

**SUBSURFACE INVESTIGATION REPORT**

For

**PESCADITO ENVIRONMENTAL RESOURCE CENTER  
TYPE I MUNICIPAL SOLID WASTE MANAGEMENT FACILITY  
LAREDO, WEBB COUNTY, TEXAS  
MSW PERMIT NO. 2374**

Prepared for

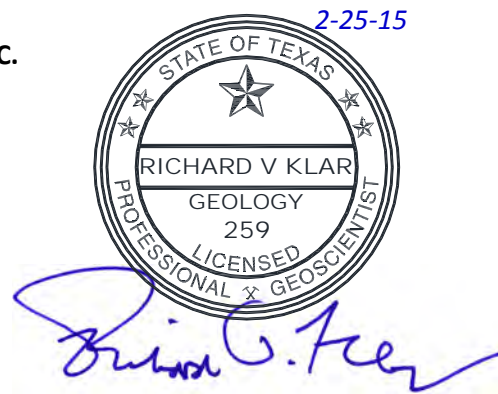
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Dallas, Texas

On behalf of

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**PROJECT NO. ASF13-140-00**

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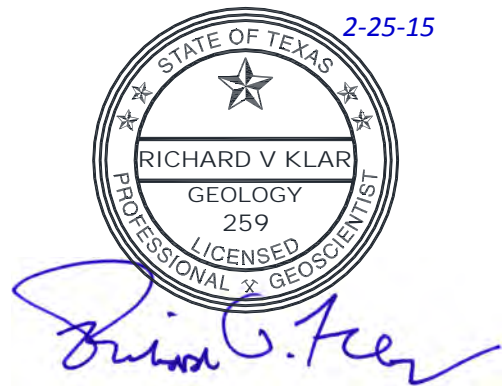


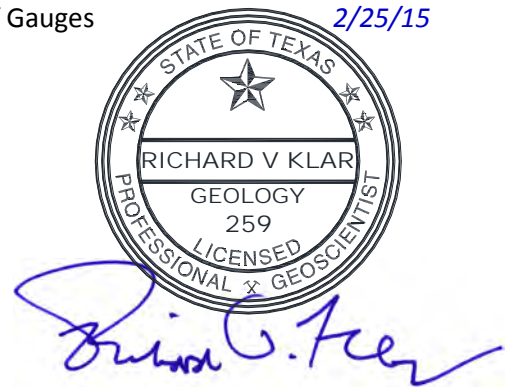
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## 1.0 INTRODUCTION

This Subsurface Investigation Report was prepared to present a discussion of subsurface investigation activities and findings for a municipal solid waste (MSW) permit application (MSW Permit No. 2374) for the proposed Pescadito Environmental Resource Center facility. As depicted on the attached **Site Location Map (Figure 1)**, the proposed facility is located on an approximate 12,194-acre ranch property, located about 18 miles east of Laredo off of U.S. Highway 59 in rural south-central Webb County, Texas. Rancho Viejo Waste Management, LLC is seeking approval from the Texas Commission on Environmental Quality (TCEQ) MSW Permits Section to construct a new Type I municipal solid waste management facility at the site. The total size of the proposed MSWLF facility to be permitted is approximately 1,100 acres, which includes a municipal solid waste management landfill (MSWLF) unit comprising approximately 800 to 850 acres. As depicted on **Figure 1**, the proposed MSW facility is fully contained within the larger 12,194-acre ranch property boundary, which is owned by an affiliate company.

Subsurface investigation activities documented and discussed herein were conducted as a collaborative effort between **Raba Kistner Environmental, Inc. (RKEI)** and our affiliate company, **Raba Kistner Consultants, Inc. (RKCI)**. This Subsurface Investigation Report (SIR) is intended to accompany the Geotechnical Data Report (GDR) for this permit application that was prepared under separate cover by **RKCI**.

## 2.0 FIELD EXPLORATION PROGRAM

The total size of the proposed facility is approximately 1,100 acres (i.e., proposed permit boundary), although the area of the proposed Type I MSW landfill unit will comprise approximately 800 to 850 acres. As described in more detail in the following subsections, the field exploration program, which formed the basis of the subsurface investigation for this site, was accomplished in four (4) discrete phases conducted from November 2009 through January 2012.

The approved Soil Boring Plan (SBP) for this project consists of an original SBP dated February 1, 2011 and a revised SBP submitted on March 21, 2011. The revised SBP was approved by TCEQ in a letter dated April 11, 2011. A copy of the referenced acceptance letter is included herein as **Appendix A**. Subsurface investigation for the proposed facility permit boundary area was collectively evaluated by the installation of a total of 57 exploratory soil borings, 19 piezometers, and 2 exploratory test pits at the locations shown on the **Boring/Test Pit Location Map (Figure 2)**.

As presented on **Figure 2**, soil borings installed during preliminary study phases (i.e., Phases I and II) are designated as B-1 through B-26 (excluding B-9), whereas borings installed following TCEQ approval of the SBP (i.e., Phase III) are designated as B-9, B-101 through B-126, B-11A, B-109A, B-114A, and DB-1, respectively. Borehole geophysical logging was conducted in selected Phase III borings and an adjacent ranch water-supply well as part of the Phase III study effort. Exploratory test pits (Phase IV) designated as TP-1 and TP-2 were conducted as the final subsurface investigation effort in January 2012. The geographic positions and elevations of all borings, piezometers, and test pits were obtained by **RKEI** using survey-grade (real-time kinematic) global positioning system (GPS) technology and therefore, are considered accurate to within 1 meter ground surface resolution. In all instances, geographic survey data was tied to existing benchmarks established for this project along the perimeter of the proposed landfill permit boundary by a registered professional land surveyor (RPLS). The geographic positions and elevations established for soil borings, piezometers, test pits, and staff gauges installed to evaluate



water levels in four existing surface water impoundments are provided in **Table 1 – Soil Boring/Test Pit/Staff Gauge Position Table**.

Boring logs containing information specified pursuant to §330.63(e)(4) generated following the completion of all phases of subsurface investigation in addition to a key to terms and symbols are provided in **Appendix B**. As part of the field exploration program, borehole geophysical logs were obtained to complement borehole logging data at the majority of Phase III (open-hole) boring locations. Additionally, geophysical logs were obtained at 7 of the 9 cased piezometers installed as part of the Phase I and II study effort the existing water-supply well located on the adjacent ranch property completed to a depth of about 1,166 feet within the underlying Yegua Aquifer. The location of the water-supply well is provided on **Figure 2**. Geophysical logs for all borehole logging activities are provided in **Appendix C**.

