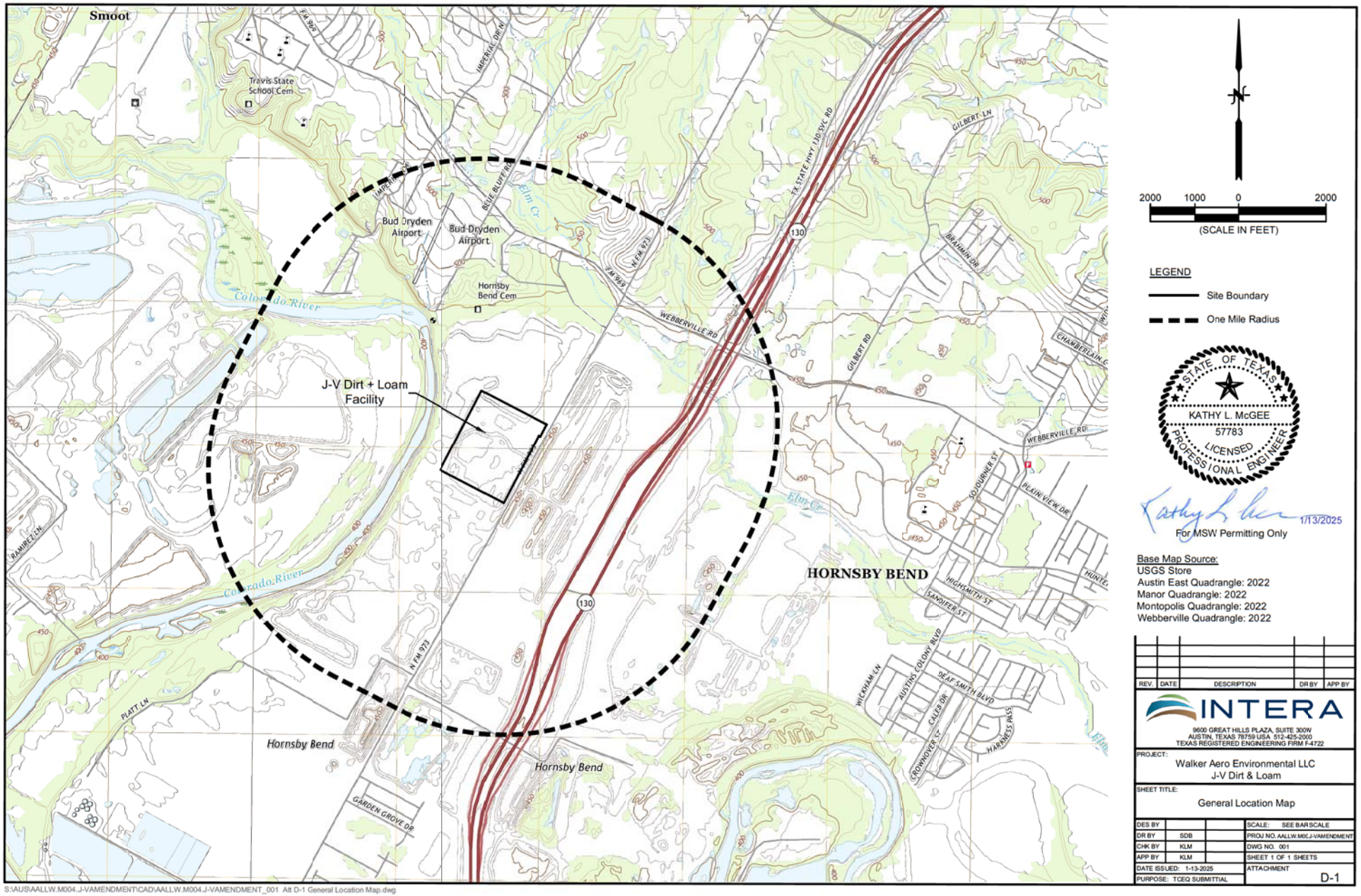
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Senior Geoscientist

Enclosure: General Location Map

ENCLOSURE



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INTERA Incorporated
9600 Great Hills Trail, Suite 300W
Austin, TX 78759
+1 (512) 425 2000
INTERA.com

January 13, 2025

U.S. Army Corps of Engineers
Fort Worth District – Regulatory Division
P.O. Box 17300
Fort Worth, TX 76102-0300

Re: TCEQ Compost Amendment Application Coordination Notice
J-V Dirt + Loam Facility (MSW No. 2310)
Travis County, Texas

To Whom it May Concern:

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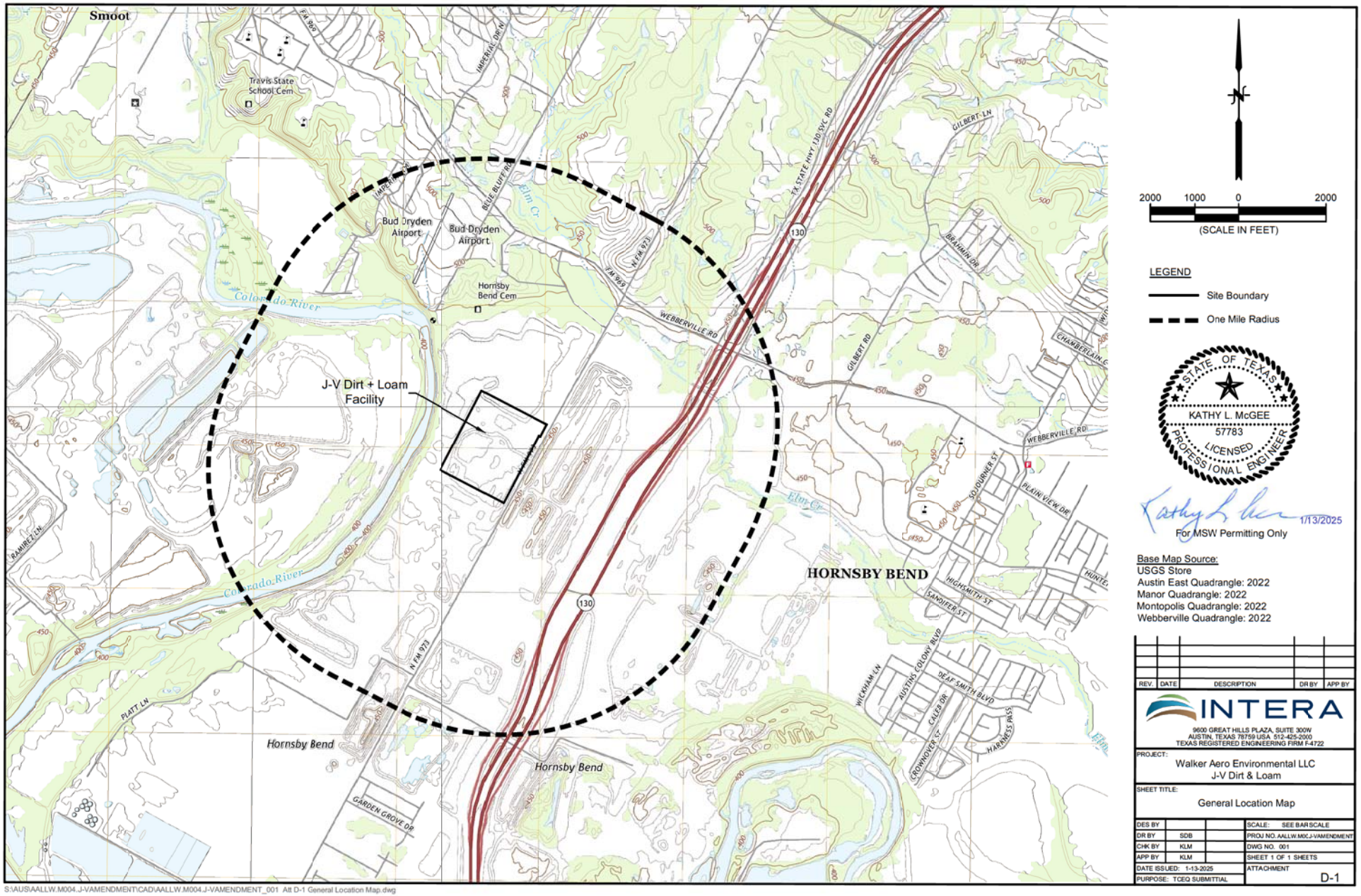
Sincerely,

Kevin Lonseth, P.G.

Senior Geoscientist

Enclosure: General Location Map

ENCLOSURE



S:\AUS\AALLW.M004.J-VAMENDMENT\CAD\AALLW.M004.J-VAMENDMENT_001 Att D-1 General Location Map.dwg

ATTACHMENT H
ENGINEER'S NOTICE OF APPOINTMENT

AMERICAN ALLWASTE

January 13, 2025

Ms. Megan Henson
Municipal Solid Waste Permits Section (MC-124)
Texas Commission on Environmental Quality
1200 Park 35 Circle, Building F
Austin, TX 78753

RE: J-V Dirt + Loam – Travis County
Municipal Solid Waste (MSW) Permit 2310
Limited Scope Permit Amendment
RN101495976/CN604364968

Dear Ms. Henson,

This letter is to advise you that American AllWaste, LLC (American AllWaste), owner of Walker Aero Environmental LLC, the permittee under MSW Permit 2310, has duly appointed Kathy L. McGee, P.E. with INTERA Incorporated as the consulting engineer for the purpose of submitting supporting documentation for the application for a limited scope amendment of MSW Permit 2310. The limited scope amendment application is being submitted to update the property boundary of the J-V Dirt + Loam facility in Travis County, Texas after the Texas Department of Transportation acquired 3.283 acres of highway right of way along the eastern boundary of the facility and to request revisions to the facility's monitoring well system. Documentation that Ms. McGee may submit includes, but is not limited to, engineering drawings, calculations, reports, planning material, plans and specifications, and other documents that may be required to support application preparation and revision as appropriate during TCEQ processing of this amendment application.

American AllWaste hereby authorizes Ms. McGee to act on our behalf during your review of the application and supporting documentation for the subject limited scope amendment of MSW Permit 2310 for the J-V Dirt + Loam facility. If you have any questions, please contact me at (281) 850-8400.

Sincerely,

American AllWaste, LLC

Adam Mihalick
Chief Operations Officer - Texas

Cc: Colton Juby, American AllWaste, LLC
Kathy L. McGee, P.E., INTERA Incorporated

12141 Wickchester Lane, Suite 325 · Houston, TX 77079 · 713-783-3700 · allwastecorp.com

ATTACHMENT I
GEOLOGIC/HYDROGEOLOGIC REPORT

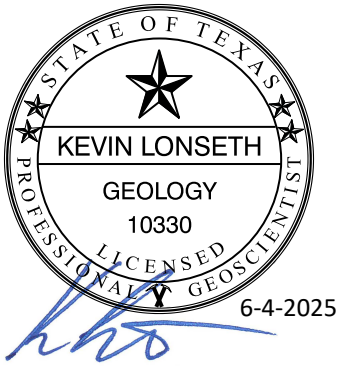
Geologic and Hydrogeologic Report

JV Dirt + Loam Facility - Travis County, Texas

MSW Permit No. 2310 Limited Scope Amendment Application
Walker Aero Environmental LLC, Permittee

Prepared for:

JV Dirt + Loam
3600 FM 973
Austin, Texas 78725



Prepared by:

INTERA Incorporated
9600 Great Hill Trail, Suite 300W
Austin, Texas 78759

JANUARY 13, 2025 REISSUE
REVISED JUNE 4, 2025

Originally Prepared and Revised by Mark S. Katterjohn, P.G.
December 10,2003
February 10, 2004
April 16, 2004
April 22, 2013

Preface

INTERA has prepared the following revised Geologic and Hydrogeologic Report as part of the January 13, 2025 limited scope permit amendment application for the JV Dirt + Loam (JV Dirt) composting facility. This report describes the hydrogeologic conditions in the vicinity of the JV Dirt facility in accordance with 30 TAC §332.47(6)(B) of the Texas Commission on Environmental Quality (TCEQ) composting rules. As noted on the cover of this report, it is a revision of the prior Geologic and Hydrogeologic Report prepared and last revised by Mark S. Katterjohn, P.G. on April 22, 2013. The following Geologic and Hydrogeologic Report provides information and data from the April 22, 2013 version of this report that has been verified to the extent practicable given the historical nature of the information, as well as data collected by INTERA in 2023 and 2024. This report re-evaluates the data in the April 2013 report and evaluates subsequently obtained data to present an updated characterization of site hydrogeology.

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1.0 Regional Geology

According to the Geologic Atlas of Texas, Austin Sheet (Bureau of Economic Geology, 1974), the site is located over Quaternary fluviatile terrace deposits along the Colorado River. The Quaternary deposits are underlain by the Cretaceous age Navarro (Kemp Clay, Corsicana Marl, and Neylandville Formation) and Taylor Groups and the older Austin Chalk Formation. The Cretaceous age Eagle Ford, Buda Limestone and Del Rio Clay formations underlie the Austin Chalk. A map of the geology of Travis County (Texas Department of Water Resources (TDWR), 1983) is presented as **Appendix I.1.**

Tables describing the geologic units, their water-bearing properties and their hydraulic characteristics are presented as **Appendix I.2. Appendix I.3** presents a stratigraphic cross-section typical of the geology beneath the site.

According to TDWR Report 276, the Quaternary alluvial and terrace deposits consist of stratified deposits of unconsolidated calcareous gravel, sand, and clay with the coarser materials typically occurring at the base of the units. The alluvial deposits, which are of Recent or Holocene age and were deposited by the Colorado River, can be up to 60 feet thick. The alluvial deposits rest on the underlying Navarro and Taylor Groups. The alluvium is reported to yield small to very large quantities of fresh to slightly saline water.

The TDWR report indicates that Pleistocene age terrace deposits occur at higher elevations than the Colorado River flood plain. The terrace deposits range from 0 to 60 feet in thickness with the thickest sediments occurring along the Colorado River. The terrace deposits yield very small to moderate quantities of fresh to slightly saline groundwater. As shown in Appendix I.3, hydraulic conductivities of the alluvial and terrace deposits are reported to range from 8,200 to 14,600 gallons per day per foot squared (gpd/ft^2) or 3.8 x 10^{-1} to 6.9 x 10^{-1} centimeters per sec (cm/sec).

The underlying Navarro and Taylor Groups are similar in composition and represent the uppermost portion of the Gulf Series of the Cretaceous System (Appendix I.2). These sediments are described as massive beds of shale and marl with clayey chalk and montmorillonitic clay with minor beds of sand and some nodular and phosphatic zones. The combined Navarro and Taylor Groups range from 900 to 1,200 feet thick and are thinner in the outcrop area. These groups are reported to yield very small quantities of fresh to moderately saline groundwater in the upper 50 feet of the weathered outcrop portion. Although no published pumping test data are readily available for the Navarro and Taylor Groups, the hydraulic conductivity of unweathered marine clays typically range from approximately 1 x 10^{-7} to 1 x 10^{-10} cm/sec (Freeze and Cherry, 1979). Higher hydraulic conductivities could be expected in areas where the clays are exposed and weathered.

According to TDWR Report 276, the Austin Chalk consists of massive beds of chalk and marl with bentonitic seams, glauconite, and pyrite nodules. The thickness within Travis County ranges from 300 to 500 feet. As shown in Appendix I.1, the outcrop area occurs primarily within the Balcones fault zone to the west of the facility. The Austin Chalk yields small to very small quantities of groundwater generally within the outcrop area.

The Eagle Ford, Buda Limestone and Del Rio Clay formations are not known to yield water within Travis County (TDWR, 1983). These units consist of massive calcareous shale, massive limestone, and clay and marl, respectively. The approximate maximum combined thickness of these units is 170 feet. According to the cross-section in Appendix I.3, the base of these combined units is anticipated to occur at a depth of over 1,000 feet beneath the facility. According to Freeze and Cherry (1979), the hydraulic conductivity of these formations is expected to range from approximately 1×10^{-6} to 1×10^{-11} cm/sec.

1.2 Active Geologic Processes

There are no active geologic processes within the vicinity of the facility. Appendix I.1 (geology map of Travis County) shows the principal faults and fault zones in the area. As shown in the appendix, no faults occur within 6 miles of the facility.

1.3 Regional Aquifers

The primary regional aquifers in Travis County are the Edwards Aquifer, the Trinity Group, and the alluvium and terrace deposits. However, groundwater within the vicinity of the facility is only produced from the surficial Quaternary terrace deposits, as this is the only primary regional aquifer within the upper 1,000 feet beneath the site. As shown in Appendix I.3, saline groundwater occurs at approximately 1,000 feet below ground surface within the Edwards and associated limestone formations. Slightly saline groundwater occurs within the Lower Trinity Aquifer at approximately 2,300 feet beneath the site (**Appendices I.4 and I.5**). Therefore, the discussion of the regional aquifers within the vicinity of the site has been limited to the alluvium and terrace deposits.

The Quaternary alluvium and terrace deposits represent the uppermost aquifer in the vicinity of the site and are hereafter referred to as the alluvial aquifer. According to records within the Texas Water Development Board (TDWB) Groundwater Database, wells completed within these hydrogeologic units have total depths ranging from about 40 to 60 feet below ground surface. Groundwater usage from wells installed near the site is for domestic or livestock purposes.

The primary source of recharge to the aquifer is rainfall, although lakes and streams that cross the outcrop area can contribute as well. Additionally, small amounts of recharge may be contributed by the Colorado River during flood stage. **Appendix I.6** presents the outcrop (recharge) area and approximate water surface elevation within the alluvium and terrace aquifer. Groundwater within this predominantly sand and gravel aquifer occurs under water table conditions. As shown in Appendix I.6**,** groundwater flows toward and discharges into the Colorado River.

Appendix I.2 presents the results of pumping tests performed in the alluvial aquifer as documented by the prior version of this geologic and hydrogeologic report (Katterjohn, 2013), also referenced herein as the Katterjohn Report. The hydraulic conductivity is shown to range from 8,200 to 14,600 gallons per day per foot squared (gpd/ft^2) and the transmissivity is shown to range from about 230,000 to 320,000 gallons per day per foot (gpd/ft). The storage coefficient of the alluvium was reported to vary from 0.08 to 0.15.

2.0 Subsurface Investigation

A subsurface investigation was conducted at the facility in August and September 2003 to comply with 30 TAC §332.47(6)(B) of Subchapter D of the composting rules. The Katterjohn Report indicates that the investigation was performed in accordance with the subsurface and groundwater investigation plan submitted on July 23, 2003 and approved by TCEQ on September 4, 2003. In accordance with 30 TAC §332.47(6)(B)(iv)(I), eighteen soil borings were drilled to establish the subsurface stratigraphy and to determine geotechnical properties of the soils beneath the facility. This number conforms to the minimum number of borings required for a site larger than 5 acres. Per the referenced regulation, the minimum number of borings required for the approximately 80-acre site is three borings plus one boring for each additional five acres (above the initial 5 acres) or fraction thereof. A borehole location map and survey information are included as **Appendix I.7.**

The soil borings were drilled to a minimum depth of 30 feet below the elevation of the deepest proposed excavation on-site as described by the Katterjohn Report. The design elevation of the deepest excavation (EDE) at the facility was 395 feet above mean sea level (MSL) [1] (about 10 feet below the top of the clay) corresponding to the bottom of the liner for the storage pond. The post-construction elevation of the base of the storage pond was designed at an elevation of 395 feet MSL. The soil borings were drilled to a total depth of about 70 feet below the depth that the clay was encountered in each boring. **Appendix I.8** presents a summary of the borehole information.

According to 30 TAC §332.47(6)(B)(iv)(II), if no aquifers exist within 50 feet of the elevation of the deepest excavation, at least one boring shall be drilled to the top of the first perennial aquifer beneath the site or to a depth of 300 feet below the deepest excavation. However, the regulation allows the executive director to waive the requirement of the deep boring if it can be demonstrated that the uppermost aquifer is more than 300 feet below the deepest excavation. As mentioned above, the Edwards Aquifer is the uppermost aquifer beneath the deepest planned excavation at the site. As shown in **Appendix I.9,** the top of the Edwards Aquifer occurs at a minimum depth of 900 feet beneath the composting facility. Therefore, in accordance with the approved subsurface investigation plan, a deep boring to 300 feet was not drilled.

The Katterjohn Report indicates that the soil borings were drilled in accordance with established field exploration methods, as follows. The borings were drilled using a combination of hollow-stem augers and air rotary methods and equipment. Hollow-stem augers were used to drill through the sand and gravel overburden and into the upper few feet of the Taylor Clay. A temporary 4-inch PVC surface casing was reportedly set through the augers at each boring in an attempt to prevent groundwater within the shallow alluvial aquifer from entering the borehole. After allowing the surface casing cement to set for a minimum of 24 hours, drilling and sampling of the underlying clays continued through the surface casing. Drilling and continuous sampling of the underlying Taylor Clay formation was performed using a combination of core barrel sampling and air rotary drilling techniques. In some borings, samples were

[1] Page 3 of the Katterjohn Report indicates that the elevation of the deepest planned excavation for the facility was 395 feet MSL, while on page 9, the report states that the base of the deepest excavation was designed to be at an elevation of 392 feet MSL, three feet below the elevation of the base of the storage pond. Elevation 392 feet MSL is believed to be correctly referenced here as the elevation of the deepest excavation.

collected at 5-foot intervals using a split-spoon sampler. If piezometers were not installed, the soil borings were backfilled with a bentonite grout mixture in accordance with applicable rules.

The recovered soils were examined and described using the Unified Soil Classification System. Soil descriptions also include features such as fractures, fissures, slickensides, lenses, seams, etc., if present. Descriptions of the encountered soils were recorded on the boring logs included in Appendix I.8.

As shown on the boring logs, Quaternary sand and gravel deposits outcrop at the surface and are underlain by the Taylor Clay. These alluvial and terrace deposits typically consist of a fine-grained, compact, dry to damp, light brown sand that is underlain by a pebble to cobble-sized sandy gravel. Saturation was noted at the base of these surficial deposits in some locations.

The summary table in Appendix I.8 shows the top of the Taylor Clay occurs at depths ranging from 6 to 34 feet below ground surface. The depth to the Taylor Clay varies due to the amount of overlying material that was previously removed by sand and gravel operations. The Taylor Clay predominantly consists of a massive, unweathered, high plasticity, stiff to very stiff, dry to damp, dark greenish gray clay. No secondary features, such as fractures, fissures, slickensides or lenses, were observed in the borings except at a depth of 33 feet in B-07; no water was observed in this boring. At some locations, the clay becomes silty or is interbedded with dry, friable, silty clay. The Taylor Clay serves as an aquiclude for the overlying saturated alluvium and is over 400 feet thick beneath the facility based on regional cross sections.

As required by 30 TAC §332.47(6)(B)(iv)(V), cross-sections depicting the generalized strata beneath of the facility are included in **Appendix I.10.** The cross-sections show the lithology and observed water levels within piezometers that were installed as part of the groundwater investigation. As shown in the cross-sections, the top of the Taylor Clay is relatively flat with elevations ranging from 401.4 to 407.1 feet MSL with most elevations ranging between 403 and 405 feet MSL.

Soil samples that are representative of the Taylor Clay were collected for geotechnical analysis. A total of fifteen soil samples were collected from five locations and analyzed for Atterberg limits, percent passing No. 200 sieve, and moisture content using ASTM Standards D4318, D1140, and D2216, respectively. The soil samples were collected at depths of approximately 20 feet, 40 feet, and 60 feet beneath the top of the clay at boring locations B-02, B-05, B-09, B-12, and B-18. In addition, separate samples of soil collected at the three sampling depths at location B-18 were run as duplicate analyses. Further, one soil sample was collected for vertical permeability analysis from a depth of 40 feet beneath the top of the clay at boring location B-02.

Results of the geotechnical analyses are presented in **Appendix I.11.** As shown in the results, the Taylor Clay at the site exhibits a narrow range of geotechnical properties with the liquid limit ranging from 56 to 74 percent, a plasticity index ranging from 37 to 53 percent and a percent passing No. 200 sieve ranging from 92 to 99 percent. The moisture content of the soils ranged from 15.2 to 19.6 percent. The Taylor Clay at the site is practically impermeable with a reported hydraulic conductivity of 1.8×10^{-9} cm/sec (Appendix I.11).

3.0 Groundwater Investigation and Subsequent Data

In accordance with 30 TAC §332.47(6)(B)(v), a groundwater investigation was conducted in 2003 to determine the hydraulic characteristics of water-bearing zones, if any, encountered within the formations underlying the then-proposed composting facility. Groundwater is known to occur within the alluvial sand and gravel aquifer but would not be anticipated to occur within the underlying Taylor Clay formation due to its known lithology and hydraulic characteristics. The Katterjohn Report indicates that the 2003 groundwater investigation was aimed at determining whether any distinct water-bearing zones occur within the Taylor Clay since the overlying sand and gravels were originally going to be removed during construction of the entire monitored portion of the composting facility.

Eighteen borings were drilled during the subsurface investigation in August and September 2003 as described in Section 2.0. The associated boring logs in Appendix I.8 document that no groundwater was encountered within the Taylor Clay in five of these soil borings (B-01, B-05, B-07, B-08 and B-13); thus, no piezometers were installed at these locations. Groundwater was observed within the remaining thirteen soil borings, and Section 3.1.1 describes installation of piezometers at these thirteen locations. However, as discussed in the following subsections, the observed groundwater was not from any permeable water-bearing zone within the clays, although Katterjohn (2013) posited that the observed groundwater might also have originated from isolated low-permeable zones within the clays. INTERA believes that the collective data do not support that possibility, and instead, the data demonstrate that the observed groundwater originated from the overlying alluvial aquifer due to leakage around the base of the surface casing as discussed in Section 3.1.3.

In December 2003, three monitoring wells were completed in the Taylor Clay as described in Section 3.2.1. The stated purpose of these wells was to evaluate potential hydraulic lift on the bottom liner of the stormwater pond and to further investigate the possibility that the groundwater observed in the piezometers was derived from more permeable zones in the Taylor Clay. These three wells comprised the approved groundwater monitoring network when the original municipal solid waste (MSW) permit (No. 2310) was issued in 2005. No wells were proposed or required to be installed in the alluvial aquifer at that time because the original designs for the facility called for excavation of the alluvial materials across the waste management area of the site and construction of the composting and curing pads on the exposed Taylor Clay.

The design of the facility was revised as approved in the July 31, 2013 modification of MSW Permit No. 2310. The revised designs for the facility eliminated excavation of the alluvial materials except where the stormwater storage pond was to be constructed, with the composting and curing pads for the facility to be constructed over the alluvium. Due to this design change, the permit modification application proposed the installation of five alluvial monitoring wells along the downgradient facility boundary. A description of the alluvial well installation procedures and a discussion of data associated with these wells is presented in Section 3.3.

3.1 Taylor Clay Piezometer Installation and Water Level Data

Although the low permeability Taylor Clay is described as predominantly dry, logs for the site investigation borings indicated that water was observed within thirteen borings during drilling.

However, at these locations, water was observed as a mud smear on the outside of the core barrel sampler and/or the sample core. As shown on boring logs B-02 and B-03, which are typical logs for the site, the interior of the clay in the recovered core sample was dry indicating the water entered the boring from the overlying alluvial aquifer and not from the clay formation. Further, no secondary features were observed within the clays (except at B-07 where no water was observed in the boring) that would allow the inflow of the amount of water observed within the borings during drilling. Regardless, piezometers were installed within the thirteen soil borings in which groundwater was observed.

Section 3.1.1 describes piezometer installation and completion. Data obtained from the piezometers were used to establish the maximum seasonal high groundwater elevation in the alluvial aquifer and are discussed in Section 3.1.2.

3.1.1 Piezometer Installation

Piezometer installation was completed in two mobilizations. Initial piezometers consisted of B-11, B-12, and B-15 through B-18 and were installed in August 2003. The remaining piezometers, B-02 through B-04, B-06, B-09R and B-10, were installed in September 2003.

The piezometers were constructed of 2-inch Schedule 40 PVC with 10 feet of 0.01-inch slot screen. Completion depths of the initial piezometers were based on the depth that groundwater was first observed within the boring (typically within 10 feet of drilling out the bottom of the surface casing). After it was determined that the groundwater was entering the borehole as leakage from the overlying alluvium around the surface casing, subsequent piezometers were completed approximately 15 to 20 feet deeper to provide a better seal between the base of the surface casing and the screened interval.

With the exception of B-09R, in which a new boring was drilled for piezometer installation, the soil borings were grouted back to the total depth of the piezometer. A sand filter pack was placed within the borehole annulus of each piezometer and generally extended approximately 1 to 2 feet above the top of the screened interval. A minimum of two feet of bentonite pellets were placed on top of the sand pack. The remainder of the annulus was sealed with a bentonite cement slurry to within 1 foot of the ground surface. Piezometer completion details are presented as **Appendix I.12.**

All piezometers were developed by bailing. A summary of the well development is included in Appendix I.12. During development, with the exception of B-15, the piezometers were bailed dry. The piezometer at location B-15 continued to make water during development indicating a direct hydraulic connection with the overlying alluvial aquifer resulting from rapid seepage of water from the alluvial aquifer into B-15.

The location and elevation of each piezometer were surveyed by a surveyor licensed in the State of Texas. The surveyor provided elevations of the top of PVC casing and ground surface at each location (Appendix I.7). Top of casing elevation measurements were made to the nearest 0.01 foot and are included in Appendix I.12.

3.1.2 Water Level Data and Maximum Seasonal Groundwater Elevation

Groundwater levels were periodically measured in the piezometers after their installation. These water level measurements and calculated groundwater surface elevations are presented in **Appendix I.13A.** Notations of water levels relative to well development or well purging are also indicated in Appendix I.13A.

On August 27, 2003, water levels were measured in piezometers B-11, B-12 and B-15 through B-18 (Appendix I.13A). Water levels within piezometers B-15 through B-18 were above their respective screened intervals, while water levels within piezometers B-11 and B-12 were within their respective screened intervals. The water in piezometers B-11 and B-12 were thought to represent residual water that had entered the borehole from the overlying aquifer during drilling. Initial water levels within piezometers B-14 through B-18 were representative of the alluvial aquifer. This is clearly depicted on the cross-sections presented in Attachment 10.

Water level measurements taken in the piezometers over time show that groundwater elevations within piezometers B-15 through B-18 remained representative of the alluvial aquifer. These water levels are believed to indicate direct hydraulic communication with the overlying aquifer through a leaky surface casing seal. Further, based on the observed recovery rates and the fact that piezometer B-15 could not be bailed dry during well development (Appendix I.12), these observations indicated the piezometers were not completely sealed off from the overlying alluvial aquifer. The Katterjohn Report states that vibrations and turbulence caused by air rotary drilling through the surface casing sufficiently disturbed and eroded away the soils to cause the seal around the base of the surface casing to fail. Further, the Katterjohn Report notes that this was corroborated by the surface casing failure at boring B-09 in which air circulation was lost and gravels fell into the borehole from a washout at the bottom of the surface casing. Instead of returning to the surface through the surface casing, airflow from the drilling process was reported to discharge from the ground surface approximately 20 feet away from the borehole.

Even though piezometers B-11 and B-12 had water levels that were not initially representative of the overlying aquifer, groundwater levels within these piezometers slowly increased between the time piezometers were developed on September 3, 2003 and measured after development on September 22, 2003. This increase indicated some seepage influence from the overlying aquifer. In fact, the water levels within piezometer B-11 eventually increased to elevations comparable to the alluvial aquifer (see water level measurements and historical water level charts in Appendix I.13A).

In addition to the water level measurements, two piezometers, B-16 and B-17, were bailed on August 27, 2003 and groundwater recovery was monitored to assess the source of the groundwater. Piezometer B-16 bailed dry after 6.5 gallons were purged from the well, and B-17 bailed dry after 5.5 gallons had been removed. B-16 recovered about 18.2 feet after 5 hours, and B-17 recovered about 5.1 feet after approximately 4.5 hours. Relatively rapid recovery of the water levels was likely a result of leakage through the cased off area between the saturated sands/gravels and the underlying clay. Based on a review of the boring logs completed in the Taylor Clay, there is little evidence of any saturated zones present in the Taylor Clay. Logs of the site borings installed in the Taylor Clay describe the unit predominantly as a dry, stiff high-plasticity clay. No secondary features that could transmit groundwater vertically or horizontally into the Taylor Clay were identified in borings found to contain groundwater. Appendix I.13A contains the purging and recovery data for piezometers B-16 and B-17.

The piezometers installed in September 2003 were completed with the top of their screened intervals at depths about 15 to 20 feet deeper into the clays than the piezometers installed in August 2003, to minimize the potential for infiltration. Water levels measured prior to and subsequent to well development within these piezometers (B-02 through B-04, B-06, and B-10) showed that water levels were reduced by bailing and did not significantly recover, thus indicating either the water was residual water that had entered the well borehole during drilling or slow leakage from the alluvial aquifer into these piezometers. Water levels within piezometers B-09R and B-14 recovered to pre-development levels over a period of a week.

To further evaluate whether groundwater occurs within the Taylor Clay, six piezometers with water levels within their screened intervals (B-03, B-04, B-06, B-09R, B-10 and B-12) were bailed dry on December 1, 2003 and allowed to recover. Water level measurements were recorded daily for four days and after 1 week. As shown in Appendix I.13A, the water levels within each of the piezometers only recovered between 18 to 32 percent of their pre-bailing water levels within one week. Subsequent water levels continued to slowly rise. Although the water levels within these piezometers eventually recovered beyond their pre-bailing levels, the levels remained below the top of the Taylor Clay. Water levels in piezometer B-02, which was not bailed in December 2003, also showed a slow increase over time while remaining below the top of the Taylor Clay.

Appendix I.13A shows that the groundwater elevations in piezometers B-02 through B-04, B-06, B-09R, B-10, and B-12 remained below the top of the Taylor Clay and were quite variable over time. Groundwater elevations measured in these piezometers on October 3, 2003 varied between 371.03 ft msl (in B-10) and 394.74 ft msl (in B-12). Piezometers B-03, B-04, B-06, B-09R, B-10, and B-12 were bailed dry December 1, 2003. Groundwater elevations measured in these piezometers on December 8, 2003 varied between 369.78 ft msl (in B-10) and 391.71 ft msl (in B-12). The final available measurements recorded for piezometers B-02 through B-04, B-06, B-09R, B-10, and B-12 were collected on September 25, 2004. As shown in Appendix I.13A, groundwater elevations in B-02 through B-04, B-06, B-09R, B-10, and B-12 were all increasing between December 2003 and September 2004. The rise in groundwater elevation in each of these piezometers between December 8, 2003 and September 25, 2004 are provided below:

Piezometer	*12/8/03 Groundwater Elev. (ft msl)*	*9/25/2004 Groundwater Elev. (ft msl)*	*Rise (in feet)*
B-02	386.54	389.42	2.88
B-03	372.56	379.03	6.47
B-04	373.42	378.03	4.61
B-06	375.05	388.51	13.46
B-09R	374.22	380.22	6.00
B-10	369.78	378.56	8.78
B-12	391.71	406.05	14.34

Between these dates, groundwater elevations measured in these piezometers had risen between 2.88 feet (in B-02, which was not bailed) and 14.34 feet (in B-12). Groundwater in B-12 increased to an elevation above the top of the Taylor Clay and in-line with groundwater elevations representative of the overlying alluvium. INTERA believes that groundwater elevations in the rest of these piezometers would have eventually risen above the top of the Taylor Clay and stabilized at levels in-line with alluvial groundwater elevations due to leakage from the overlying saturated alluvium. If a laterally continuous groundwater bearing unit was present and screened by the piezometers, expected groundwater elevations would be similar to one another. The highly variable elevations of groundwater present in these piezometers screened within the Taylor Clay do not support the presence of a laterally continuous groundwater bearing unit in the Taylor Clay.

Results of the groundwater investigation show that groundwater occurs at the site within the surficial alluvial aquifer but that no viable or distinct water-bearing zones were found within the underlying clays. The boring logs in Appendix I.8 and the cross sections in Appendix I.10 show that saturation exists within the basal sandy gravel overlying the Taylor Clay. Shallow ponds (former sand and gravel mining pits) were located at the site prior to its development as a composting facility; the surficial sands and gravels had been excavated in these areas to below the level of saturation within the alluvial aquifer. These ponds and a number of piezometers were in direct hydraulic communication with and had water levels representative of the alluvial aquifer due to leakage of groundwater from the aquifer into the piezometers.

As shown on the cross-sections in Appendix I.10 and the water level summary table in Appendix I.13A, water levels for the alluvial aquifer and ponds occur at elevations ranging between 407 and 409 feet MSL. According to Katterjohn (2013), these water levels represent the highest water level elevations to be reasonably expected at the site, as the groundwater investigation water level elevations were measured during the second highest rainfall month (June 2004) at ABIA since October 1942. In addition, the 2013 Katterjohn Report notes that 2004 was the third highest year in total rainfall since October 1942, and further, that this period of high rainfall extended through March of 2005. The Katterjohn Report indicates that the maximum seasonal groundwater elevation within the shallow alluvial aquifer at the site is reasonably expected to be less than 412 feet MSL, given the historical rainfall data and groundwater elevation data.

3.2 Taylor Clay Monitoring Well Installation and Water Level Data

Three monitoring wells (MW-1, MW-2, and MW-3) were installed in the Taylor Clay around the perimeter of the facility the week of December 1, 2003. The Taylor Clay well locations are shown in **Appendices 7 and 17**. Section 3.2.1 describes monitoring well installation and completion. Groundwater elevation data obtained from the wells are discussed in Section 3.2.2.

3.2.1 Installation of Taylor Clay Wells

Monitoring wells MW-1, MW-2 and MW-3 were installed through an 8-inch diameter surface casing set approximately 10 feet into the Taylor Clay. Since the three monitoring wells were partly installed to evaluate the potential for hydraulic lift on the originally planned storage pond liner, the wells were installed with screened intervals corresponding to elevations from 360 to 370 feet MSL. The base of the

deepest excavation (i.e., the bottom of the liner of the storage pond) was designed to be at an elevation of 392 feet MSL with the post-construction elevation of the bottom of the storage pond at 395 feet MSL.

The Taylor Clay monitoring wells were installed using hollow-stem auger drilling techniques. The wells were constructed of 2-inch Schedule 40 PVC casing with 10 feet of 0.010-inch slotted Schedule 40 PVC well screen. The sand filter pack extends 2 feet above the top of the screened interval. Four feet of bentonite pellets were placed on top of the sand pack. The remainder of the annulus was sealed with a cement slurry to within one foot of the ground surface.

Each monitoring well was constructed with an above-ground surface completion consisting of an approximately 2.5-foot PVC casing stickup and a locking well protective steel cover secured in a 3-ft x 3-ft x 4-in concrete pad. Four bollards (painted yellow) were installed around each monitoring well completion. Well installation logs for MW-1, MW-2, and MW-3 are included in Appendix I.12.

Of the three Taylor Clay monitoring wells, groundwater was only encountered within monitoring well MW-3, which is located adjacent to piezometer B-12 on the east side of the property, at the time of well installation. The well installation log for MW-3 (in Appendix I.12) indicates that water was observed on the augers from 68 to 73 feet below ground surface. Although groundwater was encountered within piezometer B-03 on the south side of the property, no water has been encountered within adjacent monitoring well MW-2. As in soil boring B-07, no groundwater was encountered at the location of monitoring well MW-1 at the time of well installation.

The location and elevation of each Taylor Clay monitoring well were surveyed by a surveyor licensed in the State of Texas. The surveyor provided elevations of the top of PVC casing and ground surface at each location (Appendix I.7). Top of casing elevation measurements were made to the nearest 0.01 foot and are included in Appendix I.12**.**

3.2.2 Water Level Data

Static water level elevations measured on December 1, 2003, February 5, 2004, and April 15, 2004 are shown on the maps of water level location points in Appendix I.13A (Figure Nos. Attachment 13A, Attachment 13B, and Attachment 13C**,** respectively). The water level elevations are coded to reflect those that are above the top of the Taylor Clay and those that are below the top of the Taylor Clay. All groundwater elevations above the top of the Taylor Clay are representative of the alluvial aquifer. Groundwater elevations below the top of the Taylor Clay are not contoured, as there is not believed to be a water-bearing unit within the formation at the site. It is noted that while MW-1 was dry when installed in December 2003, water levels measured on February 5, 2004 indicated the presence of approximately 8.4 feet of water within the screened interval.

Water levels measured within piezometers and monitoring wells on February 5, 2004 (Appendix I.13A, Figure Attachment 13B) ranged from 368.35 feet MSL in monitoring well MW-1 to 400.59 feet MSL in monitoring well MW-3. Water level elevations measured on April 15, 2004 (Appendix I.13A, Figure Attachment 13C) ranged from 388.23 feet MSL in monitoring well MW-1 to 407.08 feet MSL in monitoring well MW-3. Although these elevations are above the elevation of the base of the bottom liner of the pond, the water observed in the Taylor Clay wells is believed to be the result of leakage through the cased off area between the saturated alluvium and the underlying clay, posing insignificant risk for hydraulic lift. The negligible potential for hydraulic lift is further supported by the fact that no

groundwater was detected within monitoring well MW-2, which had a screened bottom elevation of about 360 feet MSL.

Utilizing piezometers/monitoring wells with water levels representative of the alluvial aquifer, groundwater gradient maps were prepared for representative gauging events performed in December 2003 and February – September 2004 and are provided as **Figures I.13B-1 through I.13B-9** in **Appendix I.13B**. Variable groundwater flow directions are depicted on the December 2003 gradient map (Figure I.13B-1). Groundwater flow direction is to the east-northeast and northwest. An easterly gradient was calculated at 0.00159 between piezometers B-14 and B-15. A northwesterly gradient was calculated at 0.00197 between piezometers B-17 and B-15. Input values for calculated gradients are provided in **Table I.13B-1** in Appendix I.13B.

The east and northeastern flow direction continued to be observed in the February, March, April, and May 2004 gradient maps (see Figures I.13B-2 through I.13B-5). Easterly gradients between piezometers B-14 and B-15 ranged between 0.00412 and 0.00491 during these months. More northeasterly gradients were calculated between 0.000789 and 0.00326 during these months. In June 2004 gradients were observed to the east-northeast and to the south-southeast (see Figure I.13B-6). An easterly gradient was calculated at 0.00355 between piezometers B-14 and B-15 and a south-southeasterly gradient was calculated at 0.00112 between piezometers B-16 and B-11.

A southerly flow direction was observed in July 2004 (see Figure I.13B-7). A gradient of 0.00219 was calculated between piezometers B-16 and B-11. Gradients to the south/southwest were observed in August and September 2004 (see Figures I.13B-8 and I.13B-9). A gradient of 0.00172 was calculated for both months.

Significant drought was present in the area of the J-V Dirt + Loam site in the year 2003. According to NOWData – NOAA Online Weather Data, the total recorded rainfall in 2003 at Austin-Bergstrom Airport was 23.38 inches, versus the annual average rainfall amount of 36.25 over the period of record that goes back to 1891. Only 2.23 inches were recorded for October, November, and December 2003, combined. Increased monthly rainfall totals were observed starting in 2004. Monthly totals from January to May 2004 ranged between 1.96 inches (in March) and 5.38 inches (in February). A significant rainfall total was recorded (14.18 inches) for June 2004. Based on these rainfall totals, it appears that variable groundwater flow directions or groundwater flow to the east-northeast are apparent during times of drought. Southerly gradients began to be observed in June 2004 following the increased monthly rainfall totals. The expected groundwater flow direction to the south/southwest appears to correlate with non-drought conditions as observed in June 2004.

Routine groundwater monitoring conducted after facility startup indicates the following about groundwater occurrence in the Taylor Clay monitoring wells:

1. The wells frequently do not produce sufficient water for sampling.
2. Water at MW-1 and MW-3 has been sufficient for completing four quarters of background sampling, yielding one sample each 2006, one sample each in 2007, and two samples each in 2008.
3. All wells were reported dry during 2009, 2010 and 2011.
4. Water at MW-2 has been sufficient for sampling three times, yielding two samples in 2012 and one sample in 2014.

5. All wells were reported dry from third quarter 2014 through third quarter 2020.

The wells were not monitored from fourth quarter 2020 through second quarter 2023.[2]

INTERA began conducting groundwater monitoring at the facility in July 2023. Both MW-1 and MW-3 contained water sufficient for sampling at that time. MW-2 could not be located and was suspected of having been inadvertently covered by a large dirt berm. This well was recently unearthed and plugged as documented in the plugging report provided in **Appendix I.14**.

MW-1 and MW-3 were gauged on July 20, 2023, and the groundwater level in MW-1 was also measured on July 21, 2023. Both wells were gauged on August 3, 2023 and October 25, 2023, and water level measurements were collected from MW-1 in June 2024. (MW-3 had to be plugged in February 2024 to facilitate a TxDOT expansion project associated with Farm to Market Highway 973, leaving MW-1 as the remaining Taylor Clay well. The plugging report for MW-3 is provided in Appendix I.14.) The following table presents the groundwater level measurements collected from MW-1 and MW-3 in 2023 and June 2024.

Well	MW-1		MW-3	
TOC Elevation	434.10 (2025 Survey)		435.62	
Top of Taylor Clay Elevation	402.8		406.0	
Date	Depth to Water (ft)	Groundwater Elev. (feet MSL)	Depth to Water (ft)	Groundwater Elev. (feet MSL)
7/20/23	24.72	409.38	26.90	408.72
7/21/23	69.60	364.50	NM	NM
8/3/23	61.16	372.94	27.63	407.99
10/25/23	35.26	398.84	28.07	407.55
6/6/24	27.36	406.74	Plugged	Plugged

NM - Not Measured

As shown in the table, the July 20, 2023 groundwater elevation in MW-1 was determined to be 409.38 feet MSL prior to purging, and the concurrent groundwater elevation in MW-3 was determined to be 408.72 feet MSL prior to purging. These groundwater levels represent equilibrated conditions, as the wells had not been sampled since March 2020. Both of these elevations are above the Taylor Clay and are in-line with groundwater elevations present in the shallow wells screened in the alluvium as shown on the July 2023 groundwater gradient map in **Appendix I.15**.

[2] Reference the July 25, 2023 letter from John D. Cruz, American AllWaste, to Megan Henson, TCEQ re: J-V Dirt + Loam, Municipal Solid Waste (MSW) Permit No. 2310, Groundwater Monitoring Program, RN101495976/ CN604364968.

Groundwater in both wells MW-1 and MW-3 were at similar elevations prior to 2023 purging and sampling activities. Following purging/sampling, MW-1's recharge was observed to be extremely slow, increasing only 8.44 feet over thirteen days between July 21st and August 3rd and another 25.9 feet between August 3rd and October 25th. MW-3 recharges quickly, with the August and October 2023 groundwater elevations being similar to the July 2023 measurement. Both wells appear to be in connection with the overlying saturated sands and gravels, but groundwater from the uppermost groundwater bearing unit appears to be trickling into MW-1 and quickly recharging MW-3. When the wells were gauged prior to sampling in June 2024, MW-1 was still recovering.

The variable groundwater elevations observed in the three monitoring wells screened in the Taylor Clay provides additional evidence that a laterally continuous groundwater bearing unit is not present. While groundwater in both MW-1 and MW-3 equilibrated to levels in-line with groundwater elevations measured in wells screened in the overlying alluvium, MW-2 was initially dry. MW-2 was installed next to piezometer B-03 and screened at a slightly lower depth. Piezometer B-03 had measurable groundwater following its installation, but MW-2 remained dry. It appears that piezometer B-03 was a leaky well and that MW-2 was initially sealed off from the overlying saturated alluvium.

3.3 Alluvial Monitoring Well Installation and Water Level Data

Original facility plans called for the sands and gravels of the alluvium and terrace deposits to be removed and the entire composting facility constructed in the underlying Taylor Clay. However, construction plans for the facility were amended from those originally planned. Under the amended construction plans, the composting and curing pads were to be completed above the alluvial (uppermost) aquifer, while the storm water pond was still to be completed into the Taylor Clay. As discussed below, additional monitoring wells were installed within the alluvial aquifer to appropriately monitor this zone.

3.3.1 Installation of Alluvial Wells

After the permit was amended in 2014, five alluvial groundwater monitoring wells (MW-4 through MW-8) were installed along the southern portion of the northwestern site perimeter and along the western portion of the southwestern site perimeter. Boring logs and original survey data for all wells are provided in **Appendix I.16**, and a monitoring well location map is provided as **Appendix I.17.** The alluvial monitoring wells were installed using hollow-stem auger drilling techniques. The wells were constructed of 2-inch Schedule 40 PVC casing with 10 feet of 0.010-inch slotted Schedule 40 PVC well screen extending to the bottom of the sand and gravel alluvium. A sand filter pack extends 2 feet above the top of the screened interval. Bentonite pellets were placed on top of the sand pack to within 2 to 3 feet of the ground surface.

Each alluvial monitoring well was constructed with an above-ground surface completion consisting of an approximately 2.5-foot PVC casing stickup and a locking well protective steel cover secured in a 3-ft x 3-ft x 4-in concrete pad. Four bollards (painted yellow) were installed around each monitoring well completion. Following installation, wells MW-4, MW-7, and MW-8 were each dry. MW-5 and MW-6 were both developed. Approximately 6.2 well volumes (5 gallons) were removed from MW-5 and 6.4 well volumes (7 gallons) were removed from MW-6.

The location and elevation of each alluvial monitoring well was surveyed by a surveyor licensed in the State of Texas. The surveyor provided the elevations of the top of PVC casing, top of pad and ground surface at each location. Top of casing elevation measurements were made to the nearest 0.01 foot. Original survey information for the alluvial monitoring wells is provided in Appendix I.16.

3.3.2 Water Level Data

Groundwater monitoring began in the alluvial wells in February 2014. Groundwater sufficient for background sampling was present in MW-5 and MW-6 in February 2014 and again in June 2014, but wells MW-4, MW-7, and MW-8 were reported to be dry during both of these events. Between September 2014 and June 2020, all of the alluvial wells were reported to be dry. Prior to third quarter 2023, the four samples collected in 2014 from MW-5 and MW-6 were the only samples collected from the alluvial wells.

INTERA began conducting groundwater monitoring at the facility on July 20, 2023. At that time, sufficient groundwater for sampling was present in alluvial wells MW-4, MW-5, and MW-6, although water present in MW-4 was not sufficient to support purging of the well prior to sampling. MW-7 was measured to have under 4 inches of water in the well and could not be sampled. MW-8 was measured to be dry. INTERA returned to the site on August 3, 2023 to re-sample wells MW-4, MW-5, and MW-6 for analysis of additional monitoring parameters. Each of the site wells was also gauged during this event. Groundwater elevations from both the July and August 2023 sampling events are provided in Appendix I.15.

In September 2023, INTERA performed a video inspection of monitoring wells MW-4, MW-7, and MW-8 to investigate total depth discrepancies between the measured depths collected from recent sampling events and historical measurements. It was discovered that disposable bailers were present in the bottoms of wells MW-4, MW-7, and MW-8. After removal of these bailers, total depth measurements were collected and were in-line with historical measurements. Groundwater was present in each of these wells. In October 2023, adequate water was present in MW-4 and MW-7 to bail the wells dry and collect supplemental groundwater samples. MW-8 was also bailed dry but did not recharge and contained insufficient groundwater for sampling.

Water levels in each site monitoring well were gauged prior to sampling during the primary and supplemental sampling events conducted in June 2024. For the supplemental event, insufficient groundwater for sampling was present in wells MW-7 and MW-8. Groundwater elevations from both June 2024 sampling events are provided in Appendix I.15.

The groundwater monitoring wells at the facility were resurveyed in May 2025. The resurveyed wells included MW-1 (screened in the Taylor Clay) and MW-4 through MW-8 (screened in the saturated alluvium above the Taylor Clay). Elevation and location information from the 2025 survey are provided on the Monitoring Well Exhibit included in Appendix I.15. Using the top of casing elevations from the May 2025 survey, new groundwater elevations were calculated for the gauging events conducted in July 2023, October 2023, and June 2024. Appendix I.15 provides revised groundwater gradient maps for the alluvial aquifer based on the July 2023, October 2023, and June 2024 gauging results.

The revised July 2023 gradient map now generally shows groundwater flow direction to the southwest. A southwesterly gradient of 0.00455 was calculated between MW-7 and MW-6. Groundwater flow in the revised October 2023 map is primarily depicted to the southwest, as well. A southwesterly gradient of 0.00796 was calculated between wells MW-7 and MW-6. Groundwater flow in the revised June 2024 map is also to the southwest. A southwesterly gradient of 0.00454 was calculated between MW-7 and MW-6. Input values for calculated gradients are provided in Table I.13B-1 located in Appendix I.13B.

The groundwater flow direction in each of these revised maps is predominantly to the southwest the expected flow direction towards the Colorado River. This southwesterly flow pattern is distinctly different than the variable flow directions observed over the piezometer data collection period from December 2003 through September 2004, which were frequently between the east-northeast and the south-southeast. As discussed earlier, drought conditions in 2003 likely contributed to the variable groundwater flow directions observed in both 2003 and 2004. It should also be noted that in both 2003 and 2004 there was significant land disturbance in and around the facility due to sand and gravel mining. By 2023, most of the surrounding areas had been backfilled and reclaimed to the north, west, and south of the facility. This has allowed the natural gradient to return in areas where the alluvium was not disturbed.

Water level elevations in the alluvial wells show a very low groundwater gradient of averaging 0.00568 feet/foot. Given the hydraulic conductivities of the alluvial and terrace deposits are reported to range from 3.8×10^{-1} to 6.9×10^{-1} cm/sec or 1,100 to 2,000 ft/day, and assuming an effective porosity of 30 percent (0.30), the groundwater flow rate beneath the site is estimated to range from 21 to 38 feet/day.

3.4 Monitoring Well System

In accordance with 30 TAC 332.47(6)(C)(ii), the groundwater monitoring system for a composting facility must be designed and installed such that the system will reasonably assure detection of any contamination of the groundwater before it migrates beyond the boundaries of the site. Conclusions regarding the existing monitoring well system's capability to meet this standard are provided below.

3.4.1 Monitoring Zone

INTERA has concluded that the monitoring wells completed in the Taylor Clay will not serve as meaningful detection monitoring wells for the following reasons.

- The clay is predominantly uniform and characterized as a dry, stiff, and high plasticity clay with no distinct water bearing zones and no apparent secondary features that would account for the presence of groundwater. Although the clay is reported as dark greenish gray in color, which can indicate weathering, Katterjohn (2013) characterized it as unweathered based on actual field observations. Where water was observed during the subsurface investigation, it manifested as a mud smear on the outside of the core barrel sampler and/or the sample core while the interior of the clay in the recovered core sample was dry, indicating the water entered the boring from the overlying alluvial aquifer. In addition, no groundwater was found within the clays beneath the western portion of the site (e.g., at boring locations B-01, B-07, B-08 and B-13) or in the vicinity of boring B-05 (see Appendix I.7).