The following sections present a more detailed discussion of subsurface investigation activities and findings.

## 2.1 SOIL BORING PLAN

The number and depths of borings installed to achieve site characterization objectives was determined in consultation with the TCEQ MSW Waste Permits section as part of the formal regulatory review process. The SBP was formally approved by the TCEQ MSW Waste Permits Section in correspondence dated April 11, 2011 and proposed installation of 27 additional soil borings to depths ranging from 120 to 160 feet below ground surface (bgs), 10 of which would be converted to piezometers, for a combined total of 57 soil borings and 19 piezometers. In addition to the soil borings and piezometers explicitly proposed as part of the Boring Location Plan, borings/piezometers designated as B-11A, B-109A, and B-114A were installed to further evaluate shallow groundwater conditions associated with saturated soil conditions observed at adjacent borings. As further discussed in **Section 2.3.1**, boring DB-1 was advanced to a depth of 502 feet bgs to further evaluate hydrogeologic conditions within the underlying Yegua-Jackson Group formation to facilitate collection of deep geophysical logging data.

Collective subsurface characterization activities for the proposed landfill permit boundary area was therefore evaluated by the installation of a total of 57 exploratory soil borings, 19 piezometers, borehole geophysical logging, and 2 exploratory test pits at the locations shown on **Figure 2**. Information pertaining to the installation of exploratory soil borings advanced during all phases of subsurface investigation, including drilling and sampling methods, is summarized in the following tables.

Summary of Exploratory Borings – Phase I

Soil Boring	Installation Date	Depth (Feet bgs)	Drilling Method	Sampling Method
B-1	11/09/09	95.7	ARD/HSA	SSP
B-2	11/12/09	77.5	ARD	SSP

**Notes:**

ARD – Air Rotary Drill

HSA – Hollow Stem Auger Drill

SSP – Split Spoon Sample

## Summary of Exploratory Borings – Phase II

Soil Boring	Installation Date	Depth (Feet bgs)	Drilling Method	Sampling Method
B-3	06/09/10	160	RSD	RSTS
B-4	07/01/10	120	RSD	RSTS
B-5	06/29/10	160	RSD	RSTS
B-6	06/13/10	160	RSD	RSTS
B-7	07/07/10	160	RSD	RSTS
B-8	06/26/10	120	RSD	RSTS
B-10	07/14/10	120	RSD	RSTS
B-11	06/10/10	160	RSD	RSTS
B-12	06/25/10	160	RSD	RSTS
B-13	06/11/10	160	RSD	RSTS
B-14	06/23/10	160	RSD	RSTS
B-15	06/24/10	120	RSD	RSTS
B-16	06/25/10	160	RSD	RSTS
B-17	06/23/10	120	RSD	RSTS
B-18	07/15/10	160	RSD	RSTS
B-19	06/22/10	160	RSD	RSTS
B-20	07/15/10	120	RSD	RSTS
B-21	07/19/10	160	RSD	RSTS
B-22	07/18/10	120	RSD	RSTS
B-23	07/15/10	120	RSD	RSTS
B-24	07/23/10	160	RSD	RSTS
B-25	07/20/10	120	RSD	RSTS
B-26	07/22/10	160	RSD	RSTS
B-27	07/22/10	120	RSD	RSTS

**Notes:**

RSD – RotoSonic Drill

RSTS – RotoSonic Tube Sample

## Summary of Exploratory Borings – Phase III

Soil Boring	Installation Date	Depth (Feet bgs)	Drilling Method	Sampling Method
B-9	4/5/11	160	RSD	RSTS
B-11A	06/25/11	104	RSD	RSTS
B-101	07/06/11	151	WRD	MPB/Core
B-102	07/09/11	160	WRD	MPB/Core
B-103	04/06/11	120	RSD	RSTS
B-104	04/07/11	120	RSD	RSTS
B-105	04/06/11	160	RSD	RSTS
B-106	07/10/11	120	MRD	MPB/Core
B-107	04/08/11	160	RSD	RSTS
B-108	04/09/11	120	RSD	RSTS
B-109	04/11/11	160	RSD	RSTS
B-109A	06/25/11	85	RSD	RSTS
B-110	05/11/11	120	RSD	RSTS
B-111	05/10/11	120	RSD	RSTS

B-112	05/05/11	160	RSD	RSTS
B-113	04/13/11	160	RSD	RSTS
B-114	05/03/11	120	RSD	RSTS
B-114A	05/25/11	20	RSD	RSTS
B-115	05/09/11	120	RSD	RSTS
B-116	04/15/11	160	RSD	RSTS
B-117	05/02/11	120	RSD	RSTS
B-118	04/29/11	160	RSD	RSTS
B-119	04/19/11	160	RSD	RSTS
B-120	04/18/11	120	RSD	RSTS
B-121	05/08/11	120	RSD	RSTS
B-122	04/16/11	160	RSD	RSTS
B-123	04/29/11	160	RSD	RSTS
B-124	05/06/11	160	RSD	RSTS
B-125	04/17/11	121	RSD	RSTS
B-126	05/07/11	160	RSD	RSTS
DB-1	06/07/11	502	RSD	RSTS

**Notes:**

RSD – RotoSonic Drill

RSTS – RotoSonic Tube Sample

WRD – Wet Rotary Drill

Core – NX Core Sample

MPB – Modified Pitcher Barrel Sample

## Summary of Test Pit Investigation – Phase IV

Soil Boring	Installation Date	Depth (Feet bgs)	Drilling Method	Sampling Method
TP-1	1/16/12	21	Excavator	Undisturbed Block and Push Tube
TP-2	1/17/12	26	Excavator	Undisturbed Block and Push Tube

As summarized on **Table 2 – Summary of Soil Boring/Test Pit Depths and Elevations**, all exploratory borings/test pits with the exception of B-114A and TP-1 were advanced to depths ranging from approximately 7 to 474.5 feet into the unweathered portion of the Yegua-Jackson Group formation (Stratum IV). The following sections provide a more detailed discussion of subsurface investigation activities and findings.