- Equilibrated groundwater elevations in Taylor Clay wells MW-1 and MW-3, when measured in July 2023, were above the Taylor Clay contact and in-line with groundwater elevations present in the shallow wells screened in the alluvium. This provides strong evidence that the groundwater present in these Taylor Clay wells was indeed the result of leakage from the overlying alluvium.
- The Taylor Clay serves as an aquiclude for the overlying saturated alluvium and is over 400 feet thick beneath the facility. Geotechnical testing of a clay sample collected in the Taylor Clay had a reported hydraulic conductivity of 1.8×10^{-9} cm/sec.
- Although the original plans for the facility called for removal of all the overburden overlying the Taylor Clay, the facility was not built as planned, and alluvial materials underlie the composting and curing pads.

Based on the above, a release from the facility would preferentially flow laterally via the alluvial aquifer. Vertical migration through the Taylor Clay would be severely impeded and would not extend a significant distance into the clay due to its extremely low hydraulic conductivity and the lack of secondary features. Further, contiguous transmissive zones containing groundwater were not found in the Taylor Clay so that there is no viable pathway for lateral migration of a release through the clays. Therefore, wells screened in the Taylor Clay do not provide useful information regarding a release from the facility. The alluvium is the uppermost water bearing zone at the site and is the appropriate zone to monitor in accordance with 30 TAC §332.47(6)(C)(ii).

3.4.2 Monitoring Well Network

Section 3.4.1 details the basis for monitoring groundwater quality in the alluvial aquifer instead of the Taylor Clay. The existing alluvial groundwater monitoring wells (MW-4, MW-5, MW-6, MW-7, and MW-8) are appropriately located, downgradient wells for the expected, predominant gradient to the southwest towards the Colorado River. These wells are situated along the southern portion of the northwestern site perimeter and along the western portion of the southwestern site perimeter and are spaced between approximately 470 feet to 500 feet as shown on the monitoring well location map provided as Appendix I.17. There is currently no alluvial monitoring well located upgradient of the waste management area.

Formerly, there were three monitoring wells completed in the Taylor Clay. As noted in Section 3.2.2, MW-2 and MW-3 have been plugged and abandoned due to damage (MW-2) and TxDOT acquisition of a strip of land along the southeastern facility perimeter (MW-3). The remaining Taylor Clay monitoring well, MW-1, should also be plugged and abandoned so that all wells in the monitoring well network are completed in the alluvium. The locations of the Taylor Clay wells are also shown on the monitoring well location map provided as Appendix I.17.

A new alluvial well, proposed well MW-9, is needed in the vicinity of former MW-3, which is located along the southeastern perimeter of the facility, to provide upgradient data for groundwater flow determinations and groundwater quality evaluations. The proposed siting of this upgradient well (MW-9) would be appropriate during periods of normal or abundant rainfall where the groundwater gradient is to the southwest towards the Colorado River. However, during dryer periods, a northeasterly groundwater flow direction has been observed historically in wells screened in the Taylor Clay with groundwater elevations representative of the alluvial aquifer. Since variable groundwater flow

directions have historically been observed at the site during times of drought, INTERA proposes that an additional monitoring well (MW-10) be installed on the northeastern perimeter of the facility to ensure complete coverage of downgradient groundwater quality. No new alluvial wells are needed at the MW-1 or MW-2 locations, as these Taylor Clay wells are near existing alluvial wells. MW-1 is located near MW-8 and MW-2 is located near MW-4.

Accordingly, it is proposed to plug the remaining Taylor Clay monitoring well, MW-1, install a new, upgradient alluvial well (MW-9) on the southeastern side of the facility in the vicinity of MW-3, and install a new alluvial well (MW-10) in the northeastern portion of the facility to complete the alluvial aquifer monitoring well network. The location of the proposed wells are shown on the monitoring well location map provided as Appendix I.17**.**

The groundwater monitoring system described above will reasonably assure detection of any contamination of the groundwater before it migrates beyond the boundaries of the site.

4.0 References

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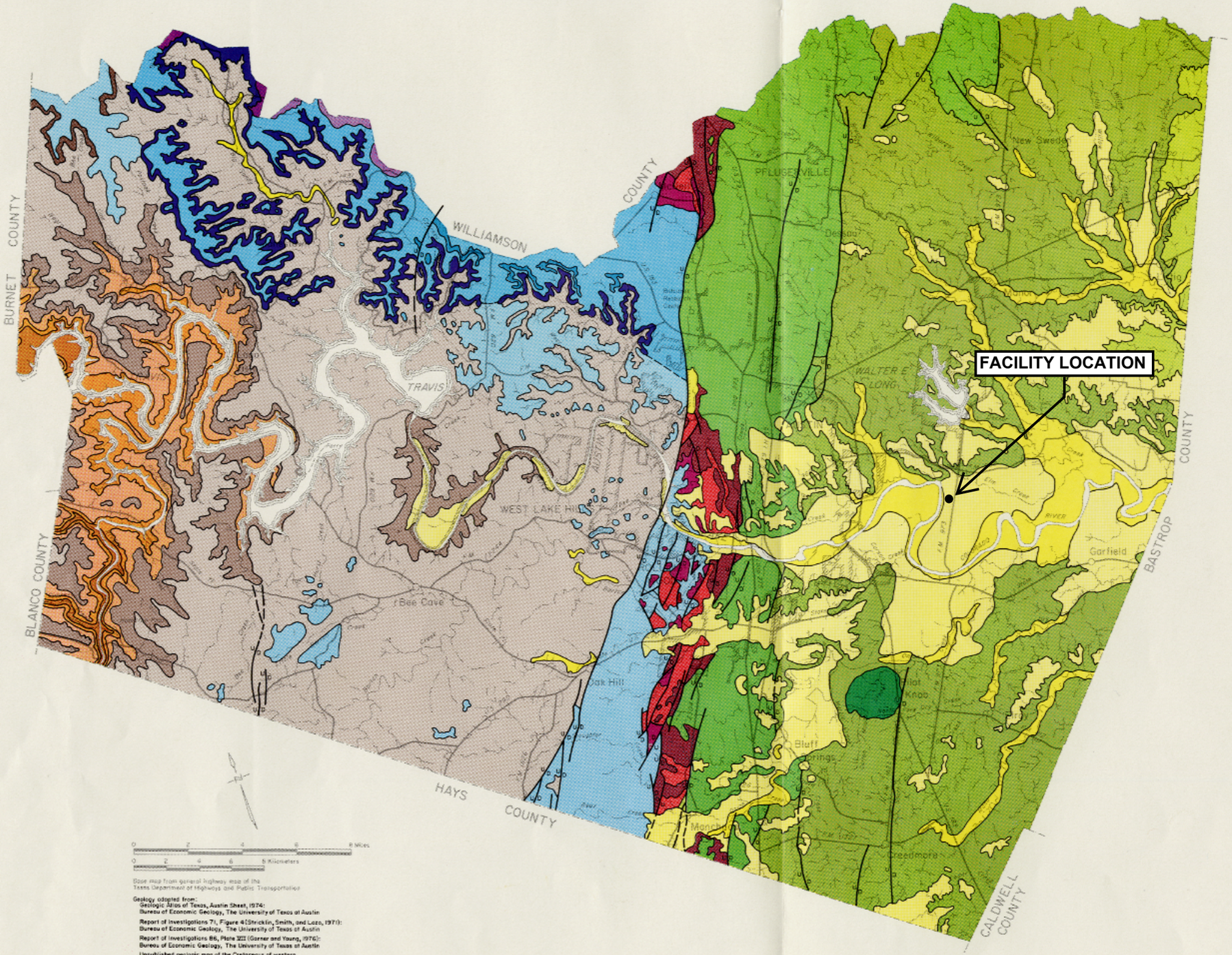
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Appendix I.1

Figure 4. Geologic Map of Travis County
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EXPLANATION

Qal
Alluvium

Qter
Terrace deposits
Includes Onion Creek Marl and high terrace deposits

Tm
Midway Group

Kgn-Kgt
Navarro and Taylor Groups

Kgac
Austin Chalk

Ki
Igneous rocks (basalt and tuff)

Kgo-Kdr
Eagle Ford Group and Buda Limestone

Kdr
Del Rio Clay

Kgt
Georgetown Formation

Kcfr: Kced, Kcc, Kckv, Kccp, Kcbc
Fredericksburg Group, Kcfr
Includes Edwards Limestone, Kced;
Comanche Peak Limestone, Kcc;
Keys Valley Marl Member of Walnut Formation, Kckv;
Cedar Park Limestone Member of Walnut Formation, Kccp; and
Bee Cave Marl Member of Walnut Formation, Kcbc

Kgpa
Paluxy Formation

Kcgru, Kcgrl
Glen Rose Formation
Upper member, Kcgru; and lower member, Kcgrl

Kche, Kccc-Kch, Kcsy
Travis Peak Formation
Includes Hensell Sand Member, Kche;
Cow Creek Limestone Member, Kccc;
Hammett Shale Member, Kch; and
Sycamore Sand Member, Kcsy

Contact
Dashed where concealed or approximately located

U D
Fault
U, upthrown side; D, downthrown side
Dashed where approximately located

Figure 4
Geologic Map of Travis County

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Appendix I.2

Table 1. Geologic Units and Their Water-Bearing Properties
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Table 3. Results of Pumping Tests
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Table 1.–Geologic Units and Their Water-Bearing Properties

System	Series	Group	Stratigraphic unit	Hydrologic unit	Approximate maximum thickness (feet)	Character of rocks	Water-bearing properties
Quaternary	Recent		Alluvium	Alluvium and terrace deposits	60	Water-stratified deposits of unconsolidated calcareous gravel, sand, silt, and clay, with coarser materials usually concentrated in the lower section.	Yields small to very large quantities of fresh to slightly saline water, chiefly along the Colorado River in eastern Travis County.
	Pleistocene		Terrace deposits		60	Water-stratified deposits of unconsolidated calcareous gravel, sand, silt, and clay, with the coarser materials at the base.	Yields very small to moderate quantities of fresh to moderately saline water.
			Onion Creek Marl		50	Water-stratified deposits of calcareous gravel, sand, silt, and clay, often cemented with calcium carbonate.	
			High gravel		20	Gravel and sand, sometimes mixed with clay from underlying formations.	
Tertiary	Eocene	Midway		Midway	300	Clay, silt, glauconitic sand, and thin beds of limestone and sandstone with gypsum, phosphatic nodules, and calcareous concretions.	Yields very small quantities of fresh to moderately saline water.
Cretaceous	Gulf	Navarro		Navarro and Taylor Groups	1,200	Massive beds of shale and marl with clayey chalk, clay, sand, and some nodular and phosphatic zones.	Yields very small quantities of fresh to moderately saline water.
		Taylor					
		Austin	Igneous rocks	Igneous rocks	700	Altered pyroclastics, limburgite, basalt intrusions and flows, and nontronite.	Yields very small quantities of fresh water.
				Austin Chalk	500	Massive beds of chalk and marl with bentonitic seams, glauconite, and pyrite nodules.	Yields small to very small quantities of fresh water.
		Eagle Ford			45	Massive calcareous shale with thin interbeds of silty and sandy, flaggy limestone.	Not known to yield water in Travis County.
	Comanche	Washita	Buda Limestone		50	Massive, fine-grained, burrowed, shell-fragment limestone. The upper portion is harder and bluff-forming.	Not known to yield water in Travis County.
			Del Rio Clay		75	Clay and marl with gypsum, pyrite, and a few thin siltstone and sandstone beds.	Not known to yield water in Travis County.
			Georgetown Formation	Edwards and associated limestones	100	Thin interbeds of richly fossiliferous, nodular, massive fine-grained limestone and marl.	Yields small to very large quantities of fresh water, especially from cavernous zones in the Edwards Limestone.
		Fredericksburg	Kiamichi Formation		10	Marl, thin limestone seams, clay, and shell aggregates. Not present at the surface in Travis County.	Not known to yield water in Travis County.
			Edwards Limestone		360	Massive, brittle, vugular limestone and dolomite with nodular chert, gypsum, anhydrite, and solution-collapse features.	Yields small to very large quantities of fresh water, especially from cavernous zones.
			Comanche Peak Limestone		60	Fine-grained, fairly hard, nodular, fossiliferous, marly, extensively burrowed limestone.	Yields little or no water in Travis County.
			Walnut Formation		120	Hard and soft limestones, marls, clays, and shell beds.	Yields little or no water in Travis County.
		Trinity	Paluxy Formation	Upper Trinity	10	Fine-grained quartz sand, in part indurated by calcium carbonate cement. Locally contains thin beds of limestone and marl.	Yields very small to moderate quantities of fresh, and occasionally slightly saline water.
			Glen Rose Formation: Upper Member		600	Alternating beds of limestone, dolomite, shale, and marl with some anhydrite and gypsum.	
			Glen Rose Formation: Lower member	Middle Trinity	330	Massive, fossiliferous limestone and dolomite in the basal part grading upward into thin beds of limestone, shale, marl, and gypsum. **Corbula martinae** bed at top.	Yields very small to moderate quantities of fresh to moderately saline water. The moderately saline water appears to be confined to north-central Travis County. Many small and medium springs issue from the base of the Hensell Sand in Travis County.
			Travis Peak Formation: Hensell Sand Member		70	Sand, gravel, conglomerate, sandstone, siltstone, and shale in western Travis County. Grades into sandy limestone and dolomite in eastern Travis County.	
			Travis Peak Formation: Cow Creek Limestone Member		100	Massive, often sandy, dolomitic limestone, frequently forming cliffs and waterfalls. Contains gypsum and anhydrite beds.	
			Travis Peak Formation: Hammett Shale Member		60	Shale and clay with some sand, dolomitic limestone, and conglomerate.	Not known to yield water in Travis County.
			Travis Peak Formation: Sligo Member	Lower Trinity	300	Limestone, dolomite, occasionally sandy, and shale. Thins to the west and is not present in northwest Travis County.	Yields small to moderate, and with acidizing, large quantities of fresh to moderately saline water.
			Travis Peak Formation: Hosston Member (Sycamore Sand in outcrop)		800	Basal conglomerate grading upward into a mixture of sand, siltstone, and shale, with some limestone beds.	
Pennsylvanian	Lower Pennsylvanian	Strawn			800	Alternating beds of sandstone and shale, with some conglomerates.	Not known to yield water in Travis County.
		Bend	Smithwick Shale		500	Shale with sandstone and siltstone in the upper portion. Metamorphosed to phyllites and quartzites in the Ouachita Fold Belt.	Not known to yield water in Travis County.
			Marble Falls Limestone		400	Cavernous, massive, siliceous, fossiliferous limestone.	Not known to yield water in Travis County, but may yield small to moderate quantities of slightly to moderately saline water.
Ordovician	Lower Ordovician	Ellenburger			1,500	Cavernous, crystalline, fossiliferous limestone and dolomite.	Not known to yield water in Travis County.

Table 3.—Results of Pumping Tests

Aquifer: Qal, Alluvium; Kce, Edwards and associated limestones; Kcgru, upper member of the Glen Rose Formation; Kcgrl, lower member of the Glen Rose Formation; Kcho, Hosston Member of the Travis Peak Formation.

Coefficient of transmissibility values shown are the average of drawdown and recovery values computed from test data unless indicated in remarks.

Well	Aquifer	Saturated thickness (feet)	Average yield (gal/min)	Time after well turned on or off (hours)	Drawdown or recovery (feet)	Specific capacity [(gal/min)/ft]	Transmissibility [(gal/d)/ft]	Permeability [(gal/d)/ft^2]	Coefficient of storage	Remarks
Travis County										
YD-58-33-403	Kcho	10	24	4.17	106.00	0.22	140	14	–	[1]
35-701	Kce	299	184	24.20	60.90	3.02	2,590	8.7	–	Drawdown test.[1]
42-613	Kce	38	29	5.00	1.22	31.10	33,300	877	–	Drawdown test.
907	Qal	27.8	–	9.92	.60	–	228,000	8,200	0.15	Drawdown test with YD-58-42-909.[1]
908	Qal	20.7	–	9.92	.38	–	293,000	14,200	.08	Do.
909	Qal	21.9	544	10.37	9.37	58.10	319,000	14,600	–	Recovery test.[1]
43-702	Kcgrl	15	13	40.40	22.60	.57	700	47	–	–
703	Kcho	–	20	8.03	53.20	.37	600	–	–	–
706	Kce	180	130	4.52	101.00	1.29	1,930	11	–	Recovery test.[1]
801	Kcgru	–	40	1.68	50.50	.79	1,400	–	–	[1]
44-201	Kcho	60	49	1.10	50.90	.96	1,900	32	–	Recovery test.
204	Kcho	291	250	12.00	250.00	1.00	1,400	4.8	–	Data from Roll in Harden, 1974.
51-103	Kcgrl	25	87	5.02	72.40	1.20	2,870	115	.0000019	Recovery test.
Williamson County										
ZK-58-35-406	Kcgru	130	16	21.10	207.00	.08	47	.36	–	Drawdown test.

[1] Additional data given in Myers, 1969.

Appendix I.3

Figure 28. Cross-Section C-C'
Texas Department of Water Resources Report 276

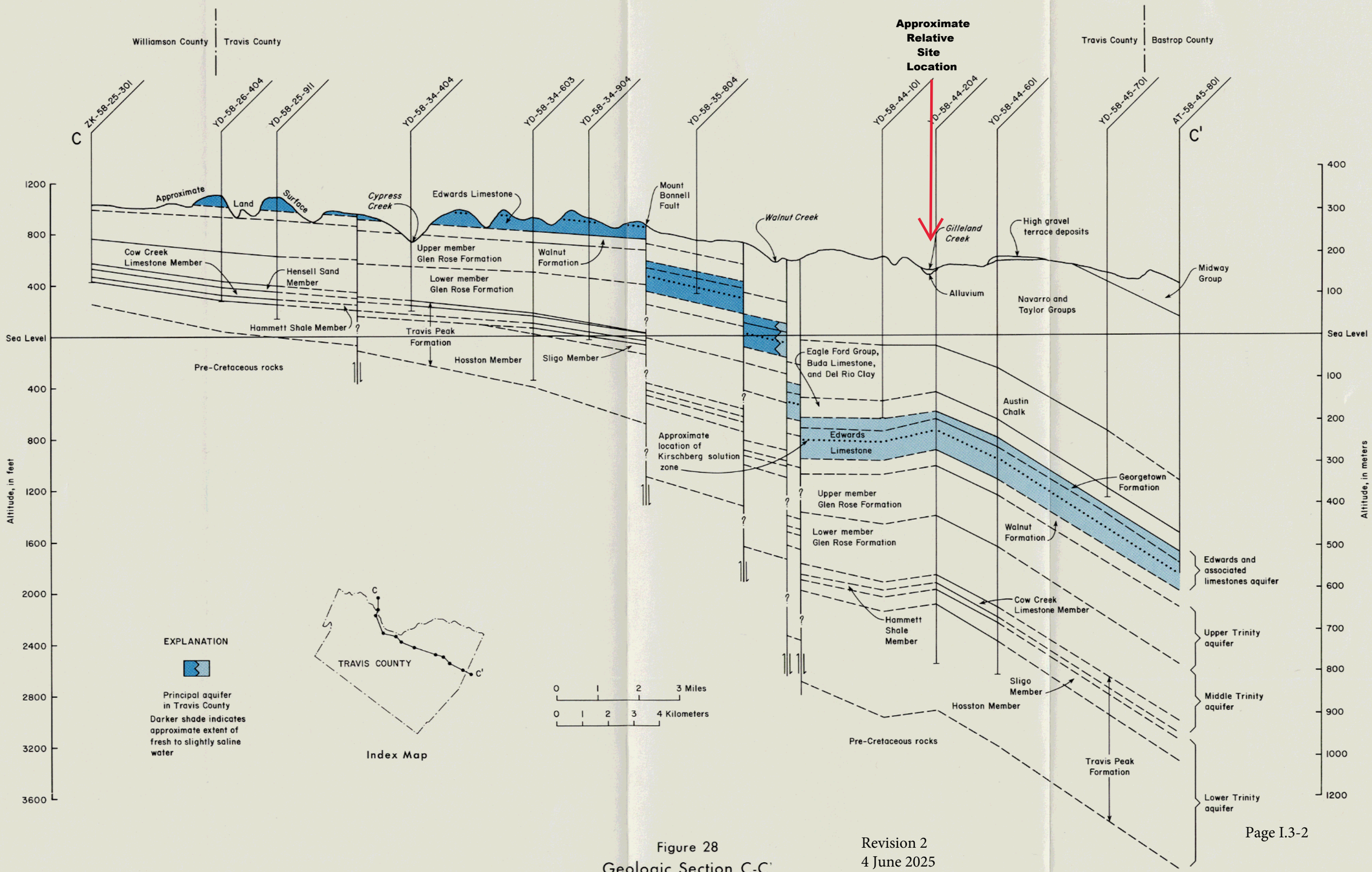
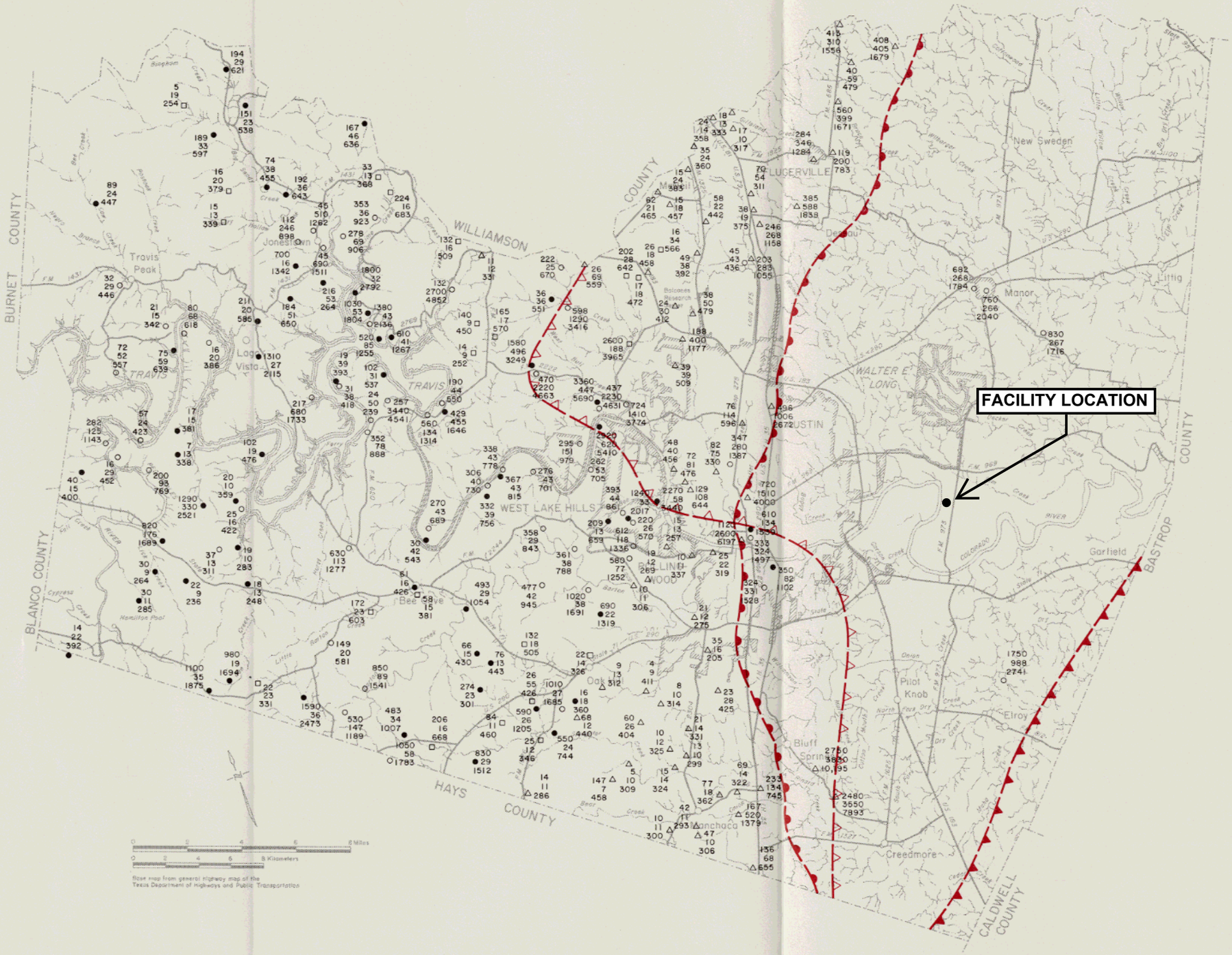


Figure 28
Geologic Section C-C'

Revision 2
4 June 2025

Appendix I.4

Figure 12. Sulfate, Chloride, and Dissolved-Solids Content in Water from Selected Wells in the Lower, Middle, and Upper Trinity Aquifers and Edwards and Associated Limestones Aquifer Texas Department of Water Resources Report 276



EXPLANATION

Sampled Well or Spring

210 Sulfate concentration

180 Chloride concentration

1000 Dissolved-solids concentration

Chemical concentrations are in milligrams per liter

Source of Water

- ○ Lower Trinity aquifer
- ● Middle Trinity aquifer
- □ Upper Trinity aquifer
- △ Edwards and associated limestones aquifer

Approximate downdip limit of fresh to slightly saline water in the lower Trinity aquifer

Approximate downdip limit of fresh to slightly saline water in the middle Trinity aquifer

Approximate downdip limit of fresh to slightly saline water in the Edwards and associated limestones aquifer

The approximate downdip limit of fresh to slightly saline water in the upper Trinity aquifer was not plotted due to lack of data

Revision 2
4 June 2025

Figure 12

Sulfate, Chloride, and Dissolved-Solids Content in Water From Selected Wells in the Lower, Middle, and Upper Trinity Aquifers and Edwards and Associated Limestones Aquifer

Appendix I.5

Figure 6. Approximate Altitude of and Depth to Top of the Lower Trinity Aquifer
Texas Department of Water Resources Report 276



EXPLANATION

150e / 850e
Well used for control
Top number indicates approximate altitude of top of the lower Trinity aquifer, in feet above or below (-) mean sea level
Bottom number indicates approximate depth to top of the lower Trinity aquifer, in feet below land surface
'e' indicates estimated

500
Line showing approximate altitude of top of the lower Trinity aquifer
Dashed where control is absent or limited
Interval 100 feet
Datum is mean sea level

Outcrop of the lower Trinity aquifer

U — D
Fault
U, upthrown side; D, downthrown side
Dashed where approximately located

Approximate area in which ground water in the lower Trinity aquifer is slightly saline to moderately saline

This area not contoured due to complex faulting and lack of control

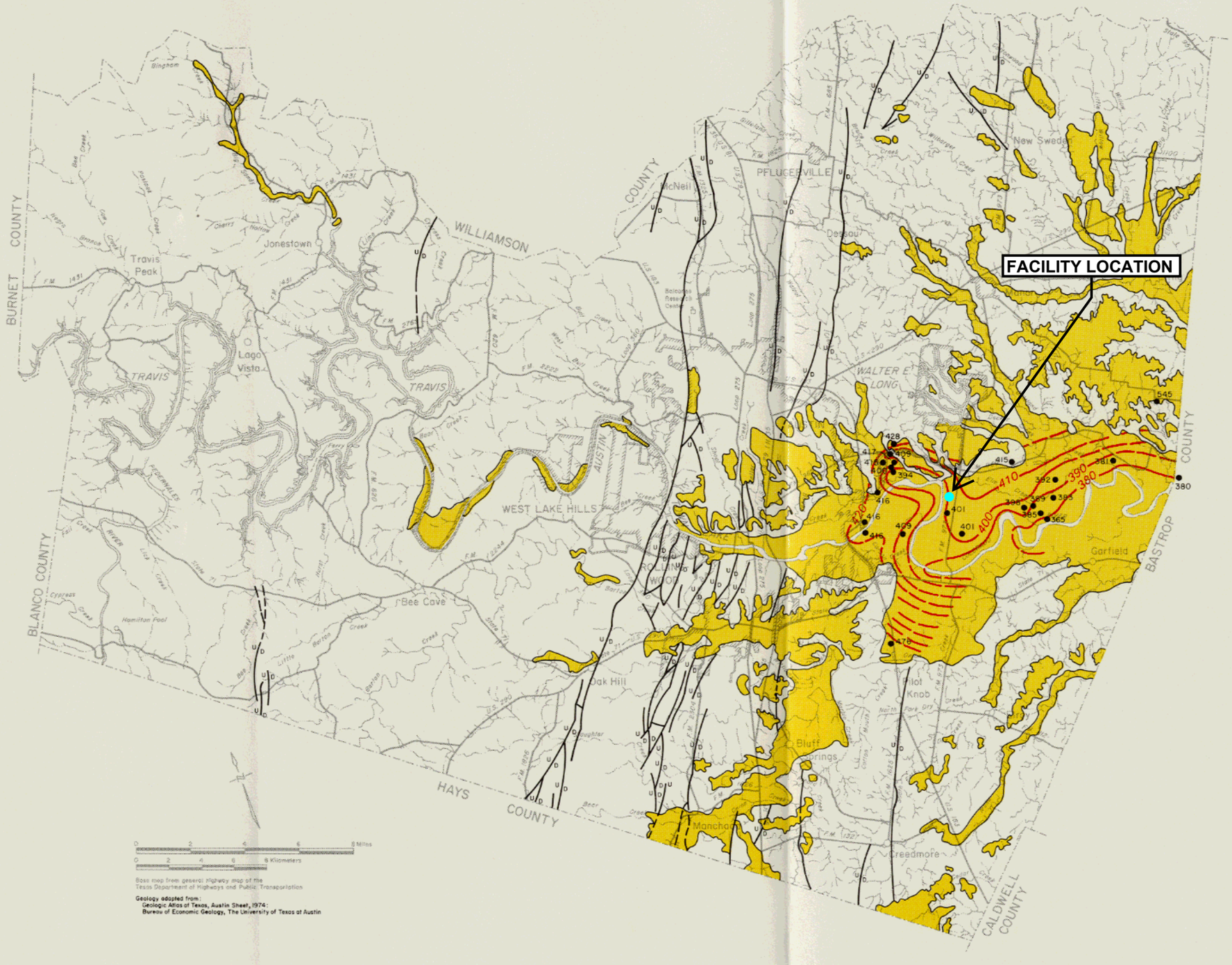
Approximate downdip limit of fresh to slightly saline water in the lower Trinity aquifer

Revision 2
4 June 2025

Figure 6
Approximate Altitude of and Depth to Top of the Lower Trinity Aquifer

Appendix I.6

Figure 22. Approximate Altitude of Water Levels in Selected Wells Completed in the Alluvium and Terrace Deposits, Spring 1978 Texas Department of Water Resources Report 276



EXPLANATION

●400
Well used for control
Number indicates altitude of water level in the alluvium and terrace deposits aquifer, Spring 1978, in feet above mean sea level

400
Line showing approximate altitude of water level in the alluvium and terrace deposits aquifer
Dashed where control is absent or limited
Interval 10 feet
Datum is mean sea level

Outcrop of the alluvium and terrace deposits

U D
Fault
U, upthrown side; D, downthrown side
Dashed where approximately located

Figure 22

Approximate Altitude of Water Levels in Selected Wells Completed in the Alluvium and Terrace Deposits, Spring 1978

Revision 2
4 June 2025

Appendix I.7
Boring Location Map and Survey Information

Attachment 7

Boring Location Map and Survey Information

This is a historical document that was originally included in the Geologic and Hydrogeologic Report (as revised through April 22, 2013) as Attachment 7. However, it is being submitted as Appendix 7 in this revision, in lieu of Attachment 7, per TCEQ request. Historical references to Attachment 7 remain as in the original document.

Attachment 7
Subsurface Investigation - Survey Information
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

Piezometers

	Coordinates		Elevations		
Location	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Pond Surface Elevation
B-01	9198.14	7556.74	423.4	NA	--
B-02	9168.80	8085.04	422.8	425.27	--
B-03	8758.23	8184.18	425.2	428.10	--
B-04	9007.26	8349.17	410.8	414.63	--
B-05	8801.95	8714.04	416.5	NA	--
B-06	8407.00	8738.12	433.1	435.36	--
B-07	9806.93	7883.23	430.9	NA	--
B-08	9652.22	8155.02	420.0	NA	--
B-09	9491.11	8563.89	411.0	NA	--
B-09R	9448.50	8550.49	411.5	414.84	--
B-10	9745.11	8879.53	423.5	426.33	--
B-11	9165.69	9177.32	436.2	439.14	--
B-12	9289.43	9454.93	433.0	435.94	--
B-13	10751.80	8425.16	433.8	NA	--
B-14	10314.30	8643.25	436.2	439.42	--
B-15	10279.94	9109.23	435.5	438.45	--
B-16	9820.96	9134.30	435.5	438.27	--
B-17	9838.44	9496.98	434.8	437.87	--
B-18	10006.56	9891.77	434.0	436.94	--

Monitoring Wells

	Coordinates		Elevations		
Location	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Pond Surface Elevation
MW-1	9818.33	7888.62	430.8	433.57	--
MW-2	8750.74	8198.79	424.8	427.41	--
MW-3	9303.65	9462.90	433.0	435.95	--

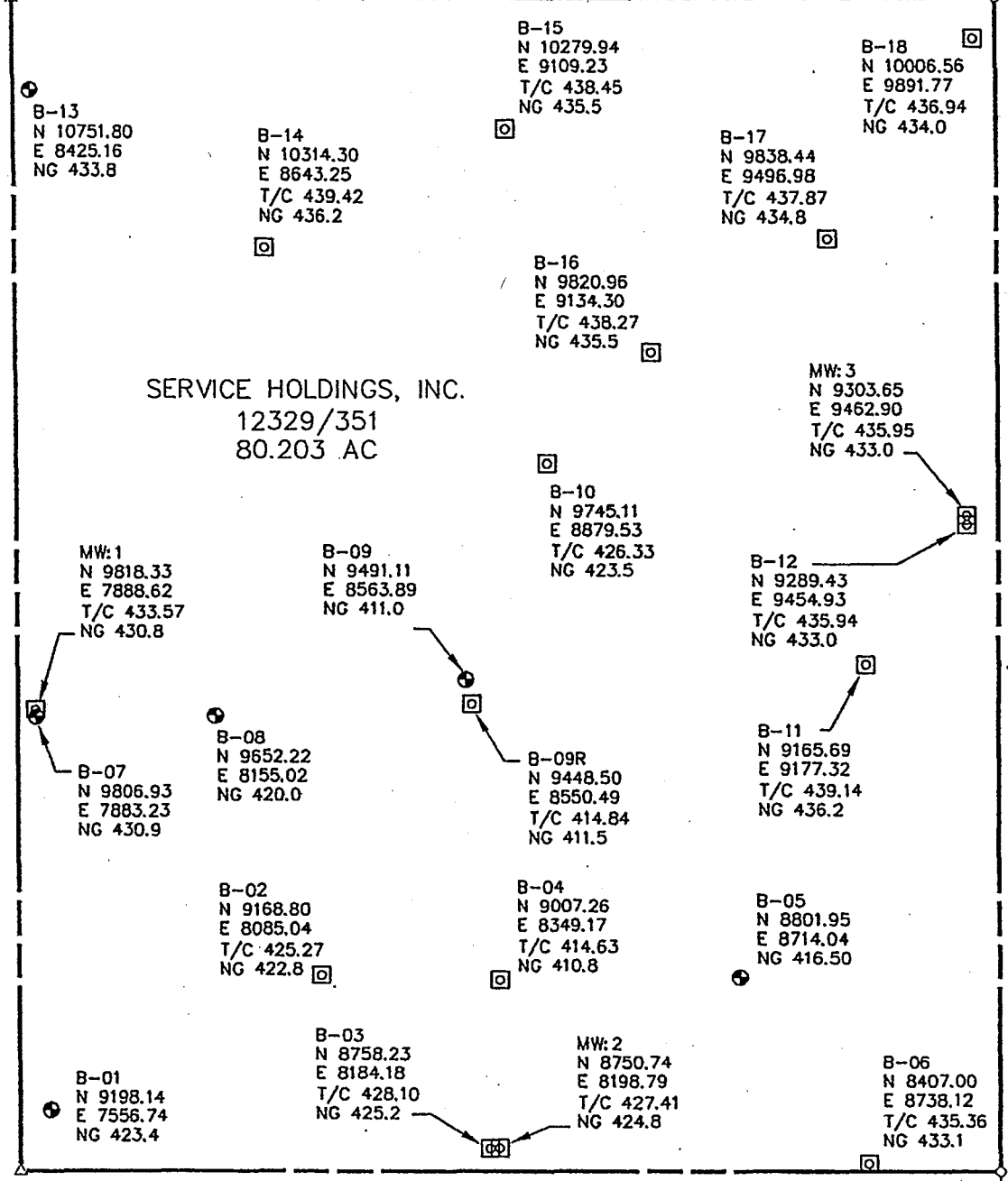
Water Surface Elevations

Pond 1	9523.9892	8873.4242	--	--	408.44
Pond 2	9792.5738	8731.9602	--	--	407.33
Pond 3	8822.6296	8784.9556	--	--	408.36

NA: Not applicable - Piezometer not installed at location

Information from Monitor Well and Soil Boring Locations (Attachment 7A) by Martinez, Wright and Mendez Inc. of Austin, Texas (signed and sealed by Christopher S. Martinez on 1/23/04).

Attachment 7A



300' 200' 100' 0' 150' 300'

GRAPHIC SCALE

LEGEND

⊡	MONITOR WELL
⊕	SOIL BORING
T/C	TOP OF CASING
NG	NATURAL GROUND

THE COORDINATE BASIS IS ARBIRATARY.

T.B.M. No. 5
CHISELED SQ. CUT IN N.W. CORNER OF S.W.B.T. CONCRETE PAD ON EAST SIDE OF F.M.973, 80' EAST OF S.E. CORNER OF SITE, +-1.2 MI. NORTH OF PLATT LANE.
ELEV. 435.35'

STATE OF TEXAS
REGISTERED
CHRISTOPHER S. MARTINEZ
5716
PROFESSIONAL
LAND SURVEYOR

1-23-04

Christopher S. Martinez

MARTINEZ WRIGHT & MENDEZ
Civil Engineering, Land Surveying, Architecture

CHEVY CHASE ONE
7700 Chevy Chase Drive
Suite 100, Austin, Texas 78752
tel) 512 453 0767 fax) 512 453 1751

MONITOR WELL AND SOIL BORING LOCATIONS

J-V DIRT AND LOAM
TRAVIS COUNTY, TEXAS

DATE: 23 JAN 04
JOB NO: 40801
FILE: 40801-MW

1
1 OF 1

Appendix I.8
Subsurface Information and Boring Logs

Attachment 8

Subsurface Investigation - Borehole Information and Boring Logs

This is a historical document that was originally included in the Geologic and Hydrogeologic Report (as revised through April 22, 2013) as Attachment 8. However, it is being submitted as Appendix 8 in this revision, in lieu of Attachment 8, per TCEQ request. Historical references to Attachment 8 remain as in the original document.

Attachment 8
Subsurface Investigation - Borehole Information
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

	Boring Information			Elevations (Ft. MSL)		
Boring No.	Top of Clay (fbgs)	Total Depth (fbgs)	Date Drilling Completed	Ground Surface Elevation	Elevation of Top of Clay	Elevation of Total Borehole Depth
B-01	22	92.6	9/18/03	423.4	401.4	330.8
B-02	19.5	90.6	9/11/03	422.8	403.3	332.2
B-03	21	92.6	9/5/03	425.2	404.2	332.6
B-04	6	76.5	9/2/03	410.8	404.8	334.3
B-05	11	81.8	9/5/03	416.5	405.5	334.7
B-06	26	97.8	9/8/03	433.1	407.1	335.3
B-07	26	96.5	9/15/03	430.9	404.9	334.4
B-08	17.5	87	9/17/03	420.0	402.5	333.0
B-09*	7	67.1	9/3/03	411.0	404.0	343.9
B-09R*	7	39	9/5/03	411.5	404.5	372.5
B-10	21	92	8/28/03	423.5	402.5	331.5
B-11	31	101	8/20/03	436.2	405.2	335.2
B-12	28	101.7	8/21/03	433.0	405.0	331.3
B-13	31	102.1	9/19/03	433.8	402.8	331.7
B-14	34	106.7	9/22/03	436.2	402.2	329.5
B-15	30	101	8/15/03	435.5	405.5	334.5
B-16	32	111.9	8/6/03	435.5	403.5	323.6
B-17	31.5	110	8/12/03	434.8	403.3	324.8
B-18	31	102.8	8/25/03	434.0	403.0	331.2
MW-1	28	73	12/4/03	430.8	402.8	357.8
MW-2	21	67	12/4/03	424.8	403.8	357.8
MW-3	27	73	12/3/03	433.0	406.0	360.0

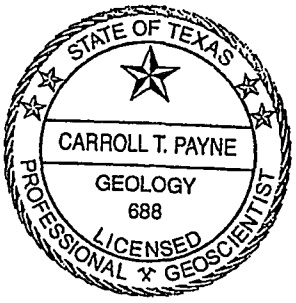
fbgs Feet below ground surface
Ft. MSL Feet above mean sea level
* Lost air circulation due to surface casing failure while drilling at 67.1 fbgs. Boring B-09R was drilled for piezometer installation only.

Soil Boring Logs
JV Dirt and Loam Composting Site
Austin, Texas

Attached are the logs for soil borings B-01 through B-18 and monitoring well borings MW-1 through MW-3 that were drilled and completed under my supervision at the JV Dirt and Loam facility in Austin, Texas.

Tracy Payne, P.G.

2-9-04
Date



Client JV DIRT & LOAM			Boring No. B-01
Project/Location 3600 FM973 AUSTIN, TEXAS 78725			Sheet 1 of 3
Surface Elevation	Saturation Depth	Total Depth	Date Drilled 09-03-03
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig	Logged By TRACY PAYNE
Sample Method SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew TSS/GPI
Comments			Time Start Finish

Coordinates: N9198.14, E7556.74 Surface Elev: 423.4 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-17	SP	-	SAND- FINE GRAIN, COMPACT, DRY TO DAMP, LIGHT BROWN
			Contact Elevation: 406.4 Ft. MSL
17-22	GW	-	SANDY GRAVEL- FINE TO MEDIUM GRAINED SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
			Contact Elevation: 401.4 Ft. MSL
22-25	CH	-	CLAY- HIGH PLASTICITY, STIFF, DRY, GRAY
			SET SURFACE CASING TO 25' BGL
			CONTINUED DRILLING AND SAMPLING ON SEPTEMBER 17, 2003
25-26.6	CH	1.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GRAY, FOSSILS PRESENT
26.6-33.6	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
33.6-38.6	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
38.6-43.6	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-01
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth	Date Drilled 09-17-03
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON/CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
43.6-48.6	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
48.6-53.6	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
53.6-58.6	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
58.6-63.6	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
63.6-68.6	CH	2'	CLAY- HIGH TO MODERATE PLASTICITY, STIFF, DRY, GRAY, SILTY
68.6-72.6	CH	1'	CLAY- HIGH TO MODERATE PLASTICITY, STIFF, DRY, GREENISH GRAY, SILTY
72.6-78.6	CH	2'	CLAY- ~~HIGH~~ MODERATE PLASTICITY, STIFF, DRY, GRAY, SILTY
78.6-82.6	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: TV DIRT & LOAM			Boring No.: B-01
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 3 of 3
Surface Elevation:	Saturation Depth:	Total Depth:	Date Drilled: 9/18/03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON/CORE BARREL SAMPLER			Contractor/Crew: GEO PROJECTS INTL.
Comments:			Time Start: Finish:

Lithologic Interval	Symbol	% Recovery	Sample Description
82.6-87.6	CH	1'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY
87.6-92.6	CH	1'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-02
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 1 of 3
Surface Elevation:	Saturation Depth:	Total Depth: 90.6'BGL	Date Drilled: 09-02-03
Drilling Methods: HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: TSS/GPI
Comments:			Time Start: Finish:

Coordinates: N9168.80, E8085.04 Surface Elev: 422.8 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-15	SP	-	SAND- FINE GRAIN, COMPACT, DRY TO DAMP, LIGHT BROWN
			Contact Elevation: 407.8 Ft. MSL
15-19.5	SP	-	GRAVELLY SAND- FINE TO MEDIUM GRAIN SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
			Contact Elevation: 403.3 Ft. MSL
19.5-22	CH	-	CLAY- HIGH PLASTICITY, STIFF, DRY, GRAY
			SET SURFACE CASING TO 22' BGL
			CONTINUED DRILLING AND SAMPLING ON SEPTEMBER 10, 2003
22-22.7	CH	.7'	CLAY- HIGH PLASTICITY, FIRM, DAMP → DRY, GREENISH GRAY
22.7-26.6	CH	4'	CLAY- HIGH PLASTICITY, FIRM → STIFF, DAMP → DRY, GREENISH GRAY
26.6-31.6	CH	5'	CLAY- HIGH PLASTICITY, STIFF, DRY, GREENISH GRAY, MUD SMEAR ON THE OUTSIDE OF CORE
			RAIN- SHUT DOWN

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-02
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 90.6' BGL	Date Drilled 09-11-03
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON/ CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
31.6-36.6	CH	2.5'	CLAY - HIGH PLASTICITY, STIFF, DRY (MUD SMEAR ON THE OUTSIDE OF CORE) GREENISH GRAY, FOSSILS PRESENT
36.6-37.6	CH	3.5'	CLAY- HIGH PLASTICITY, STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
37.6-41.6	CH	4'	CLAY- HIGH PLASTICITY, STIFF, DRY, (MUD SMEAR ON OUTSIDE) GREENISH GRAY, FOSSILS PRESENT COLLECTED SAMPLES 39.5' @ 0935 CORE SAMPLE 40-41.5' (TWO PIECES) @ 0940
41.6-46.6	CH	5'	CLAY- HIGH PLASTICITY, STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
46.6-51.6	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF → STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
51.6-56.6	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
56.6-57.6	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No. B-02
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 3 of 3
Surface Elevation	Saturation Depth	Total Depth 90.6' BGL	Date Drilled 9-11-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON/CORE BARREL SAMPLER			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
57.6-61.6	CH	4'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
			COLLECTED CORE SAMPLE @ 59.5' @ 1140
61.6-66.6	CH	3.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
66.6-70.0	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
70-71.6	CH	1.5	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY, GRAY, FOSSILS PRESENT
71.6-76.6	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
76.6-81.6	CH	5'	CLAY- HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
			COLLECTED CORE SAMPLE @ 79.5' @ 1508
81.6-86.6	CH	5'	CLAY- HIGH PLASTICITY, STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
86.6-90.6	CH	4'	CLAY- HIGH PLASTICITY, STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-03
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 1 of 3
Surface Elevation:	Saturation Depth:	Total Depth: 92.6' BGL	Date Drilled: 09-03-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON/CORE BARREL SAMPLER			Contractor/Crew: TSS/GPI
Comments:			Time Start: Finish:

Coordinates: N8758.23, E8184.18 Surface Elev: 425.2 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-11	SP	-	SAND- FINE, COMPACT, DRY TO DAMP, LIGHT BROWN
			Contact Elevation: 414.2 Ft. MSL
11-21	GW	-	SANDY GRAVEL- FINE TO MEDIUM GRAINED SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
			Contact Elevation: 404.2 Ft. MSL
21-25	CH	-	CLAY- HIGH PLASTICITY, STIFF, DRY, GRAY
			SET SURFACE CASING TO 25' BGL
			CONTINUED DRILLING AND SAMPLING ON 9-05-03
25-27.1	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT, MUD SMEAR ON THE OUTSIDE OF CORE
27.1-32.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY - MOISTURE/MUD SMEAR ON THE OUTSIDE OF CORE
32.1-37.6	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DAMP TO DRY, DARK GRAY, FRIABLE, MUD SMEAR ON THE OUTSIDE OF BOREHOLE

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No. B-03
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 2 of 3
Surface Elevation:	Saturation Depth:	Total Depth: 92.6' BGL	Date Drilled: 09-05-03
Drilling Methods: HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: GEO PROJECTS, INT'L.
Comments:			Time Start: Finish:

Lithologic Interval	Symbol	% Recovery	Sample Description
37.6-42.6	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DAMP/DRY, DARK GRAY
42.6-47.6	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY
47.6-52.6	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY/FRIABLE, DARK GRAY
52.6-57.6	CH	1	CLAY- HIGH PLASTICITY, FIRM TO STIFF, DAMP → MOIST, DARK GRAY
57.6-62.6	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY TO DARK GRAY
62.6-67.6	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
67.6-72.6	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
72.6-77.6	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
77.6-82.6	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No. B-03
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 3 of 3
Surface Elevation	Saturation Depth	Total Depth 92.6' BGL	Date Drilled 09-05-03
Drilling Methods: HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
82.6-87.6	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
87.6-92.6	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
			TD @ 92.6' BGL

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: TV DIRT & LOAM			Boring No.: B-04
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 1 of 3
Surface Elevation	Saturation Depth	Total Depth: 76.5' BGL	Date Drilled: 08-28-03
Drilling Methods: HOLLOW STEM AUGER/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Coordinates: N9007.26, E8349.17 Surface Elev: 410.8 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-3	SP	-	SAND- FINE GRAINED, COMPACT, DRY TO DAMP, BROWN
			Contact Elevation: 407.8 Ft. MSL
3-6	GW	-	SANDY GRAVEL- FINE TO MEDIUM GRAINED SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
			Contact Elevation: 404.8 Ft. MSL
6-8	CH	-	CLAY- HIGH PLASTICITY, FIRM, DAMP, FRIABLE, GREENISH GRAY
			SET SURFACE CASING TO 8' BGL
8-12	CH	-	CLAY- HIGH PLASTICITY, FIRM, DAMP, FRIABLE, GREENISH GRAY
12-17	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
17-21.5	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY/CRUMBLY, DARK GREENISH GRAY, FOSSILS PRESENT
21.5-26.5	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GREENISH GRAY, FOSSILS PRESENT
26.5-31.5	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY/CRUMBLY, DARK GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-04
Project/Location 3600 FM 973, AUSTIN, TEXAS 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 76.5' BGL	Date Drilled 08-29-03
Drilling Methods HOLLOW STEM AUGER/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
31.5-36.5	CH	2'	CLAY - HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GREENISH GRAY
36.5-41.5	CH	2'	CLAY - HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GREENISH GRAY
41.5-46.5	CH	2'	CLAY - HIGH TO MODERATE PLASTICITY, STIFF, DRY/CRUMBLY, DARK GREENISH GRAY
46.5-51.5	CH	2'	CLAY - HIGH PLASTICITY, STIFF, DRY/CRUMBLY DARK GREENISH GRAY
			SHUT DOWN FOR THE DAY
			WATER LEVEL IN BOREHOLE - 28' BGL (9/2/03)
51.5-56.5	CH	2'	CLAY - HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GREENISH GRAY
56.5-61.5	CH	2'	CLAY - HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
61.5-66.5	CH	2'	CLAY - HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-04
Project/Location 3600 FM 973, AUSTIN, TEXAS 78725			Sheet 3 of 3
Surface Elevation	Saturation Depth	Total Depth 76.5' BGL	Date Drilled 09-02-03
Drilling Methods HOLLOW STEM AUGER / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
66.5-71.5	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
71.5-76.5	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY
			TD @ 76.5'

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: TV DIRT & LOAM			Boring No.: B-05
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 1 of 3
Surface Elevation:	Saturation Depth: —	Total Depth: 81.8' BGL	Date Drilled: 08-27-03
Drilling Methods: HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments:			Time Start / Finish:

TARGET DEPTH - 81' BGL
SAMPLES @ 31', 51', & 71'

Coordinates: N8801.95, E8714.04 Surface Elev: 416.5 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-9	SP	-	SAND - FINE, COMPACT, DRY TO DAMP, BROWN
			Contact Elevation: 407.5 Ft. MSL
9-11	GW	-	SANDY GRAVEL - FINE TO MEDIUM GRAINED SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
			Contact Elevation: 405.5 Ft. MSL
11-12.5	CH	-	CLAY - HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY
			SET SURFACE CASING TO 12' BGL
			RE-ENTERED BOREHOLE & CONTINUED DRILLING ON 09-04-03
12.5-16.8	CH	4'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY
16.8 - 21.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
21.8 - 26.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-05
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 81.8' BGL	Date Drilled 04-04-03
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
26.8-31.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
			COLLECTED CORE SAMPLES AT 31' @ 1230
31.8-36.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
36.8-41.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
41.8-45.8	CH	4'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
45.8-46.8	CH	1'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
46.8-51.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
			COLLECTED CORE SAMPLES @ 51' @ 1430
			B-5-51A & B-5-51B
51.8-56.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-05
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 3 of 3
Surface Elevation	Saturation Depth	Total Depth: 81.8' BGL	Date Drilled: 09-04-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: GEO PROBES INTL.
Comments			Time Start / Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
56.8-61.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
61.8-66.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
66.8-71.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY; 68.8 → 71.8 STUCK IN CORE BARREL - UNABLE TO RETRIEVE IN ONE PIECE, (70-71 INTACT)
71.8-76.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT COLLECTED CORE SAMPLES @72' @1700 B-5-72A & B-5-72B CONTINUED CORING ON 09-05-03 NO WATER IN BOREHOLE
76.8-81.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT TOTAL DEPTH - 81.8' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-06
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 1 of 3
Surface Elevation	Saturation Depth	Total Depth: 97.8' BGL	Date Drilled: 09-05-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: TSS / GPI
Comments			Time Start / Finish

Coordinates: N8407.00, E8738.12 Surface Elev: 433.1 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-20	SP	–	SAND- FINE, COMPACT, DRY TO DAMP, LIGHT BROWN
			Contact Elevation: 413.1 Ft. MSL
20-26	GW	–	SANDY GRAVEL- FINE TO MEDIUM GRAINED SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
			Contact Elevation: 407.1 Ft. MSL
26-30	CH	–	CLAY- HIGH PLASTICITY, STIFF, DRY, GRAY
			SET SURFACE CASING TO 30' BGL
			CONTINUED DRILLING AND SAMPLING ON 09-08-03
30.0-35.0	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DAMP ON OUTSIDE OF CORE / DRY ON THE INSIDE OF CORE, GRAY, FOSSILS PRESENT - WATER IN BOREHOLE UPON REENTRY
35.0-40.0	CH	2.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY
40.0-42.8	CH	1	CLAY- HIGH PLASTICITY, STIFF, DRY, GRAY
42.8-47.8	CH	1	CLAY- HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GRAY