## 2.2 PRELIMINARY ASSESSMENT (PHASES I AND II)

### 2.2.1 Soil Borings

The subsurface investigation (Phase I) initiated in November 2009 consisted of 2 initial borings designated as B-1 and B-2, both of which were converted to permanent piezometers. Initial study borings were installed by Vortex Drilling, Inc. There were significant difficulties achieving target exploration depths and obtaining representative soil/rock samples utilizing conventional hollow-stem auger and air-rotary drilling methods due to presence of thinly interbedded rock units (i.e., sandstone, siltstone, and claystone). Boring B-1 reached a total depth of 95.7 feet and B-2 reached a total depth of 78.5 feet.

The Phase II investigation consisted of 24 borings advanced using RotoSonic drilling methods to achieve targeted (full-design) depth into the Yegua-Jackson Group formation. These borings were drilled by Boart Longyear Company and designated as B-3 through B-8, and B-10 through B-27. A total of 7 of the Phase II borings were converted to permanent piezometers (B-6, B-10, B-13, B-18, B-24, B-26, and B-27). Phase II investigation efforts were completed in July 2010 and resulted in the installation of a total of 24 borings and 7 piezometers. As presented in the preceding *Summary of Exploratory Borings – Phase II* table in **Section 2.1**, the boring depths ranged from 120 to 160 feet deep. As depicted on **Figure 2**, Phase II exploratory borings were installed at an approximate 1,000 feet to 1,500 feet grid spacing.

Although the application of RotoSonic drilling methods was able to penetrate the Yegua-Jackson strata efficiently and obtain near-continuous core samples, the samples obtained from the RotoSonic drilling process were considered suitable only for classification testing purposes and did not provide undisturbed samples necessary to fulfill required geotechnical testing applications (i.e., permeability). Further, the RotoSonic drilling methods used to recover the majority of the soil samples employed high frequency mechanical vibration that, in some instances, may have disturbed the soils such that structural features characteristic of stiff, overconsolidated clayey soils typical of the Yegua-Jackson and/or associated with formation secondary porosity (i.e., fissuring, fracturing and/or jointing) were obscured during visual examination of the samples. However, features indicative of active weathering processes along clay parting surfaces, including ferrous staining and/or mineralization associated with the presence and migration of subsurface water, were not obscured as the result of the drilling process and are noted in the boring logs where encountered. All borings not completed as piezometers were plugged with a Portland cement/bentonite grout slurry to the ground surface in accordance with State of Texas requirements following completion of drilling, sampling, and observation activities.

### 2.2.2 Piezometers

On the basis of logging observations, shallow groundwater was first observed at depths of about 17 to 20 feet in open borings, but consistently rose to depths of about 4 to 12 feet in open borings after about 24 hours. It is considered likely that RotoSonic drilling methods introduced disturbance to the surrounding soil strata, thereby enhancing localized effective porosity and influencing water levels initially observed in open borings and screened piezometers. It is possible that disturbance around the borehole could have caused hydraulic communication along the entire depth of the borehole, possibly bypassing the screened piezometer interval, and allowing infiltration of shallow groundwater. The RotoSonic drilling method also introduces water into the borehole to provide cooling of the drilling tool and casing. Borings purposely left open to maximum depths of 10 feet remained dry during 24-48 hour periods of observation.

In an attempt to evaluate the hydraulic interconnectivity of shallow groundwater present in subsurface soil units, Phase I and II piezometers were installed and generally screened within the following discrete depth intervals: 10 to 30 feet, 30 to 45 feet, 40 to 60 feet, 45 to 60 feet, and 60 to 75 feet. Subsequent to the completion of well surging activities necessary to remove drilling artifacts, water levels at all piezometer locations achieved consistent static elevations.

## 2.3 SUBSURFACE INVESTIGATION (PHASE III)

The Phase III program was initiated in April 2011 following approval of the Boring Location Plan and involved the installation of 31 additional borings, generally ranging in depths from about 120 to 160 feet, including 10 that were converted to piezometers. Drilling activities associated with the Phase III study effort were completed in July 2011. Note that borings identified throughout this report by an “A” after the boring number represent extra “twin” borings used for piezometer installation only and were drilled in the vicinity of the original boring some time after it had been completed. The following subsections provide a detailed discussion of Phase III assessment activities and findings.

### 2.3.1 Soil Borings and Piezometers

Phase III field activities were conducted during April through July 2011, and involved the advancement and sampling of 31 soil borings. Phase III study borings were designated as B-9, B-101 through B-126, B-11A, B-109A, B-114A, and DB-1, respectively. As presented on **Figure 2**, boring locations were installed to tighten the grid pattern established during the completion of Phase II assessment activities. As is evident from the map, these borings are uniformly distributed and located within about 500 to 1,100 feet of each other. With the exception of a single 502-foot depth boring designated as DB-1, boring depths ranged from 120 feet to 160 feet below ground surface.

Given their familiarity with site conditions, Boart Longyear Company was engaged to install the majority of Phase III study borings and associated piezometers. With the exception of borings B-101, B-102, and B-106, RotoSonic methods were employed for the Phase III study effort resulting in the acquisition of relatively continuous soil samples comprised of 5 to 20 foot long sample runs. In harder depth intervals containing interbedded sandstone and siltstone units, it was necessary to collect samples along shorter sample runs to promote continuous recoveries. Once extruded from the sampling device, the intact samples were visually identified and then cut into manageable lengths for visual classification and geotechnical sample preservation purposes. The samples obtained from the RotoSonic drilling method were utilized for classification testing purposes only as these were not undisturbed and therefore not suitable for geotechnical testing requirements.

In an unsuccessful initial attempt to obtain additional undisturbed geotechnical samples for permeability testing, borings B-101, B-102, and B-106 were installed and sampled by Geoprojects International, Inc., a qualified drilling contractor specializing in conventional soil/rock coring techniques, using wet rotary drilling techniques. Samples were obtained in conjunction with this drilling effort using standard NX-coring methods in addition to a modified Pitcher Barrel Sampler.