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-06
Project/Location 3600 FM973 AUSTIN, TEXAS 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 97.8' BGL	Date Drilled 09-08-03
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
47.8-52.8	CH	1'	CLAY- HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GRAY, FOSSILS PRESENT
52.8-57.8	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY
57.8-62.8	CH	1	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
62.8-~~66.8~~ 67.8'	CH	1	CLAY- HIGH PLASTICITY, VERY STIFF, DRY/ CRUMBLY, GRAY, FOSSILS PRESENT
67.8-72.8	CH	1	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
72.8-77.8	CH	1	CLAY- HIGH PLASTICITY, VERY STIFF, DRY/CRUMBLY, FOSSILS PRESENT
77.8-82.8	CH	1	CLAY- HIGH PLASTICITY, VERY STIFF, DRY/CRUMBLY, FOSSIL PRESENT
82.8-87.8	CH	1	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY
87.8-92.8	CH	1	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY TRACE SILT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: TV DIRT & LOAM			Boring No.: B-06
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 3 of 3
Surface Elevation	Saturation Depth	Total Depth: 97.8' BGL	Date Drilled: 09-08-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
92.8-97.8	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, SILTY
			TOTAL DEPTH - 97.8' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-07
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 1 of 3
Surface Elevation	Saturation Depth	Total Depth	Date Drilled 09-03-03
Drilling Methods HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew TSS/GPI
Comments			Time Start Finish

Coordinates: N9806.93, E7883.23 Surface Elev: 430.9 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-21	SP	-	SAND - FINE GRAIN, COMPACT, DRY TO DAMP, LIGHT BROWN
			Contact Elevation: 409.9 Ft. MSL
21-26	GW	-	SANDY GRAVEL - FINE TO MEDIUM GRAINED SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
			Contact Elevation: 404.9 Ft. MSL
26-30	CH	-	CLAY - HIGH PLASTICITY, STIFF, DRY, GRAY
			SET SURFACE CASING TO 30' BGL
			CONTINUED DRILLING AND SAMPLING ON 9-15-03
30-31.5	CH	1.5'	CLAY - HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT
31.5-36.5	CH	5'	CLAY - HIGH PLASTICITY, STIFF, DRY, MOIST ON THE OUTSIDE OF CORE, SLICKENSIDE AT 33' - MOIST, DARK GRAY, FOSSILS PRESENT
36.5-41.5	CH	4'	CLAY - HIGH PLASTICITY, STIFF, DRY, MOIST ON THE OUTSIDE OF CORE, DARK GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-07
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth	Date Drilled 9-15-03
Drilling Methods HOLLOW-STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON/CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
41.5-47.5	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY FOSSILS PRESENT
47.5-53.5'	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
53.5-57.5'	CH	1'	CLAY- HIGH ~~PA~~ PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY, FOSSILS PRESENT
57.5-62.5	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY, FOSSILS PRESENT
62.5-67.5	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY, FOSSILS PRESENT
67.5-72.5	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY, FOSSILS PRESENT
72.5-77.5	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY, FOSSILS PRESENT
77.5-82.5	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-07
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 3 of 3
Surface Elevation -	Saturation Depth	Total Depth	Date Drilled 9-15-03
Drilling Methods HOLLOW-STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON/CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INT'L.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
82.5-87.5	CH	1'	CLAY - HIGH PLASTICITY, STIFF, DRY/CRUMBLY, GRAY
			Contact Elevation: 343.4 Ft. MSL
87.5-92.5	~~CH~~ CL	1'	SILTY CLAY - MODERATE TO LOW PLASTICITY, VERY STIFF, DRY, GREENISH GRAY
92.5-97.5	CL	1'	SILTY CLAY - LOW PLASTICITY, VERY STIFF, DRY, GREENISH GRAY

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-08
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 2 of 2
Surface Elevation	Saturation Depth	Total Depth	Date Drilled 9/17/03
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON/CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
48.0-53.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT
53.0-58.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT
58.0-63.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT
63.0-68.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT
68.0-73.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY
73.0-77.0	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY
77.0-82.0	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, SLIGHTLY SILTY
82.0-87.0	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, SLIGHTLY SILTY
			TOTAL DEPTH - 87' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-08
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 1 of 2
Surface Elevation	Saturation Depth	Total Depth	Date Drilled: 09-02-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: TSS/GPI
Comments			Time Start / Finish

Coordinates: N9652.22, E8155.02 Surface Elev: 420.0 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-16	SP	-	SAND- FINE GRAIN, COMPACT, DRY TO DAMP, LIGHT BROWN
Contact Elevation: 404.0 Ft. MSL			
16-17.5	GW	-	SANDY GRAVEL- FINE TO MEDIUM GRAINED SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
Contact Elevation: 402.5 Ft. MSL			
17.5-20	CH	-	CLAY- HIGH PLASTICITY, STIFF, DRY, GRAY
			SET SURFACE CASING TO 20' BGL
			CONTINUED DRILLING AND SAMPLING ON SEPTEMBER 16, 2003
20-21.5	CH	25'	CLAY- HIGH PLASTICITY, STIFF, DRY, GRAY TO DARK GRAY
21.5-25.5	CH	5'	CLAY- HIGH PLASTICITY, STIFF, DRY (WET ON THE OUTSIDE OF CORE), DARK GRAY
25.5-33.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY
33.0-38.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY
38.0-43.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY
43.0-48.0	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: TV DIRT & LOAM			Boring No.: B-09
Project/Location: 3600 FM973, AUSTIN, TEXAS 78725			Sheet: 1 of 3
Surface Elevation:	Saturation Depth:	Total Depth: 67.1' BGL	Date Drilled: 08-27-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL/SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments:			Time Start / Finish:

TARGET DEPTH 77'
27' 47' 67'

Coordinates: N9491.11, E8563.89 Surface Elev: 411.0 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-6	SP	-	SAND- FINE, LOOSE ⇒ COMPACT, DRY ⇒ DAMP
Contact Elevation: 405.0 Ft. MSL			BROWN
6-7	GW	-	GRAVEL/SANDY GRAVEL - WELL GRADED, FINE TO MEDIUM GRAINED, LOOSE ⇒ COMPACT,
Contact Elevation: 404.0 Ft. MSL			SATURATED
7-8	CH	-	CLAY - HIGH PLASTICITY, ~~SI~~ STIFF, DAMP, DARK GRAY
			SURFACE CASING SET TO 8' BGL
8-9	CH	-	CLAY- HIGH PLASTICITY, STIFF, DAMP, DARK GRAY
9-12.1	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY TO DAMP, GREENISH GRAY, FOSSILS PRESENT
12.1-17.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DAMP⇒ DRY, GREENISH GRAY, FOSSILS PRESENT
17.1-22.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
22.1-27.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: TV DIRT & LOAM			Boring No.: B-09
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 2 of 3
Surface Elevation	Saturation Depth	Total Depth: 67.1' BGL	Date Drilled: 09-02-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY CME		Drilling Rig	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
27.1-32.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
			COLLECTED SAMPLES @ 27'
			B-9-27A @ 1655
			B-9-27B @ 1655
			SHUT DOWN FOR THE DAY @ 1750
32.1-37.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DAMP TO DRY, GREENISH GRAY, FOSSILS PRESENT
37.1-42.1	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DAMP TO DRY, DARK GREENISH GRAY
42.1-47.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY
			COLLECTED CORE SAMPLES AT 46.5'
			B-9-46.5A @ 1310
			B-9-46.5B @ 1310
			PUSHED SHELBY TUBE TO 47.5'
47.1-52.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-09
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 3 of 3
Surface Elevation	Saturation Depth	Total Depth: 67.1' BGL	Date Drilled: 9-3-03
Drilling Methods: HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
52.1 – 57.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
57.1 – 62.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
			COLLECTED CORE SAMPLES @ 1540 B-9-66.5A B-9-66.5B
62.1 – 67.1	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
			SURFACE CASING FAILED – TD @ 67.1' BGL

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

SC – 10'
SCREEN – 15-25'

Client: JV DIRT & LOAM			Boring No.: B-09R
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 1 of
Surface Elevation	Saturation Depth	Total Depth	Date Drilled: 09-05-03
Drilling Methods: HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLITSPOON / CORE BARREL SAMPLER			Contractor/Crew: TSS / GPI
Comments			Time Start / Finish

Coordinates: N9448.50, E8550.49 Surface Elev: 411.5 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-7	GW	-	SANDY GRAVEL - FINE TO MEDIUM GRAINED, SAND COMPACT → LOOSE, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED AT BASE
			Contact Elevation: 404.5 Ft. MSL
7-10	CH	-	CLAY - HIGH PLASTICITY, STIFF, DAMP, DARK GRAY
			SURFACE CASING SET TO @ 10' BGL
			CONTINUED SAMPLING AND DRILLING ON 9/23/03
10-40	CH	-	CLAY - HIGH PLASTICITY, VERY STIFF, DAMP TO DRY, GREENISH GRAY

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-10
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 1 of 2
Surface Elevation:	Saturation Depth:	Total Depth: 91' BGL	Date Drilled: 08-26-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INT'L.
Comments:			Time Start: Finish:

Coordinates: N9745.11, E8879.53 Surface Elev: 423.5 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-17	SP	-	SAND - FINE GRAIN, LOOSE, BROWN, DRY
			Contact Elevation: 406.5 Ft. MSL
17-21	GW	-	SANDY GRAVEL - WELL ~~POORLY~~ GRADED, SAND AND GRAVEL, MEDIUM GRAINED SAND, GRAVEL - PEBBLE TO COBBLE SIZED, SATURATED
			Contact Elevation: 402.5 Ft. MSL
21-23	CH	-	CLAY - HIGH PLASTICITY, VERY STIFF, DAMP, DARK GRAY
			SET SURFACE CASING TO 22' BGL
23-26.5	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
26.5-31.5	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT MUD SMEAR ON THE OUTSIDE OF CORE
31.5-41	CH	1'	CLAY - HIGH TO MODERATE PLASTICITY, FIRM TO STIFF, DRY / FRIABLE, DARK GREENISH GRAY, TRACE SILT
			Contact Elevation: 382.5 Ft. MSL
41-51	CH	1'	SILTY CLAY - MODERATE PLASTICITY, FIRM, DRY / FRIABLE, DARK GREENISH GRAY

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-10
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 2 of 2
Surface Elevation:	Saturation Depth:	Total Depth: 91' BGL	Date Drilled: 08-28-03
Drilling Methods: HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments:			Time Start: Finish:

Lithologic Interval	Symbol	% Recovery	Sample Description
51-61	CH	1'	SILTY CLAY- MODERATE PLASTICITY, FIRM, DRY/ FRIABLE, DARK GREENISH GRAY
			Contact Elevation: 362.5 Ft. MSL
61-71	CH	1'	CLAY- HIGH PLASTICITY, FIRM TO STIFF, DRY, DARK GREENISH GRAY
			Contact Elevation: 352.5 Ft. MSL
71-81	CH	1'	SILTY CLAY- HIGH TO MODERATE PLASTICITY, FIRM, DAMP TO DRY, DARK GREENISH GRAY
			Contact Elevation: 342.5 Ft. MSL
81-91	CH	1'	CLAY- MODERATE PLASTICITY, VERY STIFF, DRY TO DAMP, DARK GRAY
			TD @ 91' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-11
Project/Location: 3600 FM 973 AUSTIN, TX 78725			Sheet: 1 of 3
Surface Elevation	Saturation Depth	Total Depth: 101' BGL	Date Drilled: 08-13-03
Drilling Methods: HOLLOW-STEM/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Coordinates: N9165.69, E9177.32 Surface Elev: 436.2 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-17	SP	-	SAND- VERY FINE TO FINE GRAIN, COMPACT, DRY TO DAMP, REDDISH BROWN
			Contact Elevation: 419.2 Ft. MSL
17-31	GW/GP	-	SANDY GRAVEL / GRAVEL- MOIST TO SATURATED AT BASE
			Contact Elevation: 405.2 Ft. MSL
31-33	CH	1'	CLAY- HIGH TO MODERATE PLASTICITY, FIRM, DRY → FRIABLE, GREENISH GRAY
			SET SURFACE CASING TO 33' BGL
33-37	CH	2'	CLAY- HIGH PLASTICITY, STIFF, DAMP TO DRY, GREENISH GRAY
37-42	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DAMP TO DRY, GREENISH GRAY, FOSSILS PRESENT
42-47	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
47-48	CH	4'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
48-52	CH	4'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-11
Project/Location 3600 FM 973 AUSTIN, TX 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 101' BGL	Date Drilled 08-A-03
Drilling Methods HOLLOW STEM AUGER / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
52-57	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
57-62	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
62-67	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
67-72	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
72-77	CH	5'	CLAY- HIGH PLASTICTY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
77-82	CH	5"	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY GREENISH GRAY, FOSSILS PRESENT
82-87	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
87-92	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
92-96	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-11
Project/Location: 3600 FM 973 AUSTIN, TX 78725			Sheet: 3 of 3
Surface Elevation	Saturation Depth	Total Depth: 101' BGL	Date Drilled: 8-20-03
Drilling Methods: HOLLOW STEM AUGER/AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL/SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
96-101	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF -> STIFF, DAMP => DRY, GREENISH GRAY
			TD@101' BGL

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-12
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 1 of 3
Surface Elevation:	Saturation Depth:	Total Depth: 101.7' BGL	Date Drilled: 08-13-03
Drilling Methods: HOLLOW STEM AUGER / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments:			Time Start: Finish:

TARGET DEPTH - 98'
SAMPLES OF CORE
48', 68', 88'

Coordinates: N9289.43, E9454.93 Surface Elev: 433.0 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-28	SP→SW	-	SAND - FINE GRAINED, COMPACT → LOOSE, DRY TO DAMP, REDDISH BROWN, MOIST TO SATURATED AT BASE, GRAVELLY
			Contact Elevation: 405.0 Ft. MSL
28-30	CH	-	CLAY - MODERATE PLASTICITY, FIRM TO SOFT, DRY, FRIABLE, GREENISH GRAY
			SET SURFACE CASING TO 30' BGL
30-31.7	CH	0.5	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY
31.7-36.7	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
36.7-41.7	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT, MOIST TO SATURATED MUD SMEAR ON CORE
41.7-46.7	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT, SAT. MUD SMEAR ON CORE

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-12
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 101.7' BGL	Date Drilled 08-20-03
Drilling Methods HOLLOW STEM AUGER/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL/SPLIT SPOON			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
46.7-51.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT CORE SAMPLE - @48'@1758
51.7-56.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
56.7-61.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
61.7-66.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
66.7-69.7	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF->STIFF, GREENISH GRAY, FOSSILS PRESENT CORE SAMPLE @68'@1020
69.7-71.7	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY GREENISH GRAY, FOSSILS PRESENT
71.7-76.7	CH	5'	CLAY- HIGH PLASTICITY, DRY, VERY VERY STIFF, GREENISH GRAY, FOSSILS PRESENT
76.7-81.7	CH	5'	CLAY- HIGH PLASTICITY, DRY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-12
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 3 of 3
Surface Elevation	Saturation Depth	Total Depth 101.7' BGL	Date Drilled 08-21-03
Drilling Methods HOLLOW STEM AUGER/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
81.7-86.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY
86.7-91.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY CORE SAMPLE @ 88' @ 1525
91.7-96.7	CH	5'	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY, GREENISH GRAY
96.7-101.7	CH	5'	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY, GREENISH GRAY
			TD @ 101.7 FEET BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-13
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 1 of 3
Surface Elevation . .	Saturation Depth	Total Depth 102.1' BGL	Date Drilled 09-04-03
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew TSS/GPI
Comments			Time Start Finish

Coordinates: N10751.80, E8425.16 Surface Elev: 433.8 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-25'	SP	-	SAND- FINE GRAIN, COMPACT, DRY TO DAMP, LIGHT BROWN
			Contact Elevation: 408.8 Ft. MSL
25-31	GW	-	SANDY GRAVEL- FINE TO MEDIUM GRAIN SAND, PEBBLE TO COBBLE SIZED GRAVEL, SATURATED
			Contact Elevation: 402.8 Ft. MSL
31-35	CH	-	CLAY- HIGH PLASTICITY, STIFF, DRY, GRAY
			SET SURFACE CASING TO 35' BGL
			CONTINUED DRILLING AND SAMPLING ON SEPTEMBER 18, 2003
35-36.6	CH	1.5'	CLAY- HIGH PLASTICITY, STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
36.6-41.6	CH	5'	CLAY- HIGH PLASTICITY, STIFF, DAMP, GREENISH GRAY, FOSSILS PRESENT (MUD SMEAR ON THE OUTSIDE OF THE CORE)
41.6-46.1	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT
46.1-47.1	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT
47.1-52.1			

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-13
Project/Location 3600 FM 973 AUSTIN TEXAS 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 102.1' BGL	Date Drilled 9/18/03
Drilling Methods HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
52.1-57.1	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY, DARK GRAY, FOSSILS PRESENT
57.1-62.1	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY
62.1-67.1	CH	1'	CLAY- HIGH PLASTICITY, STIFF, DRY/CRUMBLY, DARK GRAY, FOSSILS PRESENT
67.1-72.1	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY/ CRUMBLY, DARK GRAY, FOSSILS PRESENT
72.1-77.1	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY/ CRUMBLY, DARK GRAY, FOSSILS PRESENT
77.1-82.1	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY/ CRUMBLY, DARK GRAY, FOSSILS PRESENT
82.1-87.1	CH	1'	CLAY- HIGH PLASTICITY, VERY ~~SI~~STIFF, DRY/ CRUMBLY, DARK GRAY
87.1-92.1	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GRAY

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-13
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet: 3 of 3
Surface Elevation:	Saturation Depth:	Total Depth: 102.1' BGL	Date Drilled: 9/19/03
Drilling Methods: HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig: - CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: GED PROJECTS INTL.
Comments:			Time Start: Finish:

Lithologic Interval	Symbol	% Recovery	Sample Description
92.1-97.1	CH	1'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY / CRUMBLY, DARK GRAY
97.1-102.1	CH	1'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY / CRUMBLY, DARK GRAY
			TOTAL DEPTH - 102.1 FEET BGL

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JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: UV DIRT & LOAM			Boring No.: B-14
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 1 of 2
Surface Elevation:	Saturation Depth:	Total Depth: 106.7' BGL	Date Drilled: 9/16/03
Drilling Methods: HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: SPLIT SPOON / CORE BARREL SAMPLER			Contractor/Crew: GEO PROJECTS INTL.
Comments:			Time Start: Finish:

Lithologic Interval	Symbol	% Recovery	Sample Description
			SAMPLES @ 54', 74' & 94'
			Coordinates: N10314.30, E8643.25 Surface Elev: 436.2 Ft MSL
0-34			FILL
			Contact Elevation: 402.2 Ft. MSL
34-35.5	CH	1.5'	CLAY - HIGH PLASTICITY, STIFF, DRY, DARK GREENISH GRAY
			INSTALLED 4" PVC SURFACE CASING TO 36' BGL
			CONTINUED CORING ON SEPTEMBER 19, 2003
35.5-41.7	CH	2'	CLAY-HIGH PLASTICITY, FIRM, DRY, DARK GRAY
41.7-46.7	CH	5'	CLAY-HIGH PLASTICITY, FIRM, DAMP (MUD SMEAR ON THE OUTSIDE OF CORE) DARK GRAY
46.7-51.7	CH	2.5'	CLAY-HIGH PLASTICITY, FIRM, DRY (MUD SMEAR ON THE OUTSIDE OF CORE) DARK GRAY
51.7-56.7	-	-	NO RECOVERY - SAMPLER PLUGGED
56.7-61.7	CH	5'	CLAY-HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT SAMPLE COLLECTED @ 1037 @ 57.5'

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-14
Project/Location 3600 FM 973 AUSTIN, TEXAS 78725			Sheet 2 of 2
Surface Elevation	Saturation Depth	Total Depth 106.7' BGL	Date Drilled 9/22/03
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method SPLIT SPOON/CORE BARREL SAMPLER			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
61.7-66.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
66.7-71.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
71.7-76.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT, COLLECTED SAMPLE @ 74' @ 1325
76.7-81.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
81.7-86.7	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
86.7-91.7	CH	5'	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY, LIGHT GRAY, FOSSILS PRESENT
91.7-96.7	CH	5'	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY, LIGHT GRAY, FOSSILS PRESENT COLLECTED SAMPLE @ 94' @ 1638
96.7-101.7	CH	5'	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY, LIGHT GRAY, FOSSILS PRESENT
101.7-106.7	CH	5'	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY, LIGHT GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-15
Project/Location 3600 FM 973 AUSTIN, TX 78725			Sheet 1 of 3
Surface Elevation	Saturation Depth	Total Depth 101' BGL	Date Drilled 8-12-03
Drilling Methods HOLLOW STEM AUGER / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GED PROJECTS INTL.
Comments			Time Start Finish

Coordinates: N10279.94, E9109.23 Surface Elev: 435.5 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-23	SC	–	CLAYEY SAND – VERY FINE, COMPACT, DAMP BROWN GRADING TO REDDISH BROWN BECOMING MORE SANDY WITH DEPTH
			Contact Elevation: 412.5 Ft. MSL
23-30	GW		SANDY GRAVEL / GRAVEL
			Contact Elevation: 405.5 Ft. MSL
30-33	CH	1'	CLAY- HIGH TO MODERATE PLASTICITY, FIRM, DRY → FRIABLE, GREENISH GRAY, FOSSILS PRESENT
			SET SURFACE CASING TO 32' BGL
33-34	CH	–	CLAY- NO RECOVERY TEFLON PLUG IN B CORE BARREL
34-36.5	CH	.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DAMP TO DRY, GREENISH GRAY
36.5-41.5	CH	2.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DAMP TO DRY, GREENISH GRAY – MOISTURE SMEAR ON THE OUTSIDE OF CORE, WATER @ 33'
41.5-45.5	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT, CALCITE / GYPSUM PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-15
Project/Location 3600 FM 973 AUSTIN, TX 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 101' BGL	Date Drilled AUGUST 14, 2003
Drilling Methods HOLLOW STEM AUGERS / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
45.5-51.5'	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DAMP TO VERY DRY, GREENISH GRAY, FOSSILS PRESENT
51.5-56.5	CH	.5	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY
56.5-61	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
61-66.9	CH	4.5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, ABUNDANT FOSSILS
66.9-72	CH	4'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY
72-77	CH	.5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, TRACE SILT
77-80	CH	3'	CLAY - HIGH PLASTICITY, VERY VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
80-82	CH	2'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-15
Project/Location 3600 FM 973 AUSTIN, TX 78725			Sheet 3 of 3
Surface Elevation	Saturation Depth	Total Depth 101' BGL	Date Drilled AUGUST 15, 2003
Drilling Methods HOLLOW STEM AUGERS/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
82-87	CH	~~25~~	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
87-92	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
92-97	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
97-101	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY
			TD - 101' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: TV DIRT & LOAM			Boring No.: B-16
Project/Location: 3600 FM 973 AUSTIN, TX 78725			Sheet: 1 of 3
Surface Elevation:	Saturation Depth:	Total Depth: 111.9' BGL	Date Drilled: 8-4-03
Drilling Methods: HOLLOW STEM AUGERS		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLT SPOON			Contractor/Crew: GEO PROJECTS
Comments:			Time Start: 1130 Finish:

Coordinates: N9820.96, E9134.30 Surface Elev: 435.5 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-32		-	SAND & GRAVEL - WATER AT BASE, REDDISH BROWN SAND
Contact Elevation: 403.5 Ft. MSL			
32-	CH		CLAY - HIGH, V. STIFF, DRY, DARK GRAY - DARK GREENISH GRAY
34-35	CH	100	CLAY - STA, TRACE CALCAREOUS NODULES
			SET 4" PVC SURFACE CASING TO 34'
35-36.9	CH	-	CLAY - STA - NO RECOVERY, PLASTIC PLUG IN SAMPLER
			← EXCEPT MOIST AT TOP GRADING TO DRY
36.9-41.9	CH	3'	CLAY - STA, ~~FOSSI~~ FOSSILS PRESENT - WATER IN BOREHOLE UPON RE-ENTRY
41.9-46.9	CH	3'	CLAY - V. STIFF, HIGH PLASTICITY, GREENISH GRAY, DRY FOSSILS
46.9-51.9	CH	-	CLAY - ~~SAM~~ NO RECOVERY
51.9-52.9	CH	2'	CLAY - MOD → HIGH PLASTICITY, STIFF, DRY/CRUMBLY, TO FIRM GRAY, SILT CONTENT INCREASED (INTERBEDDED)
52.9-56.9	CH	4	CLAY - HIGH PLASTICITY, V. STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-16
Project/Location 3600 FM 973, AUSTIN, TX 78725			Sheet 2 of 2
Surface Elevation	Saturation Depth	Total Depth 111.9' BGL	Date Drilled 8-5-03
Drilling Methods HOLLOW STEM / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GEO PROJECTS
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
56.9-61.9	CL	—	CLAY- NO RECOVERY
			Contact Elevation: 373.6 Ft. MSL
61.9-62.9	CL	1'	SILTY CLAY- LOW TO MODERATE PLASTICITY, FIRM, DRY/CRUMBLY, GRAY, LAMINATED
			Contact Elevation: 372.6 Ft. MSL
62.9-66.9	CH	4'	CLAY - MODERATE TO HIGH PLASTICITY, TRACE SILT DECREASING WITH DEPTH, STIFF TO VERY STIFF, DRY, GRAY, FOSSILS PRESENT
66.9-69.9	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF TO FIRM, DRY, GRAY, FOSSILS PRESENT
69.9-71.9	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT BECOMES INTERBEDDED WITH LIGHT GRAY SILT LENSES
71.9-73.9	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF TO STIFF, DRY/CRUMBLY, GREENISH GRAY TO GRAY, BECOMES SILTY WITH DEPTH
73.9-76.9	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
76.9-81.9	CH	5'	CLAY-STA
81.9-86.9	CH	5'	CLAY-STA

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-16
Project/Location 3600 FM 973, AUSTIN, TX 78725			Sheet 3 of 3
Surface Elevation	Saturation Depth	Total Depth 111.9' BGL	Date Drilled 8-6-03
Drilling Methods HOLLOW STEM / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GEO PROTECTS
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
86.9-91.9	CH	3.5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
91.9-96.9	CH	5'	CLAY - STA
96.9-101.9	CH	5'	CLAY - STA
101.9-106.9	CH	4'	CLAY - STA
106.9-111.9	CH	2'	CLAY - STA
			TD @ 111.9' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-17
Project/Location: 3600 FM 973 AUSTIN, TX 78725			Sheet: 1 of 3
Surface Elevation	Saturation Depth	Total Depth: 110' BGL	Date Drilled: 8-5-03
Drilling Methods: HOLLOW STEM / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Coordinates: N9838.44, E9496.98 Surface Elev: 434.8 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-26'	GP		SAND AND GRAVEL - REDDISH BROWN SAND
			Contact Elevation: 408.8 Ft. MSL
26-31.5	GW		GRAVEL
			Contact Elevation: 403.3 Ft. MSL
31.5-34	CH		CLAY - HIGH PLASTICITY, V. STIFF, DARK GRAY TO DARK GREENISH GRAY - SAMPLED 34-35'
			SET SURFACE CASING TO 34' BGL
34-36.9'	CH	—	CLAY - NO RECOVERY, BOREHOLE PLUGGED
36.9-41.9	CH	2'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY
41.9-46.9	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY - MOIST TO V. MOIST SEDIMENTS ON OUTSIDE OF CORE - SMEARING
46.9-51.9	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
51.9-56.9	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
56.9-61.9	CH	3.5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-17
Project/Location 3600 FM 973 AUSTIN, TX 78725			Sheet 2 of 3
Surface Elevation	Saturation Depth	Total Depth 110' BGL	Date Drilled 08-11-03
Drilling Methods HOLLOW STEM/AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL/SPLIT SPOON			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
61.9-66.9	CH	1'	CLAY - HIGH PLASTICITY, STIFF TO SOFT, DAMP→DRY, GREENISH GRAY
			END OF DAY - 1720
66.9-71.9	CH	3.5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
71.9-76.9'	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
76.9-81.9'	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
81.9-84.9	CH	3'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY,
			Contact Elevation: 349.9 Ft. MSL
84.9-86.9	CL	1'	SILTY CLAY - LOW PLASTICITY, FIRM TO SOFT, DAMP TO DRY, DARK GRAY
			Contact Elevation: 347.9 Ft. MSL
86.9-91.9	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
			Contact Elevation: 342.9 Ft. MSL
91.9-93.9	CH/CL	2'	CLAY/SILTY CLAY - HIGH TO MODERATE PLASTICITY, VERY STIFF TO FIRM, DARK GRAY, DRY TO DAMP

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-17
Project/Location: 3600 FM 973 AUSTIN, TX 78725			Sheet: 3 of 3
Surface Elevation:	Saturation Depth:	Total Depth: 110' BGL	Date Drilled: 08-11-03
Drilling Methods: HOLLOW STEM / AIR ROTARY		Drilling Rig: CME	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INC.
Comments:			Time Start: Finish:

Lithologic Interval	Symbol	% Recovery	Sample Description
			Contact Elevation: 340.9 Ft. MSL
93.9-96.9	CH/C	0	CLAY - NO RECOVERY
96.9-98	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DARK GRAY DRY
98-101.7	CH	4'	CLAY-HIGH PLASTICITY, VERY STIFF, DARK GREENISH GRAY, DRY
101.7-1033	CH	2'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY DARK GREENISH GRAY
1033-104.3	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY
104.3-106.7	CH	1.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DARK GRAY, FOSSILS PRESENT, DRY
106.7-110'	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, DARK GREENISH GRAY, FOSSILS PRESENT
			TOTAL DEPTH- 110' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client JV DIRT & LOAM			Boring No. B-18
Project/Location 3600 FM 973, AUSTIN, TX 78725			Sheet 1 of 3
Surface Elevation	Saturation Depth	Total Depth 102.8' BGL	Date Drilled 8-7-03
Drilling Methods HOLLOW STEM / AIR ROTARY		Drilling Rig CME	Logged By TRACY PAYNE
Sample Method CORE BARREL / SPLIT SPOON			Contractor/Crew GEO PROJECTS INTL.
Comments			Time Start Finish

TARGET DEPTH - 101'
SAMPLES OF CORE
51'-71'-91'

Coordinates: N10006.56, E9891.77 Surface Elev: 434.0 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-24	CL/SC	-	SANDY CLAY / CLAYEY SAND - FINE, COMPACT, DAMP, ORANGISH BROWN
			Contact Elevation: 410.0 Ft. MSL
24-31	SP/GP	-	SAND - FINE, COMPACT → LOOSE, ORANGISH BROWN, MOIST @ 24', BECOMES GRAVELLY
			Contact Elevation: 403.0 Ft. MSL
31-32	CH	-	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, LIGHT GREENISH GRAY
			SET SURFACE CASING TO 32' BGL
32-34.6	CH	1'	CLAY - HIGH PLASTICITY, STIFF TO FIRM, DRY TO DAMP, LIGHT GREENISH GRAY
34.6-36.9	CH	1.5'	CLAY - HIGH PLASTICITY, SOFT, DAMP, GREENISH GRAY (GRAVEL / PIC MIXED WITH CORE)
36.9-39.8	CH	3'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, LIGHT GREENISH GRAY
39.8-41.8	CH	2'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, LIGHT GREENISH GRAY, FOSSILS PRESENT
41.8-46.8	CH	5'	CLAY - HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No.: B-18
Project/Location: 3600 FM 973 AUSTIN, TEXAS 78725			Sheet: 2 of 3
Surface Elevation	Saturation Depth	Total Depth: 102.8' BGL	Date Drilled: 08-22-03
Drilling Methods: HOLLOW STEM / AIR ROTARY		Drilling Rig	Logged By: TRACY PAYNE
Sample Method: CORE BARREL / SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start / Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
46.8-51.8	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT CORE SAMPLES @ 51' @ 1150 B-18A & B-18B
51.8-56.8	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
56.8-60.3			
~~56.8-60.3~~	CH	3.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
60.3-63.3	CH	2.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
63.3-66.8	CH	1'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY GREENISH GRAY, FOSSILS PRESENT
66.8-71.8	CH	5'	CLAY- HIGH PLASTICITY, VERY VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT CORE SAMPLES @ 1455 @ 71' B-18A & B-18B
71.8-76.8	CH	5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: JV DIRT & LOAM			Boring No. B-18
Project/Location: 3600 FM 973, AUSTIN, TEXAS 78725			Sheet 3 of 3
Surface Elevation	Saturation Depth	Total Depth 102.8' BGL	Date Drilled 08-25-03
Drilling Methods: HOLLOW-STEM AUGERS/AIR		Drilling Rig: ROTARY	Logged By: TRACY PAYNE
Sample Method: CORE BARREL SPLIT SPOON			Contractor/Crew: GEO PROJECTS INTL.
Comments			Time Start Finish

Lithologic Interval	Symbol	% Recovery	Sample Description
76.8-81.8	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
81.8-85.8	CH	4'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY, FOSSILS PRESENT
			Contact Elevation: 348.2 Ft. MSL
85.8-90.8	CH	1'	SILTY CLAY- HIGH PLASTICITY, STIFF TO FIRM, DAMP TO DRY, GRAY
			Contact Elevation: 343.2 Ft. MSL
90.8-95.8	CH	4.5'	CLAY- HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
95.8-98.8	CH	3'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY, FOSSILS PRESENT
98.8-102.8	CH	0.5'	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GREENISH GRAY
			TD @ 102.8' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: J-V Dirt & Loam			Well No. MW-1
Project/Location: 3600 FM 973 North, Austin, Texas 78725			Sheet 1 of 1
Surface Elevation	Saturation Depth	Total Depth 73'BGL	Date Drilled 12-2-03
Drilling Methods HOLLOW STEM AUGERS / ↑ SOLID STEM AUGERS		Drilling Rig MOBIL DRILL	Logged By TRACY PAYNE - JDC
Sample Method —			Contractor/Crew TOTAL SUPPORT SERVICES, INC.
Comments 10.25" ID / 13" OD AUGERS			Time Start 0810 Finish 1425 0810 0945 12-4-03

Coordinates: N9818.33, E7888.62 Surface Elev: 430.8 Ft MSL

Lithologic Interval	Symbol	% Recovery	Sample Description
0-21	CL	-	CLAY LOAM / SAND
			Contact Elevation: 409.8 Ft. MSL
21-28	GW	-	GRAVEL / SANDY GRAVEL
			Contact Elevation: 402.8 Ft. MSL
28-40	CH	-	CLAY - HIGH PLASTICITY, STIFF, DRY, GRAY
			INSTALLED 8" PVC SURFACE CASING TO 40'BGL
40-73	CH	-	CLAY - HIGH PLASTICITY, STIFF, DAMP, GRAY
			TD - 73'BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Client: J-V Dirt & Loam			Well No. MW-2
Project/Location: 3600 FM 973 North, Austin, Texas 78725			Sheet 1 of 1
Surface Elevation	Saturation Depth: —	Total Depth: 67'BGL	Date Drilled: 12-2-03
Drilling Methods: HOLLOW STEM AUGERS / SOLID STEM AUGERS		Drilling Rig: MOBIL DRILL	Logged By: TRACY PAYNE - JDC
Sample Method: —			Contractor/Crew: TOTAL SUPPORT SERVICES, INC.
Comments: 10.25" ID / 13" OD AUGERS			Time Start: 1515 Finish: 1600
			0756 1400 12-3-03
			1010 1145 12-4-03

Lithologic Interval	Symbol	% Recovery	Sample Description
			Coordinates: N8750.74, E8198.79 Surface Elev: 424.8 Ft MSL
0-11	SP	–	SAND-
			Contact Elevation: 413.8 Ft. MSL
11-21	GW	–	SANDY GRAVEL-
			Contact Elevation: 403.8 Ft. MSL
21-34	CH	–	CLAY- HIGH PLASTICITY, VERY STIFF, DRY, GRAY
			INSTALLED 8" PVC SURFACE CASING TO 34'BGL
34-67	CH	–	CLAY- HIGH PLASTICITY, STIFF, DAMP, GRAY
			TD-67' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

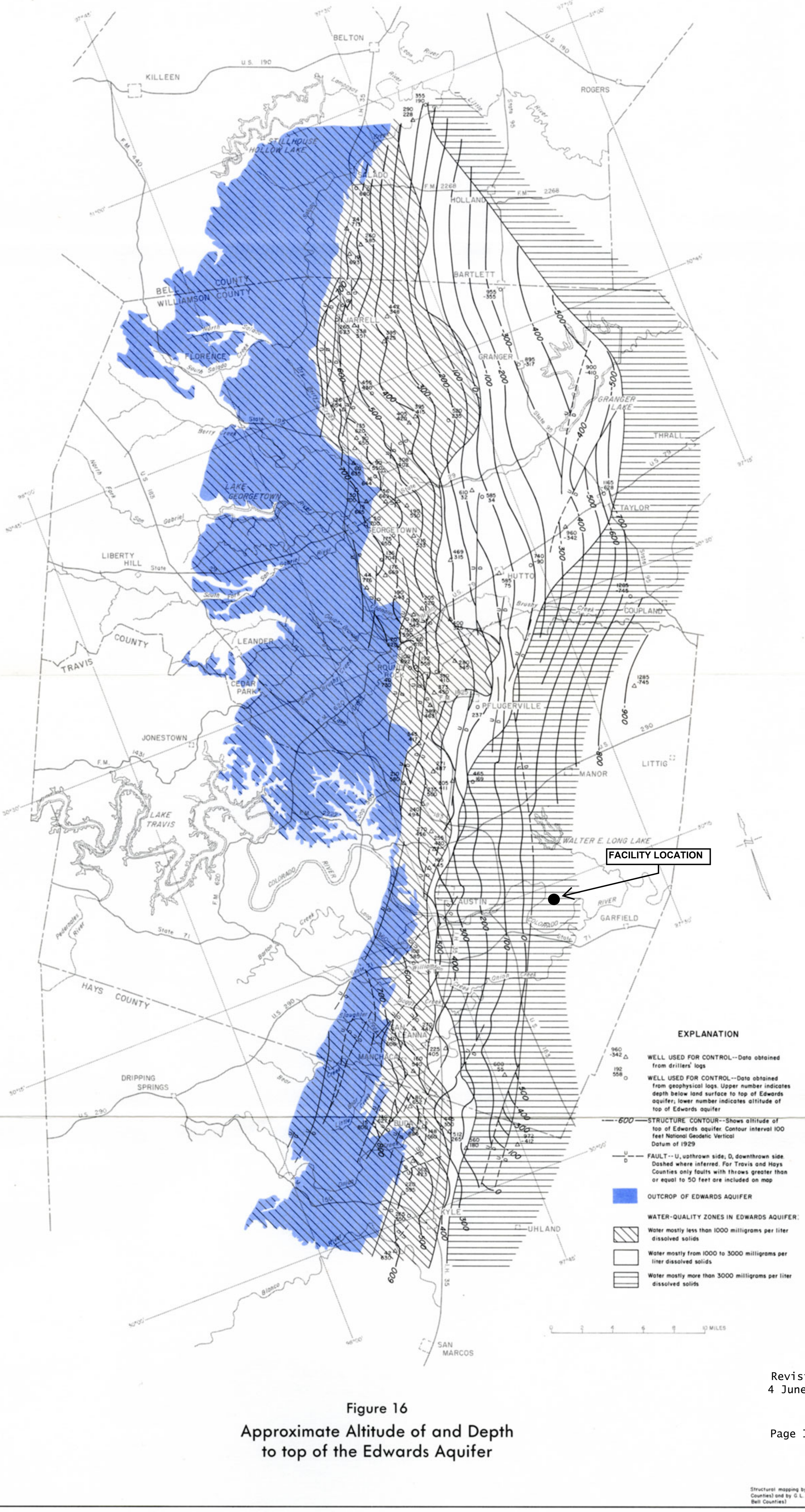
Client: J-V Dirt & Loam			Well No.: MW-3
Project/Location: 3600 FM 973 North, Austin, Texas 78725			Sheet: 1 of 1
Surface Elevation	Saturation Depth: 68 BGL	Total Depth: 73' BGL	Date Drilled: 12-1-03 / 12-4-03
Drilling Methods: HOLLOW STEM AUGER / SOLID STEM AUGER		Drilling Rig: MOBILE DRILL	Logged By: TRACY PAYNE - JDC
Sample Method: —			Contractor/Crew: TOTAL SUPPORT SERVICES, INC.
Comments: 10¼" ID / 13" OD HOLLOW STEM AUGERS			Time Start: 0915 Finish: 1640
			1400 1630 12-3-03

Lithologic Interval	Symbol	% Recovery	Sample Description
			Coordinates: N9303.65, E9462.90 Surface Elev: 433.0 Ft MSL
0-17	CL	—	CLAY LOAM
			Contact Elevation: 416.0 Ft. MSL
17-27	SP-SW	—	SAND / GRAVEL
			Contact Elevation: 406.0 Ft. MSL
27-40	CH	—	CLAY - HIGH PLASTICITY, VERY STIFF, DAMP, GREENISH GRAY
			INSTALLED 8" PVC SURFACE CASING TO 40' BGL
40-73	CH	—	CLAY - HIGH PLASTICITY, STIFF, GRAY, MOIST CLAY OBSERVED ON AUGERS FROM 40 → 58' BGL, WATER ON AUGERS FROM 68 → 73' BGL
			TD @ 73' BGL

JDC
JD Consulting, L.P.
321 Texan Trail - Suite 203
Corpus Christi, Texas 78411
361-855-7335
fax - 361-855-7410

Appendix I.9

Figure 16. Approximate Altitude of and Depth to top of the Edwards Aquifer
Texas Water Development Board Report 293



Revision 2
4 June 2025

Figure 16

Approximate Altitude of and Depth to top of the Edwards Aquifer

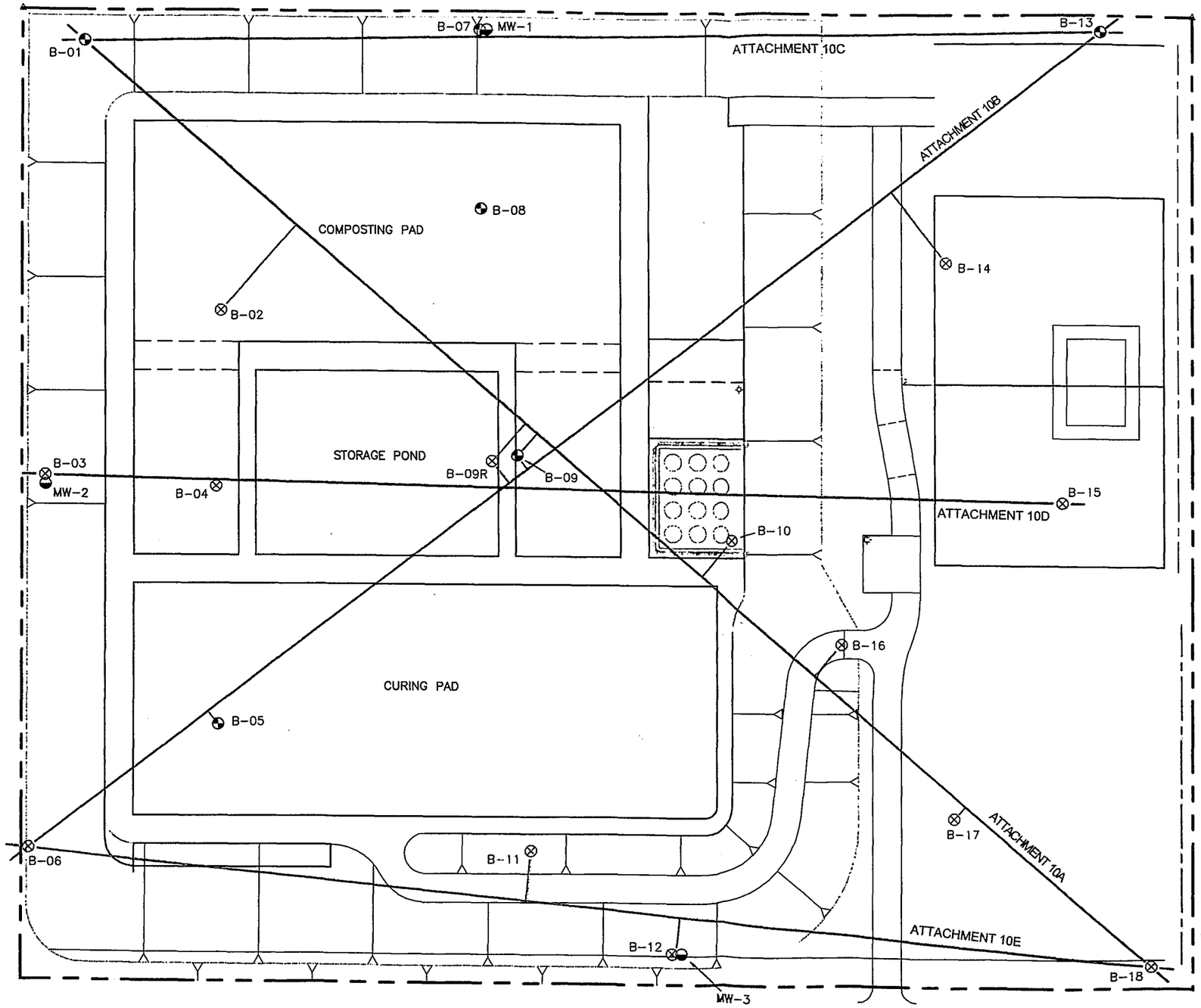
Structural mapping by L. M. Ruiz (Travis and Hays Counties) and by G. L. Duffin (Williamson and Bell Counties)

Appendix I.10
Site-Specific Cross-Sections

Attachment 10

Site-Specific Cross-Sections

This is a historical document that was originally included in the Geologic and Hydrogeologic Report (as revised through April 22, 2013) as Attachment 10. However, it is being submitted as Appendix 10 in this revision, in lieu of Attachment 10, per TCEQ request. Historical references to Attachment 10 remain as in the original document.



Map Source: RAYMOND CHAN & ASSOCIATES, INC., Austin, TX., Cad File: Attachment-7, Jan. 2004.

N

0 200

SCALE IN FEET

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

Mark S Katterjohn 2/10/04

LEGEND

B-13 ⊕ BORING LOCATION AND IDENTIFICATION NUMBER

B-15 ⊗ PIEZOMETER AND BORING LOCATION AND IDENTIFICATION NUMBER

MW-1 ◒ MONITORING WELL LOCATION AND IDENTIFICATION NUMBER

ATTACHMENT 10A — LINE OF CROSS SECTION AND ATTACHMENT NUMBER

⊗ PROJECTION INTO LINE OF CROSS SECTION

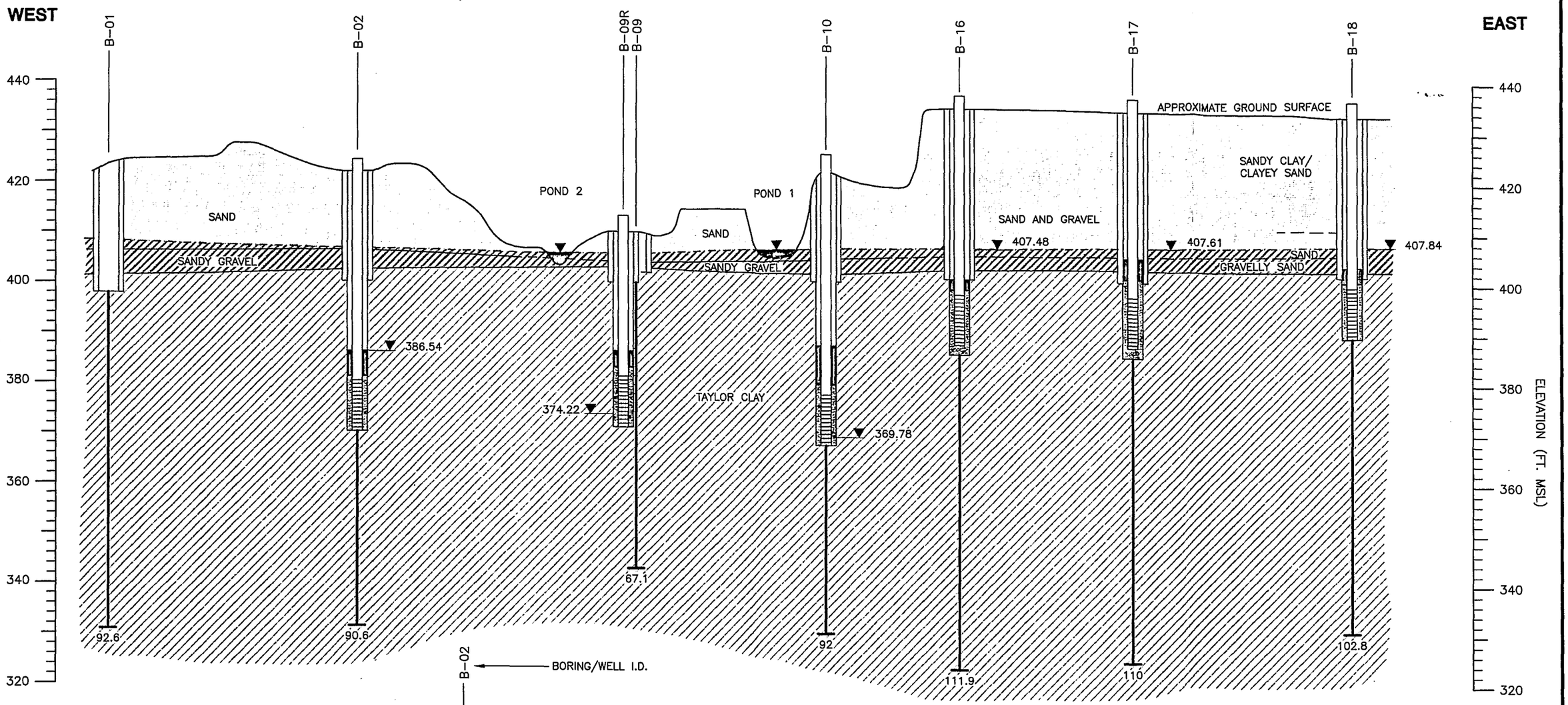
NOTE:
LOCATIONS ARE REPRESENTATIONS OF SURVEYED LOCATIONS THAT WERE SIGNED AND SEALED BY CHRISTOPHER S. MARTINEZ OF MARTINEZ, WRIGHT AND MENDEZ (SEE ATTACHMENT 7A)

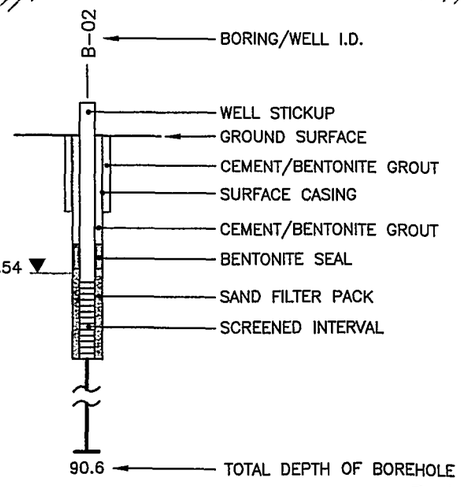
J-V DIRT AND LOAM
AUSTIN, TEXAS

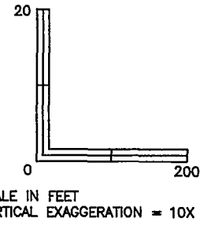
PROJ. NO.: J-V Dirt	DATE: 2/10/04	FILE:J-V Dirt-B12

ATTACHMENT 10
CROSS SECTION LOCATION MAP

JDC
JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746







WATER LEVEL ELEVATIONS
MEASURED 12/8/03 (FT MSL) — 386.54
UNLESS INDICATED

QUATERNARY ALLUVIUM AND TERRACE DEPOSITS
ALLUVIAL AQUIFER

TAYLOR CLAY (PREDOMINANTLY HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GREENISH GRAY CLAY WITH FOSSILS PRESENT)

Mark S. Katterjohn 2/10/04

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

J-V DIRT AND LOAM
AUSTIN, TEXAS

PROJ. NO.: J-V Dirt | DATE: 10/26/03 | FILE:J-V Dirt-B06

ATTACHMENT 10A
WEST-EAST CROSS SECTION
J-V DIRT COMPOSTING SITE

JDC
JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746

SOUTH **NORTH**

B-06 B-05 B-09R B-09 B-14 B-13

APPROXIMATE GROUND SURFACE

SAND

POND 3

GRAVEL

SAND

POND 2

SAND

408.33

SANDY GRAVEL

TAYLOR CLAY

375.05

374.22

97.8 81.8 67.1 106.7 102.1

ELEVATION (FT. MSL)

440 420 400 380 360 340 320

B-06 — BORING/WELL I.D.