Similar to the Phase II study, borings were allowed to remain open for periods of about 24 to 48 hours following the completion of sampling activities to allow for the collection of water level measurements. As further discussed in **Section 4.1** of this report, a total of 10 piezometers were installed in conjunction with the Phase III study effort to further evaluate shallow groundwater conditions throughout the proposed landfill area, including areas where thicker sand lenses/bedding units were indicated within the targeted exploration interval by adjacent boring log data. Following the completion of drilling and sampling activities, all borings that were not completed as piezometers to evaluate shallow groundwater conditions were plugged in accordance with State of Texas requirements as described with respect to Phase II activities. Depth to water measurements observed during drilling at all study boring locations in addition to most recent static levels are presented on boring logs provided in **Appendix B**.

In the furtherance of site characterization goals, a single deep boring designated as DB-1 was installed within the northwest portion of the site to a depth of 502 feet below existing ground surface. The referenced boring was installed to further evaluate conditions within the unweathered Yegua-Jackson Group formation (Stratum IV) and confirm the absence of a perennial aquifer to depths of at least 500 feet below the proposed landfill. In addition to visual logging and classification of soil strata, the entire depth of the borehole was logged using borehole geophysical methods in a consistent manner with other Phase III study borings.

### 2.3.2 Borehole Geophysical Logging

Borehole geophysical logging activities were conducted as part of the Phase III study to further evaluate geologic/hydrogeologic conditions and augment existing site characterization data obtained as the result of borehole sampling and logging efforts. Specifically, borehole geophysical logging was conducted to evaluate subtle lithologic variations in logged stratigraphy (i.e., predominantly clays and sandy clays with scattered, sand, sandstone, and siltstone intervals). In all instances, geophysical logging activities were conducted by Geo Cam, a qualified services provider headquartered in San Antonio, Texas. Borehole geophysical logging efforts were conducted in accordance with the following schedule:

- Select PVC-cased Phase I and II piezometers (i.e., B-1, B-2, B-10, B-18, B-24, and B-27), which were installed to depths ranging from 45 to 75 feet bgs, were logged utilizing electromagnetic (EM) induction conductivity, single-point electrical resistivity, and natural gamma methods.
- A majority of open Phase III borings, generally ranging from 120 to 160 feet bgs in depth, and deep boring DB-1 advanced to a depth of 502 feet bgs, were logged utilizing electrical resistivity, spontaneous potential, natural gamma, and caliper methods. Due to borehole collapse, it was not possible to obtain geophysical logs at borings B-110, B-114, and B-120. Due to the shallow depth of boring B-114A, geophysical logging was not conducted.
- An existing water-supply well located on the adjacent ranch property that is utilized to support agricultural and livestock operations for the surrounding ranch property and located approximately 1,000 feet southwest of the proposed permit boundary was logged to its total depth of 1,166 feet bgs utilizing single-point electrical resistivity, spontaneous potential, natural gamma, and caliper methods.

In general, borehole geophysical logging results at both cased piezometers and open borings confirmed that the subsurface stratigraphy is dominated by clays and sandy clays containing thinly to very thinly interbedded sandstone, siltstone, and claystone layers, with isolated thicker occurrences of sand, sandstone and siltstone, particularly with increasing depth into the unweathered portion of the Yegua-Jackson Group formation (i.e. Stratum IV discussed below). Geophysical logging results were also considered with respect to the screened interval depths of piezometers B-11A, B-101, B-102, B-106, B-109A, B-114A, B-115, B-118, B-124, and B-126 based on the interpreted occurrence of thicker sand and/or sandstone lenses/bedding units within discrete borehole depth intervals.

Borehole geophysical of deep boring DB-1 was conducted to facilitate correlation of site-specific borehole geophysical data to data generated by others for similar depth intervals in connection with

surrounding (deep) oilfield borehole geophysical logging activities. Borehole geophysical logging of an adjacent ranch water-supply well to a depth of about 1,166 feet was also conducted for similar correlation purposes. The location of the water-supply well is presented on **Figure 2**. Copies of all referenced geophysical logging data generated in conjunction with the collective subsurface investigation effort for this site are provided in **Appendix C**.

## **2.4 SUBSURFACE INVESTIGATION (PHASE IV)**

Two exploratory test pits, designated as TP-1 and TP-2, were excavated in January 2012 to supplement the results of the previous Phase I-III investigations and to provide undisturbed soil samples for geotechnical testing purposes (e.g., permeability testing). Test pits were excavated in the east-central portion of the site. Test pit locations are shown on **Figure 2**. Specific objectives of the test pit installations were as follows:

- (i) examine larger-scale subsurface soil structural relationships and formational contacts;
- (ii) further evaluate the occurrence and quantity of shallow groundwater and the relationship of subsurface soil unit hydraulic connection(s); and
- (iii) provide representative, undisturbed soil samples for laboratory in-situ vertical axis and horizontal axis coefficient of permeability testing for all four subsurface strata previously identified in Phases I-III.

Test pits were installed by Ellis and Ellis, Inc., a local excavation contractor, utilizing a tracked hydraulic excavator (i.e., Caterpillar 330D). As presented on **Figure 2**, test pit locations were selected in relatively close proximity to each other in areas initially inferred to possess greater and lesser accumulations of Recent-Pleistocene (R-P) sediments discussed in **Section 3.1**. Test pit TP-1, located at a slightly lower surface elevation and in close proximity to the mapped extent of the 100-year floodplain associated with the unnamed tributary of San Juanita Creek, was expected to exhibit a greater thickness of R-P sediments relative to the upland TP-2 location. The pits were excavated to uniform depths of 21 feet bgs (TP-1) and 26 feet bgs (TP-2). Detailed descriptions of soil conditions encountered during the test pit excavation process are provided on **Table 3 – Summary of Observations During Test Pit Installation** with corresponding primary stratum designations. All four identified strata described in **Section 3.0** were encountered and sampled successfully.

Test pit TP-1 was left open for approximately 24 hours following excavation in order to evaluate the nature and occurrence of near-surface shallow groundwater seepage at this location. As indicated on **Table 3**, slight groundwater seepage was initially observed in TP-1 in the north (upgradient) face of the excavation at 7 feet bgs during excavation through the contact between the Recent-Pleistocene (Stratum I discussed below) and subsequently observed in the highly-weathered Yegua-Jackson (Stratum II discussed below) at a depth of approximately 11 to 11.5 feet bgs along a bedding contact within the uppermost, very weathered Yegua-Jackson. However, the observed seepage, for the most part, was observed to have dried up overnight and no accumulation of groundwater was observed in TP-1 throughout the 24-hour observation period. No indication of shallow groundwater seepage or accumulation was observed during excavation of TP-2 to a total depth of 26 feet bgs.