WELL STICKUP

GROUND SURFACE

CEMENT/BENTONITE GROUT

SURFACE CASING

CEMENT/BENTONITE GROUT

BENTONITE SEAL

SAND FILTER PACK

SCREENED INTERVAL

97.8 — TOTAL DEPTH OF BOREHOLE

WATER LEVEL ELEVATIONS MEASURED 12/8/03 (FT MSL) — 375.05 ▼ UNLESS INDICATED

20 0 200

SCALE IN FEET
VERTICAL EXAGGERATION = 10X

QUATERNARY ALLUVIUM AND TERRACE DEPOSITS
ALLUVIAL AQUIFER

TAYLOR CLAY (PREDOMINANTLY HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GREENISH GRAY CLAY WITH FOSSILS PRESENT)

Mark S. Katterjohn 2/10/04

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED PROFESSIONAL GEOSCIENTIST

J-V DIRT AND LOAM

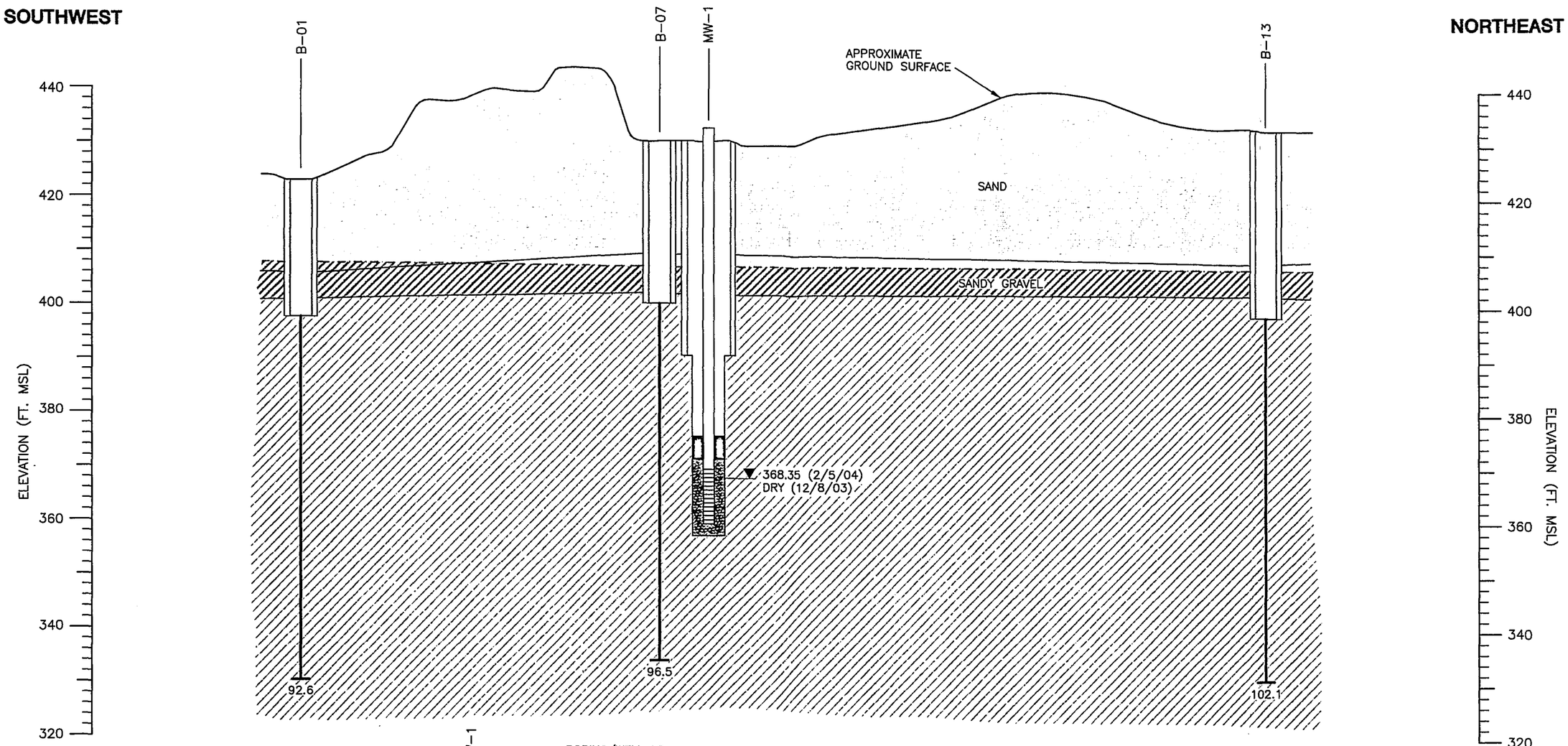
AUSTIN, TEXAS

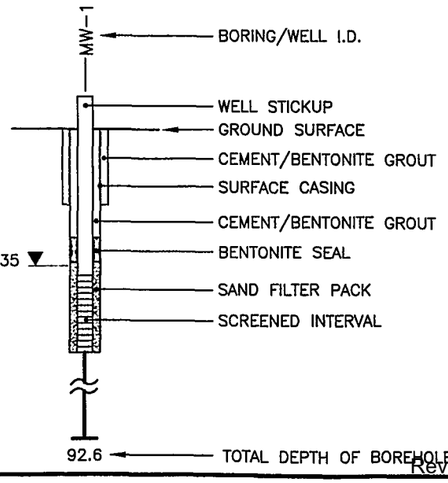
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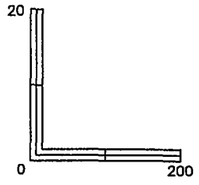
ATTACHMENT 10B
NORTH-SOUTH CROSS SECTION
J-V DIRT COMPOSTING SITE

JDC JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746

SOUTHWEST **NORTHEAST**







WATER LEVEL ELEVATIONS MEASURED 12/8/03 (FT MSL) → 368.35 ▼ UNLESS INDICATED

QUATERNARY ALLUVIUM AND TERRACE DEPOSITS ALLUVIAL AQUIFER

TAYLOR CLAY (PREDOMINANTLY HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GREENISH GRAY CLAY WITH FOSSILS PRESENT)

Mark S. Katterjohn 2/10/04

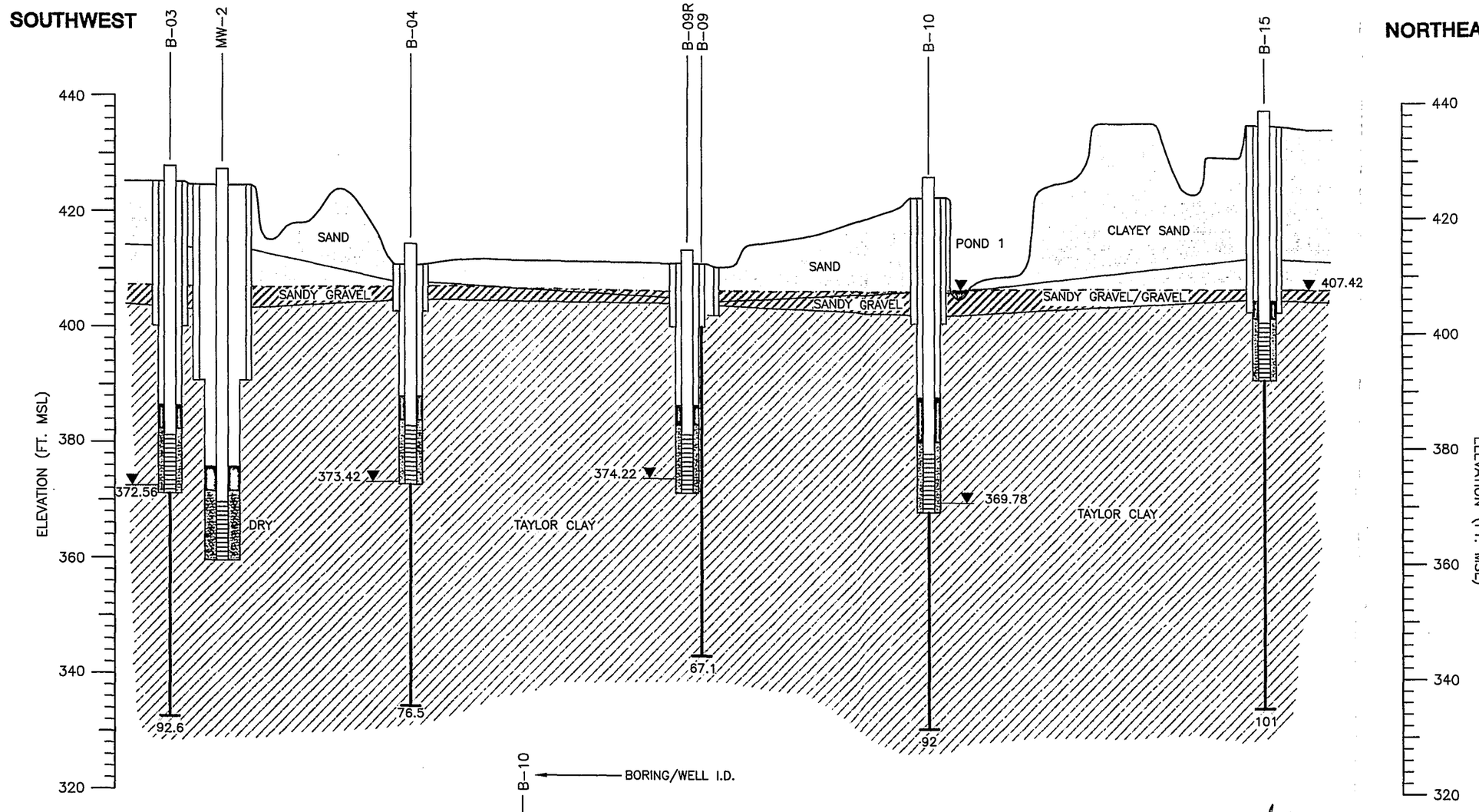
STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED PROFESSIONAL GEOSCIENTIST

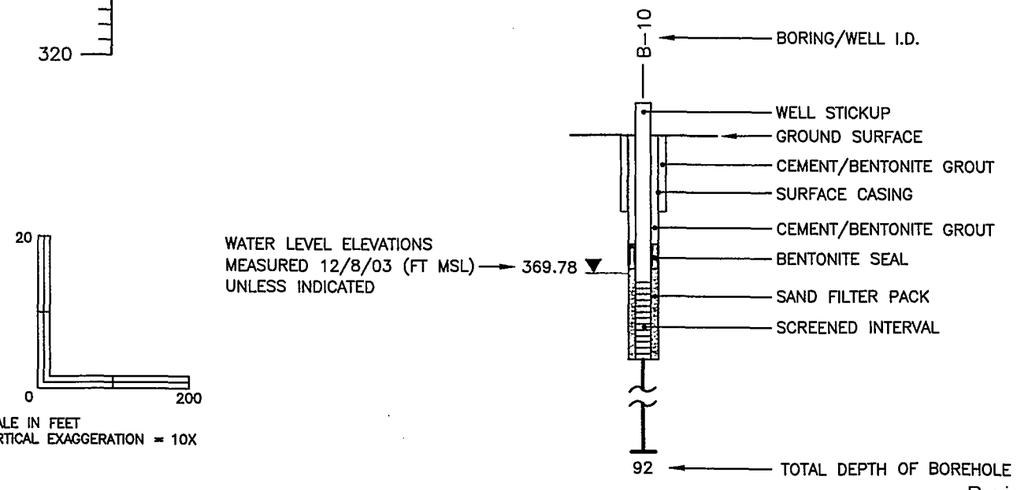
J-V DIRT AND LOAM
AUSTIN, TEXAS

PROJ. NO.: J-V Dirt | DATE: 1/8/04 | FILE:J-V Dirt-B08

ATTACHMENT 10C
SOUTHWEST-NORTHEAST CROSS SECTION J-V DIRT COMPOSTING SITE

JDC
JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746





QUATERNARY ALLUVIUM AND TERRACE DEPOSITS
ALLUVIAL AQUIFER

TAYLOR CLAY (PREDOMINANTLY HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GREENISH GRAY CLAY WITH FOSSILS PRESENT)

Mark S. Katterjohn 2/10/04

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

J-V DIRT AND LOAM

AUSTIN, TEXAS

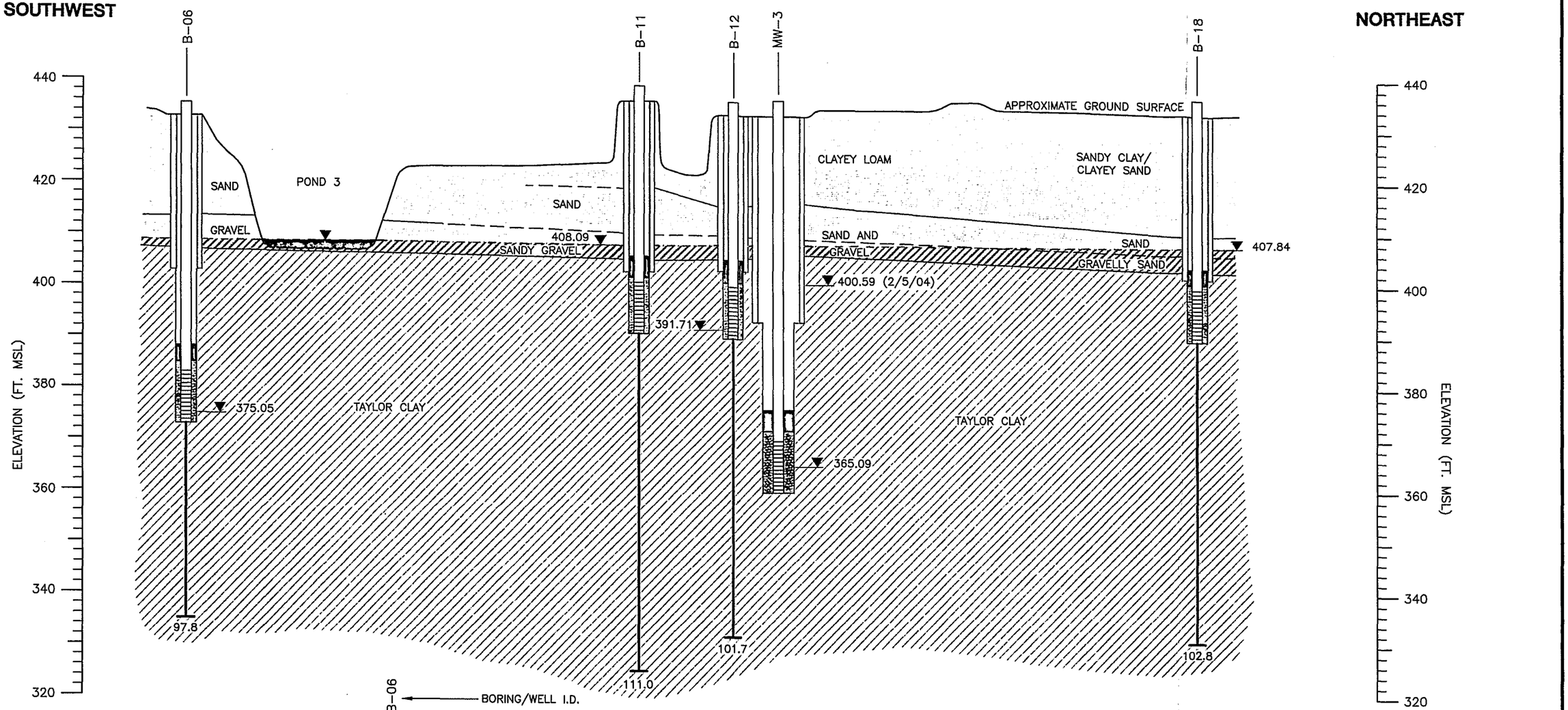
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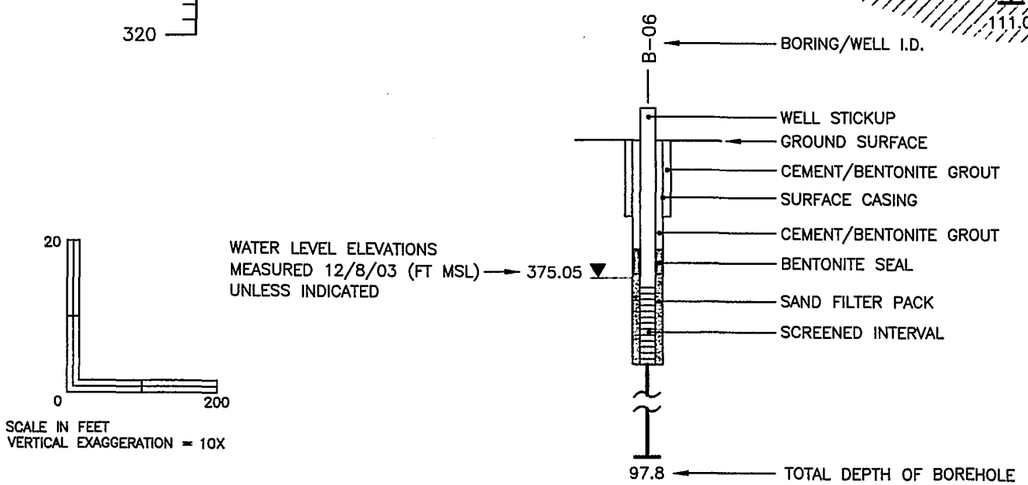
ATTACHMENT 10D

SOUTHWEST-NORTHEAST CROSS SECTION
J-V DIRT COMPOSTING SITE

JDC
JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746

SOUTHWEST **NORTHEAST**





QUATERNARY ALLUVIUM AND TERRACE DEPOSITS
ALLUVIAL AQUIFER

TAYLOR CLAY (PREDOMINANTLY HIGH PLASTICITY, STIFF TO VERY STIFF, DRY, GREENISH GRAY CLAY WITH FOSSILS PRESENT)

Mark S. Katterjohn 2/10/04

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

J-V DIRT AND LOAM
AUSTIN, TEXAS

PROJ. NO.: J-V Dirt | DATE: 2/9/04 | FILE: J-V Dirt-B11

ATTACHMENT 10E
SOUTHWEST-NORTHEAST CROSS SECTION
J-V DIRT COMPOSTING SITE

JDC
JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746

Appendix I.11
Geotechnical Analysis Results

Attachment 11

Geotechnical Analysis Results

This is a historical document that was originally included in the Geologic and Hydrogeologic Report (as revised through April 22, 2013) as Attachment 11. However, it is being submitted as Appendix 11 in this revision, in lieu of Attachment 11, per TCEQ request. Historical references to Attachment 11 remain as in the original document.

Attachment 11
Subsurface Investigation - Geotechnical Results
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

Sample Location	Sample Depth (fbgs)	Liquid Limit (%)	Plasticity Limit (%)	% Passing No. 200 Sieve	Moisture Content (%)	Lithologic Description
B-02	39.5	64	45	96	17.7	Clay - high plasticity, stiff, dry, greenish gray, fossils present
B-02	59.5	68	47	92	19.6	Clay - high plasticity, very stiff, dry, greenish gray, fossils present
B-02	79.5	63	43	98	17.2	Clay - high plasticity, stiff to very stiff, dry, greenish gray, fossils present
B-05	31	68	47	95	16.7	Clay - high plasticity, very stiff, dry, dark greenish gray, fossils present
B-05	51	63	43	98	15.2	Clay - high plasticity, very stiff, dry, dark greenish gray, fossils present
B-05	72	74	53	99	17.6	Clay - high plasticity, very stiff, dry, greenish gray, fossils present
B-09	27	66	47	97	16.8	Clay - high plasticity, very stiff, dry, greenish gray, fossils present
B-09	46.5	69	47	99	16.9	Clay - high plasticity, very stiff, dry, dark greenish gray
B-09	66	68	47	99	16.2	Clay - high plasticity, very stiff, dry, dark greenish gray, fossils present
B-12	48	63	42	97	17.9	Clay - high plasticity, very stiff, dry, greenish gray, fossils present
B-12	68	60	40	97	16.6	Clay - high plasticity, very stiff to stiff, greenish gray, fossils present
B-12	88	64	43	95	16.8	Clay - high plasticity, very stiff, dry, greenish gray
B-18	51	64	43	98	17.3	Clay - high plasticity, very stiff, dry, greenish gray, fossils present
B-18	71	63	42	98	16.7	Clay - high plasticity, very very stiff, dry, greenish gray, fossils present
B-18	97	65	43	97	17.5	Clay - high plasticity, very stiff, dry, greenish gray, fossils present
B-18 (Dup)	51	63	43	96	17.0	Clay - high plasticity, very stiff, dry, greenish gray, fossils present
B-18 (Dup)	71	56	37	98	15.2	Clay - high plasticity, very very stiff, dry, greenish gray, fossils present
B-18 (Dup)	97	65	44	99	17.6	Clay - high plasticity, very stiff, dry, greenish gray, fossils present
B-02	40-41.5	Vertical Permeability = 1.8×10^{-9} cm/sec				Clay - high plasticity, stiff, dry, greenish gray, fossils present

fbgs Feet below ground surface
Atterberg Limits (Liquid Limit and Plasticity Limit) performed using ASTM D4318.
Percent passing No. 200 US Standard Sieve performed using ASTM D1140.
Moisture content performed using ASTM D2216.

KLEINFELDER
An Employee Owned Company
3601 Manor Road Austin, Texas 78723 (512)926-6650

FALLING HEAD, RISING TAILWATER FLEXIBLE WALL PERMEABILITY TEST

Client: JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746

Project No. 27439

Tested by: Tom Budner
Report Date: November 9, 2003

Project: Lab Testing / JV Dirt & Loam Project

Sample Description: Gray Shale / Claystone
B2 @ 40'
Test Method: ASTM D 5084-00

Sample: undisturbed
Permeant: Tap Water
Set-Up Date: September 15, 2003

Final Moisture Content From Trimmings

Wt. of Can (gm)	50.50
Wt. of Can and Wet Soil (gm)	141.40
Wt. of Can and Dry Soil (gm)	127.46
Water Content (%)	18.1

Test Conditions

Inflow Pressure (psi)	35.0
Outflow Pressure(psi)	30.0
Cell Pressure (psi)	45.0
Inflow Pipette Area (cm²)	0.8722
Outflow Pipette Area (cm²)	0.8722

Sample Characteristics

	Initial	Final		Initial	Final
Total Weight (gm)	319.46	320.01	Volume (cc)	144.37	146.82
Diameter (cm)	4.95	4.95	Moisture Content (%)	18.3	18.5
Height (cm)	7.49	7.62	Void Ratio	0.47	0.50
			Saturation (%)	107	103
Specific Gravity		2.75	Total Unit Wt. (pcf)	138.1	136.0
Dry Weight (gm)		269.96	Dry Unit Wt. (pcf)	116.7	114.7

Initial						Final						Elapsed Time	Total Inflow	Total Outflow	Outflow Inflow	Hydraulic Conductivity
Day	Time	Temp (°C)	Inflow Reading	Outflow Reading	Head (cm)	Day	Time	Temp (°C)	Inflow Reading	Outflow Reading	Head (cm)	(s)	(cc)	(cc)	O/I	(cm/s)
288	07:01	22.0	7.1	22.1	368.9	288	14:46	22.0	7.3	22.2	368.8	27900	0.2	-0.1	-0.50	1.8E-09
289	06:55	22.0	7.5	22.2	368.6	293	06:57	22.0	8.7	22.5	367.5	345720	1.0	-0.3	-0.25	1.3E-09
294	07:10	22.0	9.0	22.6	367.3	294	15:44	22.0	9.1	22.6	367.2	30840	0.1	0.0	0.00	1.7E-09
295	07:12	21.0	9.2	22.6	367.1	296	07:10	22.0	9.5	22.7	366.8	86280	0.3	-0.1	-0.33	1.2E-09
297	07:00	22.0	9.8	22.7	366.5	297	15:27	22.0	10.0	22.7	366.3	30420	0.2	0.0	0.00	3.4E-09
297	15:27	22.0	10.0	22.7	366.3	300	10:59	21.0	10.6	22.8	365.7	243120	0.5	-0.1	-0.17	1.1E-09

Reviewed By:

Hydraulic Conductivity at 20 ° C, cm/s (average of the last 4 readings)	1.8E-09
Average Hydraulic Gradient	49

KLEINFELDER

KLEINFELDER
An employee owned company

September 11, 2003

JD Consulting, Inc.
404 Camp Craft Road
Austin, Texas 78746

Attention: Mr. Mark Katterjohn

Re: Laboratory Test Results
JV Dirt & Loam

Dear Mr. Katterjohn:

Attached are the laboratory test results of samples submitted by JD Consulting to Kleinfelder August 25, 26, September 4, and 5, 2003.

The atterberg limit testing was performed in general accordance with ASTM D4318, and the percent passing the number 200 US Standard Sieve was performed in general accordance with ASTM D1140.

We appreciate being of service to you. If you have any questions regarding the test results, please contact us.

Sincerely,
KLEINFELDER

Jeff M. Boyd, P.E.
Geotechnical Services Manager

Attachment

Copies: Addressee (2)

27439\AUS3R127
Copyright 2003 Kleinfelder

JD CONSULTING, L.P.
JV DIRT AND LOAM PROJECT
SUMMARY OF LABORATORY TEST RESULTS

Boring Number	Depth (ft.)	LL[1] (%)	PI[2] (%)	-200[3] (%)	Moisture (%)
B-5A	31'	68	47	95	16.7
	51'	63	43	98	15.2
	72'	74	53	99	17.6
B-9A	27'	66	47	97	16.8
	46.5'	69	47	99	16.9
	66'	68	47	99	16.2
B-12	48'	63	42	97	17.9
	68'	60	40	97	16.6
	88'	64	43	95	16.8
B-18A	51'	64	43	98	17.3
	71'	63	42	98	16.7
	97'	65	43	97	17.5
B-18B	51'	63	43	96	17.0
	71'	56	37	98	15.2
	97'	65	44	99	17.6

[1]Liquid Limit *[2]Plasticity Index* *[3]% Passing #200 Sieve*

KLEINFELDER
An employee owned company

October 8, 2003

JD Consulting, Inc.
404 Camp Craft Road
Austin, Texas 78746

Attention: Mr. Mark Katterjohn

Re: Laboratory Test Results
JV Dirt & Loam

Dear Mr. Katterjohn:

Attached are the laboratory test results of samples submitted by JD Consulting to Kleinfelder September 12, 2003. The permeability tests are currently running.

The atterberg limit testing was performed in general accordance with ASTM D4318, and the percent passing the number 200 US Standard Sieve was performed in general accordance with ASTM D1140.

We appreciate being of service to you. If you have any questions regarding the test results, please contact us.

Sincerely,
KLEINFELDER

Jeff M. Boyd, P.E.
Geotechnical Services Manager

Attachment

Copies: Addressee (2)

27439\AUS3R127
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JD CONSULTING, L.P.
JV DIRT AND LOAM PROJECT

SUMMARY OF LABORATORY TEST RESULTS

Boring Number	Depth (ft.)	LL[1] (%)	PI[2] (%)	-200[3] (%)	Moisture (%)
B-2	39.5'	64	45	96	17.7
	59.5	68	47	92	19.6
	79.5'	63	43	98	17.2

[1]Liquid Limit *[2]Plasticity Index* *[3]% Passing #200 Sieve*

Appendix I.12
Piezometer and Monitoring Well Information

Attachment 12

Groundwater Investigation – Piezometer and Monitoring Well Information

This is a historical document that was originally included in the Geologic and Hydrogeologic Report (as revised through April 22, 2013) as Attachment 12. However, it is being submitted as Appendix 12 in this revision, in lieu of Attachment 12, per TCEQ request. Historical references to Attachment 12 remain as in the original document.

Attachment 12A
Groundwater Investigation - Piezometer Completion Information
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

	Well Completion								Elevations	
Boring No.	Surface Casing Depth (fbgs)	Surface Casing Installation Date	Screen Interval (fbgs)	Top of Sand Pack (fbgs)	Top of Bentonite (fbgs)	Total Well Depth* (fbgs)	Total Well Depth** (fbtoc)	Well Completion Date	Top of Casing Elevation (Ft. MSL)	Ground Surface Elevation (Ft. MSL)
B-01	25	9/3/03	No water in borehole/no well installed					--	--	423.4
B-02	22	9/2/03	42-52	41	36	52	54.96	9/24/03	425.27	422.8
B-03	25	9/3/03	44-54	43	39	54	56.64	9/23/03	428.10	425.2
B-04	8	8/28/03	28-38	27	23	38	42.02	9/23/03	414.63	410.8
B-05	12	8/27/03	No water in borehole/no well installed					--	--	416.5
B-06	30	9/5/03	50-60	48	45	60	63.02	9/23/03	435.36	433.1
B-07	30	9/4/03	No water in borehole/no well installed					--	--	430.9
B-08	20	9/2/03	No water in borehole/no well installed					--	--	420.0
B-09	8	8/27/03	Surface casing failed. See B-09R					--	--	411.0
B-09R	10	9/5/03	29-39	27	24	39	42.40	9/23/03	414.84	411.5
B-10	22	8/27/03	45-55	43	35.5	55	57.76	9/19/03	426.33	423.5
B-11	33	8/13/03	35-45	34	30	45	48.55	8/26/03	439.14	436.2
B-12	30	8/13/03	33-43	32	28	43	46.32	8/26/03	435.94	433.0
B-13	35	9/4/03	No water in borehole/no well installed					--	--	433.8
B-14	36	9/16/03	50-60	49	45	60	64.91	9/24/03	439.42	436.2
B-15	32	8/12/03	34-44	33	30	44	47.44	8/26/03	438.45	435.5
B-16	34	8/4/03	37-47	36	32	47	50.22	8/18/03	438.27	435.5
B-17	34	8/5/03	37-47	33.5	29	47	50.26	8/18/03	437.87	434.8
B-18	32	8/8/03	34-44	33	30	44	47.39	8/26/03	436.94	434.0
MW-1	40	12/2/03	61-71	59	55	71	73.60	12/4/03	433.57	430.8
MW-2	34	12/3/03	55-65	53	49	65	67.90	12/4/03	427.41	424.8
MW-3	40	12/1/03	63-73	61	57	73	76.10	12/3/03	435.95	433.0

fbgs feet below ground surface
fbtoc feet below top of casing
Ft. MSL feet above mean sea level

* Nominal total well depth relative to ground surface.
** Total well depths below top of casing are based on measurements taken on October 3, 2003 (December 8, 2003 for monitoring wells). Slight differences may exist between the total well depth elevations relative to depth below top of casing and the nominal total well depth below ground surface.

Attachment 12B
Groundwater Investigation - Piezometer Development Information
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

Piezometer No.	Well Development Date	Depth to Water (fbtoc)	Groundwater Elevation Prior to Development (Ft. MSL)	Gallons Bailed	Comments	Groundwater Elevation After Development [1] (Ft. MSL)
B-02	9/25/03	32.20	393.07	5	Bailed Dry	379.45
B-03	9/25/03	29.50	398.60	6	Bailed Dry	374.27
B-04	9/25/03	33.75	380.88	2	Bailed Dry	375.58
B-06	9/25/03	22.50	412.86	12	Bailed Dry	380.66
B-09R	9/25/03	36.03	378.81	1	Bailed Dry	376.46
B-10	9/22/03	20.83*	405.50	8	Bailed Dry	371.03
B-11	9/3/03	35.0	404.14	3.5	Bailed Dry	407.37
B-12	9/3/03	45.6	390.34	0.25	Bailed Dry	394.74
B-14	9/25/03	45.80	393.62	3.5	Bailed Dry	393.84
B-15	9/3/03	31.3	407.15	12	Bailed ~4.7 Well Volumes	407.49
B-16	9/3/03	28.5	409.77	6	Bailed Dry	407.95
B-17	9/3/03	30.6	407.27	5	Bailed Dry	408.45
B-18	9/3/03	39.8	397.14	3	Bailed Dry	408.57
MW-1	12/4/03	Dry	--	--	--	--
MW-2	12/4/03	Dry	--	--	--	--
MW-3	12/4/03	70.60**	365.35	4.5	Bailed Dry	365.09

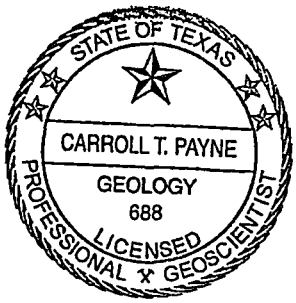
fbtoc feet below top of casing
Ft. MSL feet above mean sea level
* Recorded as 18 feet below ground surface in field notes.
** Recorded as 67.65 feet below ground surface in field notes.
[1] Measured in October 3, 2003; MW-3 was measured on December 8, 2003

Well Construction Data Sheets
JV Dirt and Loam Composting Site
Austin, Texas

Attached are the well construction data sheets for piezometers B-02 through B-04, B-06, B-09R, B-10 through B-12 and B-14 through B-18 and the well installation logs for monitoring wells MW-1 through MW-3 that were installed and completed under my supervision at the JV Dirt and Loam facility in Austin, Texas.

Tracy Payne, P.G.

2-9-04
Date



WELL CONSTRUCTION DATA

WELL NUMBER: B-02
DATE: 9/24/03
PREPARED BY: Tracy Payne

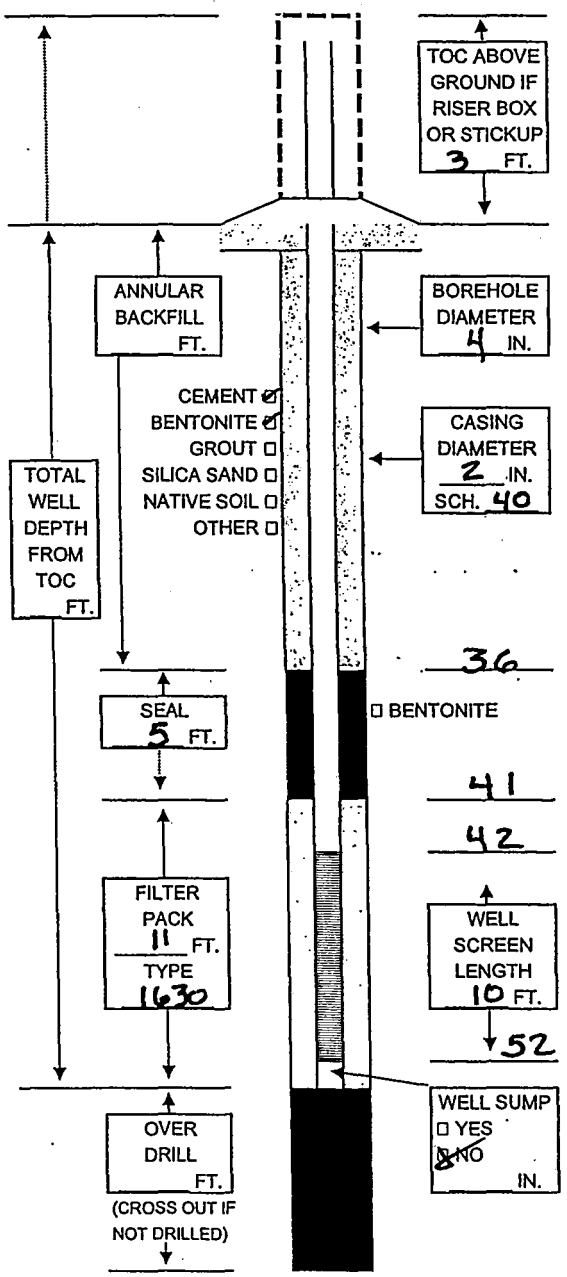
Bottom Surface Casing Elevation: 400.8 Ft MSL
Top of Bentonite Elevation: 386.8 Ft MSL
Top of Sand Elevation: 381.8 Ft MSL
Top of Screen Elevation: 380.8 Ft MSL
Bottom of Screen Elevation: 370.8 Ft MSL
Total Well Depth Elevation: 370.8 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973 AUSTIN, TX
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☐ MONITOR ☐ RECOVERY ☑ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☑ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☑ STEAM CLEAN		☐ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☐ THREADED	☐ WELDED	☑ COUPLED	☐ SCREWED
	☐ OTHER			
PIT CASING:	☑ NO	☐ YES	☐ DESCRIBE	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER ____ IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER ____ IN	
SAND:	SIZE 1630	LBS/SACK		#
BENTONITE:	SIZE 3/8"	LBS/SACK	LBS/BUCKET	#
DRILLING:	☐ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
METHOD:	☑ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER			
BIT SIZE: 4"	☐ 6"	☐ 8"	☐ 10"	☐ 12" ☐ 14"
	☐ OTHER ____ IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER
CENTRALIZER:	☑ NO	☐ YES	INTERVAL	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO.	
	☐ OTHER			
PAD:	☐ 4' X 4'	☐ 5' X 5'	☐ OTHER	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ ROLLOFF BOX	ID NUMBER OF BOX		
	☑ SPREAD	☐ OTHER		
DEVELOPMENT	☐ NONE	☑ BAILING	☐ PUMPING	☐ AIR LIFT
METHOD:	☐ SURGE & BLOCK	☐ OTHER		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER ____ MIN	
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER ____ GAL	
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE	
DEVELOPMENT WATER:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL ____ FT	☐ BTOC	☐ BLS	
DATE:		____ FT BELOW TOC		
DATE:		____ FT BELOW TOC		

NOTES: SET 4" PVC SURFACE CASING TO 22' BGL

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N9168.80, E8085.04
Surface Elev: 422.8 Ft MSL
TOC Elev: 425.27 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-03
DATE: 9/23/03
PREPARED BY: Tracy Payne

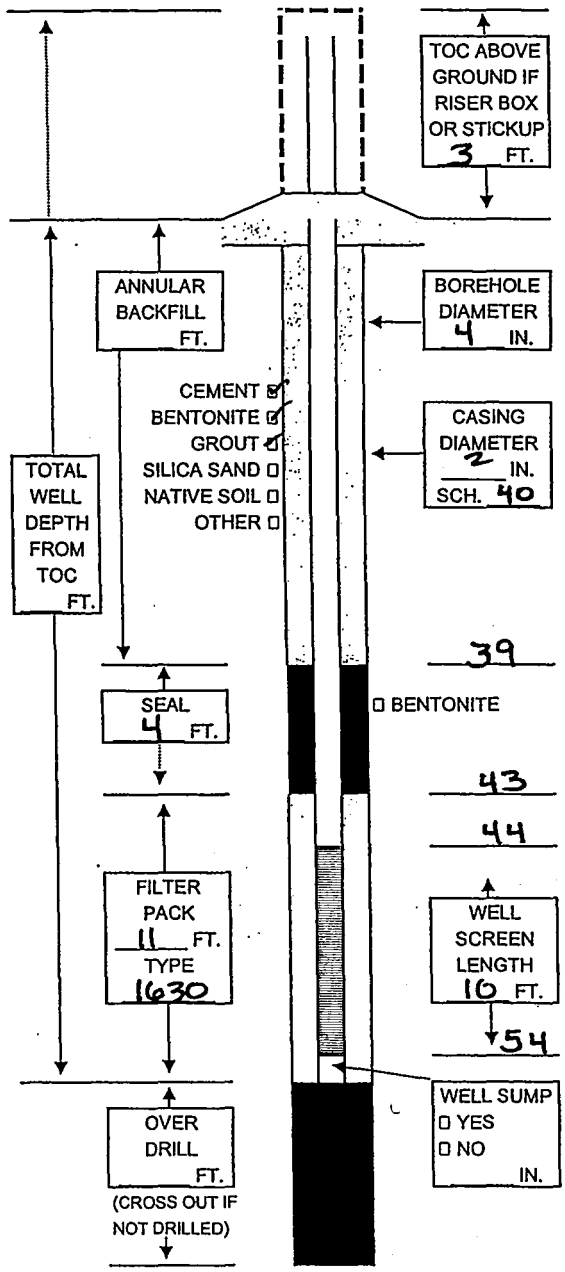
Bottom Surface Casing Elevation: 400.2 Ft MSL
Top of Bentonite Elevation: 386.2 Ft MSL
Top of Sand Elevation: 382.2 Ft MSL
Top of Screen Elevation: 381.2 Ft MSL
Bottom of Screen Elevation: 371.2 Ft MSL
Total Well Depth Elevation: 371.2 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973 AUSTIN, TEXAS
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☐ MONITOR ☐ RECOVERY ☑ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☑ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☑ STEAM CLEAN		☐ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☑ THREADED	☐ WELDED	☐ COUPLED	☐ SCREWED
	☐ OTHER			
PIT CASING:	☐ NO	☐ YES	☐ DESCRIBE	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER ____ IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER ____ IN	
SAND:	SIZE 1630	LBS/SACK ____		# ____
BENTONITE:	SIZE 3/8"	LBS/SACK ____	LBS/BUCKET ____	# ____
DRILLING:	☐ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
METHOD:	☑ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER			
BIT SIZE:	☐ 6"	☐ 8"	☐ 10"	☐ 12" ☐ 14"
	☐ OTHER ____ IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER
CENTRALIZER:	☑ NO	☐ YES	INTERVAL	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO.	
	☐ OTHER			
PAD:	☐ 4' X 4'	☐ 5' X 5'	☐ OTHER	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ ROLLOFF BOX	ID NUMBER OF BOX		
	☑ SPREAD	☐ OTHER		
DEVELOPMENT	☐ NONE	☑ BAILING	☐ PUMPING	☐ AIR LIFT
METHOD:	☐ SURGE & BLOCK	☐ OTHER		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER ____ MIN	
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER ____ GAL	
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE	
DEVELOPMENT WATER:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL ____ FT	☐ BTOC	☐ BLS	
DATE:	____	____ FT BELOW TOC		
DATE:	____	____ FT BELOW TOC		

NOTES: SET 4" PVC SURFACE CASING TO 25' BGL

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N8758.23, E8184.18
Surface Elev: 425.2 Ft MSL
TOC Elev: 428.10 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-04
DATE: 9/23/03
PREPARED BY: Tracy Payne

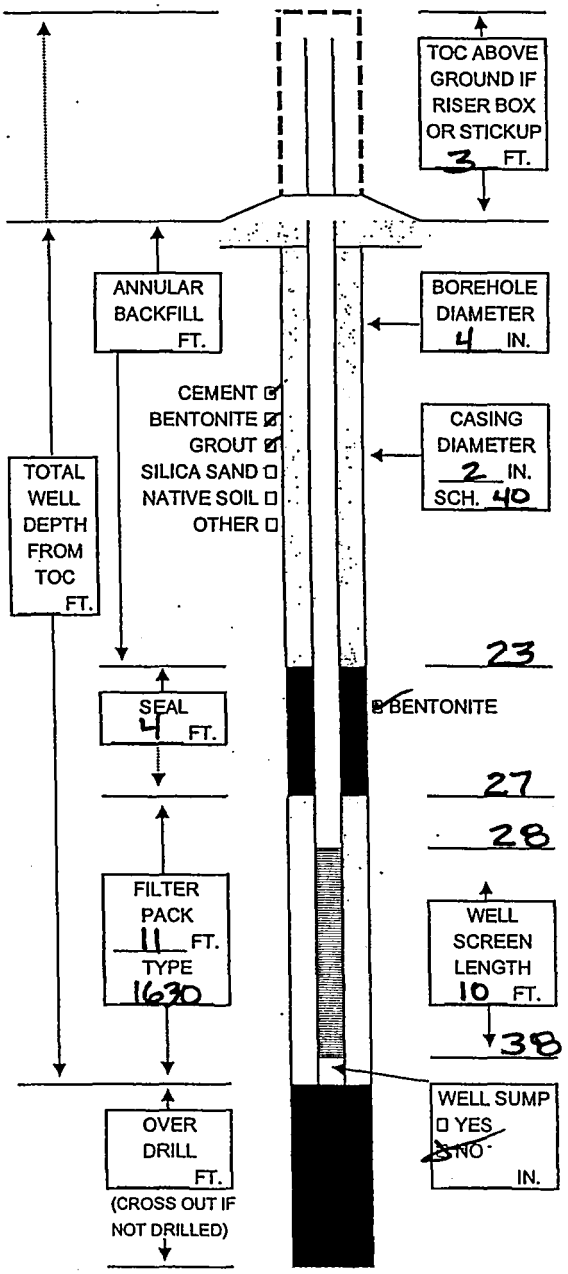
Bottom Surface Casing Elevation: 402.8 Ft MSL
Top of Bentonite Elevation: 387.8 Ft MSL
Top of Sand Elevation: 383.8 Ft MSL
Top of Screen Elevation: 382.8 Ft MSL
Bottom of Screen Elevation: 372.8 Ft MSL
Total Well Depth Elevation: 372.8 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDERS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☐ MONITOR ☐ RECOVERY ☑ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☑ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON. ☑ STEAM CLEAN ☐ HIGH PRESSURE WASH ☐ SOAP WASH ☐ OTHER
CASING TYPE: ☑ PVC ☐ STAINLESS ☐ TEFLON ☐ OTHER
JOINTS: ☐ THREADED ☐ WELDED ☑ COUPLED ☐ SCREWED ☐ OTHER
PIT CASING: ☑ NO ☐ YES ☐ DESCRIBE
WELL SCREEN: ☑ PVC ☐ STAINLESS ☐ TEFLON ☐ OTHER
DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER IN
SLOT: ☑ 0.010 ☐ 0.020 ☐ OTHER IN
SAND: SIZE 1630 LBS/SACK #
BENTONITE: SIZE 3/8" LBS/SACK LBS/BUCKET #
DRILLING METHOD: ☐ HOLLOW STEM ☐ SOLID STEM ☐ MUD ROTARY ☑ AIR ROTARY ☐ DIRECT PUSH ☐ HAND AUGER ☐ OTHER
BIT SIZE: 4" ☐ 6" ☐ 8" ☐ 10" ☐ 12" ☐ 14" ☐ OTHER IN
DRILLING MUD: ☑ NONE ☐ BENTONITE ☐ WATER ☐ OTHER
CENTRALIZER: ☑ NO ☐ YES INTERVAL
COMPLETION: ☐ FLUSH MOUNT ☑ STICKUP ☐ RISER BOX
LOCK TYPE: ☐ DOLPHIN ☐ MASTER KEY NO. ☐ OTHER
PAD: ☐ 4' X 4' ☐ 5' X 5' ☐ OTHER
CUTTINGS: ☐ DRUMMED NUMBER OF DRUMS ☐ ROLLOFF BOX ID NUMBER OF BOX ☑ SPREAD ☐ OTHER
DEVELOPMENT METHOD: ☐ NONE ☑ BAILING ☐ PUMPING ☐ AIR LIFT ☐ SURGE & BLOCK ☐ OTHER
TIME: ☐ 10 MIN ☐ 20 MIN ☐ OTHER MIN
AMOUNT: ☐ 5 GAL ☐ 10 GAL ☐ OTHER GAL
WATER BEFORE: ☐ SILTY ☐ TURBID ☐ OPAQUE ☐ CLEAR
WATER AFTER: ☐ SILTY ☐ TURBID ☐ OPAQUE ☐ CLEAR
EVIDENT ODOR: ☐ YES ☐ NO ☐ TYPE
DEVELOPMENT WATER: ☐ DRUMMED NUMBER OF DRUMS ☐ FACILITY WWTS ☐ TREATED ☐ POTW ☐ OTHER
WATER LEVEL: INITIAL FT ☐ BTOC ☐ BLS
DATE: FT BELOW TOC
DATE: FT BELOW TOC

NOTES: SET SURFACE CASING TO 8' BGL

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N9007.26, E8349.17
Surface Elev: 410.8 Ft MSL
TOC Elev: 414.63 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-06
DATE: 9/23/03
PREPARED BY: Tracy Payne

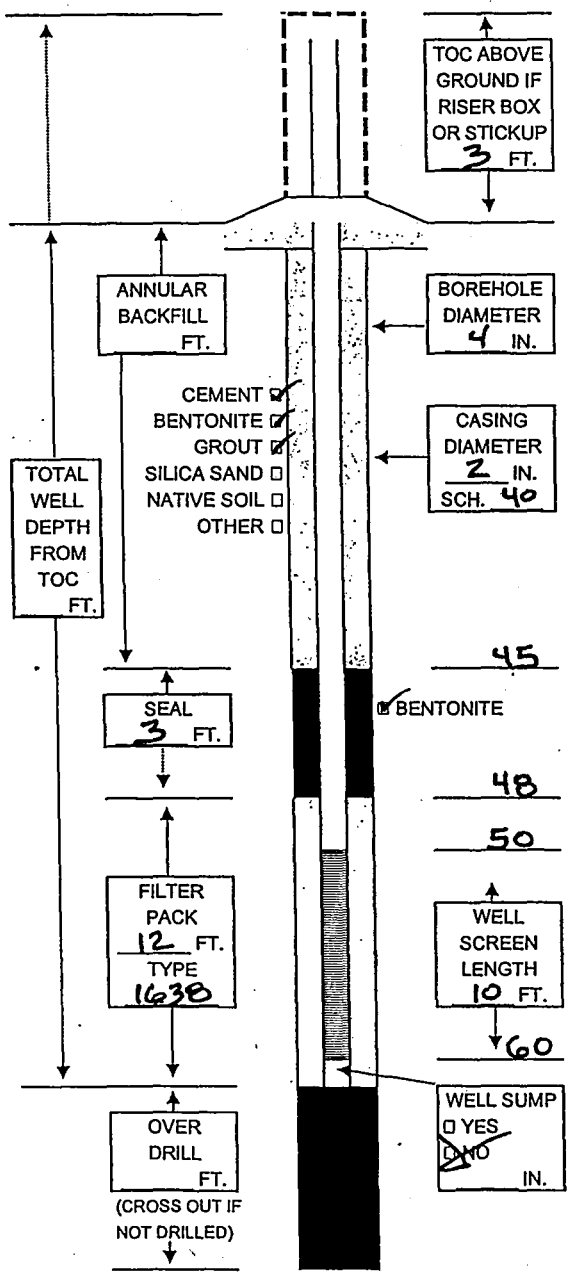
Bottom Surface Casing Elevation: 403.1 Ft MSL
Top of Bentonite Elevation: 388.1 Ft MSL
Top of Sand Elevation: 385.1 Ft MSL
Top of Screen Elevation: 383.1 Ft MSL
Bottom of Screen Elevation: 373.1 Ft MSL
Total Well Depth Elevation: 372.1 Ft MSL

Elevations based on ground surface elevation. ___

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973 AUSTIN, TEXAS
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☐ MONITOR ☐ RECOVERY ☑ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☑ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☑ STEAM CLEAN		☐ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER ___	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☑ THREADED	☐ WELDED	☐ COUPLED	☐ SCREWED
	☐ OTHER ___			
PIT CASING:	☑ NO	☐ YES	☐ DESCRIBE ___	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER ___ IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER ___ IN	
SAND:	SIZE 1630	LBS/SACK ___		# ___
BENTONITE:	SIZE 3/8	LBS/SACK ___	LBS/BUCKET ___	# ___
DRILLING:	☐ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
METHOD:	☑ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER ___			
BIT SIZE: 4"	☐ 6"	☐ 8"	☐ 10"	☐ 12" ☐ 14"
	☐ OTHER ___ IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER ___
CENTRALIZER:	☑ NO	☐ YES	INTERVAL ___	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO. ___	
	☐ OTHER			
PAD:	☐ 4' X 4'	☐ 5' X 5'	☐ OTHER ___	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS ___		
	☐ ROLLOFF BOX	ID NUMBER OF BOX ___		
	☑ SPREAD	☐ OTHER ___		
DEVELOPMENT	☐ NONE	☑ BAILING	☐ PUMPING	☐ AIR LIFT
METHOD:	☐ SURGE & BLOCK	☐ OTHER ___		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER ___ MIN	
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER ___ GAL	
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE ___	
DEVELOPMENT	☐ DRUMMED	NUMBER OF DRUMS ___		
WATER:	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL ___ FT	☐ BTOC	☐ BLS	
DATE:	___	___ FT BELOW TOC		
DATE:	___	___ FT BELOW TOC		

NOTES: SET SURFACE CASING TO 30' BGL

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N8407.00, E8738.12
Surface Elev: 433.1 Ft MSL
TOC Elev: 435.36 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-09R
DATE: 9/23/03
PREPARED BY: Tracy Payne

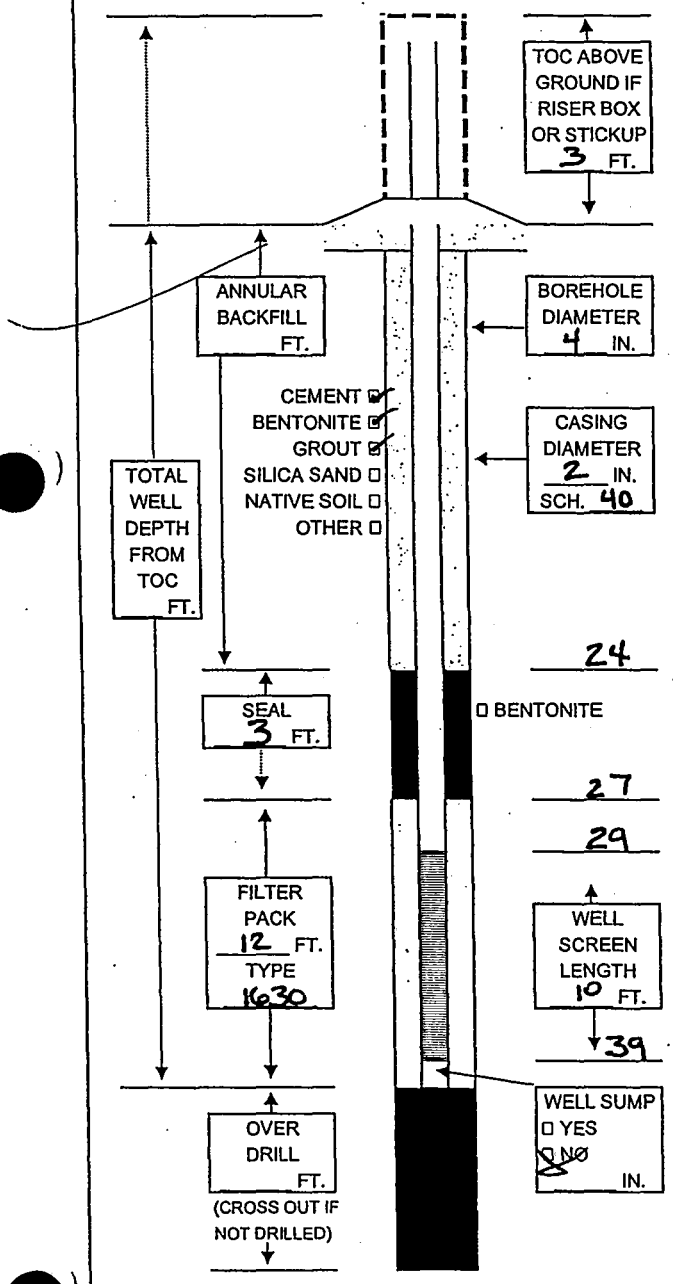
Bottom Surface Casing Elevation: 401.5 Ft MSL
Top of Bentonite Elevation: 387.5 Ft MSL
Top of Sand Elevation: 384.5 Ft MSL
Top of Screen Elevation: 382.5 Ft MSL
Bottom of Screen Elevation: 372.5 Ft MSL
Total Well Depth Elevation: 372.5 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973, AUSTIN, TEXAS
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☐ MONITOR ☐ RECOVERY ☑ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☑ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☑ STEAM CLEAN		☐ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER _____	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☐ THREADED	☐ WELDED	☑ COUPLED	☐ SCREWED
	☐ OTHER _____			
PIT CASING:	☑ NO	☐ YES	☐ DESCRIBE _____	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER _____ IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER _____ IN	
SAND:	SIZE 1630	LBS/SACK _____		# _____
BENTONITE:	SIZE 3/8"	LBS/SACK _____	LBS/BUCKET _____	# _____
DRILLING:	☐ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
METHOD:	☑ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER _____			
BIT SIZE: 4"	☐ 6"	☐ 8"	☐ 10"	☐ 12" ☐ 14"
	☐ OTHER _____ IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER _____
CENTRALIZER:	☑ NO	☐ YES	INTERVAL _____	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO. _____	
	☐ OTHER			
PAD:	☐ 4' X 4'	☐ 5' X 5'	☐ OTHER _____	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS _____		
	☐ ROLLOFF BOX	ID NUMBER OF BOX _____		
	☑ SPREAD	☐ OTHER _____		
DEVELOPMENT	☐ NONE	☑ BAILING	☐ PUMPING	☐ AIR LIFT
METHOD:	☐ SURGE & BLOCK	☐ OTHER _____		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER _____ MIN	
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER _____ GAL	
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE _____	
DEVELOPMENT	☐ DRUMMED	NUMBER OF DRUMS _____		
WATER:	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL _____ FT	☐ BTOC	☐ BLS	
DATE:	_____	_____ FT BELOW TOC		
DATE:	_____	_____ FT BELOW TOC		

NOTES: SET SURFACE CASING TO 10' BGL

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N9448.50, E8550.49
Surface Elev: 411.5 Ft MSL
TOC Elev: 414.84 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-10
DATE: 9/19/03
PREPARED BY: Tracy Payne

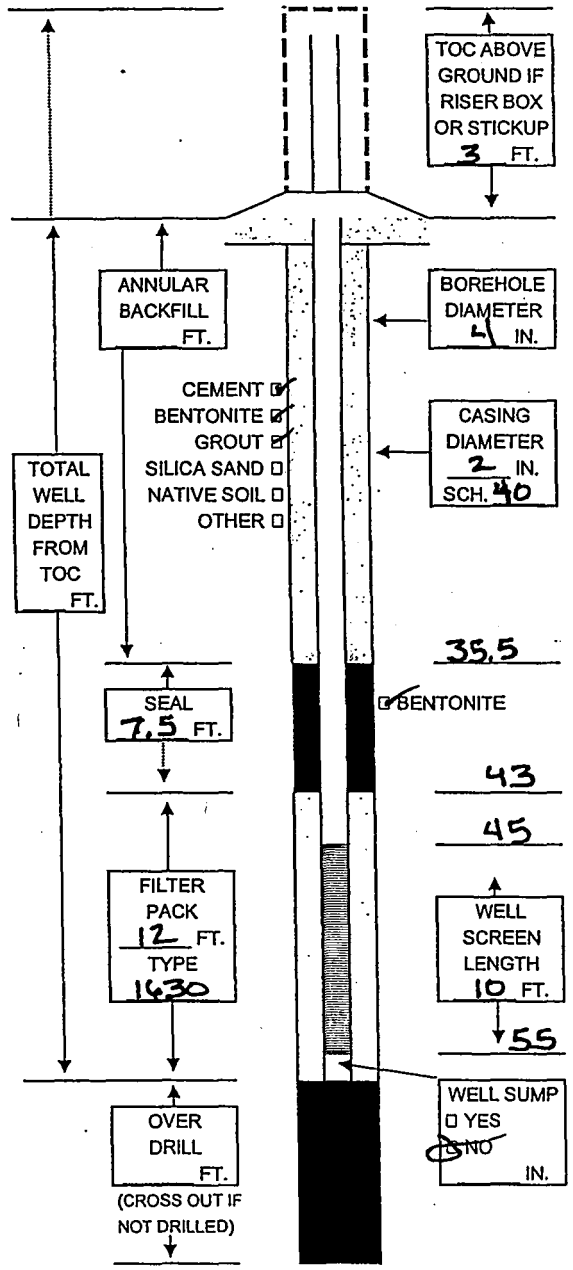
Bottom Surface Casing Elevation: 401.5 Ft MSL
Top of Bentonite Elevation: 388.0 Ft MSL
Top of Sand Elevation: 380.5 Ft MSL
Top of Screen Elevation: 378.5 Ft MSL .
Bottom of Screen Elevation: 368.5 Ft MSL
Total Well Depth Elevation: 368.5 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973 AUSTIN TEXAS
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☐ MONITOR ☐ RECOVERY ☑ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☑ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON. ☑ STEAM CLEAN ☐ HIGH PRESSURE WASH ☐ SOAP WASH ☐ OTHER
CASING TYPE: ☑ PVC ☐ STAINLESS ☐ TEFLON ☐ OTHER
JOINTS: ☑ THREADED ☐ WELDED ☐ COUPLED ☐ SCREWED ☐ OTHER
PIT CASING: ☐ NO ☐ YES ☐ DESCRIBE
WELL SCREEN: ☑ PVC ☐ STAINLESS ☐ TEFLON ☐ OTHER
DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER IN
SLOT: ☑ 0.010 ☐ 0.020 ☐ OTHER IN
SAND: SIZE 1630 LBS/SACK #
BENTONITE: SIZE 3/8" LBS/SACK LBS/BUCKET #
DRILLING: ☐ HOLLOW STEM ☐ SOLID STEM ☐ MUD ROTARY
METHOD: ☑ AIR ROTARY ☐ DIRECT PUSH ☐ HAND AUGER ☐ OTHER
BIT SIZE: 4" ☐6" ☐8" ☐10" ☐12" ☐14" ☐ OTHER IN
DRILLING MUD: ☑ NONE ☐ BENTONITE ☐ WATER ☐ OTHER
CENTRALIZER: ☑ NO ☐ YES INTERVAL

COMPLETION: ☐ FLUSH MOUNT ☑ STICKUP ☐ RISER BOX
LOCK TYPE: ☐ DOLPHIN ☐ MASTER KEY NO. ☐ OTHER
PAD: ☐ 4' X 4' ☐ 5' X 5' ☐ OTHER
CUTTINGS: ☐ DRUMMED NUMBER OF DRUMS ☐ ROLLOFF BOX ID NUMBER OF BOX ☑ SPREAD ☐ OTHER
DEVELOPMENT METHOD: ☐ NONE ☑ BAILING ☐ PUMPING ☐ AIR LIFT ☐ SURGE & BLOCK ☐ OTHER
TIME: ☐ 10 MIN ☐ 20 MIN ☐ OTHER MIN
AMOUNT: ☐ 5 GAL ☐ 10 GAL ☐ OTHER GAL
WATER BEFORE: ☐ SILTY ☐ TURBID ☐ OPAQUE ☐ CLEAR
WATER AFTER: ☐ SILTY ☐ TURBID ☐ OPAQUE ☐ CLEAR
EVIDENT ODOR: ☐ YES ☐ NO ☐ TYPE

DEVELOPMENT WATER: ☐ DRUMMED NUMBER OF DRUMS ☐ FACILITY WWTS ☐ TREATED ☐ POTW ☐ OTHER

WATER LEVEL: INITIAL FT ☐ BTOC ☐ BLS
DATE: FT BELOW TOC
DATE: FT BELOW TOC

NOTES: SET 4" PVC SURFACE CASING TO 22' BGL

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N9745.11, E8879.53
Surface Elev: 423.5 Ft MSL
TOC Elev: 426.33 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-11
DATE: 08-13-03
PREPARED BY: TRACY PAYNE

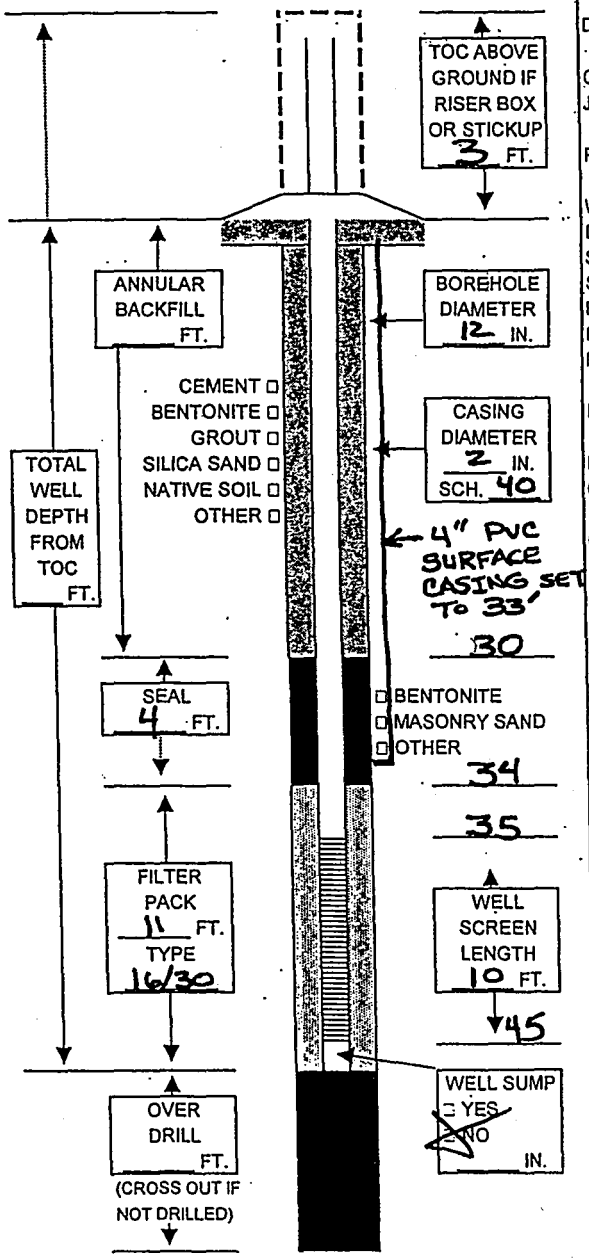
Bottom Surface Casing Elevation: 403.2 Ft MSL
Top of Bentonite Elevation: 406.2 Ft MSL
Top of Sand Elevation: 402.2 Ft MSL
Top of Screen Elevation: 401.2 Ft MSL
Bottom of Screen Elevation: 391.2 Ft MSL
Total Well Depth Elevation: 391.2 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973, AUSTIN TX 78725
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☑ MONITORING ☐ RECOVERY ☐ SINGLE CASED
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☐ DOUBLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ OBSERVATION ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON. ☑ STEAM CLEAN ☐ HIGH PRESSURE WASH ☐ SOAP WASH ☐ OTHER
CASING TYPE: ☑ PVC ☐ STAINLESS ☐ TEFLON ☐ OTHER
JOINTS: ☑ THREADED ☐ WELDED ☐ COUPLED ☐ SCREWED ☐ OTHER
PIT CASING: ☑ NO ☐ YES ☐ DESCRIBE
WELL SCREEN: ☑ PVC ☐ STAINLESS ☐ TEFLON ☐ OTHER
DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER IN
SLOT: ☑ 0.010 ☐ 0.020 ☐ OTHER IN
SAND: SIZE 16/30 LBS/SACK #
BENTONITE: SIZE 1/2 LBS/SACK LBS/BUCKET #
DRILLING METHOD: ☑ HOLLOW STEM ☐ SOLID STEM ☐ MUD ROTARY ☑ AIR ROTARY ☐ DIRECT PUSH ☐ HAND AUGER ☐ OTHER
BIT SIZE: 3¾ ☐ 6" ☐ 8" ☐ 10" ☑ 12" ☐ 14" ☐ OTHER IN
DRILLING MUD: ☑ NONE ☐ BENTONITE ☐ WATER ☐ OTHER
CENTRALIZER: ☑ NO ☐ YES INTERVAL
COMPLETION: ☐ FLUSH MOUNT ☑ STICKUP ☐ RISER BOX
LOCK TYPE: ☐ DOLPHIN ☐ MASTER KEY NO. ☐ OTHER
PAD: ☑ 4'X4' ☐ 5'X5' ☐ OTHER
CUTTINGS: ☐ DRUMMED NUMBER OF DRUMS ☐ ROLLOFF BOX ID NUMBER OF BOX ☑ SPREAD ☐ OTHER
DEVELOPMENT METHOD: ☐ NONE ☐ BAILING ☐ PUMPING ☐ AIR LIFT ☐ SURGE & BLOCK ☐ OTHER
TIME: ☐ 10 MIN ☐ 20 MIN ☐ OTHER MIN
AMOUNT: ☐ 5 GAL ☐ 10 GAL ☐ OTHER GAL
WATER BEFORE: ☐ SILTY ☐ TURBID ☐ OPAQUE ☐ CLEAR
WATER AFTER: ☐ SILTY ☐ TURBID ☐ OPAQUE ☐ CLEAR
EVIDENT ODOR: ☐ YES ☐ NO ☐ TYPE
DEVELOPMENT WATER: ☐ DRUMMED NUMBER OF DRUMS ☐ FACILITY WWTS ☐ TREATED ☐ POTW ☐ OTHER
WATER LEVEL: INITIAL FT ☐ BTOC ☐ BLS
DATE: FT BELOW TOC
DATE: FT BELOW TOC

NOTES: TD 101' & GROUTED BACK
WELL INSTALLED 8/26/03

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N9165.69, E9177.32
Surface Elev: 436.2 Ft MSL
TOC Elev: 439.14 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-12
DATE: 08-13-03
PREPARED BY: Tracy Payne

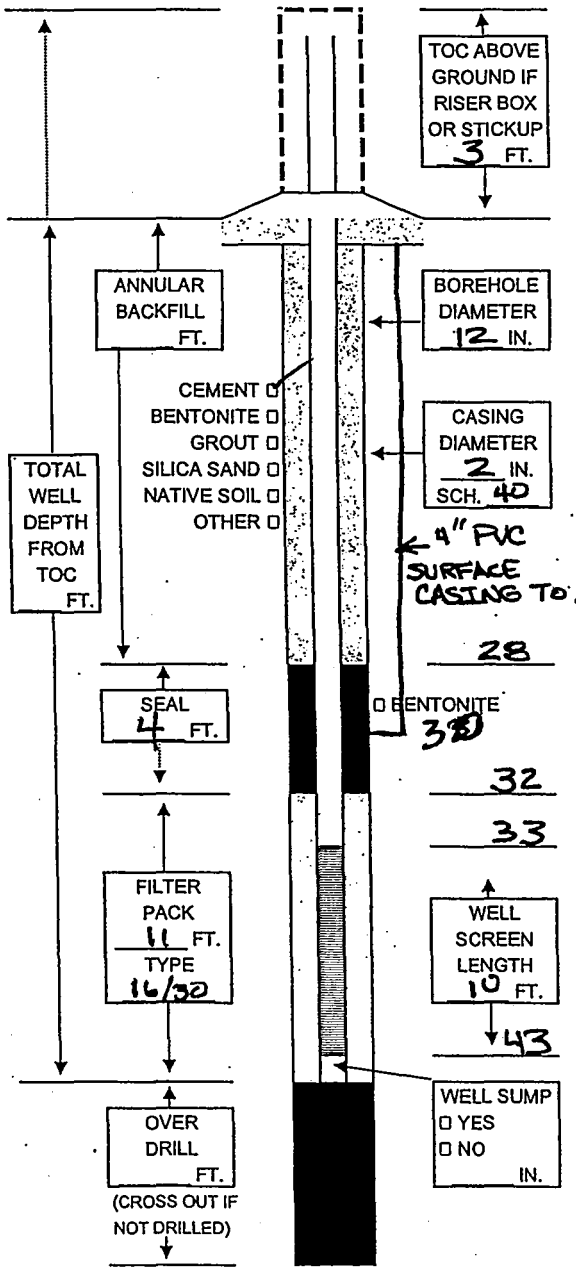
Bottom Surface Casing Elevation: 403.0 Ft MSL
Top of Bentonite Elevation: 405.0 Ft MSL
Top of Sand Elevation: 401.0 Ft MSL
Top of Screen Elevation: 400.0 Ft MSL
Bottom of Screen Elevation: 390.0 Ft MSL
Total Well Depth Elevation: 390.0 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973, AUSTIN, TX 78725
DRILLING CO.:
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMA

WELL TYPE: ☑ MONITOR ☐ RECOVERY ☐ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☐ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☑ STEAM CLEAN		☐ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☑ THREADED	☐ WELDED	☐ COUPLED	☐ SCREWED
	☐ OTHER			
PIT CASING:	☑ NO	☐ YES	☐ DESCRIBE	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER ____ IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER ____ IN	
SAND:	SIZE 16/30	LBS/SACK ____		# ____
BENTONITE:	SIZE #4	LBS/SACK ____	LBS/BUCKET ____	# ____
DRILLING:	☑ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
METHOD:	☑ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER			
BIT SIZE: 3¾	☐ 6"	☐ 8"	☐ 10"	☑ 12" ☐ 14"
	☐ OTHER ____ IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER
CENTRALIZER:	☑ NO	☐ YES	INTERVAL	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO.	
	☐ OTHER			
PAD:	☑ 4' X 4'	☐ 5' X 5'	☐ OTHER	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ ROLLOFF BOX	ID NUMBER OF BOX		
	☑ SPREAD	☐ OTHER		
DEVELOPMENT	☐ NONE	☐ BAILING	☐ PUMPING	☐ AIR LIFT
METHOD:	☐ SURGE & BLOCK	☐ OTHER		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER ____ MIN	
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER ____ GAL	
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE	
DEVELOPMENT	☐ DRUMMED	NUMBER OF DRUMS		
WATER:	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL ____ FT	☐ BTOC	☐ BLS	
DATE:	____	____ FT BELOW TOC		
DATE:	____	____ FT BELOW TOC		

NOTES:

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N9289.43, E9454.93
Surface Elev: 433.0 Ft MSL
TOC Elev: 435.94 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-14
DATE: 9/24/03
PREPARED BY: Tracy Payne

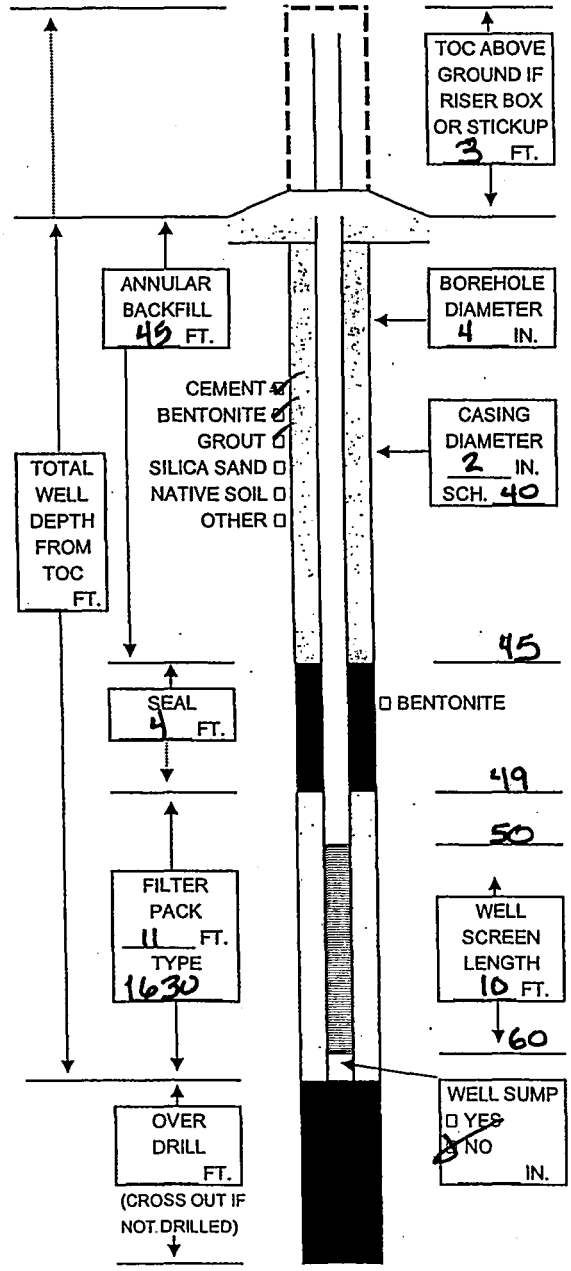
Bottom Surface Casing Elevation: 400.2 Ft MSL
Top of Bentonite Elevation: 391.2 Ft MSL
Top of Sand Elevation: 387.2 Ft MSL
Top of Screen Elevation: 386.2 Ft MSL
Bottom of Screen Elevation: 376.2 Ft MSL
Total Well Depth Elevation: 376.2 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973 AUSTIN, TEXAS
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☐ MONITOR ☐ RECOVERY ☑ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☑ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☑ STEAM CLEAN		☐ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☐ THREADED	☐ WELDED	☑ COUPLED	☐ SCREWED
	☐ OTHER			
PIT CASING:	☑ NO	☐ YES	☐ DESCRIBE	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER ____ IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER ____ IN	
SAND:	SIZE 1630	LBS/SACK ____		# ____
BENTONITE:	SIZE 3/8	LBS/SACK ____	LBS/BUCKET ____	# ____
DRILLING:	☐ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
METHOD:	☑ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER			
BIT SIZE: 4"	☐ 6"	☐ 8"	☐ 10"	☐ 12" ☐ 14"
	☐ OTHER ____ IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER
CENTRALIZER:	☑ NO	☐ YES	INTERVAL	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO.	
	☐ OTHER			
PAD:	☐ 4' X 4'	☐ 5' X 5'	☐ OTHER	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ ROLLOFF BOX	ID NUMBER OF BOX		
	☑ SPREAD	☐ OTHER		
DEVELOPMENT	☐ NONE	☑ BAILING	☐ PUMPING	☐ AIR LIFT
METHOD:	☐ SURGE & BLOCK	☐ OTHER		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER ____ MIN	
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER ____ GAL	
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE	
DEVELOPMENT WATER:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL ____ FT	☐ BTOC	☐ BLS	
DATE:		____ FT BELOW TOC		
DATE:		____ FT BELOW TOC		

NOTES: SET 4" PVC SURFACE CASING TO 36' BGL

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N10314.30, E8643.25
Surface Elev: 436.2 Ft MSL
TOC Elev: 439.42 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-15
DATE: 8-12-03
PREPARED BY: TRACY PAYNE

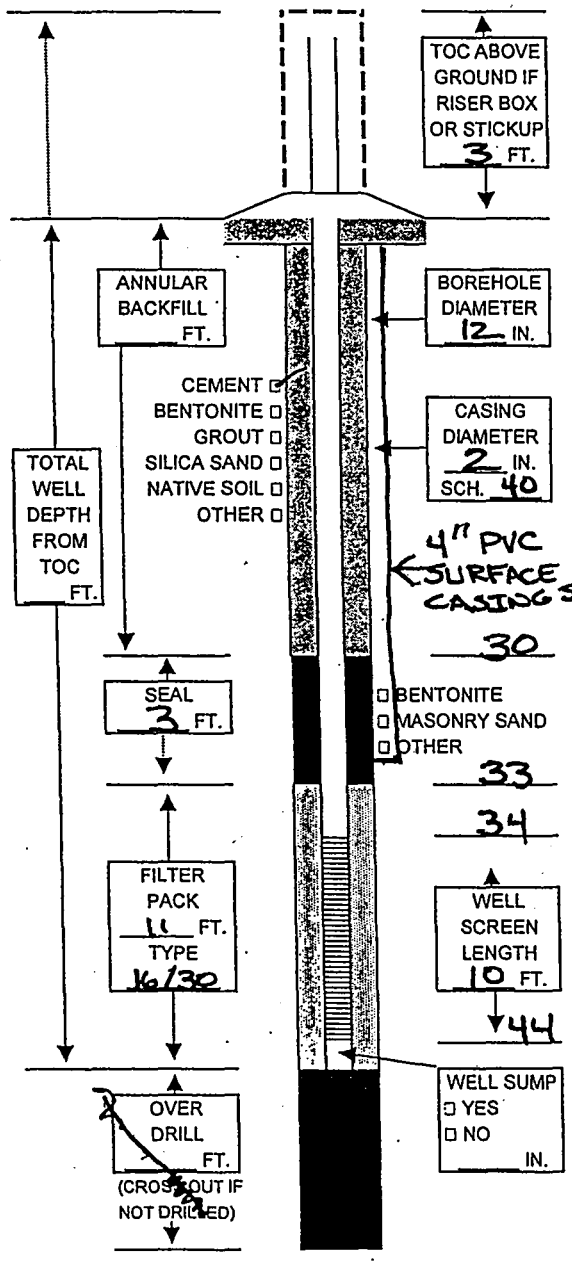
Bottom Surface Casing Elevation: 403.5 Ft MSL
Top of Bentonite Elevation: 405.5 Ft MSL
Top of Sand Elevation: 402.5 Ft MSL
Top of Screen Elevation: 401.5 Ft MSL
Bottom of Screen Elevation: 391.5 Ft MSL
Total Well Depth Elevation: 391.5 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973, AUSTIN TX 78725
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS, RICHARD GRAHAM, JACK LOMAX

WELL TYPE: ☑ MONITORING ☐ RECOVERY ☐ SINGLE CASED
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☐ DOUBLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ OBSERVATION ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON. ☑ STEAM CLEAN ☐ HIGH PRESSURE WASH ☐ SOAP WASH ☐ OTHER
CASING TYPE: ☑ PVC ☐ STAINLESS ☐ TEFLON ☐ OTHER
JOINTS: ☑ THREADED ☐ WELDED ☐ COUPLED ☐ SCREWED ☐ OTHER
PIT CASING: ☑ NO ☐ YES ☐ DESCRIBE
WELL SCREEN: ☑ PVC ☐ STAINLESS ☐ TEFLON ☐ OTHER
DIAMETER: ☑ 2" ☐ 4" ☐ 6" ☐ OTHER IN
SLOT: ☑ 0.010 ☐ 0.020 ☐ OTHER IN
SAND: SIZE #10/30 LBS/SACK #
BENTONITE: SIZE 1/4 LBS/SACK LBS/BUCKET #
DRILLING METHOD: ☑ HOLLOW STEM ☐ SOLID STEM ☐ MUD ROTARY ☑ AIR ROTARY ☐ DIRECT PUSH ☐ HAND AUGER ☐ OTHER
BIT SIZE: 3 3/4 ☐ 6" ☐ 8" ☐ 10" ☑ 12" ☐ 14" ☐ OTHER IN
DRILLING MUD: ☑ NONE ☐ BENTONITE ☐ WATER ☐ OTHER
CENTRALIZER: ☑ NO ☐ YES INTERVAL
COMPLETION: ☐ FLUSH MOUNT ☑ STICKUP ☐ RISER BOX
LOCK TYPE: ☐ DOLPHIN ☐ MASTER KEY NO. ☐ OTHER
PAD: ☑ 4' X 4' ☐ 5' X 5' ☐ OTHER
CUTTINGS: ☐ DRUMMED NUMBER OF DRUMS ☐ ROLLOFF BOX ID NUMBER OF BOX ☑ SPREAD ☐ OTHER
DEVELOPMENT METHOD: ☐ NONE ☐ BAILING ☐ PUMPING ☐ AIR LIFT ☐ SURGE & BLOCK ☐ OTHER
TIME: ☐ 10 MIN ☐ 20 MIN ☐ OTHER MIN
AMOUNT: ☐ 5 GAL ☐ 10 GAL ☐ OTHER GAL
WATER BEFORE: ☐ SILTY ☐ TURBID ☐ OPAQUE ☐ CLEAR
WATER AFTER: ☐ SILTY ☐ TURBID ☐ OPAQUE ☐ CLEAR
EVIDENT ODOR: ☐ YES ☐ NO ☐ TYPE

DEVELOPMENT WATER: ☐ DRUMMED NUMBER OF DRUMS ☐ FACILITY WWTS ☐ TREATED ☐ POTW ☐ OTHER

WATER LEVEL: INITIAL FT ☐ BTOC ☐ BLS
DATE: FT BELOW TOC
DATE: FT BELOW TOC

NOTES: TD 101' & GROUTED BACK
WELL INSTALLED 8/26/03

JDC

JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N10279.94, E9109.23
Surface Elev: 435.5 Ft MSL
TOC Elev: 438.45 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-16
DATE: 08-03-03
PREPARED BY: Tracy Payne

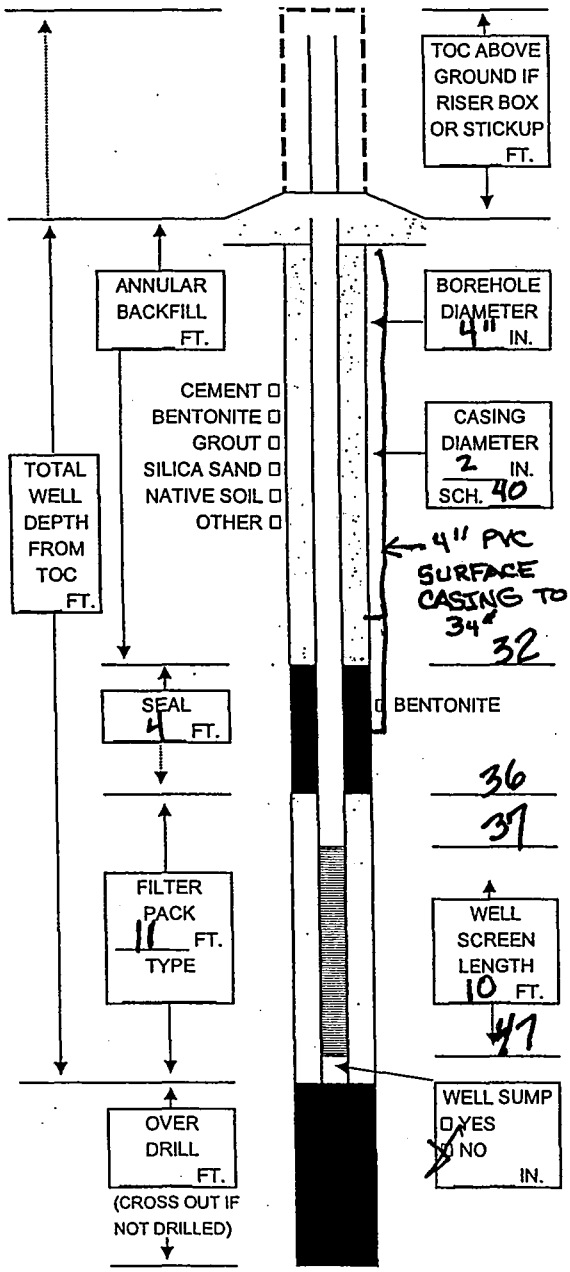
Bottom Surface Casing Elevation: 401.5 Ft MSL
Top of Bentonite Elevation: 403.5 Ft MSL
Top of Sand Elevation: 399.5 Ft MSL
Top of Screen Elevation: 398.5 Ft MSL
Bottom of Screen Elevation: 388.5 Ft MSL
Total Well Depth Elevation: 388.5 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973 AUSTIN, TX 78725
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS

WELL TYPE: ☑ MONITOR ☐ RECOVERY ☐ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☐ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☐ STEAM CLEAN		☑ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☑ THREADED	☐ WELDED	☐ COUPLED	☐ SCREWED
	☐ OTHER			
PIT CASING:	☑ NO	☐ YES	☐ DESCRIBE	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER IN	
SAND:	SIZE	LBS/SACK		#
BENTONITE:	SIZE	LBS/SACK	LBS/BUCKET	#
DRILLING:	☑ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
METHOD:	☑ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER			
BIT SIZE:	☐ 6"	☐ 8"	☐ 10"	☐ 12" ☐ 14"
	☐ OTHER IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER
CENTRALIZER:	☑ NO	☐ YES	INTERVAL	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO.	
	☑ OTHER			
PAD:	☐ 4' X 4'	☐ 5' X 5'	☐ OTHER	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ ROLLOFF BOX	ID NUMBER OF BOX		
	☑ SPREAD	☐ OTHER		
DEVELOPMENT	☐ NONE	☐ BAILING	☐ PUMPING	☐ AIR LIFT
METHOD:	☐ SURGE & BLOCK	☐ OTHER		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER MIN	
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER GAL	
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE	
DEVELOPMENT	☐ DRUMMED	NUMBER OF DRUMS		
WATER:	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL FT	☐ BTOC	☐ BLS	
DATE:		FT BELOW TOC		
DATE:		FT BELOW TOC		

NOTES: WELL INSTALLED 8-18-03

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N9820.96, E9134.30
Surface Elev: 435.5 Ft MSL
TOC Elev: 438.27 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-17
DATE: 8-5-03
PREPARED BY: Tracy Payne

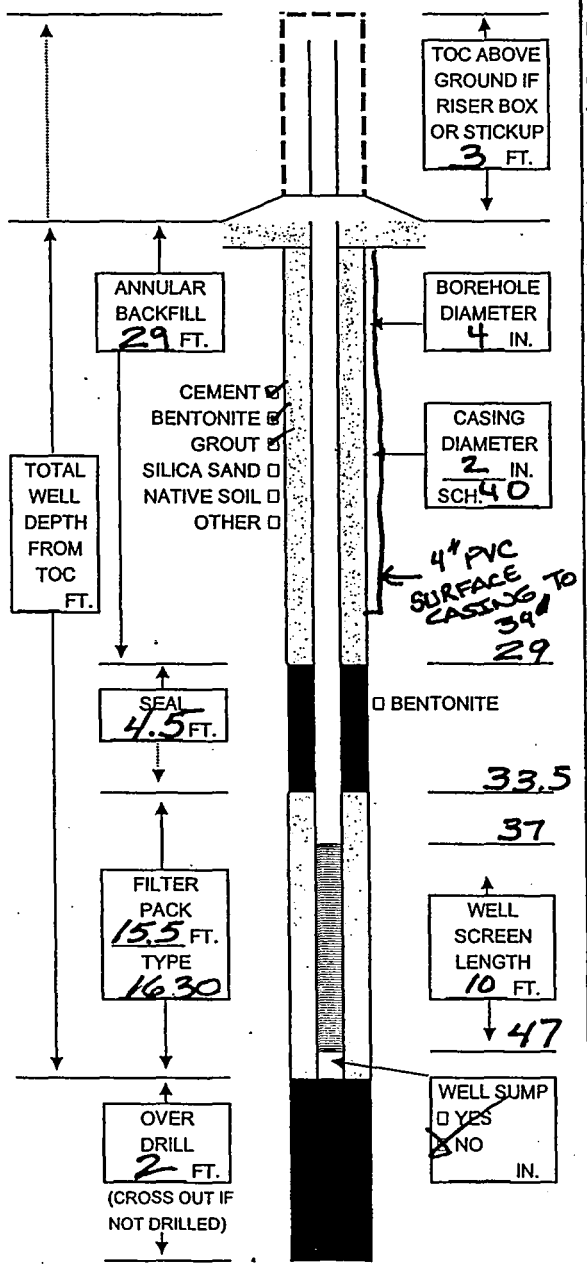
Bottom Surface Casing Elevation: 400.8 Ft MSL
Top of Bentonite Elevation: 405.8 Ft MSL
Top of Sand Elevation: 401.3 Ft MSL
Top of Screen Elevation: 397.8 Ft MSL
Bottom of Screen Elevation: 387.8 Ft MSL
Total Well Depth Elevation: 387.8 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973 AUSTIN, TX 78725
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS

WELL TYPE: ☑ MONITOR ☐ RECOVERY ☐ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☐ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☑ STEAM CLEAN		☐ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☐ THREADED	☐ WELDED	☑ COUPLED	☐ SCREWED
	☐ OTHER			
PIT CASING:	☐ NO	☐ YES	☐ DESCRIBE	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER ____ IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER ____ IN	
SAND:	SIZE 16/30	LBS/SACK ____		# ____
BENTONITE:	SIZE 3/8	LBS/SACK ____	LBS/BUCKET ____	# ____
DRILLING METHOD:	☐ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
	☐ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER			
BIT SIZE: 4"	☐ 6"	☐ 8"	☐ 10"	☐ 12" ☐ 14"
	☐ OTHER ____ IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER
CENTRALIZER:	☑ NO	☐ YES	INTERVAL	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO.	
	☐ OTHER			
PAD:	☐ 4' X 4'	☐ 5' X 5'	☐ OTHER	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ ROLLOFF BOX	ID NUMBER OF BOX		
	☑ SPREAD	☐ OTHER		
DEVELOPMENT METHOD:	☐ NONE	☑ BAILING	☐ PUMPING	☐ AIR LIFT
	☐ SURGE & BLOCK	☐ OTHER		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER ____	MIN
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER ____	GAL
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE	
DEVELOPMENT WATER:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL ____ FT	☐ BTOC	☐ BLS	
DATE:	____	____ FT BELOW TOC		
DATE:	____	____ FT BELOW TOC		

NOTES:

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N9838.44, E9496.98
Surface Elev: 434.8 Ft MSL
TOC Elev: 437.87 Ft MSL

WELL CONSTRUCTION DATA

WELL NUMBER: B-18
DATE: 8-8-03
PREPARED BY: Tracy Payne

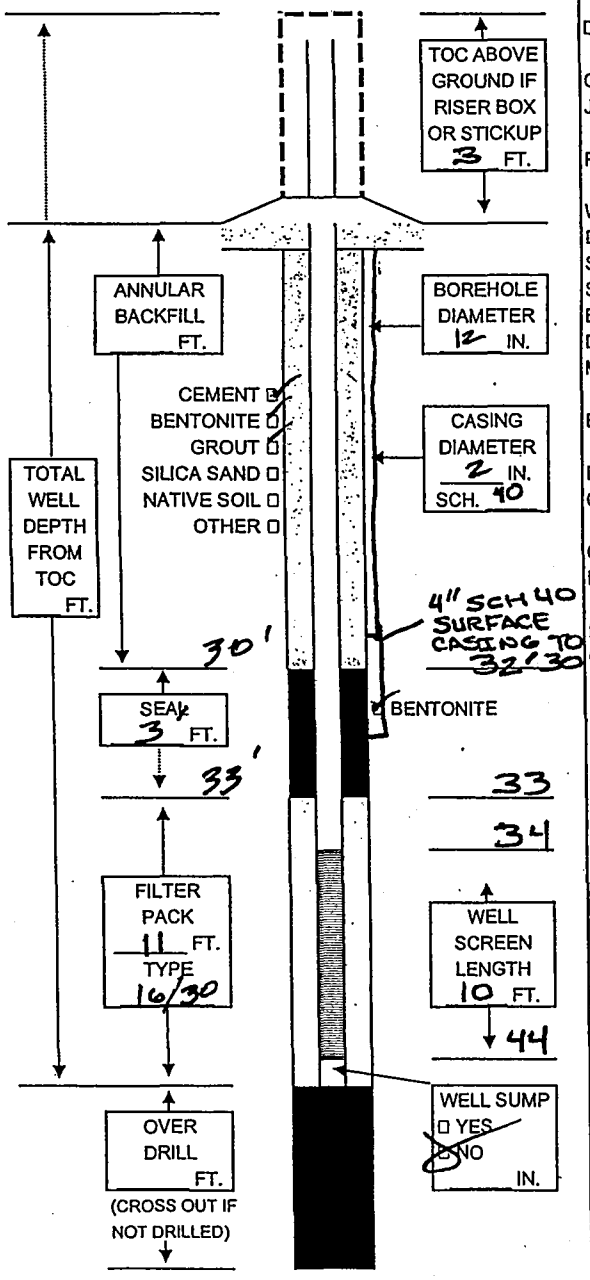
Bottom Surface Casing Elevation: 402.0 Ft MSL
Top of Bentonite Elevation: 404.0 Ft MSL
Top of Sand Elevation: 401.0 Ft MSL
Top of Screen Elevation: 400.0 Ft MSL
Bottom of Screen Elevation: 390.0 Ft MSL
Total Well Depth Elevation: 390.0 Ft MSL

Elevations based on ground surface elevation.

CLIENT NAME: JV DIRT & LOAM
PROJECT LOCATION: 3600 FM 973 AUSTIN, TX 78725
DRILLING CO.: GEO PROJECTS INTERNATIONAL
DRILL CREW: JOSE LANDEROS

WELL TYPE: ☑ MONITOR ☐ RECOVERY ☐ OBSERVATION
☐ TEMPORARY ☐ PERMANENT ☐ REPLACEMENT ☐ SINGLE CASED
☐ SHALLOW ☐ INTERMEDIATE ☐ DEEP ☐ DOUBLE CASED ☐ OTHER

WELL SCHEMATIC



INSTALLATION DATA

DECON.	☑ STEAM CLEAN		☐ HIGH PRESSURE WASH	
	☐ SOAP WASH		☐ OTHER	
CASING TYPE:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
JOINTS:	☑ THREADED	☐ WELDED	☐ COUPLED	☐ SCREWED
	☐ OTHER			
PIT CASING:	☑ NO	☐ YES	☐ DESCRIBE	
WELL SCREEN:	☑ PVC	☐ STAINLESS	☐ TEFLON	☐ OTHER
DIAMETER:	☑ 2"	☐ 4"	☐ 6"	☐ OTHER ____ IN
SLOT:	☑ 0.010	☐ 0.020	☐ OTHER ____ IN	
SAND:	SIZE 16/30	LBS/SACK ____		# ____
BENTONITE:	SIZE #4	LBS/SACK ____	LBS/BUCKET ____	# ____
DRILLING METHOD:	☑ HOLLOW STEM	☐ SOLID STEM	☐ MUD ROTARY	
	☐ AIR ROTARY	☐ DIRECT PUSH	☐ HAND AUGER	
	☐ OTHER			
BIT SIZE: 3 3/4	☐ 6"	☐ 8"	☐ 10"	☑ 12" ☐ 14"
	☐ OTHER ____ IN			
DRILLING MUD:	☑ NONE	☐ BENTONITE	☐ WATER	☐ OTHER
CENTRALIZER:	☑ NO	☐ YES	INTERVAL	
COMPLETION:	☐ FLUSH MOUNT	☑ STICKUP	☐ RISER BOX	
LOCK TYPE:	☐ DOLPHIN	☐ MASTER	KEY NO.	
	☐ OTHER			
PAD:	☑ 4' X 4'	☐ 5' X 5'	☐ OTHER	
CUTTINGS:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ ROLLOFF BOX	ID NUMBER OF BOX		
	☐ SPREAD	☐ OTHER		
DEVELOPMENT METHOD:	☐ NONE	☐ BAILING	☐ PUMPING	☐ AIR LIFT
	☐ SURGE & BLOCK	☐ OTHER		
TIME:	☐ 10 MIN	☐ 20 MIN	☐ OTHER ____	MIN
AMOUNT:	☐ 5 GAL	☐ 10 GAL	☐ OTHER ____	GAL
WATER BEFORE:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
WATER AFTER:	☐ SILTY	☐ TURBID	☐ OPAQUE	☐ CLEAR
EVIDENT ODOR:	☐ YES	☐ NO	☐ TYPE	
DEVELOPMENT WATER:	☐ DRUMMED	NUMBER OF DRUMS		
	☐ FACILITY WWTS	☐ TREATED	☐ POTW	☐ OTHER
WATER LEVEL:	INITIAL ____ FT	☐ BTOC	☐ BLS	
DATE:	____	____ FT BELOW TOC		
DATE:	____	____ FT BELOW TOC		

NOTES:

JDC
JD CONSULTING, LP
321 TEXAN TRAIL, SUITE 203
CORPUS CHRISTI, TEXAS 78411
361-855-7335 361-855-7410 (fax)

Coordinates: N10006.56, E9891.77
Surface Elev: 434.0 Ft MSL
TOC Elev: 436.94 Ft MSL

JD Consulting, L.P.
321 Texan Trail, Suite 203
Corpus Christi, Texas 78411

WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

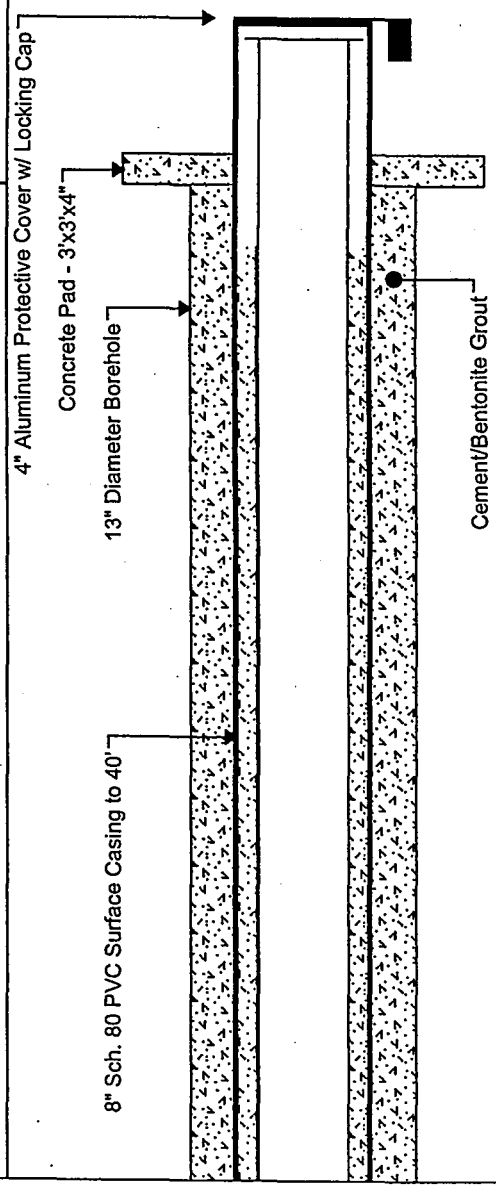
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: None in well.
Site Coordinates:
N 9818.33 E 7888.62

Well No.: MW-1
Sheet: 1 of 4
Start Date: 12/2/2003 08:10
Finish Date: 12/4/2003 09:45
Elev., TOC (ft. msl): 433.57
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 430.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
-3					
-1					
1					Ground Surface
3					**Clay Loam/Sand (SP)** Fine grained, compact, dry to damp, light brown (description from Soil Boring B-07)
5					
7					
9					
11	Cuttings				
13					
15					

Completion Results



JD Consulting, L.P.
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Corpus Christi, Texas 78411

WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

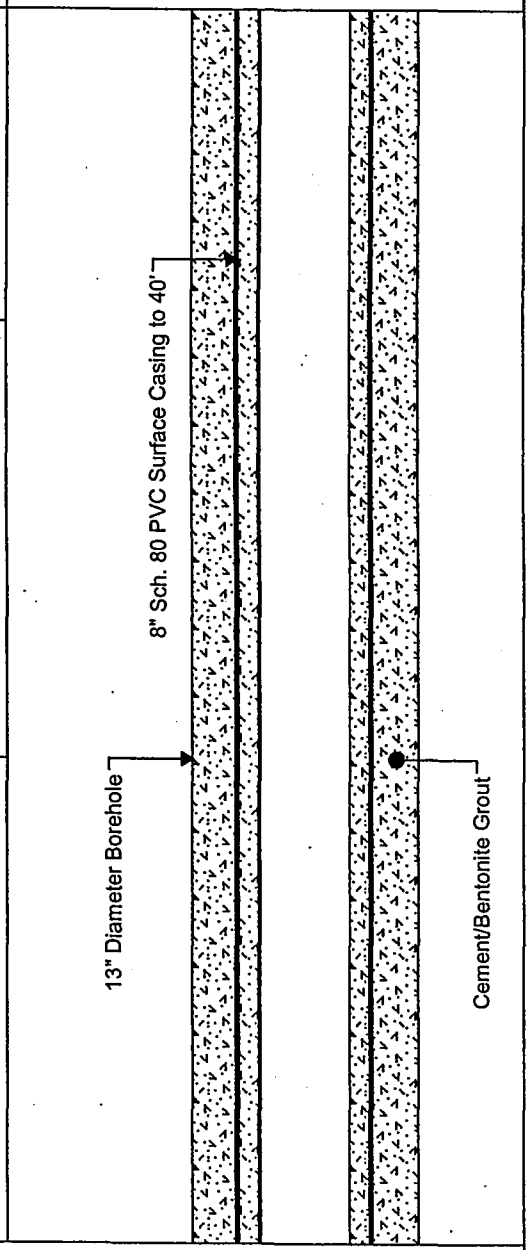
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: None in well.
Site Coordinates:
N 9818.33 E 7888.62

Well No.: MW-1
Sheet: 2 of 4
Start Date: 12/2/2003 08:10
Finish Date: 12/4/2003 09:45
Elev., TOC (ft. msl): 433.57
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 430.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
18	Cuttings				**Clay Loam/Sand (SP)** Fine grained, compact, dry to damp, light brown
20		21'			Contact elevation - 409.8 Ft. MSL
22					**Gravel/Sandy Gravel (GP)** Fine to medium grained sand, pebble to cobble sized gravel, saturated (description from Soil Boring B-07)
24					
26					
28					Contact elevation - 402.8 Ft. MSL
30					**Clay (CH)** High plasticity, stiff, dry, gray
32					
34	Cuttings				

Completion Results



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Corpus Christi, Texas 78411

WELL INSTALLATION

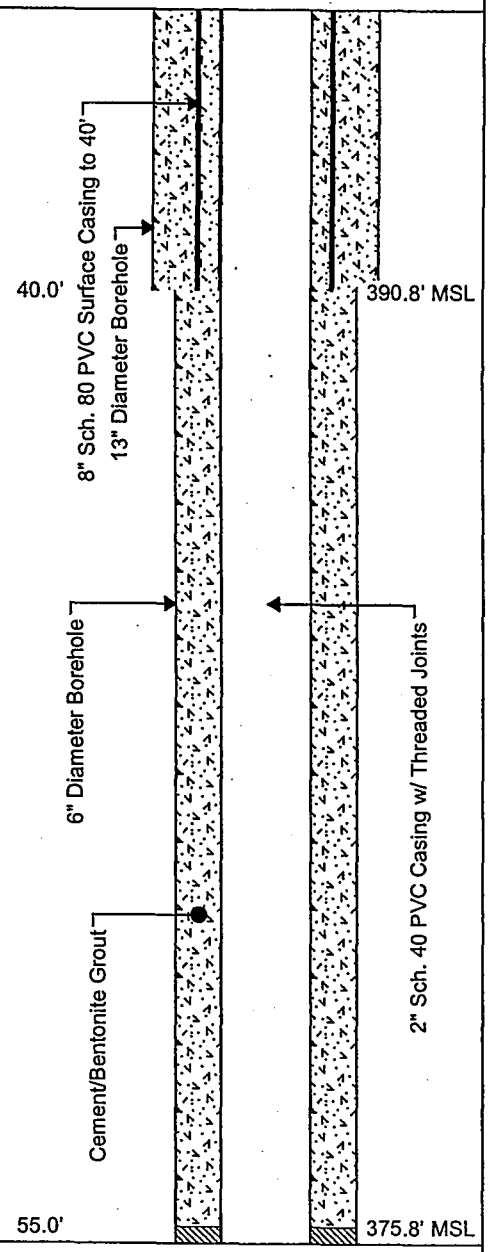
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: None in well.
Site Coordinates:
N 9818.33 E 7888.62

Well No.: MW-1
Sheet: 3 of 4
Start Date: 12/2/2003 08:10
Finish Date: 12/4/2003 09:45
Elev., TOC (ft. msl): 433.57
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 430.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
37			CH		**Clay (CH)** High plasticity, stiff, dry, gray
39					
41			CH		**Clay (CH)** High plasticity, stiff, damp, gray
43					
45					
47					
49					
51					
53					
55					



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Corpus Christi, Texas 78411

WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

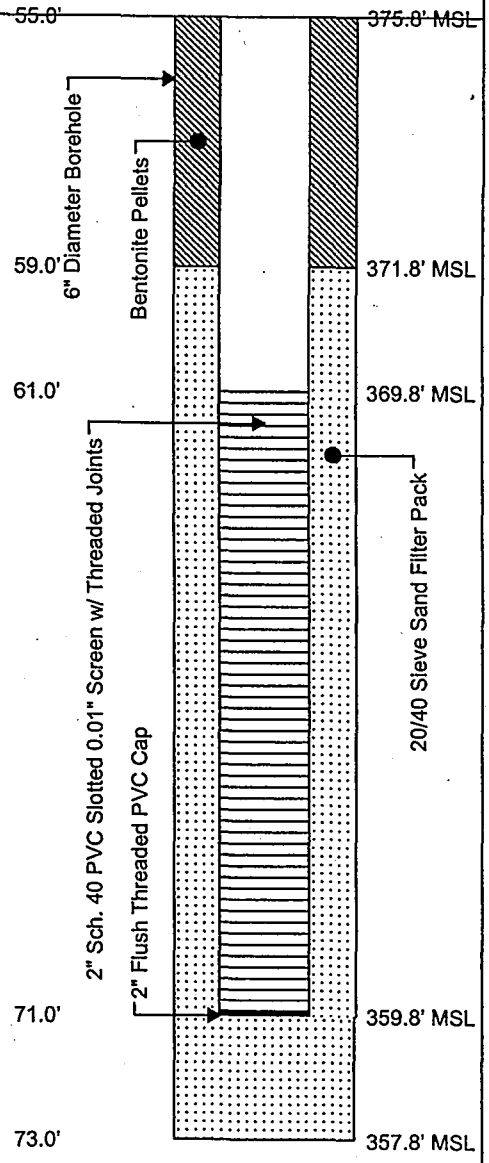
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: None in well.
Site Coordinates:
N 9818.33 E 7888.62

Well No.: MW-1
Sheet: 4 of 4
Start Date: 12/2/2003 08:10
Finish Date: 12/4/2003 09:45
Elev., TOC (ft. msl): 433.57
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 430.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
57	Cuttings		CH		**Clay (CH)** High plasticity, stiff, damp, gray
59					
61					
63					
65					
67					
69					
71					
73					Total Depth = 73' BGL

Completion Results



JD Consulting, L.P.
321 Texan Trail, Suite 203
Corpus Christi, Texas 78411
361/855-7335
361/855-7410 fax

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321 Texan Trail, Suite 203
Corpus Christi, Texas 78411

WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

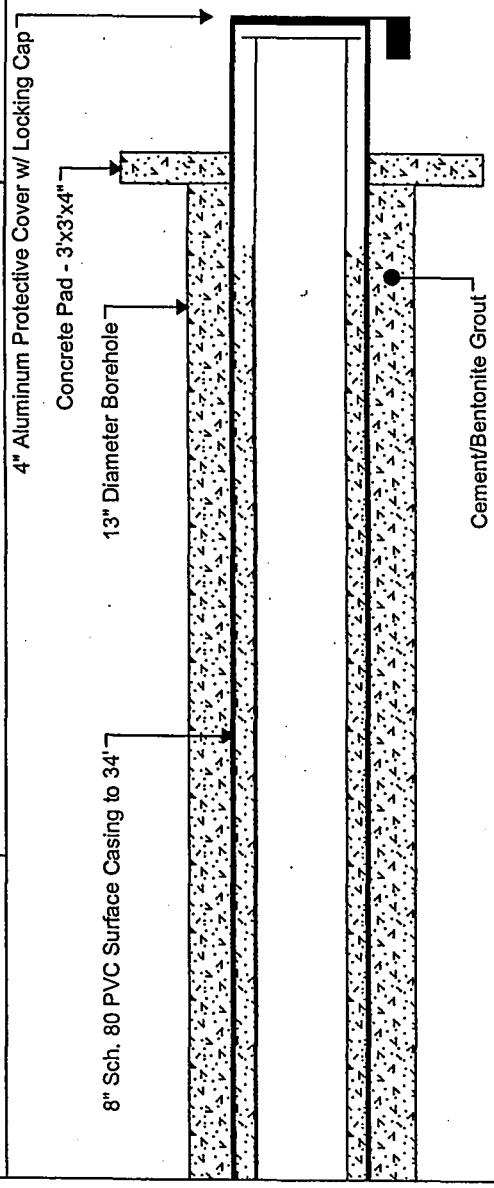
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 67' BGL
Ground Water: None in well.
Site Coordinates:
N 8750.74 E 8198.79