Following the completion of sample collection and logging efforts, test pits were backfilled using excavated soils. Soils were placed and compacted using the hydraulic excavator in approximate 1 to 2 foot lifts. Backfilling resulted in near-restoration to original ground surface contours.

### 3.0 DISCUSSION OF SITE STRATIGRAPHY

As described previously herein, the existing subsurface characterization of the proposed landfill permit boundary is supported by a total of 57 soil borings, 19 piezometers, 2 test pits, and borehole geophysical logging of selected borings and the nearby ranch well. The subsurface conditions encountered at the boring locations are depicted on boring logs provided in **Appendix B** and represent an interpretation of the subsurface conditions based on collective field logging efforts, visual examination of field samples, and laboratory classification testing results of selected field samples. It should be noted that the lines designating the interfaces between individual strata on the boring logs represent approximate boundaries, and transitions between strata are in many instances gradual. Materials classification testing results (i.e., soils properties) for laboratory samples are discussed separately in the Geotechnical Data Report for this permit application.

As indicated previously, it was noted that the RotoSonic drilling methods used to recover the majority of the soil samples employed high frequency mechanical vibration that, in some instances, disturbed the soils such that structural features characteristic of stiff, overconsolidated clayey soils typical of the Yegua-Jackson and/or associated with formation secondary porosity (i.e., fissuring, fracturing and/or jointing) may have been obscured during visual examination of the samples. However, features indicative of weathering along clay parting surfaces including ferrous staining and/or mineralization associated with the presence and migration of subsurface water, which were not obscured as the result of the drilling process, are noted in the boring logs where encountered.

Boring and test pit information indicates that the subsurface stratigraphy at the site consists predominantly of clay and sandy clay soils containing very thinly interbedded sandstone, siltstone, and claystone rock units. Below the surficial Recent-Pleistocene (R-P) deposits, the samples of soil strata encountered in the borings to depths on the order of 160 feet below existing ground surface are typical of the Yegua-Jackson Group formation. Interpretive geologic cross sections were developed on the basis of boring log and test pit data. Cross sections are labeled A-A' through J-J' and provided on **Figures 4 through 13**, respectively. The locations of geologic cross sections are depicted on **Figure 3 – Cross-Section Index Map**. As presented on the referenced figures, four primary stratigraphic units have been designated at the site based upon review and interpretation of boring logs and geologic sections, in addition to consideration of borehole geophysical logging data, and test pit information and photographs. The following sections provide a description and discussion of primary stratigraphic units.

#### 3.1 STRATUM I – RECENT-PLEISTOCENE SOILS

This stratum consists of Recent-Pleistocene (R-P) deposits and generally corresponds to surface and near-surface soil strata logged within low-lying portions of the site underlain by Quaternary Alluvium (Qal) as designated on the published geologic maps of the area, in addition to upland areas having little to no topographic slope. This stratum consists of clays and sandy clays, with limited sand and occasional gravel and cobbles. The clays are stiff to firm, brown to light brown, and occur at ground surface (where present) to depths of approximately 18 feet bgs.



At most boring/test pit locations the base of Stratum I may be identified by the presence of a thin gravel layer containing a wide variety of igneous and sedimentary rock types. Stratum I was not identified at all boring locations and is inferred to be absent in areas of the site having a slight to moderate topographic slope adjacent to upland areas. Seasonally, perched subsurface water may be encountered in this stratum. Based on observations during test pit excavation, an ephemeral fresh water lens appears to be present following rainfall events to depths on the order of 1 to 3 feet bgs, which controls the thickness of the plant root zone.

### **3.2 STRATUM II – HIGHLY WEATHERED EOCENE RESIDUUM**

This stratum corresponds to highly weathered surface and near-surface Eocene age soil strata logged throughout the majority of the site, both below the Qal, and in upland areas designated on the *Geologic Atlas of Texas Laredo Sheet (1976)* geologic map as the Yegua-Jackson Group formation (Y-J). This stratum is essentially a weathered-in-place (residual) soil horizon exhibiting similar structure and layering as underlying, less-weathered materials. This stratum consists of predominantly clay with minor sandy clay with ferrous staining, calcareous nodules, and organic (plant root) materials. The clays are fissured, stiff to hard, overconsolidated, and brown to light reddish brown with some brownish gray to greenish gray layers. At some locations, gypsum (selenite) and ironstone concretions were encountered. This stratum occurs from ground surface (where exposed) or below Stratum I soils to depths of up to 10 feet bgs, with a maximum thickness of 10 feet. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck in *Soil Mechanics in Engineering Practice (1967)*, materials are classified as relatively or practically impermeable based on measured laboratory permeability values.

As a result of post-Eocene geologic processes, Stratum II is not uniformly developed or laterally continuous throughout the site; and therefore was not always identified discretely in boring logs. In many instances, Stratum II was not logged as a separate unit, but simply described as the uppermost weathered portion of Stratum III as described below. Seasonally, the perched shallow subsurface water associated with Stratum I may also be encountered in this stratum. Based on observations during test pit excavation, an ephemeral fresh water lens appears to be present following rainfall events to depths on the order of 1 to 3 feet bgs, which controls the thickness of the plant root zone. Below this depth, scattered ephemeral saline water lenses occur throughout the remaining vertical extent of weathered Stratum II and/or Stratum III soils.

### **3.3 STRATUM III – WEATHERED EOCENE SOILS**

This near-surface stratum underlies Stratum I and Stratum II throughout the site and is considered to represent Eocene sediments associated with the upper weathered (e.g., ferrous stained) surface of the Yegua-Jackson Group formation (Y-J). This stratum consists of clay and sandy, silty clay with thinly to very thinly interbedded claystone, siltstone, and sandstone seams and lenses (i.e., bedding units typically 1 to 2 feet or less). The clays are fissured, hard, overconsolidated, light brown and brown to reddish brown with some olive to pale yellow layers, with scattered greenish gray to gray mottling and ferrous staining, and have a blocky structure. Stratum III is encountered at depths ranging from approximately 2 to 39 feet bgs, and ranges from approximately 8 to 33 feet in total thickness.