Well No.: MW-2
Sheet: 1 of 4
Start Date: 12/2/2003 15:15
Finish Date: 12/4/2003 11:45
Elev., TOC (ft. msl): 427.41
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 424.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
-3					
-1					Ground Surface
1					**Sand (SP)** Fine grain sand, compact, dry to damp, light brown (description from Soil Boring B-03)
3					
5	Cuttings				
7					
9					
11		11'			Contact elevation - 413.8 Ft. MSL
13					**Sandy Gravel (GP)** Fine to medium grained sand, pebble to cobble sized gravel, saturated (description from Soil Boring B-03)
15					

Completion Results



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Corpus Christi, Texas 78411

WELL INSTALLATION

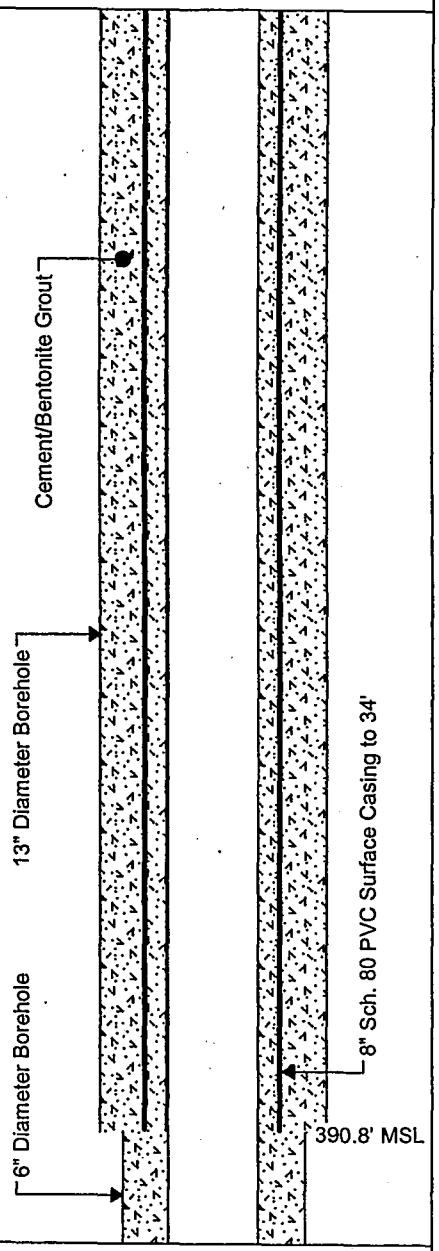
Well No.: MW-2
Sheet: 2 of 4
Start Date: 12/2/2003 15:15
Finish Date: 12/4/2003 11:45
Elev., TOC (ft. msl): 427.41
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 424.8

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 67' BGL
Ground Water: None in well.
Site Coordinates:
N 8750.74 E 8198.79

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
18	Cuttings				**Sandy Gravel (GW)** Fine to medium grained sand, pebble to cobble sized gravel, saturated (description from Soil Boring B-03)
20					Contact elevation - 403.8 Ft. MSL
22					**Clay (CH)** High plasticity, very stiff, dry, gray
24					
26					
28	Cuttings				
30					
32					
34					**Clay (CH)** High plasticity, stiff, damp, gray



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Corpus Christi, Texas 78411

WELL INSTALLATION

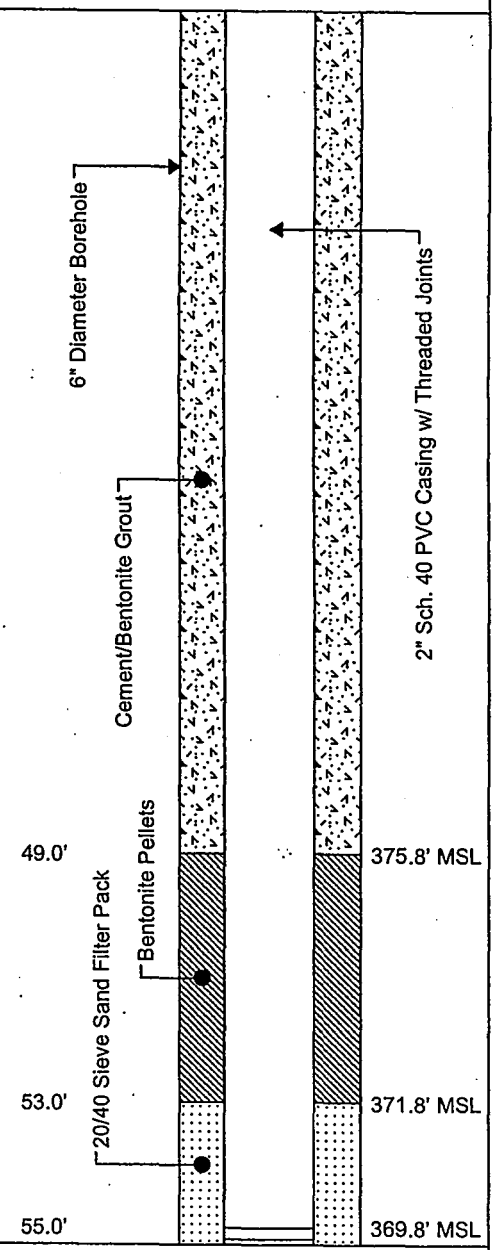
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 67' BGL
Ground Water: None in well.
Site Coordinates:
N 8750.74 **E** 8198.79

Well No.: MW-2
Sheet: 3 of 4
Start Date: 12/2/2003 15:15
Finish Date: 12/4/2003 11:45
Elev., TOC (ft. msl): 427.41
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 424.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
37	Cuttings		CH		**Clay (CH)** High plasticity, stiff, damp, gray
39					
41					
43					
45					
47					
49					
51					
53					
55					



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Corpus Christi, Texas 78411

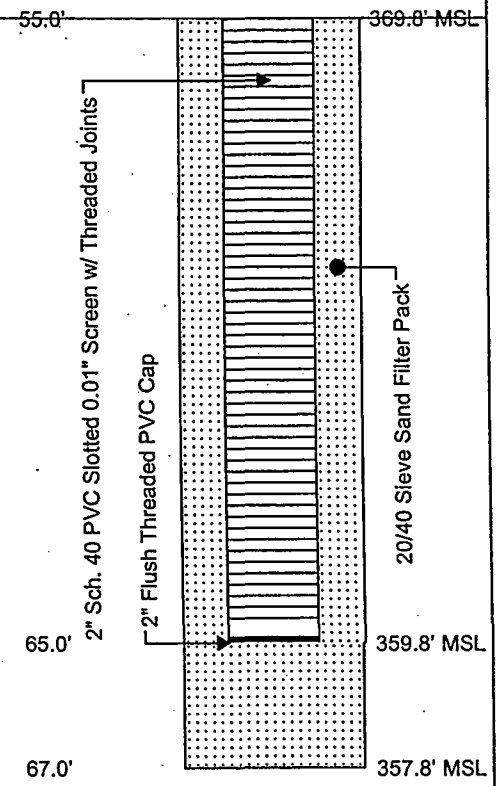
WELL INSTALLATION

Well No.: MW-2
Client: J-V Dirt & Loam
Driller: Dan Spaust - Total Support Svcs
Sheet: 4 of 4
Site: 3600 FM 973 North Austin, TX 78725
Drilling Rig: Mobil Drill
Start Date: 12/2/2003 15:15
Job No.: 292-01
Total Depth: 67' BGL
Finish Date: 12/4/2003 11:45
Geologist: Tracy Payne
Ground Water: None in well.
Elev., TOC (ft. msl): 427.41
Drilling Method: Hollow-Stem/Solid Stem Augers
Site Coordinates:
Elev., PAD (ft. msl): Unknown
Sampling Method:
N 8750.74 **E** 8198.79
Elev., GL (ft. msl): 424.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
57			CH		**Clay (CH)** High plasticity, stiff, damp, gray
59					
61					
63					
65					
67					Total Depth = 67' BGL
69					
71					
73					

Completion Results



JD Consulting, L.P.
321 Texan Trail, Suite 203
Corpus Christi, Texas 78411
361/855-7335
361/855-7410 fax

JD Consulting, L.P.
321 Texan Trail, Suite 203
Corpus Christi, Texas 78411

WELL INSTALLATION

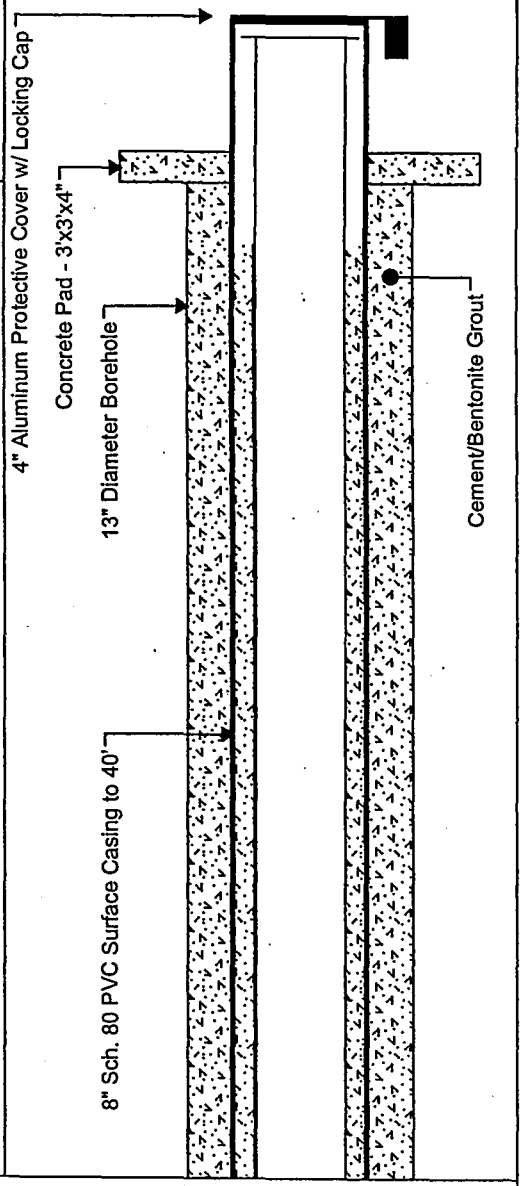
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: 63' BGL
Site Coordinates:
N 9303.65 E 9462.90

Well No.: MW-3
Sheet: 1 of 4
Start Date: 12/1/2003 09:15
Finish Date: 12/3/2003 16:30
Elev., TOC (ft. msl): 435.95
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 433.0

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
-3					
-1					Ground Surface
1	Cuttings				**Clay Loam/Sand (SP)** Fine grained sand, compact to loose, dry to damp, reddish brown (description from soil boring B-12)
3					
5					
7					
9					
11					
13					
15					



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321 Texan Trail, Suite 203
Corpus Christi, Texas 78411

WELL INSTALLATION

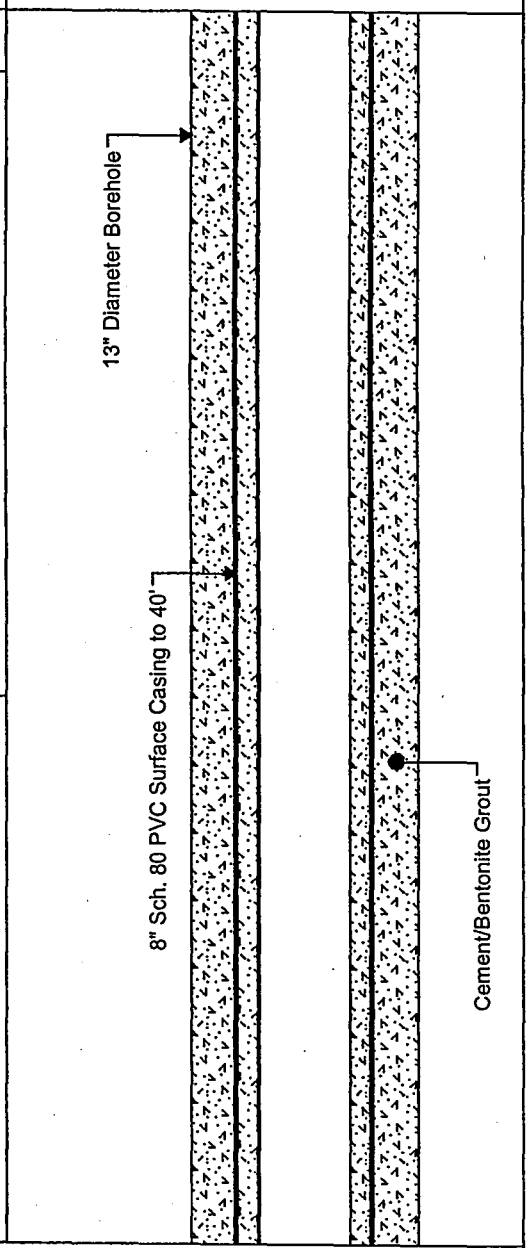
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: 63' BGL
Site Coordinates:
N 9303.65 E 9462.90

Well No.: MW-3
Sheet: 2 of 4
Start Date: 12/1/2003 09:15
Finish Date: 12/3/2003 16:30
Elev., TOC (ft. msl): 435.95
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 433.0

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
18					Contact elevation - 416.0 Ft. MSL
20					**Sand/Gravel (GP)** Moist to saturated at base (description from Soil Boring B-12)
22	Cuttings	24'			
24					
26					Contact elevation - 406.0 Ft. MSL
28					**Clay (CH)** High plasticity, very stiff, damp, greenish gray
30					
32					
34	Cuttings				



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Corpus Christi, Texas 78411

WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

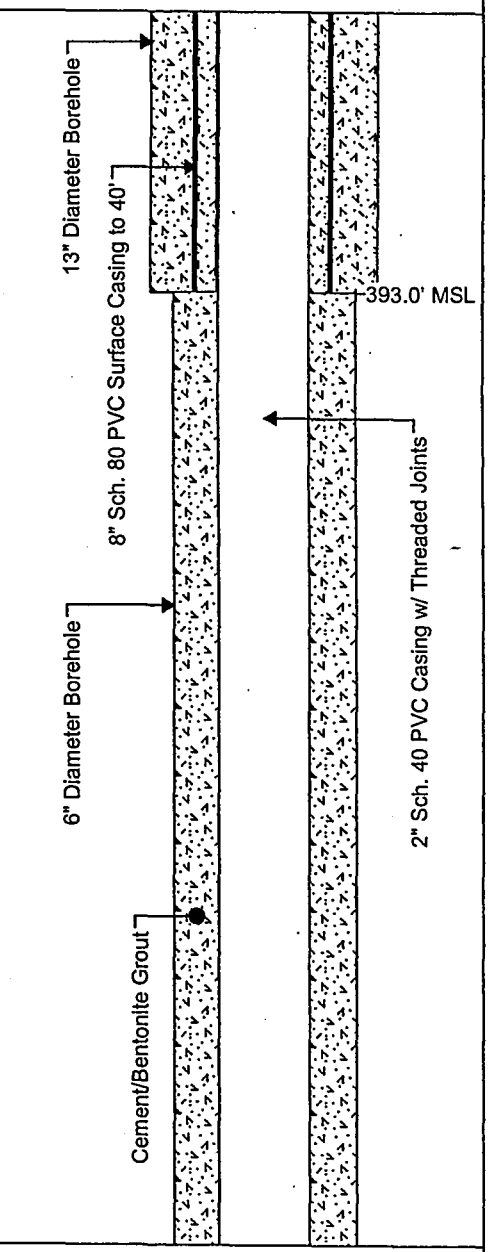
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: 63' BGL
Site Coordinates:
N 9303.65 E 9462.90

Well No.: MW-3
Sheet: 3 of 4
Start Date: 12/1/2003 09:15
Finish Date: 12/3/2003 16:30
Elev., TOC (ft. msl): 435.95
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 433.0

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
37					**Clay (CH)** High plasticity, very stiff, damp, greenish gray
39					
41					**Clay (CH)** High plasticity, stiff, gray, moist clay observed on augers from 40' to 58' BGL, water on augers from 68' to 73' BGL
43					
45					
47					
49					
51					
53					
55					

Completion Results



JD Consulting, L.P.
321 Texan Trail, Suite 203
Corpus Christi, Texas 78411

WELL INSTALLATION

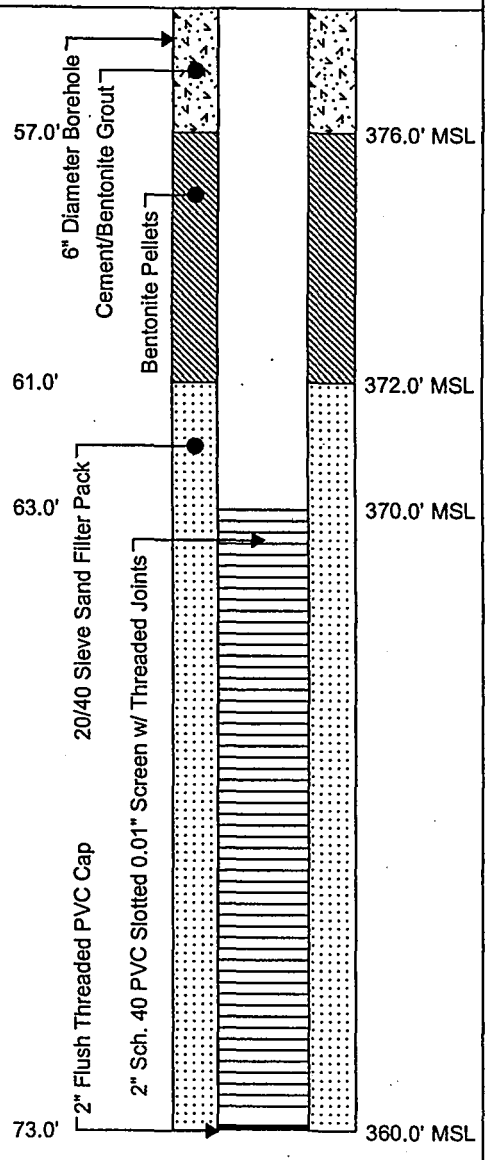
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: 63' BGL
Site Coordinates:
N 9303.65 **E** 9462.90

Well No.: MW-3
Sheet: 4 of 4
Start Date: 12/1/2003 09:15
Finish Date: 12/3/2003 16:30
Elev., TOC (ft. msl): 435.95
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 433.0

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
57	Cuttings		CH		**Clay (CH)** High plasticity, stiff, gray, moist clay observed on augers from 40' to 58' BGL, water on augers from 68' to 73' BGL
59					
61					
63					
65					
67					
69					
71					
73					Total Depth = 73' BGL



JD Consulting, L.P.
321 Texan Trail, Suite 203
Corpus Christi, Texas 78411

361/855-7335
361/855-7410 fax

Appendix I.13
2003 – 2004 Groundwater Elevation Data

Appendix I.13A
Data and Figures from Original Attachment 13

Attachment 13

Groundwater Elevation Data

This is a historical document that was originally included in the Geologic and Hydrogeologic Report (as revised through April 22, 2013) as Attachment 13. However, it is being submitted as an appendix in this revision, in lieu of an attachment, per TCEQ request. Also, the original Attachment 13 is provided herein as Appendix 13A to allow for the addition of historical data in Appendix 13B. Appendix 13A contains historical references to Attachment 13 as in the original document.

Attachment 13
Groundwater Investigation - Water Level Measurement Summary
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

Boring No.	Top of Casing Elevation (Ft. MSL)	8/27/2003		9/3/2003		9/22/2003		9/25/2003		10/3/2003		
		Depth to Water (FBTOC)	Groundwater Elevation (Ft. MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft. MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft. MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft. MSL)	Depth to Water (FBTOC)	Total Depth (FBTOC)	Groundwater Elevation (Ft. MSL)
B-01	No Well	--										
B-02	425.27	NI		NI		NI		32.20	393.07	45.82	54.96	379.45
B-03	428.10	NI		NI		NI		29.50	398.60	53.83	56.64	374.27
B-04	414.63	NI		NI		NI		33.75	380.88	39.05	42.02	375.58
B-05	No Well	--										
B-06	435.36	NI		NI		NI		22.50	412.86	54.70	63.02	380.66
B-07	No Well	--										
B-08	No Well	--										
B-09R	414.84	NI		NI		NI		36.03	378.81	38.38	42.40	376.46
B-10	426.33	NI		NI		20.83*	405.50	NM		55.30	57.76	371.03
B-11	439.14	42.58	396.56	35.0	404.14	32.00	407.14	NM		31.77	48.55	407.37
B-12	435.94	45.65	390.29	45.6	390.34	41.98	393.96	NM		41.20	46.32	394.74
B-13	No Well	--										
B-14	439.42	NI		NI		NI		45.80	393.62	45.58	64.91	393.84
B-15	438.45	32.00	406.45	31.3	407.15	NM		NM		30.96	47.44	407.49
B-16	438.27	30.36	407.91	28.5	409.77	NM		NM		30.32	50.22	407.95
B-17	437.87	29.51	408.36	30.6	407.27	NM		NM		29.42	50.26	408.45
B-18	436.94	28.50	408.44	39.8	397.14	28.15	408.79	NM		28.37	47.39	408.57

Pond 1	Water's Edge	408.44
Pond 2	Water's Edge	407.33
Pond 3	Water's Edge	408.36

FBTOC - feet below top of casing
Ft. MSL - feet above mean sea level
NI - Water levels in bold and shaded are above the top of the Taylor Clay.
NM - NM - Not measured
* Recorded as 18 feet below ground surface in field notes.
Water levels within piezometers B-11 and B-14 through B-18 are representative of the alluvial aquifer.
Water levels within Ponds 1, 2, and 3 are also are representative of the alluvial aquifer.

Attachment 13 (Continued)
Groundwater Investigation - Water Level Measurement Summary
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

Boring No.	Top of Casing Elevation (Ft MSL)	12/1/2003 Depth to Water (FBTOC)	12/1/2003 Groundwater Elevation (Ft MSL)	Well bailed dry on 12/1/03 **	12/2/2003 Depth to Water (FBTOC)	12/2/2003 Groundwater Elevation (Ft MSL)	12/3/2003 Depth to Water (FBTOC)	12/3/2003 Groundwater Elevation (Ft MSL)	12/4/2003 Depth to Water (FBTOC)	12/4/2003 Groundwater Elevation (Ft MSL)	12/8/2003 Depth to Water (FBTOC)	12/8/2003 Groundwater Elevation (Ft MSL)	2/5/2004 Depth to Water (FBTOC)	2/5/2004 Groundwater Elevation (Ft MSL)
B-01	No Well							--						
B-02	425.27	38.95	386.32	No	38.92	386.35	38.87	386.40	38.85	386.42	38.73	386.54	38.09	387.18
B-03	428.10	52.82	375.28	Yes	55.88	372.22	55.73	372.37	55.67	372.43	55.54	372.56	54.83	373.27
B-04	414.63	38.06	376.57	Yes	41.43	373.20	41.35	373.28	41.30	373.33	41.21	373.42	40.71	373.92
B-05	No Well							--						
B-06	435.36	51.11	384.25	Yes	60.82	374.54	60.57	374.79	60.56	374.80	60.31	375.05	57.35	378.01
B-07	No Well							--						
B-08	No Well							--						
B-09R	414.84	37.31	377.53	Yes	40.80	374.04	40.76	374.08	40.71	374.13	40.62	374.22	39.25	375.59
B-10	426.33	54.65	371.68	Yes	56.78	369.55	56.70	369.63	56.65	369.68	56.55	369.78	54.14	372.19
B-11	439.14	31.16	407.98	No	31.14	408.00	31.12	408.02	31.11	408.03	31.05	408.09	30.67	408.47
B-12	435.94	37.08	398.86	Yes	44.73	391.21	44.63	391.31	44.54	391.40	44.23	391.71	39.89	396.05
B-13	No Well							--						
B-14	439.42	31.52	407.90	No	31.45	407.97	31.39	408.03	31.31	408.11	31.09	408.33	30.04	409.38
B-15	438.45	31.32	407.13	No	31.22	407.23	31.11	407.34	31.13	407.32	31.03	407.42	31.33	407.12
B-16	438.27	30.95	407.32	No	30.85	407.42	30.77	407.50	30.87	407.40	30.79	407.48	30.86	407.41
B-17	437.87	29.56	408.31	No	29.85	408.02	30.14	407.73	30.21	407.66	30.26	407.61	30.60	407.27
B-18	436.94	29.07	407.87	No	29.07	407.87	29.07	407.87	29.08	407.86	29.10	407.84	29.52	407.42
MW-1	433.57	NI									Dry		65.22	368.35
MW-2	427.41	NI									Dry		Dry	
MW-3	435.95	NI							70.60 ***	365.35	70.86	365.09	35.36	400.59

FBTOC - Water levels in bold and shaded are above the top of the Taylor Clay.
Ft. MSL - feet above mean sea level
NI - NI - Not installed
** Wells bailed dry after water level measurement taken on 12/1/03.
*** Recorded as 67.65 feet below ground surface in field notes. Monitoring well MW-3 was bailed dry after water level measurement taken on 12/5/03.
Water levels within piezometers B-11 and B-14 through B-18 are representative of the alluvial aquifer.
Water levels within Ponds 1, 2, and 3 are also are representative of the alluvial aquifer.

Attachment 13 (Continued)
Groundwater Investigation - Water Level Measurement Summary
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

Boring No.	Top of Casing Elevation (Ft MSL)	2/27/2004		3/11/2004		3/23/2004		4/2/2004		4/10/2004		4/15/2004	
		Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)
B-02	425.27	37.98	387.29	37.77	387.50	37.68	387.59	37.55	387.72	37.45	387.82	37.43	387.84
B-03	428.10	54.65	373.45	54.35	373.75	53.90	374.20	53.29	374.81	52.73	375.37	52.41	375.69
B-04	414.63	40.42	374.21	40.12	374.51	39.91	374.72	39.73	374.90	39.58	375.05	39.50	375.13
B-06	435.36	56.42	378.94	55.83	379.53	55.35	380.01	54.95	380.41	54.64	380.72	54.47	380.89
B-09R	414.84	38.69	376.15	38.33	376.51	38.07	376.77	37.85	376.99	37.65	377.19	37.53	377.31
B-10	426.33	53.45	372.88	52.95	373.38	52.55	373.78	52.25	374.08	52.05	374.28	51.92	374.41
B-11	439.14	30.77	**408.37**	30.75	**408.39**	30.82	**408.32**	30.87	**408.27**	30.92	**408.22**	31.00	**408.14**
B-12	435.94	38.42	397.52	37.56	398.38	36.89	399.05	36.34	399.60	35.80	400.14	34.50	401.44
B-14	439.42	30.09	**409.33**	30.07	**409.35**	30.10	**409.32**	30.15	**409.27**	30.20	**409.22**	30.23	**409.19**
B-15	438.45	31.23	**407.22**	31.10	**407.35**	31.31	**407.14**	31.45	**407.00**	31.48	**406.97**	31.53	**406.92**
B-16	438.27	30.52	**407.75**	30.49	**407.78**	30.49	**407.78**	30.63	**407.64**	30.65	**407.62**	30.68	**407.59**
B-17	437.87	30.08	**407.79**	30.10	**407.77**	30.16	**407.71**	30.27	**407.60**	30.33	**407.54**	30.33	**407.54**
B-18	436.94	29.02	**407.92**	28.92	**408.02**	29.05	**407.89**	29.24	**407.70**	29.26	**407.68**	29.23	**407.71**
MW-1	433.57	57.75	375.82	53.58	379.99	50.46	383.11	48.03	385.54	46.27	387.30	45.34	388.23
MW-2	427.41	Dry		Dry		Dry		Dry		Dry		Dry	
MW-3	435.95	32.77	403.18	31.31	404.64	29.92	**406.03**	28.85	**407.10**	28.11	**407.84**	28.87	**407.08**

FBTOC - feet below top of casing
Ft. MSL - feet above mean sea level
Only locations with piezometers or monitoring wells are shown on this page.
Water levels within piezometers B-11 and B-14 through B-18 are representative of the alluvial aquifer.
Water levels within Ponds 1, 2, and 3 are also are representative of the alluvial aquifer.
Water levels in bold and shaded are above the top of the Taylor Clay.

Attachment 13 (Continued)
Groundwater Investigation - Water Level Measurement Summary
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

Boring No.	Top of Casing Elevation (Ft MSL)	4/29/2004		5/7/2004		5/13/2004		5/24/2004		6/7/2004		6/15/2004	
		Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)
B-02	425.27	37.25	388.02	37.21	388.06	37.14	388.13	37.03	388.24	36.90	388.37	36.80	388.47
B-03	428.10	51.64	376.46	51.37	376.73	51.19	376.91	50.88	377.22	50.73	377.37	50.49	377.61
B-04	414.63	39.28	375.35	39.19	375.44	39.12	375.51	39.00	375.63	38.88	375.75	38.74	375.89
B-06	435.36	53.85	381.51	53.59	381.77	53.34	382.02	52.91	382.45	52.27	383.09	51.84	383.52
B-09R	414.84	37.22	377.62	37.08	377.76	36.97	377.87	36.75	378.09	36.50	378.34	36.34	378.50
B-10	426.33	51.55	374.78	51.35	374.98	51.20	375.13	50.90	375.43	50.52	375.81	50.32	376.01
B-11	439.14	31.10	**408.04**	31.20	**407.94**	31.25	**407.89**	31.39	**407.75**	31.55	**407.59**	31.63	**407.51**
B-12	435.94	34.57	401.37	34.21	401.73	33.90	402.04	33.39	402.55	32.84	403.10	32.52	403.42
B-14	439.42	30.29	**409.13**	30.36	**409.06**	30.39	**409.03**	30.39	**409.03**	30.52	**408.90**	30.56	**408.86**
B-15	438.45	31.60	**406.85**	31.75	**406.70**	31.80	**406.65**	31.95	**406.50**	31.98	**406.47**	31.31	**407.14**
B-16	438.27	30.87	**407.40**	31.00	**407.27**	31.05	**407.22**	31.17	**407.10**	30.99	**407.28**	30.00	**408.27**
B-17	437.87	30.50	**407.37**	30.52	**407.35**	30.58	**407.29**	30.64	**407.23**	30.77	**407.10**	30.30	**407.57**
B-18	436.94	29.51	**407.43**	29.57	**407.37**	29.64	**407.30**	29.70	**407.24**	29.74	**407.20**	29.12	**407.82**
MW-1	433.57	42.70	390.87	41.75	391.82	40.97	392.60	40.09	393.48	39.42	394.15	39.51	394.06
MW-2	427.41	Dry		Dry		Dry		Dry		Dry		Dry	
MW-3	435.95	27.82	**408.13**	27.95	**408.00**	28.00	**407.95**	28.14	**407.81**	28.24	**407.71**	28.06	**407.89**

FBTOC - feet below top of casing
Ft. MSL - feet above mean sea level
Only locations with piezometers or monitoring wells are shown on this page.
Water levels within piezometers B-11 and B-14 through B-18 are representative of the alluvial aquifer.
Water levels within Ponds 1, 2, and 3 are also are representative of the alluvial aquifer.
Water levels in bold and shaded are above the top of the Taylor Clay.

Attachment 13 (Continued)
Groundwater Investigation - Water Level Measurement Summary
Geologic/Hydrogeologic Report
JV Dirt and Loam Composting Site
Austin, Texas

		6/23/2004		7/6/2004		7/16/2004		8/7/2004		9/7/2004			9/25/2004	
Boring No.	Top of Casing Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Total Well Depth (FBTOC)	Groundwater Elevation (Ft MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft MSL)
B-02	425.27	36.69	388.58	36.50	388.77	36.37	388.90	36.16	389.11	35.92	54.76	389.35	35.85	389.42
B-03	428.10	50.31	377.79	50.09	378.01	49.93	378.17	49.60	378.50	49.22 (1)	56.38	378.88	49.07	379.03
B-04	414.63	38.60	376.03	38.23	376.40	38.03	376.60	37.53	377.10	36.96	41.82	377.67	36.60	378.03
B-06	435.36	51.39	383.97	50.69	384.67	50.14	385.22	49.05	386.31	47.61	62.82	387.75	46.85	388.51
B-09R	414.84	36.21	378.63	35.97	378.87	35.80	379.04	35.42	379.42	34.91	42.20	379.93	34.62	380.22
B-10	426.33	50.09	376.24	49.75	376.58	49.45	376.88	48.88	377.45	48.16	57.57	378.17	47.77	378.56
B-11	439.14	31.69	**407.45**	31.77	**407.37**	31.82	**407.32**	31.89	**407.25**	31.87	48.33	**407.27**	31.84	**407.30**
B-12	435.94	32.24	403.70	31.79	404.15	31.46	404.48	30.87	405.07	30.21	46.11	405.73	29.89	406.05
B-14	439.42	30.62	**408.80**	30.67	**408.75**	30.73	**408.69**	30.86	**408.56**	31.04	64.71	**408.38**	31.19	**408.23**
B-15	438.45	31.24	**407.21**	30.28	**408.17**	30.24	**408.21**	P&A'd	--	P&A'd	--	--	P&A'd	--
B-16	438.27	30.14	**408.13**	29.37	**408.90**	29.46	**408.81**	29.67	**408.60**	29.88	50.02	**408.39**	30.10	**408.17**
B-17	437.87	29.82	**408.05**	29.17	**408.70**	29.04	**408.83**	29.31	**408.56**	29.29	50.50	**408.58**	29.38	**408.49**
B-18	436.94	29.09	**407.85**	28.34	**408.60**	28.22	**408.72**	28.27	**408.67**	27.89	47.19	**409.05**	27.90	**409.04**
MW-1	433.57	38.79	394.78	38.38	395.19	38.10	395.47	37.69	395.88	37.29	73.37	396.28	37.15	396.42
MW-2	427.41	Dry		Dry		Dry		Dry		Dry	67.75		Dry	
MW-3	435.95	28.11	**407.84**	28.03	**407.92**	28.07	**407.88**	28.01	**407.94**	27.75	75.94	**408.20**	27.55	**408.40**

FBTOC - feet below top of casing
Ft. MSL - feet above mean sea level
Only locations with piezometers or monitoring wells are shown on this page.
Water levels within piezometers B-11 and B-14 through B-18 are representative of the alluvial aquifer.
Water levels within Ponds 1, 2, and 3 are also are representative of the alluvial aquifer.
Water levels in bold and shaded are above the top of the Taylor Clay.
(1) Value reported as 42.22; assumed to be 49.22 fbtoc

No measurements collected week of 6/28/04 due to heavy rainfall.

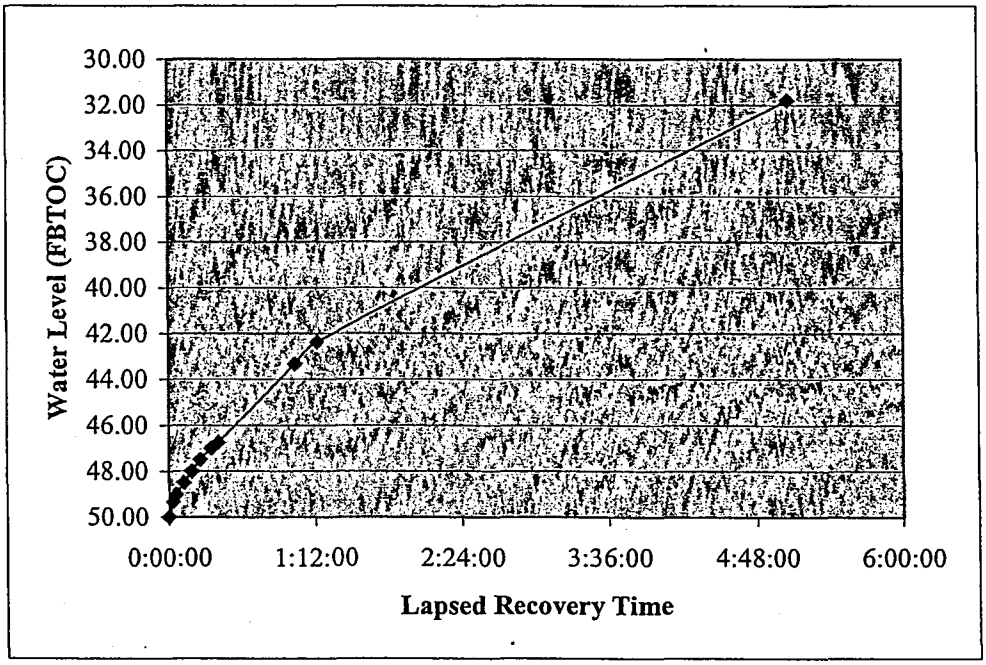
B-15 plugged and abandoned on August 7, 2004.

Recovery Water-Level Measurements for B-16

Client			Date	Well ID
JV Dirt and Loam			8/27/03	B-16
Project / Location			Field Personnel	
Composting Permit Application - Groundwater Investigation			Mark S. Katterjohn - JDC	
Static Water Level	Total Depth	Water Column	Borehole Diam.	Casing Diam.
30.36 FBTOC	50.25 FBTOC	19.89 Feet	4 inches	2 inches
Initial Vol. Water in Well & Wellbore	Total Vol. Water Purged		Time Start	Time Finish
~ 5 gallons	6.5 gallons		11:11 AM	4:55 PM

Measurement	Time (hh:mm:ss)	Delta T (hh:mm:ss)	Depth to Water (ft-btoc)	Notes
initial	11:11:00		30.36	Start Pumping
1	11:11:40	0:00:40	31.00	
2	11:12:00	0:01:00	32.56	
3	11:12:45	0:01:45	35.00	Max. depth purged - pump limit
4	11:13:00	0:02:00		Stopped pump
5	11:19:00	0:08:00	32.50	
6	11:36:00	0:25:00	32.03	
7	11:41:00	0:30:00		Start Bailing
8	11:46:00	0:35:00	46.35	Bailed 5 gallons total
9	11:51:00	0:00:00	50.00	Bailed dry after ~6.5 total gallons
10	11:53:00	0:02:00	49.32	
11	11:54:30	0:03:30	49.00	
12	11:58:30	0:07:30	48.50	
13	12:02:30	0:11:30	48.00	
14	12:06:30	0:15:30	47.50	
15	12:12:00	0:21:00	47.00	
16	12:15:15	0:24:15	46.75	
17	12:53:00	1:02:00	43.34	
18	13:04:00	1:13:00	42.37	
19	16:55:00	5:04:00	31.78	

Notes:
Pumped and bailed well then monitored rate of recovery to ascertain general recharge characteristics.
After bailing well dry, well recovered ~18.2 feet after ~5 hours.
General recovery rate of ~0.06 gallons per minute or ~ 86 gallons per day.

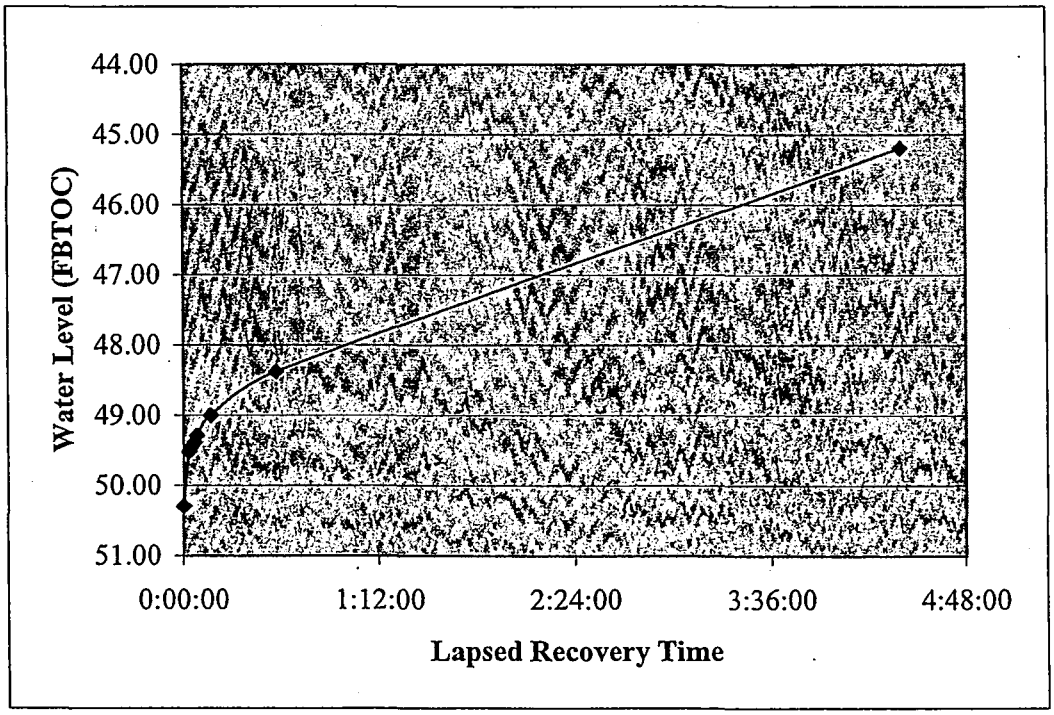


Recovery Water-Level Measurements for B-17

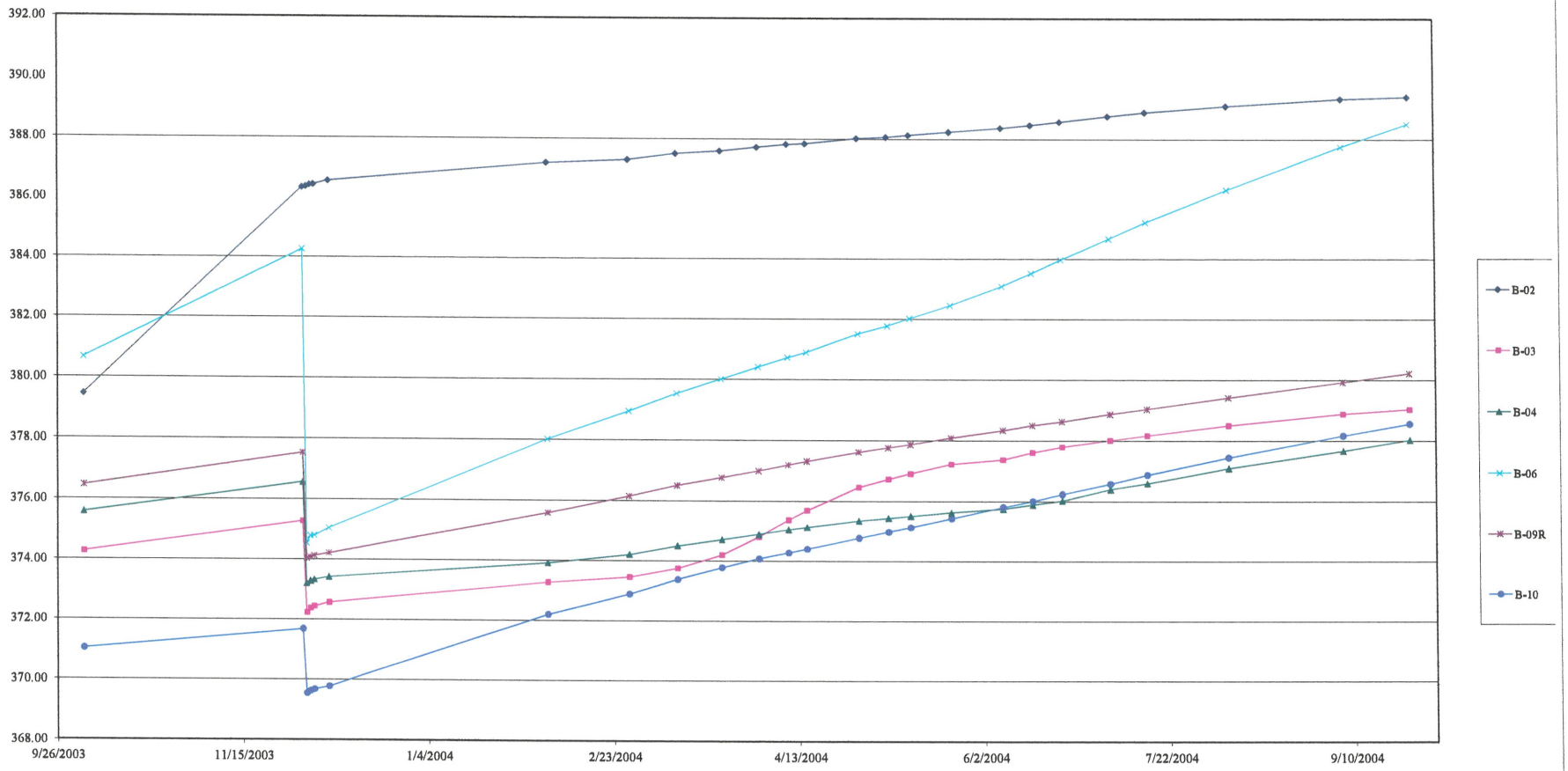
Client			Date	Well ID
JV Dirt and Loam			8/27/03	B-17
Project / Location			Field Personnel	
Composting Permit Application - Groundwater Investigation			Mark S. Katterjohn - JDC	
Static Water Level	Total Depth	Water Column	Borehole Diam.	Casing Diam.
29.51 FBTOC	50.45 FBTOC	20.94 Feet	4 inches	2 inches
Initial Vol. Water in Well & Wellbore	Total Vol. Water Purged		Time Start	Time Finish
~ 5.6 gallons	5.5 gallons		12:24 PM	5:01 PM

Measurement	Time (hh:mm:ss)	Delta T (hh:mm:ss)	Depth to Water (ft-btoc)	Notes
initial	12:24:00		29.51	Start Bailing
1	12:37:00	0:00:00	50.30	Bailed dry after 5.5 total gallons
2	12:39:00	0:02:00	49.52	
3	12:40:00	0:03:00	49.45	
4	12:41:00	0:04:00	49.39	
5	12:42:00	0:05:00	49.29	
6	12:47:00	0:10:00	49.00	
7	13:11:00	0:34:00	48.38	
8	17:01:00	4:24:00	45.19	

Notes:
Pumped and bailed well then monitored rate of recovery to ascertain general recharge characteristics.
After bailing well dry, well recovered ~5.1 feet after ~4.4 hours.
General average recovery rate of ~0.019 gallons per minute or ~28 gallons per day.

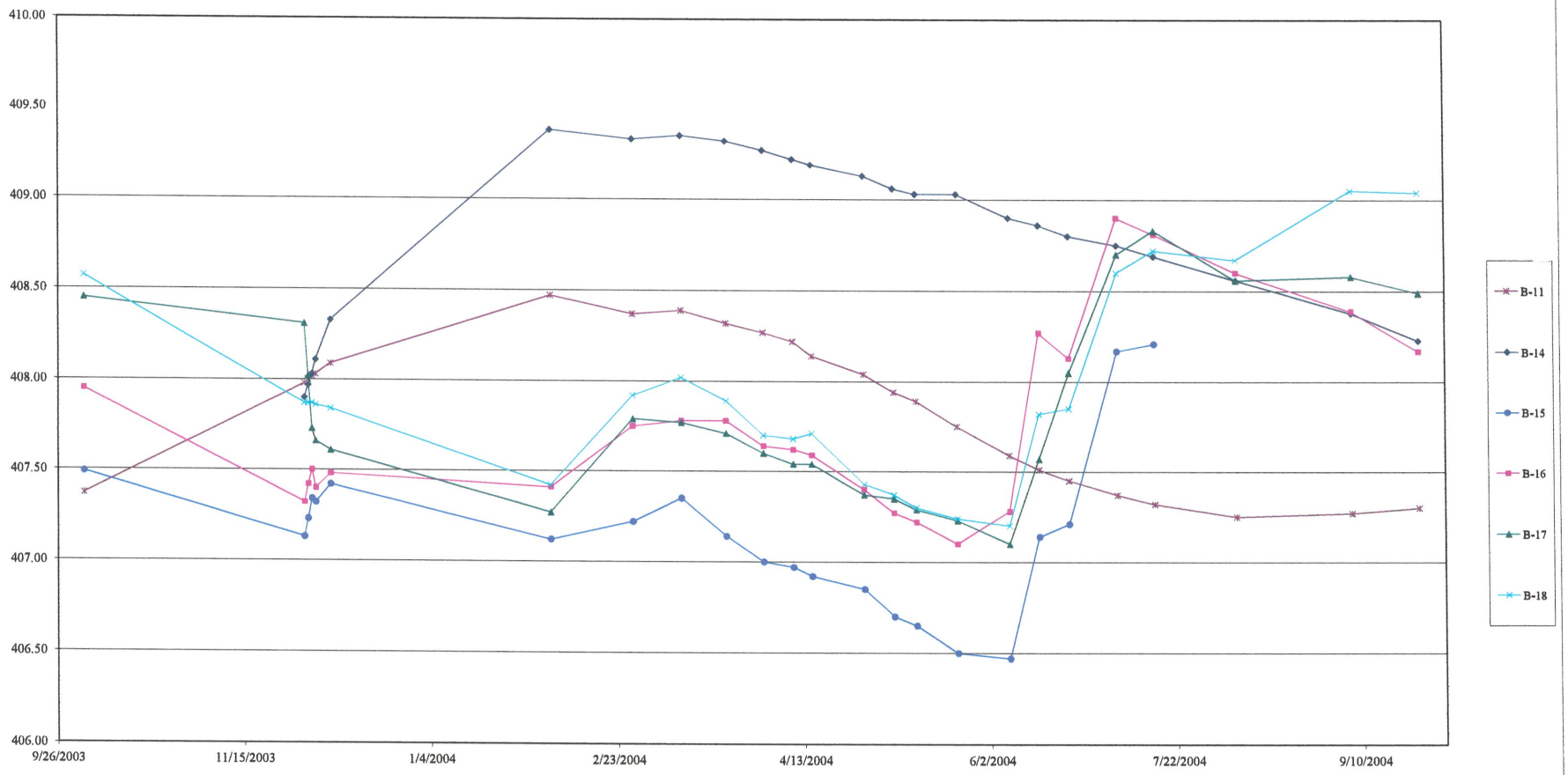


Attachment 13
Historical Water Levels
Geologic/Hydrogeologic Report
JV Dirt & Loam Composting Site



April 2013

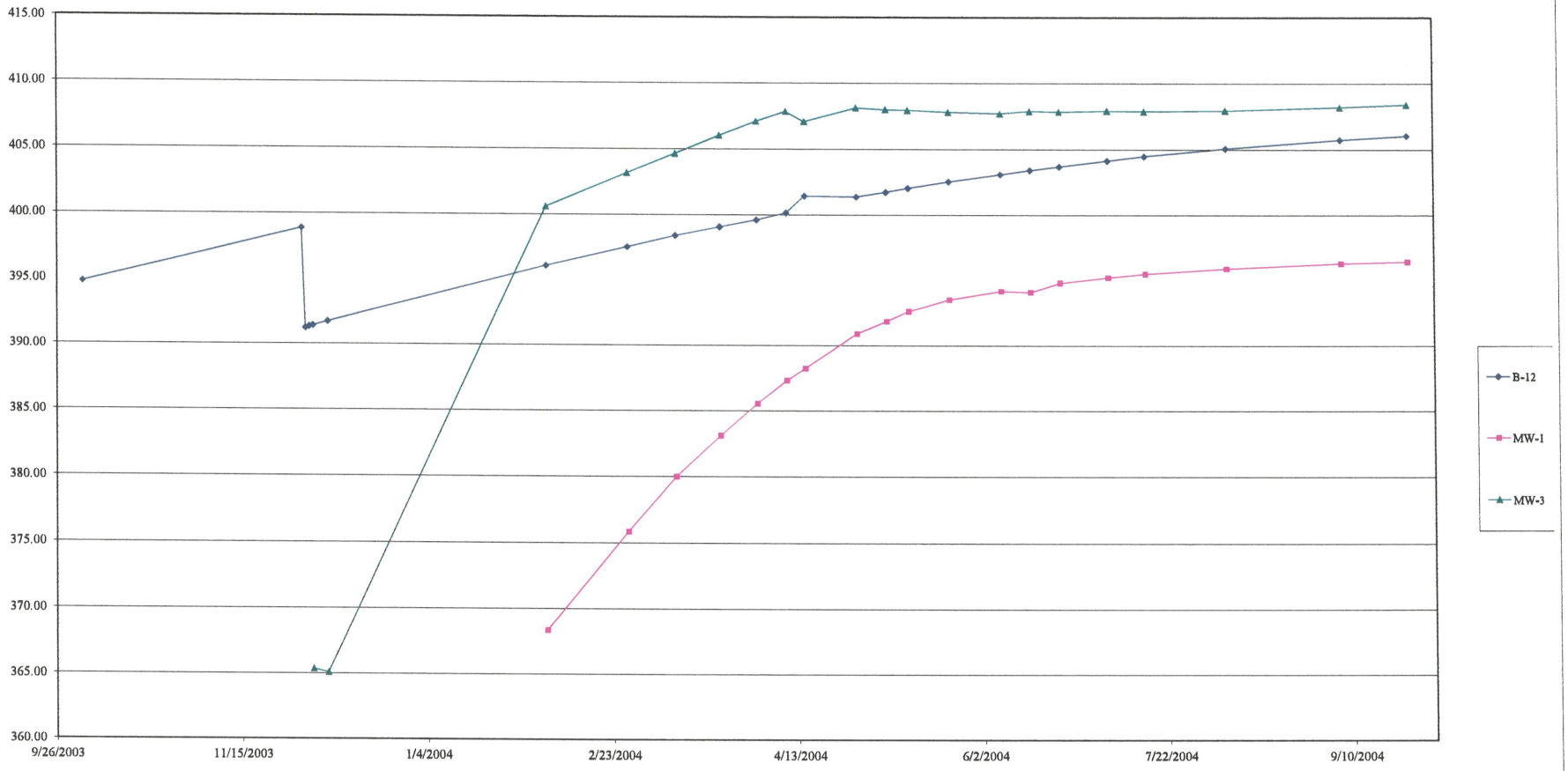
Attachment 13
Historical Water Levels
Geologic/Hydrogeologic Report
JV Dirt & Loam Composting Site



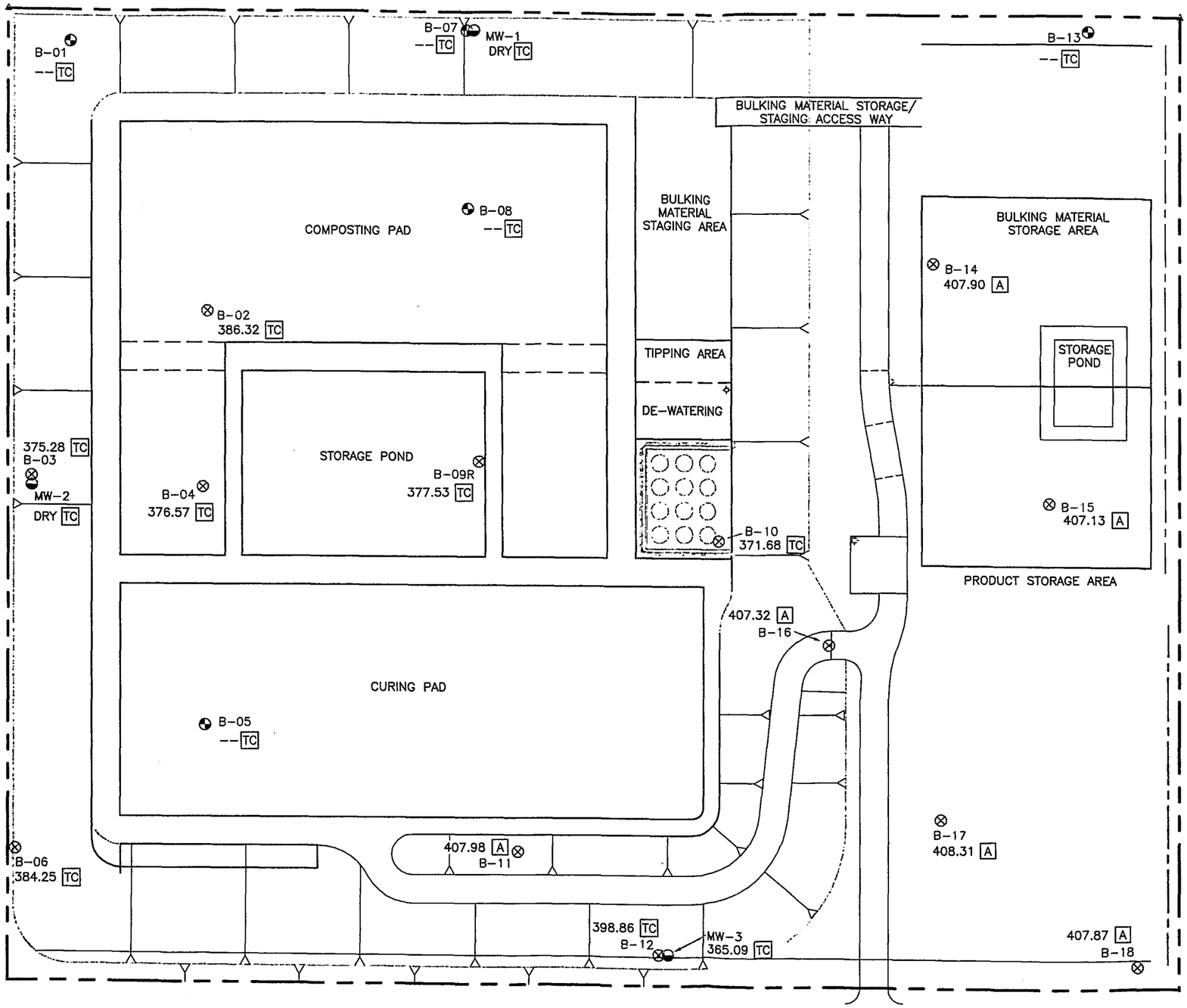
Site received 4.5 inches of rain between 6/7/04 and 6/10/04

April 2013

Attachment 13
Historical Water Levels
Geologic/Hydrogeologic Report
JV Dirt & Loam Composting Site



April 2013



Map Source: RAYMOND CHAN & ASSOCIATES, INC., Austin, TX., Cad File: Attachment-7, Jan. 2004.