This stratum is generally differentiated from Stratum IV as defined below by its consistently weathered appearance along partings (i.e., ferrous and carbonaceous staining), isolated presence of weathered zones containing groundwater, and the less frequent occurrence of interbedded sandstone, siltstone, or

claystone layers. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values.

### 3.4 STRATUM IV – RELATIVELY UNWEATHERED EOCENE SOILS

This stratum underlies Strata III throughout the site, was encountered to total exploration depth for the landfill project on the order of 160 to 500 feet (based on single deep boring, DB-1), and is considered to represent relatively unweathered Eocene soils of the Yegua-Jackson Group formation (Y-J). This stratum consists predominantly of clay and sandy, silty clay, with thinly to very thinly interbedded claystone, siltstone and sandstone seams and lenses (i.e., bedding units 1 to 2 feet or less). The clays are hard and fractured, overconsolidated, light green to green and greenish gray (with some dark gray to gray and brown to reddish brown layer with scattered greenish gray mottling) with some ferrous staining, and have a blocky (intensely fissured) structure. Stratum IV is encountered throughout the site at depths ranging from approximately 16 feet to greater than 160 feet bgs, and has a thickness exceeding 144 feet.

As indicated on boring logs, this stratum is complexly interbedded and does exhibit significant variation in the nature and occurrence of indurated materials, although very thinly interbedded claystone units are most frequently encountered throughout. Although relatively unweathered relative to Stratum III, zones of localized weathering indicated by ferrous staining and weathered surfaces of clay partings are present likely in association with shallow groundwater movement. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values.

### 3.5 DISCUSSION OF SOIL CONDITIONS

As discussed in the preceding section, interpretation of collective site characterization data supports the designation of four primary stratigraphic units, each defined by grouping soils that possess similar physical and engineering characteristics (i.e., Recent-Pleistocene soils [Stratum I], highly weathered Eocene soil residuum [Stratum II], weathered Eocene soils [Stratum III], and relatively unweathered Eocene soils [Stratum IV]). Descriptions of these primary stratigraphic units are summarized on interpretive cross sections (**Figures 4 through 13**). Further discussion of site-specific geologic conditions is provided in the following paragraphs.

As presented on cross sections and boring logs, the nature and occurrence of primary stratigraphic units was found to be quite uniform within site boundaries. Except for a mantle of alluvial soils throughout the central portion of the site associated with the unnamed tributary of San Juanita Creek, subsurface soils consist predominantly of clays and sandy clays characteristic of the Yegua-Jackson Group formation. The extent of the alluvial soils is best illustrated on cross sections C-C', E-E', H-H', I-I', and J-J' (**Figures 6, 8, 11, 12, and 13, respectively**). Throughout the remainder of the site not directly influenced by surface drainage processes associated with the San Juanita Creek tributary, the relative thickness of the Stratum III and Stratum IV primary stratigraphic units is essentially uniform.

Although zones of significant weathering corresponding to Stratum II/III undifferentiated generally mimic surface topography and are most pronounced below existing surface drainage (i.e., 100-yr floodplain) areas, these zones extend to depths on the order of 20 to 40 feet bgs, corresponding to

elevations of about 520 to 500 feet MSL. In order to better illustrate site-specific geologic conditions independent of map scale, a stylized rendering of subsurface soil conditions was developed and is presented as **Figure 14 – Conceptual Geologic Section**. The referenced figure was developed based on review of interpretive geologic sections in addition to direct observations of primary stratigraphic units exposed during excavation of the exploratory test pits (Phase IV). Salient information presented on the conceptual section is summarized below:

- Upland areas occurring primarily within the north and east portions of the site are characterized by a thin veneer of Stratum I soils, which in many areas, have been eroded and washed into adjacent low-lying or basin areas on associated with broad, but relatively shallow, surface drainage features. In gently sloping upland areas throughout the site, Stratum I soils are mostly eroded away, with remaining residual gravels observed at the ground surface.
- Based on observations during test pit excavation, an ephemeral fresh water lens appears to be present following rainfall events to depths on the order of 1 to 3 feet bgs, which controls the thickness of the plant root zone. Below this depth, scattered ephemeral saline water lenses occur throughout the remaining vertical extent of weathered Stratum II and/or Stratum III soils.
- Highly weathered residuum (Stratum II) present along gently sloping upland areas throughout the site are not well developed or laterally continuous owing to dissection by surface drainage features and the associated accumulation of Stratum I alluvial soils. Stratum II is the uppermost, highly weathered portion of underlying Stratum III sediments not always identified in boring logs.
- Stratum III soils were encountered at relatively consistent depth intervals throughout the site indicating a zone of weathering consistently on the order of 20 to 40 feet thick.

As discussed in more detail in the Geotechnical Data Report for this permit application, subsurface investigation has demonstrated the presence of very stiff to hard, overconsolidated, clayey soils typical of the Yegua-Jackson Group formation from near ground surface to the maximum exploration depths on the order of 120 to 160 feet bgs. Fat clays (CH) and lean clays (CL) represent the predominant soil types observed in all study borings and the test pits. Thinly interbedded layers of clayey sands (CL), poorly graded sands (SP), silts (ML), and elastic silts (MH) were also repeatedly observed within Eocene strata. Typically at depths below about 20 to 40 feet, corresponding to the top of the relatively unweathered Eocene strata (Stratum IV), frequent very thinly interbedded rock strata consisting of fine-grained sandstone, siltstone, and claystone were observed within clay soils.

#### 4.0 GROUNDWATER DATA

Information developed in conjunction with subsurface investigation activities pertaining to the nature and occurrence of shallow groundwater at the site, within the depth interval of exploration in the Yegua-Jackson Group formation (aquifer), is provided herein. To the depths explored as part of this investigation, the obtained groundwater data indicates the following conditions to be present at the site:

- Groundwater quantity appears to be limited and occurs intermittently.
- Shallow subsurface water present below the plant root zone appears to be very saline.

- Groundwater appears to be associated with thicker silt or sand units and/or secondary structure (i.e., fractures and clay partings) observed in the predominantly clayey soils of the Yegua-Jackson Group formation.
- Because of the high clay content, subsurface strata described in **Section 3.0** would appear to be relatively and/or practically impermeable.

The following discussion provides a description of piezometer installation activities and water level measurements, in addition to other pertinent groundwater observations obtained in conjunction with drilling activities, test pit observations and at staff gauges installed at the four surface water impoundments located within the site boundaries.

#### **4.1 PIEZOMETER INSTALLATION**

As presented on **Figure 15 – Piezometer/Staff Gauge Location Map**, a total of 19 soil borings installed during the three assessment phases were converted to permanent piezometers constructed in accordance with applicable TCEQ and Texas Department of Licensing and Regulation (TDLR) requirements. Piezometers were generally distributed across the proposed landfill area to allow for good spatial distribution of groundwater monitoring points, but concentrated along the landfill perimeter and inferred downgradient (south) boundary. Piezometers installed during the initial phases of investigation are designated as B-1, B-2, B-6, B-10, B-13, B-18, B-24, B-26, and B-27, whereas piezometers installed following approval of the Soil Boring Plan are designated as B-11A, B-101, B-102, B-106, B-109A, B-114A, B-115, B-118, B-124, and B-126, respectively.

On the basis of preliminary observations during the initial drilling programs, which indicated essentially dry drilling conditions, piezometers were installed and screened to evaluate zones (contiguous depth intervals) where perched lenses of shallow groundwater or apparent groundwater seepage was identified. Observations during drilling predominantly did not indicate matrix saturation conditions, but rather that the occurrence of shallow groundwater throughout the exploration depth interval is limited primarily to zones of weathering along clay partings and fractures. Very thin zones of matrix saturation were observed only in association with isolated sand lenses encountered throughout the SITE. Direct observations made in conjunction with test pit installation (TP-1) indicated first shallow groundwater seepage at the Stratum II/III interface at a depth of about 11 to 11.5 feet bgs. As reported previously, however, groundwater seepage at TP-1 was observed to have dried up overnight, for the most part, and did not result in a significant (measureable) groundwater accumulation in the excavation following the completion of an approximate 24-hr observation period.

In an attempt to evaluate the occurrence of shallow groundwater present in subsurface soil units, piezometers installed during Phase I and II study efforts were screened at several discrete (15 to 20 feet) intervals between 10 to 75 feet relative to existing ground surface. Deeper piezometers installed as part of the Phase III study effort targeted deeper intervals within Stratum IV on the order of about 60 to 84 feet and 80 to 113 feet, respectively. Phase III piezometers designated as B-11A, B-109A, and B-114A, respectively, were installed to further evaluate the presence of shallow groundwater associated with sand/silt or sandstone intervals reported in conjunction with borehole logging efforts, as these may represent zones of localized saturation. As presented on **Figure 15** and depicted on geologic cross sections presented on **Figures 4 through 13**, specific screen depth intervals correlate to the following:

- ~10 to 45 ft well screen: Stratum I/III, Stratum III, and Stratum III/IV
- ~30 to 60 ft well screen: Stratum IV

- ~60 to 84 ft well screen: Stratum IV
- ~80 to 113 ft well screen: Stratum IV

Construction details for all piezometers installed as part of the collective subsurface investigation program are provided on **Table 4 – Summary of Piezometer Construction Details and Screen Elevations**, which includes pertinent monitoring point construction details such as installation date, installation contractor, total well depths, well screen information, top-of-casing elevations, etc. Well construction diagrams were also prepared to graphically illustrate information summarized on the referenced table and are provided as **Appendix D**. State of Texas Well Reports prepared by the licensed well installation contractors (i.e., Vortex Drilling, Inc., Boart Longyear Drilling Services, and Geoprojects International, Inc.) are provided as **Appendix E**.

Following installation, all piezometers were surged by the installation contractor prior to the acquisition of static depth to water measurements to remove drilling artifacts (i.e., remove fine sediments from filter packs). Very slow recharge rates were generally observed during this process, and it was noted that piezometers at all locations were purged essentially to dryness following the removal of one well volume of water. Typically, water levels did not fully recover following purging activities for periods of 24 to 48 hours. Due to slow recharge conditions, surging activities were conducted over the course of several days at most piezometer locations, irrespective of screen depth interval.

## 4.2 WATER LEVEL MEASUREMENTS

### 4.2.1 Observations During Drilling

On the basis of logging observations made during all phases of exploratory drilling, shallow groundwater, where encountered, was first observed at depths of about 4.5 to 31 feet in open borings, but consistently rose to depths of about 4 to 12 feet after about 24 to 48 hours of observation, irrespective of boring depth, provided that borings were deep enough to penetrate into Stratum III or IV (i.e., generally greater than 10 feet). As reported on soil boring logs in **Appendix B**, the presence of wet soil or matrix saturated conditions was only observed in about 7 of the 57 exploratory boring locations installed as part of the collective subsurface assessment effort. Indications of shallow subsurface water or groundwater observed above 35 to 40 feet bgs (i.e., within stratigraphic units overlying Stratum IV) during soil boring logging activities are summarized as follows:

- Wet soil conditions and free water were observed in hard greenish gray and gray sandy clay (Stratum III) from 26 to 31.5 feet bgs in boring B-6, which was located in a topographically higher upland area.
- Free water was observed in hard brown clay (Stratum III) from 17 to 18 feet bgs in boring B-13.
- Wet to saturated soil conditions and free water were observed in a sand lens with scattered gravel (Stratum I, at the interface with Stratum II) from 7 to 13 feet bgs in boring B-18.
- Wet to saturated soil conditions and free water were observed in firm light brown clay (Stratum I) from 4.5 to 10 feet bgs and firm light brown to brown clay (Stratum II) from 10 to 12 feet bgs in boring B-19.
- Saturated soil conditions were noted in hard tan to greenish gray clay with fine-grained sand (Stratum III) at 25 feet bgs in boring B-101 which was located in a topographically higher upland area.

- Wet soil conditions were noted in stiff to hard light brown sandy clay (Stratum I) from 8 to 12 feet bgs and in poorly graded fine sand (Stratum II) from 21.5 to 23 feet bgs in boring B-120.
- Saturated conditions were noted in a lens of poorly graded tan sand (Stratum I) from 10 to 12 feet bgs in boring B-114.