0 200
SCALE IN FEET

Mark S. Katterjohn 2/10/04

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

LEGEND

B-13 ◐	BORING LOCATION AND IDENTIFICATION NUMBER
B-15 ⊗	PIEZOMETER AND BORING LOCATION AND IDENTIFICATION NUMBER
MW-1 ◒	MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
408.31 A	GROUNDWATER ELEVATION IN ALLUVIAL AQUIFER
371.68 TC	WATER ELEVATION IN TAYLOR CLAY
--	TAYLOR CLAY WAS DRY, NO PIEZOMETER INSTALLED

NOTE:
WATER LEVELS MEASURED IN MONITORING WELLS ON DECEMBER 8, 2003

NOTE:
LOCATIONS ARE REPRESENTATIONS OF SURVEYED LOCATIONS THAT WERE SIGNED AND SEALED BY CHRISTOPHER S. MARTINEZ OF MARTINEZ, WRIGHT AND MENDEZ (SEE ATTACHMENT 7A)

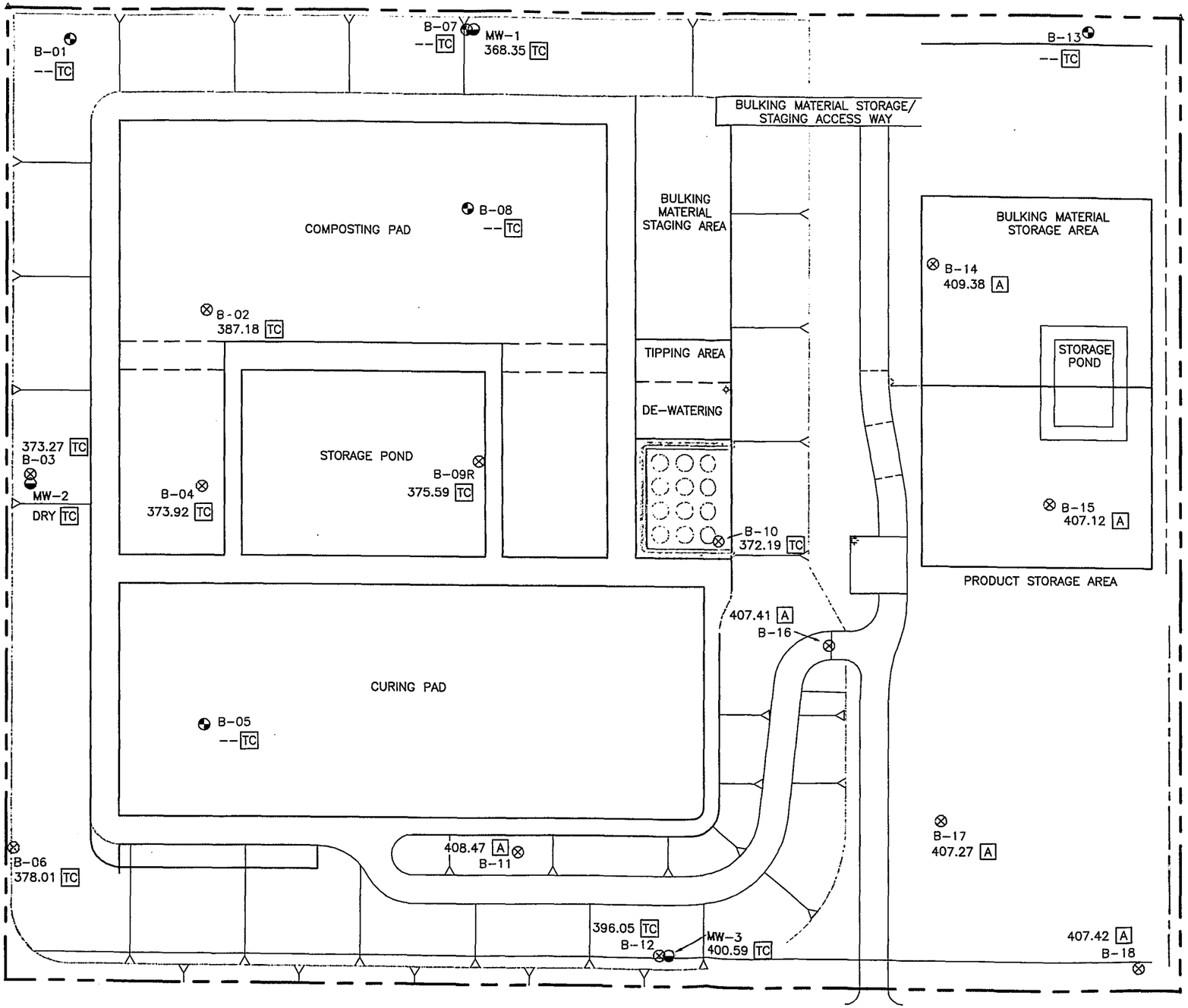
J-V DIRT AND LOAM

AUSTIN, TEXAS

PROJ. NO.: J-V Dirt | DATE: 2/10/04 | FILE:J-V Dirt-B14

ATTACHMENT 13A
WATER LEVEL ELEVATIONS (DECEMBER 1, 2003)

JDC
JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746



Map Source: RAYMOND CHAN & ASSOCIATES, INC., Austin, TX., Cad File: Attachment-7, Jan. 2004.

N

0 200
SCALE IN FEET

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

2/10/04

LEGEND

B-13 ⊕	BORING LOCATION AND IDENTIFICATION NUMBER
B-15 ⊗	PIEZOMETER AND BORING LOCATION AND IDENTIFICATION NUMBER
MW-1 ◒	MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
407.27 A	GROUNDWATER ELEVATION IN ALLUVIAL AQUIFER
372.19 TC	WATER ELEVATION IN TAYLOR CLAY
--	TAYLOR CLAY WAS DRY, NO PIEZOMETER INSTALLED

NOTE:
LOCATIONS ARE REPRESENTATIONS OF SURVEYED LOCATIONS THAT WERE SIGNED AND SEALED BY CHRISTOPHER S. MARTINEZ OF MARTINEZ, WRIGHT AND MENDEZ (SEE ATTACHMENT 7A)

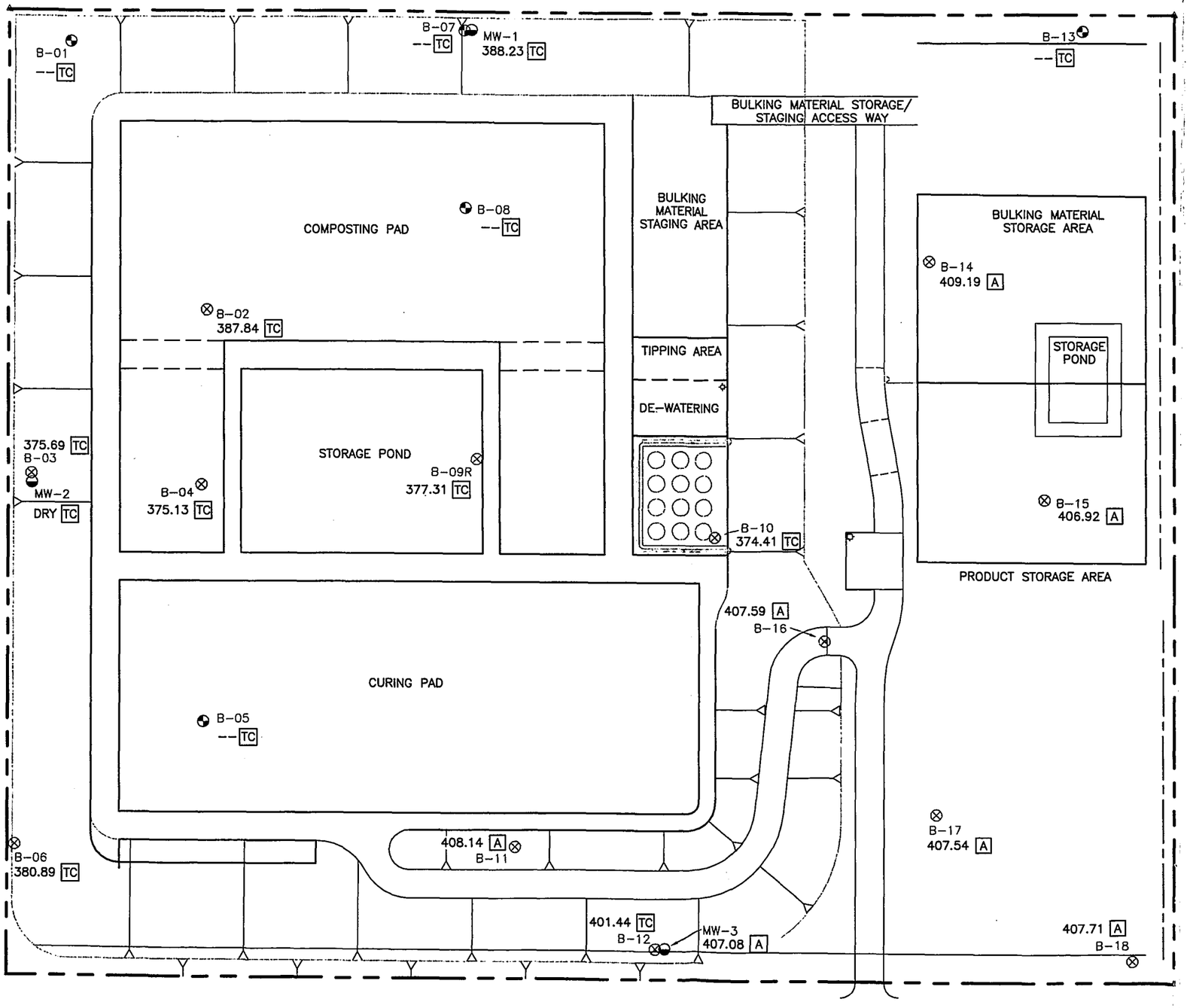
J-V DIRT AND LOAM

AUSTIN, TEXAS

PROJ. NO.: J-V Dirt	DATE: 2/10/04	FILE:J-V Dirt-B15

ATTACHMENT 13B
WATER LEVEL ELEVATIONS (FEBRUARY 5, 2004)

JDC
JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746



Map Source: RAYMOND CHAN & ASSOCIATES, INC., Austin, TX., Cad File: Attachment-7, Jan. 2004.

0 200
SCALE IN FEET

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

LEGEND

B-13 ◓	BORING LOCATION AND IDENTIFICATION NUMBER
B-15 ⊗	PIEZOMETER AND BORING LOCATION AND IDENTIFICATION NUMBER
MW-1 ◒	MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
406.92 A	GROUNDWATER ELEVATION IN ALLUVIAL AQUIFER (ABOVE TOP OF TAYLOR CLAY)
374.41 TC	WATER ELEVATION IN TAYLOR CLAY
--	TAYLOR CLAY WAS DRY, NO PIEZOMETER INSTALLED

NOTE:
LOCATIONS ARE REPRESENTATIONS OF SURVEYED LOCATIONS THAT WERE SIGNED AND SEALED BY CHRISTOPHER S. MARTINEZ OF MARTINEZ, WRIGHT AND MENDEZ (SEE ATTACHMENT 7A)

J-V DIRT AND LOAM
AUSTIN, TEXAS

PROJ. NO.: J-V Dirt	DATE: 4/16/04	FILE:J-V Dirt-B16

ATTACHMENT 13C
WATER LEVEL ELEVATIONS (APRIL 15, 2004)

JDC
JD Consulting, L.P.
404 Camp Craft Road
Austin, Texas 78746

Appendix I.13B
Groundwater Contour Maps

TABLE I.13B-1
GRADIENT CALCULATIONS

Date	Piezo/Well 1	GW Elev (ft msl)	Piezo/Well 2	GW Elev (ft msl)	Distance (ft)	Gradient	Direction
Dec-03	B-17	408.31	B-15	407.13	600	0.00197	NW
	B-14	407.90	B-15	407.13	485	0.00159	E
Feb-04	B-11	408.47	B-17	407.27	760	0.00158	E-NE
	B-14	409.38	B-15	407.12	485	0.00466	E
Mar-04	B-14	409.35	B-15	407.35	485	0.00412	E
	B-11	408.39	B-17	407.77	760	0.000816	N-NE
Apr-04	B-14	409.19	B-15	406.92	485	0.00468	E
	B-11	408.14	MW-3	407.08	325	0.00326	E-NE
May-04	B-11	407.89	B-17	407.29	760	0.000789	NE
	B-14	409.03	B-15	406.65	485	0.00491	E
Jun-04	B-14	408.86	B-15	407.14	485	0.00355	E
	B-16	408.27	B-11	407.51	680	0.00112	S-SE
Jul-04	B-16	408.81	B-11	407.32	680	0.00219	S
Aug-04	B-17	408.56	B-11	407.25	760	0.00172	S-SW
Sep-04	B-17	408.58	B-11	407.27	760	0.00172	SW
Jul-23	MW-7	409.61	MW-6	405.97	800	0.00455	SW
Oct-23	MW-7	409.08	MW-6	405.38	465	0.00796	SW
Jun-24	MW-7	407.17	MW-6	405.06	465	0.00454	SW



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

B-02 ● 386.32 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

NOTE:

1. MONITOR WELLS MW-1, MW-2 AND MW-3 NOT YET INSTALLED.

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED PROFESSIONAL GEOSCIENTIST

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

6-4-2025

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
December 2003

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLM		DWG NO. 007
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-1
PURPOSE: TCEQ SUBMITTAL			



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 ● 368.35 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST
6-4-2025

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
February 2004

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLM		DWG NO. 008
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-2
PURPOSE: TCEQ SUBMITTAL			



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 ● 379.99 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST

6-4-2025

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
March 2004

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLL		DWG NO. 009
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-3
PURPOSE: TCEQ SUBMITTAL			



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 ● 388.23 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST
6-4-2025

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
April 2004

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLL		DWG NO. 010
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-4
PURPOSE: TCEQ SUBMITTAL			



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 ● 392.6 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST
6-4-2025

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
May 2004

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLL		DWG NO. 011
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-5
PURPOSE: TCEQ SUBMITTAL			



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 ● 392.6 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST
6-4-2025

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
June 2004

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLL		DWG NO. 012
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-6
PURPOSE: TCEQ SUBMITTAL			



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 ● 395.47 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST

6-4-2025

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
July 2004

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLL		DWG NO. 013
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-7
PURPOSE: TCEQ SUBMITTAL			



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 ● 395.88 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST

6-4-2025

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
August 2004

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLL		DWG NO. 014
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-8
PURPOSE: TCEQ SUBMITTAL			

S:\AUS\AALLW.M004.J-VAMENDMENT\CAD\AALLW.M004.J-VAMENDMENT_014 Groundwater Gradient Map Fig 13B-8 (August 2004).dwg

Revision 2 4 June 2025



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 ● 396.28 — MONITORING WELL/ PIEZOMETER LOCATION FEET ABOVE MEAN SEA LEVEL

GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST

6-4-2025

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA

9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Groundwater Gradient Map
September 2004

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLL		DWG NO. 015
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 05-15-2025			FIGURE NO. I.13B-9
PURPOSE: TCEQ SUBMITTAL			

Appendix I.14
Monitoring Well Plugging Reports

STATE OF TEXAS PLUGGING REPORT for Tracking #242766

Owner:	**JV Dirt**	Owner Well #:	**MW 2**
Address:	**3600 N. FM 973 Austin, TX 78725**	Grid #:	**58-52-1**
Well Location:	**3600 N. FM 973 Austin, TX 78725**	Latitude:	**30° 14' 40.21" N**
Well County:	**Travis**	Longitude:	**097° 37' 23.78" W**
		Elevation:	**425**

Well Type: **Monitor**

Drilling Information

Company: **unknown** Date Drilled: **12/2/2003**

Driller: **TSS** License Number: **unknown**

Well Report Tracking #354626

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**13**	**0**	**67**

Plugging Information

Date Plugged: **1/3/2024** Plugger: **Hamilton L. McRae**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth, cement top 2 feet**

Casing Left in Well:

Dia (in.)	*Top (ft.)*	*Bottom (ft.)*
2	**12**	**67**

Plug(s) Placed in Well:

Top (ft.)	*Bottom (ft.)*	*Description (number of sacks & material)*
0	**2**	**Concrete 2 Bags/Sacks**
2	**40**	**Bentonite 6 Bags/Sacks**

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Austin Geo-Logic**

1316 Ridgefield Loop
Round Rock, TX 78665

Driller Name: **Hamilton L McRae** License Number: **59656**

Comments: **No Data**

Report Amended on 1/13/2025 by Request #21414

STATE OF TEXAS PLUGGING REPORT for Tracking #235847

Owner:	**J-V Dirt and Loam**	Owner Well #:	**MW3**
Address:	**300 FM 973 North Austin, TX 78725**	Grid #:	**58-52-1**
Well Location:	**300 FM 973 North Austin, TX 78725**	Latitude:	**30° 14' 46.25" N**
		Longitude:	**097° 37' 08.65" W**
	In the new 973 roadway pavement expansion	Elevation:	**432**
Well County:	**Travis**		

Well Type: **Monitor**

Drilling Information

Company: **Unknown** Date Drilled: **No Data**

Driller: **Unknown** License Number: **Unknown**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**8**	**0**	**73**

Plugging Information

Date Plugged: **2/20/2024** Plugger: **Hamilton McRae**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth, cement top 2 feet**

Casing Left in Well:

Dia (in.)	*Top (ft.)*	*Bottom (ft.)*
2	**8**	**73**

Plug(s) Placed in Well:

Top (ft.)	*Bottom (ft.)*	*Description (number of sacks & material)*
0	**2**	**Concrete 1 Bags/Sacks**
2	**73**	**Bentonite 3 Bags/Sacks**

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Austin Geo-Logic**

1316 Ridgefield Loop
Round Rock, TX 78665

Driller Name: **Hamilton L. McRae** License Number: **59656**

Comments: **No Data**

Appendix I.15
2023 and 2024 Groundwater Elevation Data

MONITORING WELL EXHIBIT
HORIZONTAL & VERTICAL LOCATION
3600 FM 973, Austin, TX 78725

SCALE: 1" = 200'

GRAPHIC SCALE

200 100 0 200

MONITORING WELL (#23,096)

NORTHING: 10063855.06
EASTING: 3151776.06

ELEVATIONS:
- TOP OF CASING= 440.29'
- CONCRETE PAD= 437.47'
- GROUND= 437.57'

MONITORING WELL (#23,114)

NORTHING: 10064295.16
EASTING: 3152006.11

ELEVATIONS:
- TOP OF CASING= 434.25'
- CONCRETE PAD= 431.34'
- GROUND= 431.56'

(223.009 ACRES)
SCHUMAKER
ENTERPRISES INC
(2000015026)

N27°21'13"E 2048.28'
(N30°00'18"E 2048.28')

SAM

CH

MONITORING WELL (#23,070)

NORTHING: 10063437.11
EASTING: 3151574.33

ELEVATIONS:
- TOP OF CASING= 441.76'
- CONCRETE PAD= 438.91'
- GROUND= 438.82'

MONITORING WELL (#23,105)

NORTHING: 10064132.81
EASTING: 3151933.71

ELEVATIONS:
- TOP OF CASING= 434.10'
- CONCRETE PAD= 431.24'
- GROUND= 431.35'

(223.009 ACRES)
SCHUMAKER
ENTERPRISES INC
(2000015026)

MONITORING WELL (#23,078)

NORTHING: 10063209.81
EASTING: 3151997.49

ELEVATIONS:
- TOP OF CASING= 443.31'
- CONCRETE PAD= 440.49'
- GROUND= 440.23'

(80.203 ACRES)
WALKER AERO
CAPITAL LLC
(2013180094)

THIS IS A GRID DRAWING.

BEARING BASIS: THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83), CENTRAL ZONE; US SURVEY FEET; BASED ON GPS SOLUTIONS FROM THE LOCAL REAL TIME NETWORK (RTN) FOR CHAPARRAL CONTROL POINT "CP #102".

1/2" REBAR WITH "RANDOM" CAP

TEXAS STATE PLANE COORDINATES:
N 10063932.76
E 3153800.58
ELEV=435.26'

(N60°00'21"W 1701.27')
N62°39'26"W 1701.27'

MONITORING WELL (#23,087)

NORTHING: 10062982.26
EASTING: 3152430.37

ELEVATIONS:
- TOP OF CASING= 445.48'
- CONCRETE PAD= 442.66'
- GROUND= 442.51'

LEGEND

◎	TxDOT TYPE II DISK FOUND
●CH	1/2" REBAR WITH PLASTIC "CHAPARRAL" CAP FOUND
●SAM	1/2" REBAR WITH PLASTIC "SURVEYING & MAPPING" CAP FOUND
⊕	CONTROL POINT
⊕	MONITORING WELL LOCATION
( )	RECORD INFORMATION
[ ]	RECORD INFORMATION PER DOC. NO. 2023049437

[S27°32'33"W 1735.28]
S27°32'36"W 1735.05'

F.M. 973
(RIGHT-OF-WAY WIDTH VARIES)
(2023049437)

CP #102

REF. TIE
S03°56'37"E
285.91'

SURVEYOR'S CERTIFICATE:

DATE OF SURVEY: MAY 2, 2025

I hereby certify that the survey shown hereon was actually made upon the ground under my direction and supervision on the date shown.

Patrick Quiring 05/21/2025

Patrick A. Quiring Date
Registered Professional Land Surveyor
State of Texas No. 7172
patrick@chapsurvey.com

STATE OF TEXAS
REGISTERED
PATRICK A. QUIRING
7172
PROFESSIONAL
LAND SURVEYOR

TITLE COMMITMENT NOTE:

This Survey was prepared without the benefit of a Commitment for Title, and may be subject to additional easements or restrictions not shown hereon. No additional easement research was done for the purpose of this survey.

Chaparral
Professional Land Surveying, Inc.
Surveying and Mapping
5725 West Hwy 290, Suite 103
Austin, Texas 78735-7822
512-443-1724
T.B.P.E.L.S. Firm No. 10124500

PROJECT NO.: 1925-001

DRAWING NO.: 1925-001-MON

PLOT DATE: 05/21/2025

PLOT SCALE: 1"=200'

DRAWN BY: TEJ

SHEET 01 OF 01

APPENDIX I-15

J-V DIRT + LOAM COMPOST FACILITY - TRAVIS COUNTY, TEXAS
GROUNDWATER ELEVATIONS SUMMARY

Well	MW-1		MW-4		MW-5		MW-6		MW-7		MW-8	
TOC Elevation	434.10		445.48		443.31		441.76		440.29		434.25	
Date	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
07/20/23	24.72	409.38	38.39	407.09	36.98	406.33	35.79	405.97	30.68	409.61	Dry	---
08/03/23	61.16	372.94	38.49	406.99	37.09	406.22	35.92	405.84	30.69	409.60	Dry	---
10/25/23	35.26	398.84	38.72	406.76	37.64	405.67	36.38	405.38	31.21	409.08	26.22	408.03
06/06/24	27.36	406.74	38.48	407.00	36.88	406.43	35.69	406.07	32.21	408.08	26.04	408.21
06/28/24	NM	---	38.55	406.93	37.02	406.29	35.82	405.94	33.36	406.93	26.60	407.65
12/12/24	31.42	402.68	38.88	406.60	38.01	405.30	36.7	405.06	33.12	407.17	26.35	407.90

Notes:
TOC - Top of Casing



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 MONITORING WELL LOCATION

402.68 FEET ABOVE MEAN SEA LEVEL

NOTES:

1. WELL TOP OF CASING ELEVATIONS WERE RESURVEYED IN MAY 2025. GROUNDWATER ELEVATIONS ON THIS MAP WERE CALCULATED USING THESE ELEVATIONS.
2. MW-3 NOT UTLIZED FOR CONTOURING AS IT WAS PLUGGED PRIOR TO THE NEW SURVEY BEING CONDUCTED.

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY
1	5/25	REVISED CONTOURS AND NOTES		

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED PROFESSIONAL GEOSCIENTIST
6-4-2025

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
J-V DIRT + LOAM COMPOST
AUSTIN, TEXAS

SHEET TITLE:
GROUNDWATER GRADIENT MAP
(JULY 2023)

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M003.JVGWMON
CHK BY	KLL		DWG NO. 002R1
APP BY	KLL		SHEET 1 OF 1 SHEETS
DATE ISSUED: 10-27-2023			FIGURE NO. 2
PURPOSE: TNOD			



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 MONITORING WELL LOCATION

398.84 FEET ABOVE MEAN SEA LEVEL

NOTES:

1. WELL TOP OF CASING ELEVATIONS WERE RESURVEYED IN MAY 2025. GROUNDWATER ELEVATIONS ON THIS MAP WERE CALCULATED USING THESE ELEVATIONS.
2. MW-3 NOT UTLIZED FOR CONTOURING AS IT WAS PLUGGED PRIOR TO THE NEW SURVEY BEING CONDUCTED.
3. THE GROUNDWATER ELEVATION FOR MW-1 (398.84 FT-MSL) WAS NOT UTILIZED FOR CONTOURING PURPOSES AS THE WELL IS STILL RECHARGING FROM RECENT SAMPLING EVENTS.

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY
1	5/25	Revised Contours and Notes		

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
PROFESSIONAL LICENSED NATIONAL GEOSCIENTIST
6-4-2025

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
J-V DIRT + LOAM COMPOST
AUSTIN, TEXAS

SHEET TITLE:
GROUNDWATER GRADIENT MAP
(OCTOBER 2023)

DES BY			SCALE: SEE BAR SCALE	
DR BY	SDB		PROJ NO. AALLW.M003.JVGWMON	
CHK BY	KLL		DWG NO. 005R1	
APP BY	KLL		SHEET 1 OF 1 SHEETS	
DATE ISSUED: 11-29-2023			FIGURE NO. 2	
PURPOSE: TNOD				



500 0 500

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

MW-1 MONITORING WELL LOCATION

402.68 FEET ABOVE MEAN SEA LEVEL

NOTE:

1. WELL TOP OF CASING ELEVATIONS WERE RESURVEYED IN MAY 2025. GROUNDWATER ELAVATIONS ON THIS MAP WERE CALCULATED USING THESE ELEVATIONS.
2. THE GROUNDWATER ELEVATION FOR MW-1 (402.68 FT-MSL) WAS NOT UTILIZED FOR CONTOURING PURPOSES AS THE WELL IS STILL RECHARGING FROM RECENT SAMPLING EVENTS.

AERIAL SOURCE:

GOOGLE EARTH PRO
DATED 11-22-2019

REV.	DATE	DESCRIPTION	DR BY	APP BY
1	5/25	REVISED CONTOURS AND NOTES		

STATE OF TEXAS
KEVIN LONSETH
GEOLOGY
10330
LICENSED
PROFESSIONAL GEOSCIENTIST
6-4-2025

INTERA
9600 GREAT HILLS TRAIL, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
J-V DIRT + LOAM COMPOST
AUSTIN, TEXAS

SHEET TITLE:
GROUNDWATER GRADIENT MAP
(JUNE 2024)

DES BY			SCALE: SEE BAR SCALE	
DR BY	SDB		PROJ NO. AALLW.M003.JVGWMON	
CHK BY	KLL		DWG NO. 007	
APP BY	KLL		SHEET 1 OF 1 SHEETS	
DATE ISSUED: 06-24-2024			FIGURE NO. 2	
PURPOSE: DMR				

Appendix I.16

Monitoring Well System Certification Report, February 19, 2014

RPS

Cielo Center, 1250 South Capital of Texas Highway, Building Three, Suite 200, Austin, Texas 78746, USA
T +1 512 347 7588 F +1 512 347 8243 W www.rpsgroup.com

Monitoring Well System Certification Report

JV Dirt and Loam Composting Site
3600 FM 973
Austin, Texas

February 19, 2014

A groundwater monitoring well system is required for the composting facility in accordance with Section 332.47(6)(C)(ii) of Subchapter D of the Texas Commission on Environmental Quality (TCEQ) composting rules. Three monitoring wells (MW-1, MW-2, and MW-3) were installed at the facility in December 2003 to monitor the Taylor Clay. Five additional monitoring wells were installed in January 2014 to monitor the overlying alluvial aquifer. The five new wells were installed in accordance with the Groundwater Protection Plan (Revised April 2013) submitted with the permit application for Municipal Solid Waste (MSW) Permit No. 2310. As required, the monitoring well system is designed and installed to reasonably assure detection of any contamination of the groundwater before it migrates beyond the boundaries of the site.

RPS installed three monitoring wells (MW-1 through MW-3) into the Taylor Clay around the perimeter of the facility the week of December 1, 2003. The double-cased monitoring wells were installed through an 8-inch diameter surface casing set approximately 10 feet into the Taylor Clay. The Taylor Clay monitoring wells were installed using hollow-stem auger drilling techniques. The wells were constructed of 2-inch Schedule 40 PVC casing with 10 feet of 0.010-inch slotted schedule 40 PVC well screen. The sand filter pack extends 2 feet above the top of the screened interval. Four feet of bentonite pellets were placed on top of the sand pack. The remainder of the annulus was sealed with cement slurry to within 1 foot of the ground surface.

The new alluvial aquifer monitoring wells (MW-4 through MW-8) were installed by RPS on January 21 and 22, 2014. In accordance with the April 2013 Groundwater Protection Plan, alluvial monitoring wells were installed using hollow-stem auger drilling techniques. The wells were constructed of 2-inch Schedule 40 PVC casing with 10 feet of 0.010-inch slotted schedule 40 PVC well screen. The sand filter pack extends 2 feet above the top of the screened interval. A minimum of 2 feet of bentonite pellets were placed on top of the sand pack. The remainder of the annulus was sealed with a cement slurry tied into the concrete pad.

Each monitoring well was constructed with an above-ground surface completion consisting of an approximately 2.5-foot PVC casing stickup and a locking well protective steel cover secured in a 3-ft x 3-ft x 4-in concrete pad. Four ballards (painted yellow) were installed around each monitoring well completion.

The location and elevation of each monitoring well was surveyed by SAM, Inc., a surveyor licensed in the State of Texas. The surveyor provided elevations of the top of PVC casing, top of pad and ground surface at each new well location. Elevation measurements will be made to the nearest 0.01 foot. The surveyor also provided surveyed location and certain elevations of existing monitoring wells MW-1, MW-2 and MW-3.

Well completion information is provided in Table 1. New well survey information is presented in Table 2. It is noted that approximately 12.4 feet of casing was added to MW-2 at some period after 2004 to accommodate raising the ground surface elevation. The well completion information provided in Table 1 reflects the adjusted depths from the original logs.

After installation, all monitoring wells were developed by bailing. Prior to and following well development, water levels were measured within each well relative to the top of casing. Monitoring well development information is provided in Table 3. Water level elevation data since completion of the new monitoring wells are provided in Table 4.

Well construction logs for all monitoring system wells are provided in Attachment A (construction logs for existing monitoring wells MW-1, MW-2 and MW-3 are provided for completeness). Attachment B contains copies of the State water well reports for the newly installed monitoring wells. Attachment C provides a certification of well installation for all monitoring wells. Attachment D shows the location of the groundwater monitoring system wells. Attachment E contains the Professional Geoscientist Certification.

Tables

Table 1
Well Completion Information
Monitoring Well Installation Report
JV Dirt and Loam Composting Site, Austin, Texas

Well Number	Well Completion								Survey Elevations****			Total Well Depth Elevation (Ft. MSL)
	Surface Casing Depth (FBGS)	Surface Casing Installation Date	Screen Interval (FBGS)	Top of Sand Pack (FBGS)	Top of Bentonite (FBGS)	Total Well Depth** (FBGS)	Total Well Depth*** (FBTOC)	Well Completion Date	Top of Casing Elevation (Ft. MSL)	Pad Elevation (Ft. MSL)	Ground Surface Elevation (Ft. MSL)	
MW-1	40	12/2/03	61-71	59	55	71	73.65	12/4/03	433.32	nm	430.8	359.67
MW-2 *	47	12/3/03	68-78	66	62	78	80.75	12/4/03	439.81	nm	437.8	359.06
MW-3	40	12/1/03	63-73	61	57	73	76.20	12/3/03	435.62	437.73	433.0	359.42
MW-4	--	--	30-40	28	2	40	42.30	1/22/14	449.51	447.21	446.9	407.21
MW-5	--	--	30-40	28	3	40	42.11	1/21/14	446.99	444.75	444.4	404.88
MW-6	--	--	30-40	28	3	40	42.40	1/21/14	445.46	443.15	442.9	403.06
MW-7	--	--	21-31	19	3	31	34.13	1/22/14	444.02	441.66	441.1	409.89
MW-8	--	--	19-24	17	3	24	27.45	1/22/14	438.02	435.65	435.2	410.57

FBGS feet below ground surface
FBTOC feet below top of casing
Ft. MSL feet above mean sea level

* Approximately 12.4 feet of casing added to MW-2 after 2004 due to raising the ground surface elevation. All depths from the original logs have been adjusted accordingly.

** Nominal total well depth relative to ground surface.

*** Total well depths below top of casing are based on measurements taken on January 22, 2014. Slight differences may exist between the total well depth elevations relative to depth below top of casing and the nominal total well depth below ground surface.

**** Elevations based on 2014 survey data provided by SAM, Inc. (See Table 2)

Table 2
Well Survey Information
Monitoring Well Installation Report
JV Dirt and Loam Composting Site, Austin, Texas

Well Number	Northing	Easting	Top of Casing Elevation	Pad Elevation	Ground Elevation
MW-1	10,064,131.14	3,151,936.07	433.32	--	--
MW-2	10,063,079.38	3,152,294.86	439.81	--	--
MW-3	10,063,689.38	3,153,532.97	435.62	433.05	--
MW-4	10,062,980.38	3,152,432.69	449.51	447.21	446.9
MW-5	10,063,207.96	3,151,999.80	446.99	444.75	444.4
MW-6	10,063,435.65	3,151,577.05	445.46	443.15	442.9
MW-7	10,063,853.11	3,151,778.34	444.02	441.66	441.1
MW-8	10,064,293.27	3,152,008.57	438.02	435.65	435.2

Notes:
Survey conducted by SAM, Inc. of Austin, Texas on February 12, 2014.
Monitoring well MW-2 was raised after 2004 due to raising the ground surface elevation.

Table 3
Monitoring Well Development Information
Monitoring Well Installation Report
JV Dirt and Loam Composting Site, Austin, Texas

Monitoring Well Number	Well Development Date	Depth to Water (fbtoc)	Groundwater Elevation Prior to Development (Ft. MSL)	Gallons Bailed	Comments	Groundwater Elevation After Development [1] (Ft. MSL)
MW-1	12/4/03	Dry	--	--	--	--
MW-2	12/4/03	Dry	--	--	--	--
MW-3	12/4/03	70.60	365.35	5	Bailed Dry	408.30
MW-4	1/22/14	Dry	--	--	--	--
MW-5	1/22/14	37.12	409.87	5	Bailed ~6.2 Well Volumes	409.76
MW-6	1/22/14	35.77	409.69	7	Bailed ~6.4 Well Volumes	409.56
MW-7	1/22/14	Dry	--	--	--	--
MW-8	1/22/14	Dry	--	--	--	--

FBTOC - feet below top of casing
Ft. MSL - feet above mean sea level
[1] MW-1 through MW-3 were measured on December 8, 2003. New wells measured on February 7, 2014.

Table 4
Monitoring Well Water Level Elevations
Monitoring Well Installation Report
JV Dirt and Loam Composting Site, Austin, Texas

Well Number	Top of Casing Elevation (Ft. MSL)	1/22/2014		2/7/2014		2/14/2014		Stratigraphy	
		Depth to Water (FBTOC)	Groundwater Elevation (Ft. MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft. MSL)	Depth to Water (FBTOC)	Groundwater Elevation (Ft. MSL)	Depth to Top of Clay (FBGS)	Top of Clay Elevation (Ft. MSL)
MW-1	433.32	27.28	**406.04**	28.69	**404.63**	28.57	**404.75**	28.0	402.8
MW-2 *	439.81	40.76	399.05	42.26	397.55	42.10	397.71	34.0	403.8
MW-3	435.62	27.19	**408.43**	27.32	**408.30**	27.34	**408.28**	27.0	406.0
MW-4	449.51	Dry	--	Dry	--	Dry	--	38.0	408.9
MW-5	446.99	37.12	**409.87**	37.23	**409.76**	37.23	**409.76**	39.0	405.4
MW-6	445.46	35.77	**409.69**	35.90	**409.56**	35.91	**409.55**	39.5	403.4
MW-7	444.02	Dry	--	Dry	--	Dry	--	31.0	410.1
MW-8	438.02	Dry	--	Dry	--	Dry	--	24.0	411.2

FBGS - feet below ground surface
FBTOC - feet below top of casing
Ft. MSL - feet above mean sea level
409.87 Water levels in bold are above the top of the Taylor Clay.
* Monitoring well MW-2 was raised approximately 12.4 feet after 2004 due to raising the ground surface elevation.

Attachment A

Monitoring Well Construction Logs

JD Consulting, L.P.
321 Texan Trail, Suite 203
Corpus Christi, Texas 78411

WELL INSTALLATION

Well No.: MW-1

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: None in well.
Site Coordinates:
N 9818.33 E 7888.62

Sheet: 1 of 4
Start Date: 12/2/2003 08:10
Finish Date: 12/4/2003 09:45
Elev., TOC (ft. msl): 433.57
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 430.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3 to 15	Cuttings				Ground Surface **Clay Loam/Sand (SP)** Fine grained, compact, dry to damp, light brown (description from Soil Boring B-07)	4" Aluminum Protective Cover w/ Locking Cap Concrete Pad - 3'x3'x4" 13" Diameter Borehole 8" Sch. 80 PVC Surface Casing to 40' Cement/Bentonite Grout

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WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

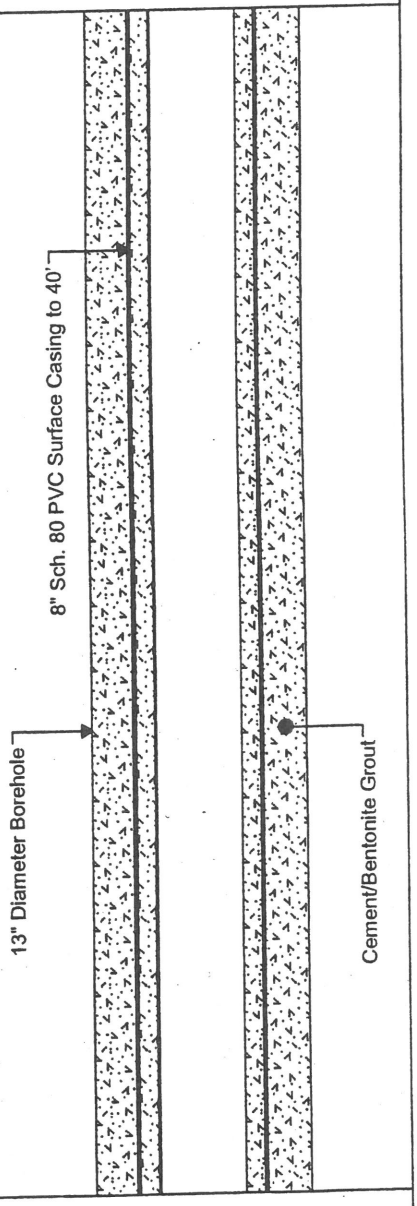
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: None in well.
Site Coordinates:
N 9818.33 E 7888.62

Well No.: MW-1
Sheet: 2 of 4
Start Date: 12/2/2003 08:10
Finish Date: 12/4/2003 09:45
Elev., TOC (ft. msl): 433.57
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 430.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
18					**Clay Loam/Sand (SP)** Fine grained, compact, dry to damp, light brown
20		21'			Contact elevation - 409.8 Ft. MSL
22	Cuttings				**Gravel/Sandy Gravel (GP)** Fine to medium grained sand, pebble to cobble sized gravel, saturated (description from Soil Boring B-07)
24					
26					Contact elevation - 402.8 Ft. MSL
28					**Clay (CH)** High plasticity, stiff, dry, gray
30					
32					
34	Cuttings				

Completion Results



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WELL INSTALLATION

Well No.: MW-1

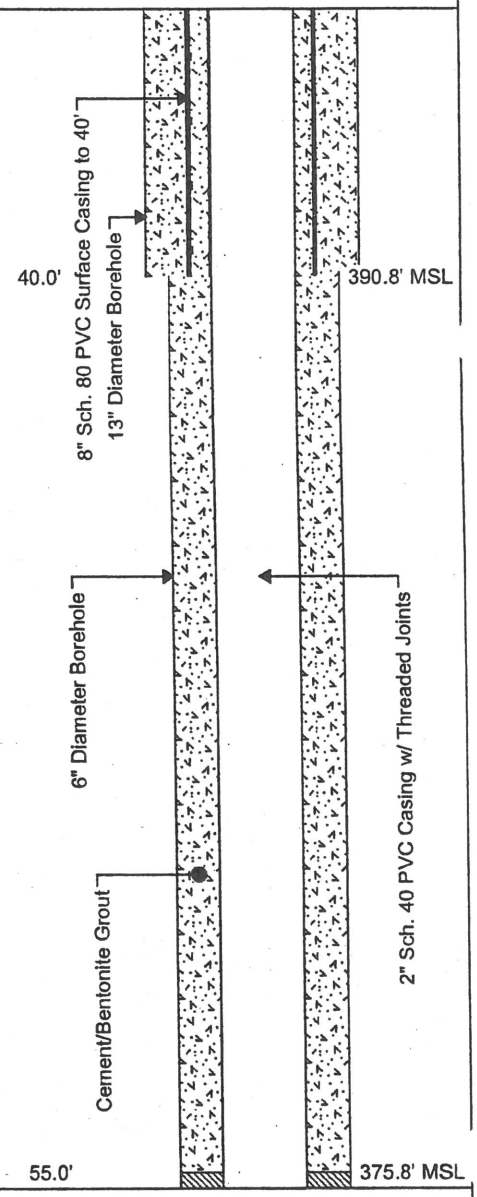
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: None in well.
Site Coordinates: N 9818.33 E 7888.62

Sheet: 3 of 4
Start Date: 12/2/2003 08:10
Finish Date: 12/4/2003 09:45
Elev., TOC (ft. msl): 433.57
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 430.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
37–39			CH		**Clay (CH)** High plasticity, stiff, dry, gray
41–55			CH		**Clay (CH)** High plasticity, stiff, damp, gray



Continued on Sheet 4

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WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

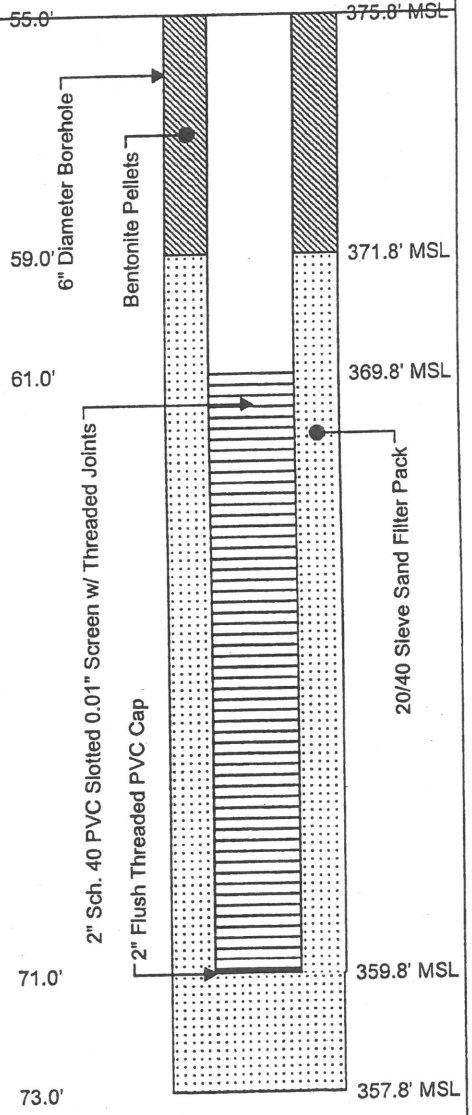
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: None in well.
Site Coordinates:
N 9818.33 E 7888.62

Well No.: MW-1
Sheet: 4 of 4
Start Date: 12/2/2003 08:10
Finish Date: 12/4/2003 09:45
Elev., TOC (ft. msl): 433.57
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 430.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
57	Cuttings		CH		**Clay (CH)** High plasticity, stiff, damp, gray
59					
61					
63					
65					
67					
69					
71					
73					Total Depth = 73' BGL

Completion Results



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361/855-7410 fax

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Corpus Christi, Texas 78411

WELL INSTALLATION

Well No.: MW-2

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 67' BGL
Ground Water: None in well.
Site Coordinates: N 8750.74 E 8198.79

Sheet: 1 of 4
Start Date: 12/2/2003 15:15
Finish Date: 12/4/2003 11:45
Elev., TOC (ft. msl): 427.41
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 424.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3 to 15	Cuttings	11'			Ground Surface **Sand (SP)** Fine grain sand, compact, dry to damp, light brown (description from Soil Boring B-03) Contact elevation - 413.8 Ft. MSL **Sandy Gravel (GP)** Fine to medium grained sand, pebble to cobble sized gravel, saturated (description from Soil Boring B-03)	4" Aluminum Protective Cover w/ Locking Cap Concrete Pad - 3'x3'x4" 13" Diameter Borehole 8" Sch. 80 PVC Surface Casing to 34' Cement/Bentonite Grout

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Continued on Sheet 2

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WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

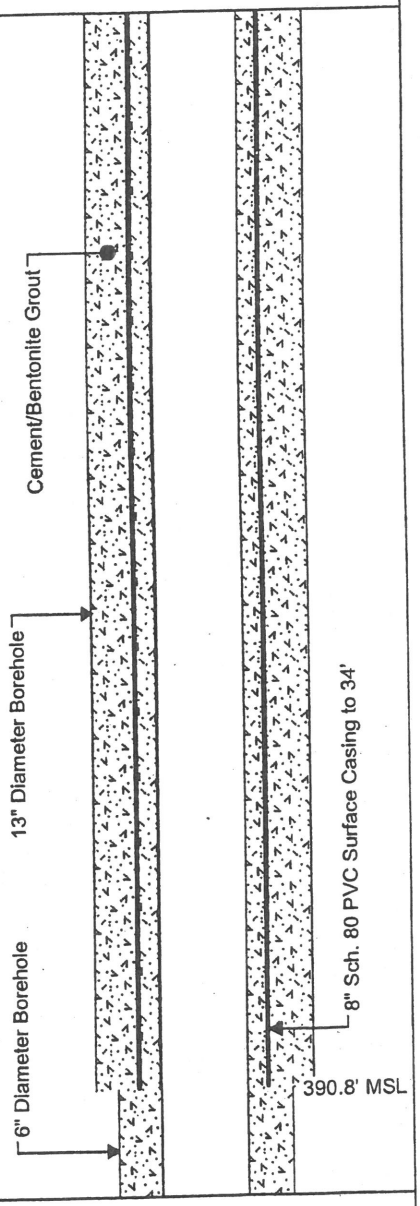
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 67' BGL
Ground Water: None in well.
Site Coordinates:
N 8750.74 E 8198.79

Well No.: MW-2
Sheet: 2 of 4
Start Date: 12/2/2003 15:15
Finish Date: 12/4/2003 11:45
Elev., TOC (ft. msl): 427.41
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 424.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
18	Cuttings				**Sandy Gravel (GW)** Fine to medium grained sand, pebble to cobble sized gravel, saturated (description from Soil Boring B-03)
20					Contact elevation - 403.8 Ft. MSL
22					**Clay (CH)** High plasticity, very stiff, dry, gray
24					
26					
28	Cuttings				
30					
32					
34					**Clay (CH)** High plasticity, stiff, damp, gray

Completion Results



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WELL INSTALLATION

Well No.: MW-2

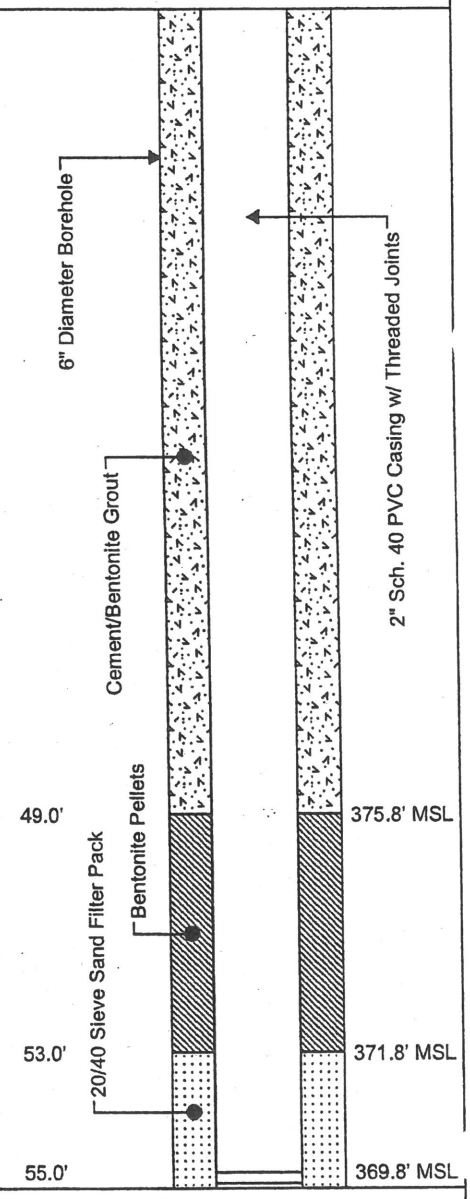
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 67' BGL
Ground Water: None in well.
Site Coordinates:
N 8750.74 E 8198.79

Sheet: 3 of 4
Start Date: 12/2/2003 15:15
Finish Date: 12/4/2003 11:45
Elev., TOC (ft. msl): 427.41
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 424.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
37	Cuttings		CH		**Clay (CH)** High plasticity, stiff, damp, gray
39					
41					
43					
45					
47					
49					
51					
53					
55					



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Continued on Sheet 4

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WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

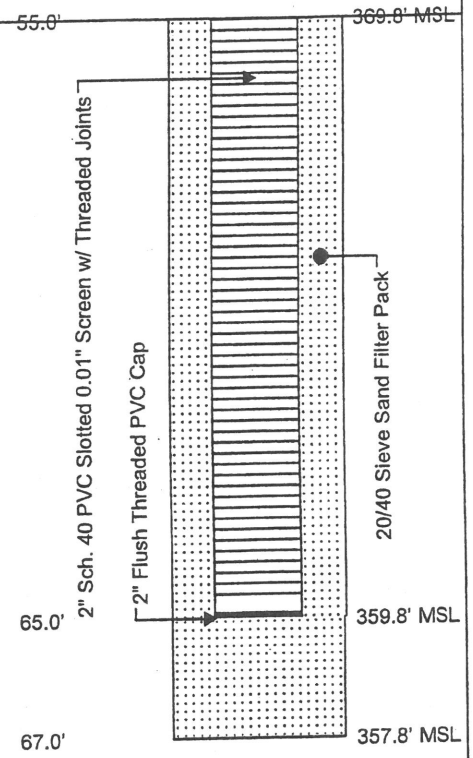
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 67' BGL
Ground Water: None in well.
Site Coordinates:
N 8750.74 E 8198.79

Well No.: MW-2
Sheet: 4 of 4
Start Date: 12/2/2003 15:15
Finish Date: 12/4/2003 11:45
Elev., TOC (ft. msl): 427.41
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 424.8

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface. No water encountered in Taylor Clay. No water detected in well on 12/5/03.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
57			CH		**Clay (CH)** High plasticity, stiff, damp, gray
59					
61					
63					
65					
67					Total Depth = 67' BGL
69					
71					
73					

Completion Results



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WELL INSTALLATION

Well No.: MW-3

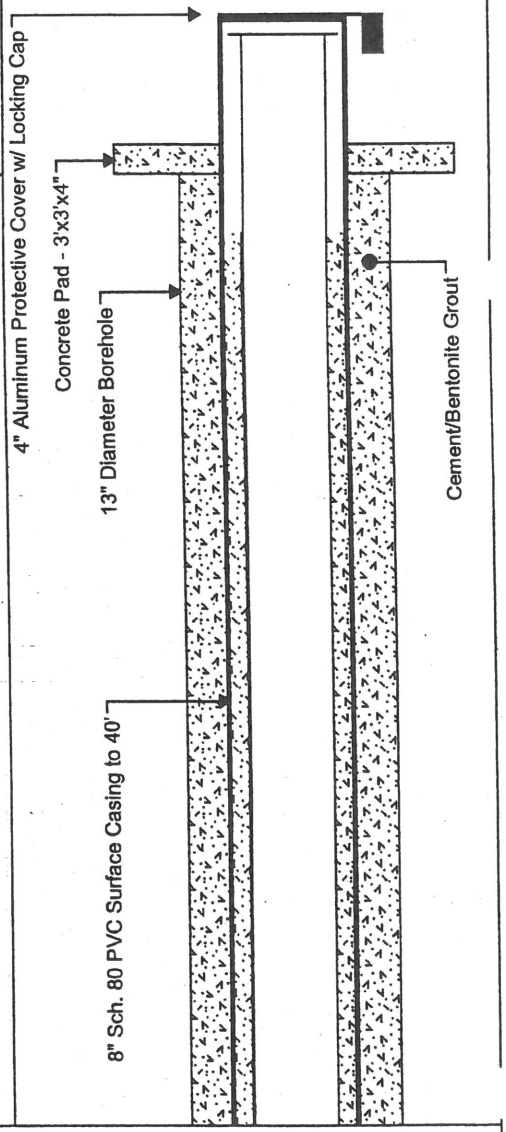
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: 63' BGL
Site Coordinates:
N 9303.65 E 9462.90

Sheet: 1 of 4
Start Date: 12/1/2003 09:15
Finish Date: 12/3/2003 16:30
Elev., TOC (ft. msl): 435.95
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 433.0

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
0	Cuttings				Ground Surface
					Clay Loam/Sand (SP) Fine grained sand, compact to loose, dry to damp, reddish brown (description from soil boring B-12)



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WELL INSTALLATION

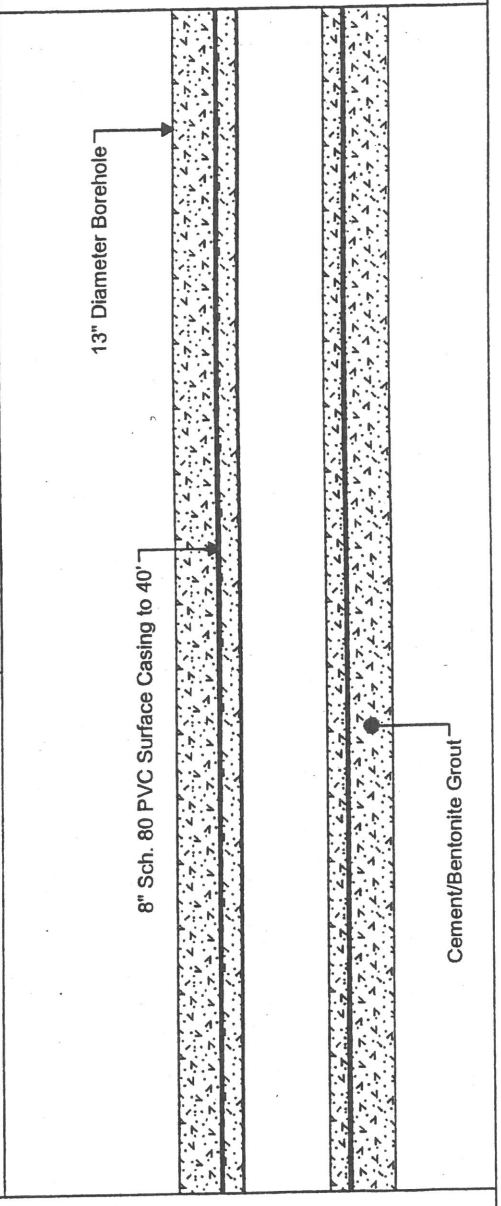
Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: 63' BGL
Site Coordinates:
N 9303.65 E 9462.90

Well No.: MW-3
Sheet: 2 of 4
Start Date: 12/1/2003 09:15
Finish Date: 12/3/2003 16:30
Elev., TOC (ft. msl): 435.95
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 433.0

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
18	Cuttings				Contact elevation - 416.0 Ft. MSL
20					**Sand/Gravel (GP)** Moist to saturated at base (description from Soil Boring B-12)
22					
24		24'			
26					Contact elevation - 406.0 Ft. MSL
28					**Clay (CH)** High plasticity, very stiff, damp, greenish gray
30					
32					
34	Cuttings				



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WELL INSTALLATION

Well No.: MW-3

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

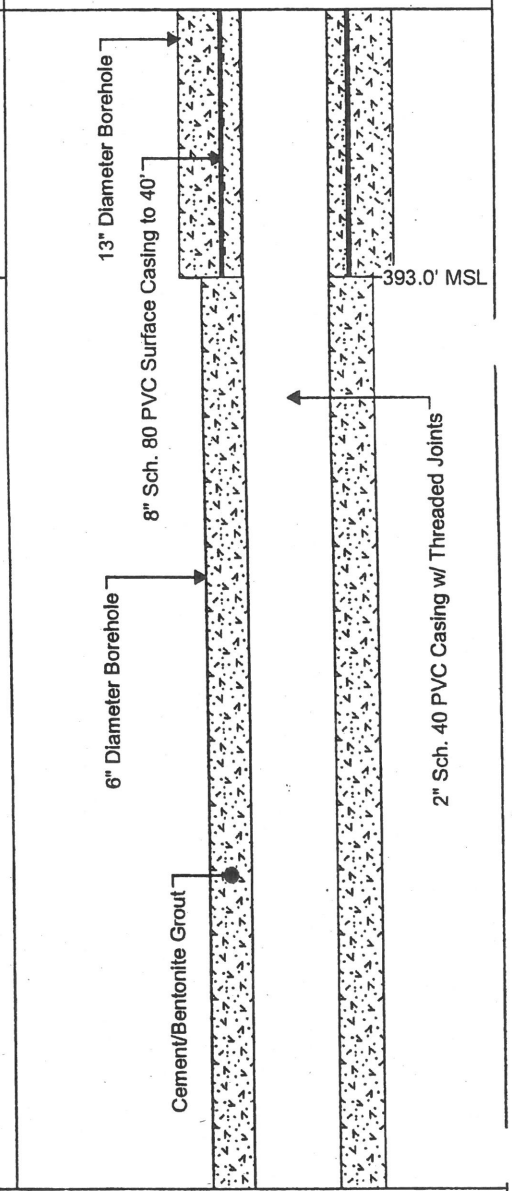
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: 63' BGL
Site Coordinates:
N 9303.65 E 9462.90

Sheet: 3 of 4
Start Date: 12/1/2003 09:15
Finish Date: 12/3/2003 16:30
Elev., TOC (ft. msl): 435.95
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 433.0

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
37–39					**Clay (CH)** High plasticity, very stiff, damp, greenish gray
41–55					**Clay (CH)** High plasticity, stiff, gray, moist clay observed on augers from 40' to 58' BGL, water on augers from 68' to 73' BGL

Completion Results



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Corpus Christi, Texas 78411

WELL INSTALLATION

Client: J-V Dirt & Loam
Site: 3600 FM 973 North Austin, TX 78725
Job No.: 292-01
Geologist: Tracy Payne
Drilling Method: Hollow-Stem/Solid Stem Augers
Sampling Method:

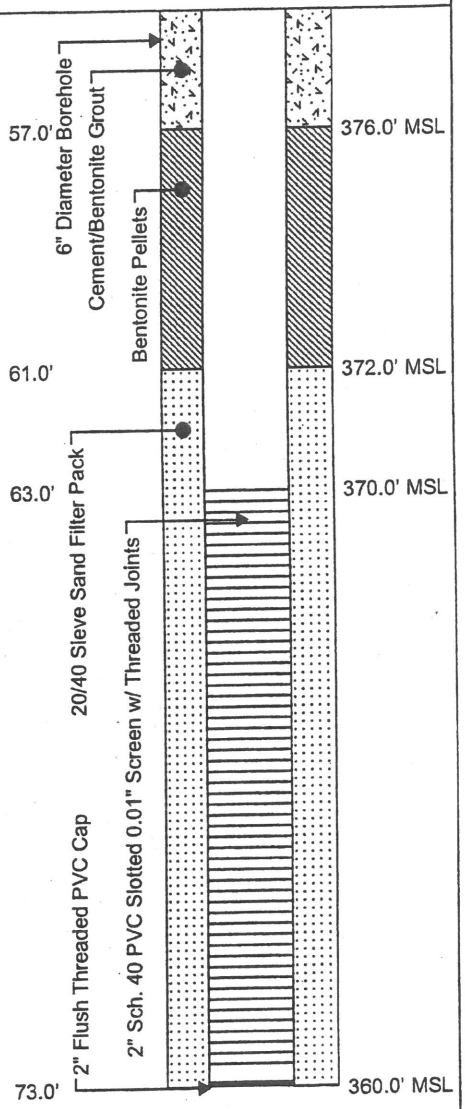
Driller: Dan Spaust - Total Support Svcs
Drilling Rig: Mobil Drill
Total Depth: 73' BGL
Ground Water: 63' BGL
Site Coordinates:
N 9303.65 E 9462.90

Well No.: MW-3
Sheet: 4 of 4
Start Date: 12/1/2003 09:15
Finish Date: 12/3/2003 16:30
Elev., TOC (ft. msl): 435.95
Elev., PAD (ft. msl): Unknown
Elev., GL (ft. msl): 433.0

Comments: 10.25" ID/13" OD Augers. Lithologic contact and well completion depths and elevations referenced to ground surface.

Depth (ft.)	Type	Saturation	USCS Class	Recovery (%)	Sample Description
57	Cuttings		CH		**Clay (CH)** High plasticity, stiff, gray, moist clay observed on augers from 40' to 58' BGL, water on augers from 68' to 73' BGL
59					
61					
63					
65					
67					
69					
71					
73					Total Depth = 73' BGL

Completion Results



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WELL INSTALLATION

Well No.: MW-4
Start Date: 1/22/2014 13:15
Finish Date: 1/22/2014 16:30

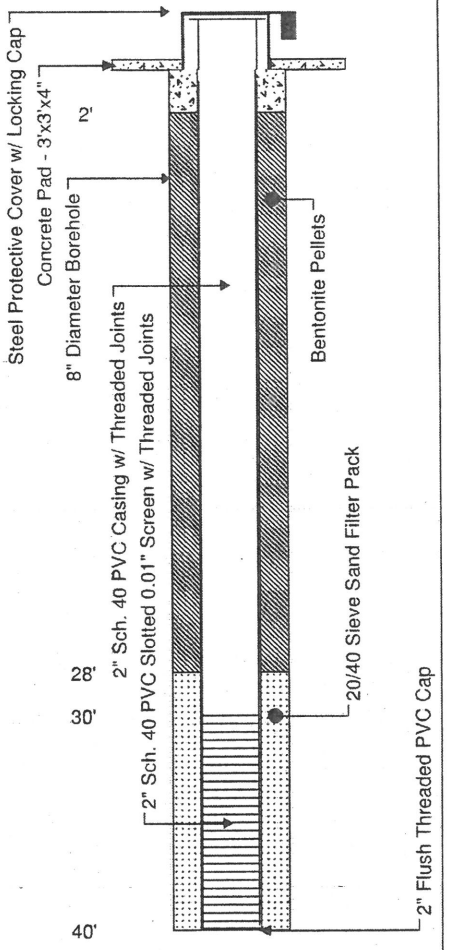
Client: Malish and Cowen, PLLC
Site: JV Dirt and Loam, 3600 FM973, Austin, TX
Job No.: UEC01832
Geologist: Mark Katterjohn
Driller: Total Support Services, Inc.
Drilling Rig: B-59
Drilling Method: Hollow-Stem Auger
Sampling Method: 5' Core Barrel

Total Depth: 40 ' BGL
Ground Water: Not Encountered
Elev., TOC (ft. msl): 449.51
Elev., PAD (ft. msl): 447.21
Elev., GL (ft. msl): 446.9
Site Coordinates:
N 10,062,980.38 **E** 3,152,432.69

Comments: Augered to 20 feet then sampled to 35 feet. Then blind augered to T.D. due to gravel.

STATE OF TEXAS
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Geology
2801
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Depth (ft.)	Saturation	USCS Class	Recovery (%)	Sample Description
-3 to 43				Ground Surface
1 to 19			--	**Sandy Clay (CH)** High to moderate plasticity, stiff to very stiff, damp to dry, light brown
21 to 23			80	
25 to 27			80	
29 to 33			80	**Sandy Gravel (GP)** Very fine to fine grained sand, compact, pebble to cobble sized gravel, dry, brown
35 to 37			--	
39				**Clay (Eagle Ford) (CH)** High plasticity, stiff, dry, gray
41 to 43				Total Depth = 40' BGL



RPS
1250 S. Capital of Texas Hwy., Bldg. 3, Suite 200
Austin, Texas 78746
512/347-7588
512/347-8243

Sheet: **1 of 1**

WELL INSTALLATION

Well No.: MW-5
Start Date: 1/21/2014 13:00
Finish Date: 1/21/2014 18:00

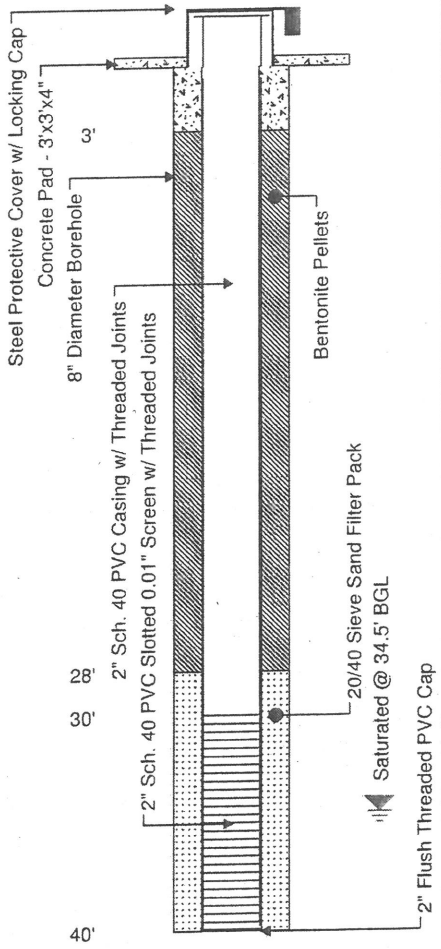
Client: Malish and Cowen, PLLC
Site: JV Dirt and Loam, 3600 FM973, Austin, TX
Job No.: UEC01832
Geologist: Mark Katterjohn
Driller: Total Support Services, Inc.
Drilling Rig: B-59
Drilling Method: Hollow-Stem Auger
Sampling Method: 5' Core Barrel
Comments: Augered to 20 feet then sampled to 35 feet. Then blind augered to T.D. due to gravel.

Total Depth: 40 ' BGL
Ground Water: Saturated @ 34.5' BGL
Elev., TOC (ft. msl): 446.99
Elev., PAD (ft. msl): 444.75
Elev., GL (ft. msl): 444.4
Site Coordinates:
N 10,063,207.96 **E** 3,151,999.80

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

Depth (ft.)	Saturation	USCS Class	Recovery (%)	Sample Description
				Ground Surface
1 to 31				**Sandy Clay (CH)** High to moderate plasticity, stiff to very stiff, damp to dry, light brown
			100	
			100	
31 to 35	34.5'		100	**Sandy Gravel (GP)** Very fine to fine grained sand, compact, pebble to cobble sized gravel, saturated at 34.5 feet, brown
37 to 39				**Clay (Eagle Ford) (CH)** High plasticity, stiff, dry, gray
40				Total Depth = 40' BGL

Completion Results



RPS
1250 S. Capital of Texas Hwy., Bldg. 3, Suite 200
Austin, Texas 78746
512/347-7588
512/347-8243

Sheet: **1 of 1**

WELL INSTALLATION

Well No.: MW-6
Start Date: 1/21/2014 08:00
Finish Date: 1/21/2014 12:30

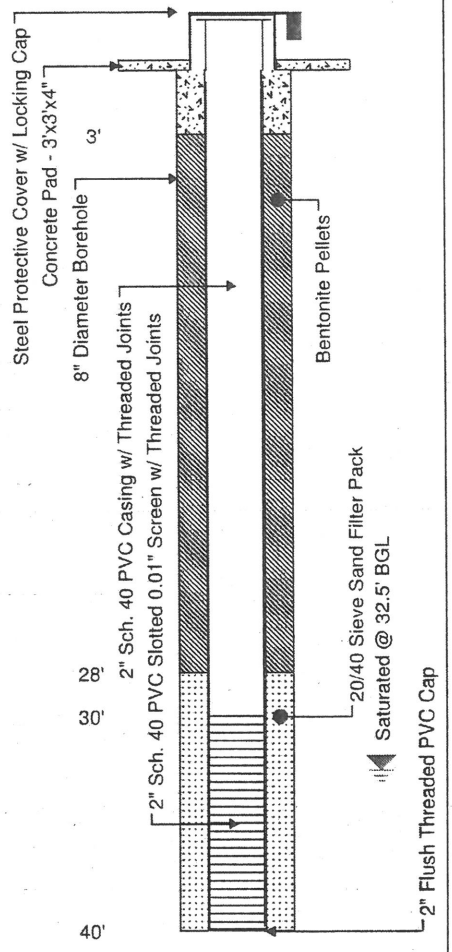
Client: Malish and Cowen, PLLC
Site: JV Dirt and Loam, 3600 FM973, Austin, TX
Job No.: UEC01832
Geologist: Mark Katterjohn
Driller: Total Support Services, Inc.
Drilling Rig: B-59
Drilling Method: Hollow-Stem Auger
Sampling Method: 5' Core Barrel
Comments:

Total Depth: 40 ' BGL
Ground Water: Saturated @ 32.5' BGL
Elev., TOC (ft. msl): 445.46
Elev., PAD (ft. msl): 443.15
Elev., GL (ft. msl): 442.9
Site Coordinates:
N 10,063,435.65 **E** 3,151,577.05

STATE OF TEXAS
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Geology
2801
LICENSED
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Depth (ft.)	Saturation	USCS Class	Recovery (%)	Sample Description
0				Ground Surface
1–27			100	**Sandy Clay (CH)** High to moderate plasticity, stiff to very stiff, damp to dry, light brown
27–39	32.5'		100	**Sandy Gravel (GP)** Very fine to fine grained sand, compact, pebble to cobble sized gravel, saturated at 32.5 feet, brown
39–40				**Clay (Eagle Ford) (CH)** High plasticity, stiff, dry, gray
40				Total Depth = 40' BGL

Completion Results



RPS
1250 S. Capital of Texas Hwy., Bldg. 3, Suite 200
Austin, Texas 78746
512/347-7588
512/347-8243

Sheet: **1 of 1**

WELL INSTALLATION

RPS

Client: Malish and Cowen, PLLC
Site: JV Dirt and Loam, 3600 FM973, Austin, TX
Job No.: UEC01832
Geologist: Mark Katterjohn
Driller: Total Support Services, Inc.
Drilling Rig: B-59
Drilling Method: Hollow-Stem Auger
Sampling Method: 5' Core Barrel
Comments: Augered to 25 feet then sampled.

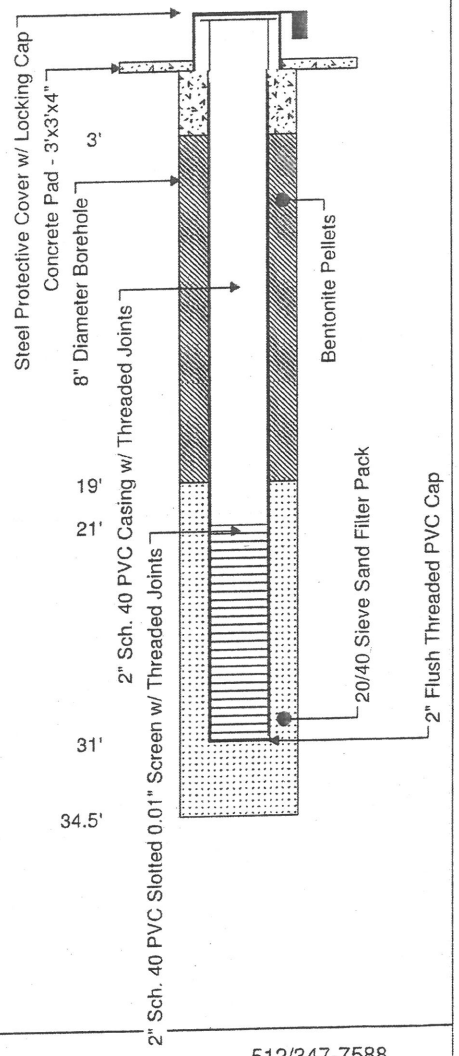
Total Depth: 34.5' BGL
Ground Water: Not Encountered
Elev., TOC (ft. msl): 444.02
Elev., PAD (ft. msl): 441.66
Elev., GL (ft. msl): 441.1
Site Coordinates:
N 10,063,853.11 **E** 3,151,778.34

Well No.: MW-7
Start Date: 1/22/2014 07:45
Finish Date: 1/22/2014 10:00

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

Depth (ft.)	Saturation	USCS Class	Recovery (%)	Sample Description
-3 to 43				Ground Surface
1 to 25			--	**Sandy Clay (CH)** High to moderate plasticity, stiff to very stiff, damp to dry, light brown
27 to 29			100	**Sandy Gravel (GP)** Very fine to fine grained sand, compact, pebble to cobble sized gravel, dry, brown
31 to 33			100	**Clay (Eagle Ford) (CH)** High plasticity, stiff, dry, gray
35				Total Depth = 34.5' BGL

Completion Results



RPS
1250 S. Capital of Texas Hwy., Bldg. 3, Suite 200
Austin, Texas 78746
512/347-7588
512/347-8243

Sheet: **1 of 1**

WELL INSTALLATION

Well No.: MW-8
Start Date: 1/22/2014 10:45
Finish Date: 1/22/2014 13:00

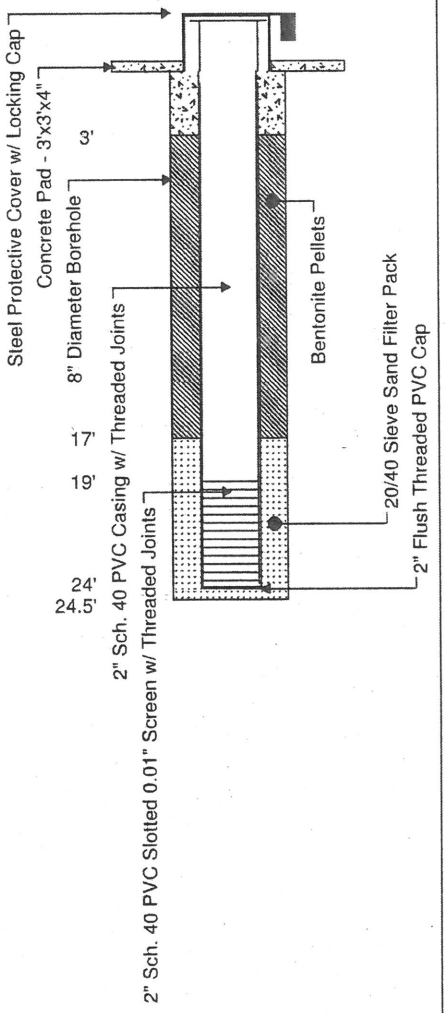
Client: Malish and Cowen, PLLC
Site: JV Dirt and Loam, 3600 FM973, Austin, TX
Job No.: UEC01832
Geologist: Mark Katterjohn
Driller: Total Support Services, Inc.
Drilling Rig: B-59
Drilling Method: Hollow-Stem Auger
Sampling Method: 5' Core Barrel
Comments: Augered to 20 feet then sampled.

Total Depth: 24.5' BGL
Ground Water: Not Encountered
Elev., TOC (ft. msl): 438.02
Elev., PAD (ft. msl): 435.65
Elev., GL (ft. msl): 435.2
Site Coordinates:
N 10,064,293.27 **E** 3,152,008.57

STATE OF TEXAS
MARK S. KATTERJOHN
Geology
2801
LICENSED
PROFESSIONAL GEOSCIENTIST

Depth (ft.)	Saturation	USCS Class	Recovery (%)	Sample Description
-3 to 43				Ground Surface
1 to 19			--	**Sandy Clay (CH)** High to moderate plasticity, stiff to very stiff, damp to dry, light brown
21 to 23			100	**Sandy Gravel (GP)** Very fine to fine grained sand, compact, pebble to cobble sized gravel, dry, brown
25 to 27				**Clay (Eagle Ford) (CH)** High plasticity, stiff, dry, gray
				Total Depth = 24.5' BGL

Completion Results



RPS
1250 S. Capital of Texas Hwy., Bldg. 3, Suite 200
Austin, Texas 78746

Sheet: **1 of 1**

512/347-7588
512/347-8243

Attachment B

State of Texas Well Reports

STATE OF TEXAS WELL REPORT for Tracking #354625

Owner:	**JV Dirt**	Owner Well #:	**MW 4**
Address:	**3600 N. FM 973 Austin , TX**	Grid #:	**58-52-1**
Well Location:	**3600 N. FM 973 Austin , TX**	Latitude:	**30° 14' 39" N**
Well County:	**Travis**	Longitude:	**097° 37' 23" W**
Elevation:	**No Data**	GPS Brand Used:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **1/27/2014**
Completed: **1/29/2014**

Diameter of Hole: Diameter: **8 in From Surface To 40 ft**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: Other: **20/40 Silica Sand**

Annular Seal Data:
1st Interval: **From 0 ft to 2 ft with Concrete (#sacks and material)**
2nd Interval: **From 2 ft to 28 ft with Bentonite (#sacks and material)**
3rd Interval: **No Data**
Method Used: **Gravity**
Cemented By: **Crew**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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 log(s) being returned for completion and resubmittal.

Company Information:
Total Support Services
4647 Brass Way
Dallas , TX 75236

Driller License Number: **54611**

Licensed Well Driller Signature:	**Brian Kern**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

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 (Tracking **#354625**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
0 to 32.5 Light Brown Sandy Clay
32.5 to 38 Brown Sandy Gravel
38 to 40 Gray Clay

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
2 New PVC Riser 0/30 Sched. 40
2 New PVC Screen 30/40 0.010 Slotted

STATE OF TEXAS WELL REPORT for Tracking #354626

Owner:	**JV Dirt**	Owner Well #:	**MW 5**
Address:	**3600 N. FM 973** **Austin , TX**	Grid #:	**58-52-1**
Well Location:	**3600 N. FM 973** **Austin , TX**	Latitude:	**30° 14' 41" N**
Well County:	**Travis**	Longitude:	**097° 37' 25" W**
Elevation:	**No Data**	GPS Brand Used:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **1/27/2014**
Completed: **1/29/2014**

Diameter of Hole: Diameter: **8 in From Surface To 40 ft**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: Other: **20/40 Silica Sand**

Annular Seal Data:
1st Interval: **From 0 ft to 2 ft with Concrete (#sacks and material)**
2nd Interval: **From 2 ft to 28 ft with Bentonite (#sacks and material)**
3rd Interval: **No Data**
Method Used: **Gravity**
Cemented By: **Crew**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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 log(s) being returned for completion and resubmittal.

Company Information:
Total Support Services
4647 Brass Way
Dallas , TX 75236

Driller License Number: **54611**

Licensed Well Driller Signature:	**Brian Kern**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

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 (Tracking **#354626**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
0 to 30.5 Light Brown Sandy Clay
30.5 to 39 Brown Sandy Gravel
39 to 40 Gray Clay

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
2 New PVC Riser 0/30 Sched. 40
2 New PVC Screen 30/40 0.010 Slotted

STATE OF TEXAS WELL REPORT for Tracking #354627

Owner:	**JV Dirt**	Owner Well #:	**MW 6**
Address:	**3600 N. FM 973 Austin , TX**	Grid #:	**58-51-3**
Well Location:	**3600 N. FM 973 Austin , TX**	Latitude:	**30° 14' 43" N**
Well County:	**Travis**	Longitude:	**097° 37' 31" W**
Elevation:	**No Data**	GPS Brand Used:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date:	Started: **1/27/2014** Completed: **1/29/2014**
Diameter of Hole:	Diameter: **8 in From Surface To 40 ft**
Drilling Method:	**Hollow Stem Auger**
Borehole Completion:	Other: **20/40 Silica Sand**
Annular Seal Data:	1st Interval: **From 0 ft to 2 ft with Concrete (#sacks and material)** 2nd Interval: **From 2 ft to 28 ft with Bentonite (#sacks and material)** 3rd Interval: **No Data** Method Used: **Gravity** Cemented By: **Crew** Distance to Septic Field or other Concentrated Contamination: **No Data** Distance to Property Line: **No Data** Method of Verification: **No Data** Approved by Variance: **No Data**
Surface Completion:	**Surface Sleeve Installed**

Water Level:	Static level: **No Data** Artesian flow: **No Data**
Packers:	**No Data**
Plugging Info:	Casing or Cement/Bentonite left in well: **No Data**
Type Of Pump:	**No Data**
Well Tests:	**No Data**

Water Quality:	Type of Water: **No Data** Depth of Strata: **No Data** Chemical Analysis Made: **No Data** Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**
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 log(s) being returned for completion and resubmittal.
Company Information:	**Total Support Services** **4647 Brass Way** **Dallas , TX 75236**
Driller License Number:	**54611**

Licensed Well Driller Signature:	**Brian Kern**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

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 (Tracking **#354627**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
0 to 29 Light Brown Sandy Clay
29 to 39.5 Brown Sandy Gravel
39.5 to 40 Gray Clay

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
2 New PVC Riser 0/30 Sched. 40
2 New PVC Screen 30/40 0.010 Slotted

STATE OF TEXAS WELL REPORT for Tracking #354629

Owner:	**JV Dirt**	Owner Well #:	**MW 7**
Address:	**3600 N. FM 973 Austin , TX**	Grid #:	**58-52-1**
Well Location:	**3600 N. FM 973 Austin , TX**	Latitude:	**30° 14' 46" N**
Well County:	**Travis**	Longitude:	**097° 37' 29" W**
Elevation:	**No Data**	GPS Brand Used:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **1/27/2014**
Completed: **1/29/2014**

Diameter of Hole: Diameter: **8 in From Surface To 34.5 ft**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: Other: **20/40 Silica Sand**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with Concrete (#sacks and material)**
2nd Interval: **From 2 ft to 19 ft with Bentonite (#sacks and material)**
3rd Interval: **No Data**
Method Used: **Gravity**
Cemented By: **Crew**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality: Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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 log(s) being returned for completion and resubmittal.

Company Information: **Total Support Services**
4647 Brass Way
Dallas , TX 75236

Driller License Number: **54611**

Licensed Well Driller Signature:	**Brian Kern**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

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 (Tracking **#354629**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
0 to 27 Light Brown Sandy Clay
27 to 31 Brown Sandy Gravel
31 to 34.5 Gray Clay

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
2 New PVC Riser 0/21 Sched. 40
2 New PVC Screen 21/31 0.010 Slotted

STATE OF TEXAS WELL REPORT for Tracking #354630

Owner:	**JV Dirt**	Owner Well #:	**MW 8**
Address:	**3600 N. FM 973 Austin , TX**	Grid #:	**58-52-1**
Well Location:	**3600 N. FM 973 Austin , TX**	Latitude:	**30° 14' 51" N**
Well County:	**Travis**	Longitude:	**097° 37' 26" W**
Elevation:	**No Data**	GPS Brand Used:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **1/27/2014**
Completed: **1/29/2014**

Diameter of Hole: Diameter: **8 in From Surface To 24.5 ft**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: Other: **20/40 Silica Sand**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with Concrete (#sacks and material)**
2nd Interval: **From 2 ft to 19 ft with Bentonite (#sacks and material)**
3rd Interval: **No Data**
Method Used: **Gravity**
Cemented By: **Crew**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Sleeve Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality: Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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 log(s) being returned for completion and resubmittal.

Company Information: **Total Support Services**
4647 Brass Way
Dallas , TX 75236

Driller License Number: **54611**

Licensed Well Driller Signature:	**Brian Kern**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

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 (Tracking **#354630**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
0 to 21.5 Light Brown Sandy Clay
21.5 to 24 Brown Sandy Gravel
24 to 24.5 Gray Clay

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
2 New PVC Riser 0/19 Sched. 40
2 New PVC Screen 19/24 0.010 Slotted

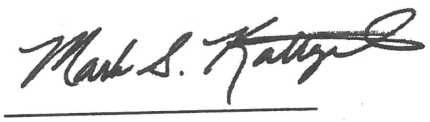
Attachment C

Certification of Well Installation

Certification for Installation

This is to certify that installation of the following facility component authorized or required by TCEQ MSW Permit No. 2310 has been completed, and that construction of said component has been performed in accordance with and in compliance with the design and construction specifications of the Groundwater Protection Plan incorporated as part of MSW Permit No. 2310:

Facility Component	Location	Permit Provision
MW-1	West Perimeter	Provision IV.D
MW-2	South Perimeter	Provision IV.D
MW-3	East Perimeter	Provision IV.D
MW-4	South Perimeter	Provision IV.D
MW-5	South Perimeter	Provision IV.D
MW-6	Southwest Perimeter Corner	Provision IV.D
MW-7	West Perimeter	Provision IV.D
MW-8	West Perimeter	Provision IV.D



Mark S. Katterjohn, P.G. 2801
Senior Consultant / Hydrogeologist

Attachment D

Monitoring Well Locations



Monitoring Well Location Map

Attachment E

Professional Geoscientist Certification

PROFESSIONAL GEOSCIENTIST CERTIFICATION

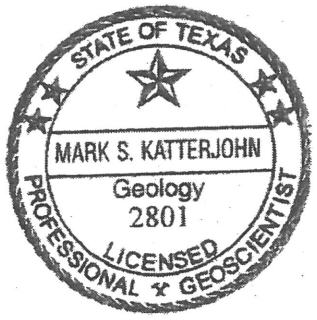
Monitoring Well System Certification Report

JV Dirt and Loam Composting Site
3600 FM 973
Austin, Texas

February 19, 2014

Geoscience services or work provided within this report has been reviewed by, conducted by or under the direct supervision of Mark S. Katterjohn, P.G., unless specifically noted otherwise on individual items contained within.

Mark S. Katterjohn, P.G.
Texas L.P.G. No. 2801



Appendix I.17
Monitoring Well Location Map



300 150 0 300

(SCALE IN FEET)

Legend

- Taylor Clay Monitoring Well
- Alluvial Monitoring Well

STATE OF TEXAS
KATHY L. McGEE
57783
LICENSED
PROFESSIONAL ENGINEER

6/4/2025

For MSW Permitting Only

Note:
Monitoring Well locations are approximate.

Base Map Source:
Google Earth Pro
Dated 3-1-2024

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Monitoring Well Location Map

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLM		DWG NO. 003
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 01-13-2025			ATTACHMENT NO. I.17
PURPOSE: PERMIT APPLICATION			

ATTACHMENT J
GROUNDWATER PROTECTION PLAN

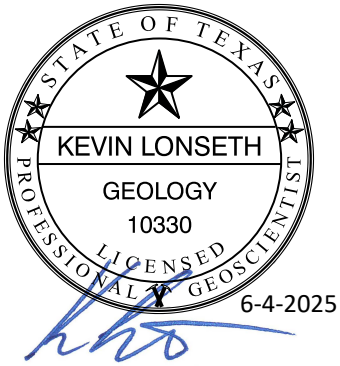
Groundwater Protection Plan

J-V Dirt + Loam Facility - Travis County, Texas

MSW Permit No. 2310 Limited Scope Amendment Application
Walker Aero Environmental LLC, Permittee

Prepared for:

JV Dirt + Loam
3600 FM 973
Austin, Texas 78725



Prepared by:

INTERA Incorporated
9600 Great Hill Trail, Suite 300W
Austin, Texas 78759

JANUARY 13, 2025 REISSUE
REVISED JUNE 4, 2025

Previous Issue Revised April 2013

Preface

INTERA has prepared the following updated Groundwater Protection Plan as part of the January 13, 2025 limited scope permit amendment application for the JV Dirt and Loam (JV Dirt) composting facility. This report, which was most recently revised in April 2013, was prepared to address 30 TAC §332.47(6)(C) of the Texas Commission on Environmental Quality (TCEQ) composting rules. As specified in this rule, groundwater protection consists of a liner system, described in Section 1, and a groundwater monitoring system and monitoring program, described in Sections 2 and 3. The substantive revisions in the following Groundwater Protection Plan are limited to Section 2 and 3 and have been developed based on the updated evaluations contained in the revised Geologic and Hydrogeologic Report that is also being submitted as part of this limited scope amendment application.

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1.0 Liner System J-1
1.1 Soil Liner Construction and Testing Procedures/ Quality Assurance Plan J-1
1.2 Soil Liner Compaction J-2
1.3 Sieve Analysis J-2
2.0 Groundwater Monitoring Well System J-4
2.1 Background Information J-4
2.2 Monitoring Well Network J-5
2.3 MW-9 and MW-10 Installation and Completion J-6
3.0 Groundwater Sampling Program J-7

List of Appendices

Appendix J.1 Monitoring Well System Locations

Appendix J.2 TCEQ Letter Dated May 2, 2017 Authorizing Semi-Annual Sampling

1.0 Liner System

All feedstock receiving, mixing, composting, screening, and curing areas, along with the storage pond will have a liner system meeting the TCEQ liner requirements of two feet of compacted clay. The specifications of the clay liner will be as follows:

Property	Test Method	Unit	Specification
Permeability	ASTMD-2434	cm/sec	1×10^{-7} or less
Plasticity Index of Clay	ASTM D-423 & D-424		Not less than 15
Liquid Limit of Clay	ASTMD-2216	%	Not less than 30
Clay Particles Passing #200 Sieve	ASTMD-422	%	Not less than 30

The composting pad, curing pad areas and the storage pond will have a two-foot thick clay liner meeting the above specifications. A one-foot thick protective cover over the clay liner will also be provided for the composting pad and the curing pad. The protective cover may be gravel or natural soils on the site.

The Liquid feedstock unloading area and tipping area will be lined with reinforced concrete over a compacted select fill. Two feet of compacted clay meeting the above specifications will be placed under the concrete slab to serve as the liner. The unloading area will use a concrete curb for secondary containment with an area inlet conveying any spilled liquids or stormwater runoff to the storage pond. The tipping area will also have an area inlet and piped drainage system to the leachate and stormwater pond.

1.1 Soil Liner Construction and Testing Procedures/ Quality Assurance Plan

Prior to using source material for liner purposes, laboratory testing of the material shall be performed for gradation, Atterberg limit, its moisture/density relationship, and coefficient of permeability to verify its acceptability as a liner source.

It is recommended that the quality control of the soil plasticity be closely adhered to and maintained during construction. Testing of the Atterberg limits and gradation should be continually checked so that any changes in either physical property can be detected and additional appropriate laboratory testing performed. Any time the Liquid Limit (LL) or Plasticity Index (PI) changes by more than 10 points, a new compaction series should be run in the laboratory to determine the maximum dry density, optimum moisture, and the laboratory coefficient of permeability.

Placement of the clay liner should be in accordance with the following:

1. All surface areas should be properly scarified a minimum of six inches and prepared to receive the liner.
2. The top of each lift should be roughened to a shallow depth prior to the placement of the next lift of soil for compaction.

3. No loose lift should be thicker than the pads of the compactor so that complete bonding with the top of the previous lift is achieved.
4. Equipment and safety limitations prohibit finished grades with slopes greater than 3:1 if the liner is constructed parallel to the surface. For an excavated wall with steeper than 3:1 side slopes, the sidewall liner must be constructed in successive horizontal lifts.
5. It is recommended that the surface of a soil liner be proof rolled when construction is shut down for more than 24 hours to mitigate the effects of desiccation. It is further recommended that it be done on a routine basis during the summer months at the end of each day's liner construction.
6. Any ponded water that accumulates on newly constructed liner surfaces shall be promptly removed. The surface of the completed soil liner prior to coverage with waste must be kept moist to reduce shrinkage cracking, but saturation of these soils by ponding water is not acceptable.

1.2 Soil Liner Compaction

The soil liner shall be installed in lifts not exceeding 9-inches of loosely placed soil or 6-inches of compacted soil. The soil shall be compacted to at least 95% of maximum dry density at optimum moisture content, or up to 5% above optimum moisture content (ASTM D 698). Alternatively, a compaction of at least 90% of maximum dry density and up to 1% drier than optimum moisture or up to 3% above the optimum moisture content.

Field compaction testing shall be performed on each lift by a nuclear density gauge at a frequency of one test for each 8,000 square feet of surface area. Sections of compacted soil, which do not pass both the density and moisture requirements shall be reworked and retested until the section passes.

Compaction shall be performed with a pad/tamping foot roller. The compacted lift thickness must not be greater than the pad length. The minimum width of the compactor should be 1500 pounds per linear foot of drum length, and a minimum of eight passes is recommended for the compaction process.

Liner tie-ins to the ends of other lifts or to existing soils shall be performed using a sloped transition or a stair step transition. On the sloped transition or the stair-step transition, the horizontal length for tie-in shall be 5 feet for every one foot or liner thickness.

1.3 Sieve Analysis

A sieve analysis shall be performed on a sample of soil for each 100,000 square feet of surface area per lift. No less than 30% of the soil shall pass a number 200 sieve, all soil tested shall pass through a I-inch sieve, and on the final lift, all soil tested shall pass a 3/8-inch sieve.

The following table summarizes the required soil tests and frequency of testing.

Summary of Standard Tests on Constructed Soil Liners

Type of Test	Standard Test Method	Frequency of Testin2:
Field Density	ASTM D 1556, D2157, or D2922	1/8,000 ft^2 per 6-inch parallel lift, 1/100 lineal ft per 12 inches sidewall liner (horizontal lifts)
Sieve (Gradation)	ASTM D 422 or D 1140	1/100,000 ft^2 per 6-inch parallel lift, 1/2000 lineal ft per 12 inches sidewall liner (horizontal lifts)
Atterberg Limits	ASTM D 4318	
Coefficient of Permeability	ASTM D 5084 or CoE EM 1110-2-1906	
Thickness	Registered Surveyor	1/5,000 ft^2 (parallel lifts), 50-ft cross-sections (horizontal lift sidewall liners)

A Geotechnical Professional (GP), or his representative, should be on site for all liner construction and testing. The GP shall use the Soil and Liner Evaluation Report provided in the appendix for liner installation documentation and provide to TCEQ as required.

2.0 Groundwater Monitoring Well System

A groundwater monitoring well system has been designed and constructed at the facility in accordance with permit requirements. The purpose of the monitoring well system is to reasonably assure that the system will detect the potential presence of contamination in groundwater before it migrates beyond the boundaries of the site. The existing system was designed based on the results of the subsurface and groundwater investigations previously conducted pursuant to 30 TAC §332.47(6)(B)(v). Data obtained from these investigations has been re-evaluated and subsequent data obtained from the existing monitoring wells has been evaluated as described in the revised Geologic and Hydrogeologic Report that is also being submitted as part of this limited scope amendment application. This revised Groundwater Protection Plan is based upon these updated evaluations.

2.1 Background Information

The subsurface and groundwater investigations conducted in support of the original permit application have documented that the subsurface consists of Quaternary alluvium and terrace deposits underlain by the Taylor Clay, and that groundwater occurs within the lower portion of the Quaternary sands and gravels (alluvial aquifer). Groundwater within the alluvial aquifer is expected to principally flow in a southwesterly direction towards the Colorado River. The underlying Taylor Clay is predominantly uniform and characterized as a dry, stiff, and high plasticity clay with no distinct water bearing zones and no apparent secondary features identified that would account for the presence of groundwater to a typical depth of 70 feet below the top of the clay. The Taylor Clay serves as an aquiclude for the overlying alluvium and is over 400 feet thick beneath the facility. Geotechnical testing of a sample collected from the Taylor Clay at the site had a reported hydraulic conductivity of 1.8×10^{-9} cm/sec.

Nonetheless, water was encountered in some site investigation piezometers that were completed in the clay. The piezometers were installed in the Taylor Clay instead of the alluvium since the original facility designs called for excavation of the alluvial materials across the waste management area of the site and construction of the composting and curing pads on the exposed clay surface. Although INTERA's interpretation of the piezometer data is that the presence of water was consistent with leakage from the alluvial aquifer into the underlying clay, three wells (MW-1 through MW-3) were installed in the Taylor Clay to investigate the potential that the Taylor Clay was actually producing the water observed in the site piezometers and to evaluate potential hydraulic uplift. These three wells comprised the groundwater monitoring system for the facility when it was originally permitted in 2004. As detailed in the revised Geologic and Hydrogeologic Report, however, all groundwater observed in the historical site piezometers and the monitoring wells screened in the Taylor Clay is believed to be the result of leakage through the cased off area between the saturated sands/gravels in the alluvial aquifer and the underlying clay.

The design of the facility was revised as approved in the July 31, 2013 modification of MSW Permit No. 2310. The revised designs for the facility eliminated excavation of the alluvial materials except where the stormwater storage pond was to be constructed, with the composting and curing pads for the facility to be constructed over the alluvium. Due to this design change, the alluvial sands and gravels comprise the uppermost water-bearing zone underlying the facility, and five alluvial monitoring wells

(MW-4 through MW-8) were installed along the downgradient facility boundary as approved by the 2013 permit modification. The suitability of the Taylor Clay monitoring wells to serve as a reliable indication of a potential release was not revisited at that time, and these wells were retained as part of the groundwater monitoring system.

2.2 Monitoring Well Network

Monitoring well locations are depicted on **Appendix J.1**. Installation and completion information for the previously installed wells is found in the Monitoring Well System Certification Report, February 19, 2014, provided in the revised Geologic and Hydrogeologic Report. As documented in the revised Geologic and Hydrogeologic Report, MW-2 and MW-3 have been plugged and abandoned due to damage (MW-2) and TxDOT acquisition of a strip of land along the southeastern facility perimeter (MW-3).

Based on the updated evaluation detailed in the revised Geologic and Hydrogeologic Report, a release from the facility would preferentially flow laterally via the alluvial aquifer. Vertically migration through the Taylor Clay would be severely impeded and would not extend a significant distance into the clay due to its extremely low hydraulic conductivity and the lack of secondary features. Further, contiguous transmissive zones containing groundwater were not found in the Taylor Clay so that there is no viable pathway for lateral migration of a release. Therefore, wells screened in the Taylor Clay do not provide useful information regarding a release from the facility. The alluvium is the uppermost water bearing zone underlying the waste management area of the site and is the appropriate zone to monitor in accordance with 30 TAC §332.47(6)(C)(ii).

The revised Geologic and Hydrogeologic Report details the basis for monitoring groundwater quality in the alluvium only, discontinuing monitoring of the wells completed in the Taylor Clay. Accordingly, it is proposed to plug the remaining Taylor Clay monitoring well, MW-1, and to not replace MW-2 and MW-3 with new wells completed in the Taylor Clay, so that all wells in the monitoring well network are completed in the alluvium.

A new, upgradient alluvial well (MW-9) will be installed on the southeastern side of the facility in the vicinity of former Taylor Clay monitoring well MW-3 to provide upgradient data for groundwater flow determinations and groundwater quality evaluations. Since variable groundwater flow directions have historically been observed at the site during times of drought, an additional alluvial well (MW-10) will be installed on the northeastern perimeter of the facility to ensure complete coverage of downgradient groundwater quality. As discussed in the revised Geologic and Hydrogeologic Report, the locations and spacing of the existing alluvial monitoring wells are appropriate for monitoring downgradient water quality based on the principal direction of groundwater flow. In addition, the locations of Taylor Clay monitoring well MW-1 and former Taylor Clay monitoring well MW-2 are near alluvial monitoring wells MW-8 and MW-4, respectively. Therefore, no additional alluvial monitoring wells other than the two, proposed wells, MW-9 and MW-10, are needed. The proposed locations of MW-9 and MW-10 are shown on the monitoring well location map provided as Appendix J.1.

As discussed in the revised Geologic and Hydrogeologic Report, the monitoring well system as proposed herein will reasonably assure that the system will detect the potential presence of contamination in groundwater before it migrates beyond the boundaries of the site.

2.3 MW-9 and MW-10 Installation and Completion

The new alluvial aquifer monitoring wells (MW-9 and MW-10) will be constructed of 2-inch Schedule 40 PVC casing with 5 to 10 feet of 0.010-inch slotted Schedule 40 PVC well screen extending to the bottom of the sand and gravel alluvium. The sand filter pack will extend a minimum of 2 feet above the top of the screened interval. A minimum of 2 feet of bentonite pellets will be placed on top of the sand pack. The remainder of the annulus will be sealed with a cement slurry to within 2 to 3 feet of the ground surface.

MW-9 and MW-10 will be constructed with an above-ground surface completion consisting of an approximately 2.5-foot PVC casing stickup and a locking well protective steel cover secured in a 3-ft x 3-ft x 4-in concrete pad. Four bollards (painted yellow) will be installed around each monitoring well completion. Following installation, MW-9 and MW-10 will be developed if groundwater is present.

The location and elevation of MW-9 and MW-10 will be surveyed by a surveyor licensed in the State of Texas. The surveyor will provide the elevations of the top of PVC casing, top of pad, and ground surface. Elevation measurements will be made to the nearest 0.01 foot.

3.0 Groundwater Sampling Program

Records have indicated that the monitoring wells do not regularly produce sufficient water for sampling, and background monitoring has only been completed at wells MW-1 and MW-3. These two wells are therefore subject to annual sampling for the indicator parameters specified in 30 TAC §332.47(6)(C)(ii)(II)(c) and noted below. As indicated in Section 2.0, MW-3 has been plugged. The remainder of the wells, MW-2 and MW-4 through MW-8, are still in their background monitoring period.

Previous monitoring has yielded three samples from MW-2 (now plugged), three samples each from MW-5 and MW-6, and one sample each from MW-4 and MW-7. No samples have previously been collected from MW-8. Due to the reported lack of adequate water for sampling over most of the monitoring history, TCEQ authorized semi- annual background sampling for MW-2 and MW-4 through MW-8 via a letter dated May 2, 2017 (**Appendix J.2**). Therefore, these wells are currently subject to semi-annual sampling for the background parameters specified in 30 TAC §332.47(6)(C)(ii)(II)(a) and (b) and noted below.

Samples from any monitoring well will not be collected for at least 45 days following collection of a previous sample, unless a replacement sample is necessary. The depth to groundwater below the top of the PVC casing will be measured in each well prior to purging the well for groundwater sampling. For each groundwater sampling event, the groundwater elevation relative to mean sea level will be calculated for each well using the established surveyed top of casing elevation.

Background samples are analyzed for the following constituents:

- Metals - arsenic, copper, mercury, barium, iron, selenium, cadmium, lead, chromium, and zinc
- Other parameters- calcium, magnesium, sodium, carbonate, bicarbonate, sulfate, fluoride, chloride, nitrate (as N), total dissolved solids, phenolphthalein alkalinity as $CaCO_3$, alkalinity as $CaCO_3$, hardness as $CaCO_3$, pH, specific conductance, anion-cation balance, and total organic carbon (four replicates/well).

After background values have been established for each well, the monitoring well will be sampled and analyzed annually for total organic carbon (four replicates), iron, manganese, pH, chloride and total dissolved solids.

A report will be prepared for each monitoring event and will be submitted to TCEQ. The routine groundwater monitoring reports will provide a tabulation of the groundwater level measurements and elevation data, a tabulation of the groundwater quality data obtained for the wells, and a copy of the laboratory analytical report. A copy of each report will be maintained at the facility.

Appendix J.1
Monitoring Well System Locations



300 150 0 300

(SCALE IN FEET)

Legend

- Taylor Clay Monitoring Well
- Alluvial Monitoring Well

STATE OF TEXAS
KATHY L. McGEE
57783
LICENSED
PROFESSIONAL ENGINEER

6/4/2025

For MSW Permitting Only

Notes:
1. Monitoring Well locations are approximate.
2. Taylor Clay monitoring well MW-1 is proposed to be plugged

Base Map Source:
Google Earth Pro
Dated 3-1-2024

REV.	DATE	DESCRIPTION	DR BY	APP BY

INTERA
9600 GREAT HILLS PLAZA, SUITE 300W
AUSTIN, TEXAS 78759 USA 512-425-2000
TEXAS REGISTERED ENGINEERING FIRM F-4722

PROJECT:
Walker Aero Environmental LLC
J-V Dirt & Loam

SHEET TITLE:
Monitoring Well Location Map

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJ NO. AALLW.M004.J-VAMENDMENT
CHK BY	KLM		DWG NO. 004
APP BY	KLM		SHEET 1 OF 1 SHEETS
DATE ISSUED: 01-13-2025			ATTACHMENT NO. J.1
PURPOSE: TCEQ SUBMITTAL			

Appendix J.2
TCEQ Letter Dated May 2, 2017 Authorizing Semi-Annual Sampling

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 2, 2017

Mr. Phillip McCammon
General Manager
J-V Dirt + Loam
3600 North FM 973
Austin, Texas 78725

Re: J-V Dirt + Loam - Travis County
Municipal Solid Waste - Permit No. 2310
Groundwater Monitoring - Quarterly Background Monitoring Report
Tracking No. 21466233; RN101495976/CN600783658

Dear Mr. McCammon:

This letter acknowledges that we received a report on March 22, 2017, on behalf of the referenced facility.

Summary of Sampling Event

Event Date	Event Type	Monitoring Wells
March 10, 2016	Background Monitoring	MW-2*, 4*, 5*, 6*, 7*, 8*

* Well not sampled (reported dry or insufficient volume for sample)

New wells MW-4, MW-5, MW-6, MW-7, and MW-8 were installed during January 2014 in accordance with the approved Groundwater Protection Plan. Well MW-2 has not yet produced enough samples to establish background levels; only three samples have been collected to date. The facility may continue background monitoring for MW-2, MW-4, MW-5, MW-6, MW-7 and MW-8 on a semiannual basis until four samples have been collected.

Thank you for the submittal. If you have questions regarding this letter, please contact me at (512) 239-3270. When addressing written correspondence, please use mail code MC 124.

Sincerely,

Sarah Welborn

Sarah Welborn, P.G.
Municipal Solid Waste Permits Section
Waste Permits Division

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

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