Saturated matrix conditions and/or free water were not observed at depths less than 35 to 40 feet bgs in any of the remaining 50 soil borings advanced and logged at the site during the subsurface investigation. Below 35 to 40 feet bgs, observations during drilling predominantly indicated very limited matrix saturation conditions and only in association with isolated sand lenses and that the occurrence of shallow groundwater throughout the exploration depth interval was limited to these lenses and zones of weathering along clay partings and fractures.

It was noted in conjunction with the field exploration effort that sonic drilling is analogous to driving a pipe into the ground using repeated blows of a hammer. Subsurface materials in front of the pipe are either displaced (forced) into the pipe or outside. In hard materials, the material contacted by the pipe leading edge must be pulverized so that it can be displaced and allow the pipe to advance. Sonic drilling recovers a near-continuous core (sample); however, the drilling/sampling procedure causes disturbance to the sample. As a consequence, the samples are typically unsuitable for geotechnical testing that requires an “undisturbed” sample. In sonic drilling in hard materials, water is used to cool the bit (pipe leading edge), assist in displacement of the pulverized material (cuttings), lubricate the drill casing/sampling barrel (pipe), and stabilize the borehole. Exposure of the pulverized material to water sometimes creates a “paste” or “skin” on the recovered sample. Recovered samples logged as “moist” or “slightly moist” condition were based solely on observations of the sample interior or matrix and not the outer skin condition and/or infrequently observed slight penetration of drilling water in some disturbed samples.

#### 4.2.2 Water Levels Measured in Piezometers

Following piezometer installation and the completion of surging activities, static water levels were generally obtained following the completion of all phases of subsurface exploration. A summary of static water level measurements obtained at respective piezometer locations is provided as **Table 5 – Summary of Static Water Level Measurements – Piezometers**. As presented on the referenced table, water levels have generally exhibited a decreasing trend throughout the monitoring period likely associated with persistent drought conditions experienced by the region during 2010 and 2011. On average, water level measurements at individual piezometer locations associated with the most recent gauging event conducted on January 10, 2012 are on the order of 0.5 to 4 feet lower than recorded immediately following piezometer installation. Maximum overall water level declines are noted for older piezometers installed as part of the initial Phase I and II study efforts.

Although the occurrence of shallow groundwater is primarily limited to fractures and horizontal partings within respective stratigraphic units, water level contour maps were generated for the shallow groundwater using a contouring algorithm that assumed homogeneous, isotropic subsurface conditions. Water level contour maps were initially generated utilizing all available piezometer data for each the following piezometer gauging events distributed throughout the full duration of the subsurface investigation program in order to evaluate seasonal fluctuations in groundwater levels as indicated below. Hydraulic interconnection between near-surface and deeper stratigraphic units was a primary assumption for these combined data plots.

- Combined Water Level Contour Map 10/19/10 (**Figure 16**)
- Combined Water Level Contour Map 3/23/11 (**Figure 17**)
- Combined Water Level Contour Map 7/19-20/11 (**Figure 18**)
- Combined Water Level Contour Map 1/10/12 (**Figure 19**)

Based on review of initial plots, it was observed that dissimilar static water levels were present between adjacent piezometers at a number of locations in association with both the 7/19-20/11 and 1/10/12 data plots, primarily in association with piezometers screened at relatively deep intervals (Phase III piezometer screen depths installed between 60 to 113 feet) within Stratum IV. As presented on **Figures 18 and 19**, these differences in static water level elevations appear to represent the presence of sinks or mounds in an otherwise gently sloping water table surface. In all instances, water level elevations reported for deep piezometers are approximately 1.5 to 4.5 feet greater than at adjacent shallow piezometers and likely represent increased pressure conditions within the deeper Stratum IV interval. These differences are best illustrated by comparison of water level elevations for B-10 to B-106 and B-109A, and B-24 to B-124 and B-126.

To further evaluate shallow groundwater conditions, data presented on **Figures 18 and 19** pertaining to shallow (i.e., 10 to 60 feet) and deep (i.e., 60 to 113 feet) piezometer screen depths were plotted and contoured separately for each well gauging event. These water level contour maps are provided as **Figures 20 and 21** (Shallow Water Level Contour Map with Staff Gauge Data – 7/19-20/11 and Deep Water Level Contour Map – 7/19-20/11, respectively) and **Figures 22 and 23** (Shallow Water Level Contour Map with Staff Gauge Data – 1/10/12 and Deep Water Level Contour Map – 1/10/12, respectively), associated with the 7/19-20/11 and 1/10/12 gauging events, respectively. When considered separately as presented on referenced figures, plotted water level contour data for designated shallow and deep depth intervals generally do not indicate sharp perturbations.

Assuming that sufficient connectivity exists for groundwater flow to occur, groundwater gradients are consistently on the order of 0.007 to 0.008 ft/ft to the south-southwest.

#### 4.2.3 Staff Gauge Measurements

At the onset of Phase III study efforts, fixed measurement stations or staff gauges were installed adjacent to four existing (perennial) surface water impoundments as depicted on **Figure 15** to augment/correlate groundwater gauging data obtained at piezometer locations. Staff gauges were designated as SG-1 through SG-4. A summary of water level measurements obtained at respective staff gauge locations from May 2011 through January 2012 is provided as **Table 6 – Summary of Static Water Level Measurements – Staff Gauges**. Review of water level elevations indicates relatively consistent water levels for various gauging events although “dry conditions” were noted for select events at SG-2 and SG-4 locations. It should be noted that dry staff gauge readings do not indicate that the ponds were completely dry, but merely that the installed staff gauges were stranded on dry ground by dropping water levels in the perennial ponds.

Although water levels in surface water impoundments was observed to fluctuate in direct response to rainfall events, water level measurements obtained during dry conditions correspond favorably with groundwater elevations reports at adjacent piezometers. In particular, water level elevations reported at SG-4 were typically measured within 0.5 to 2.5 feet of shallow groundwater levels at the adjacent B-114A piezometer. To better illustrate this, water level measurements from staff gauges

were included in water level contour plots provided on **Figures 20 and 22**. Collective piezometer gauging and soil boring logging data suggest a possible relationship between the relatively consistent water levels observed in the surface water impoundments (stock tanks) and the localized occurrences of shallow groundwater observed in proximal soil borings and piezometers.

#### 4.2.4 Observations From Test Pits

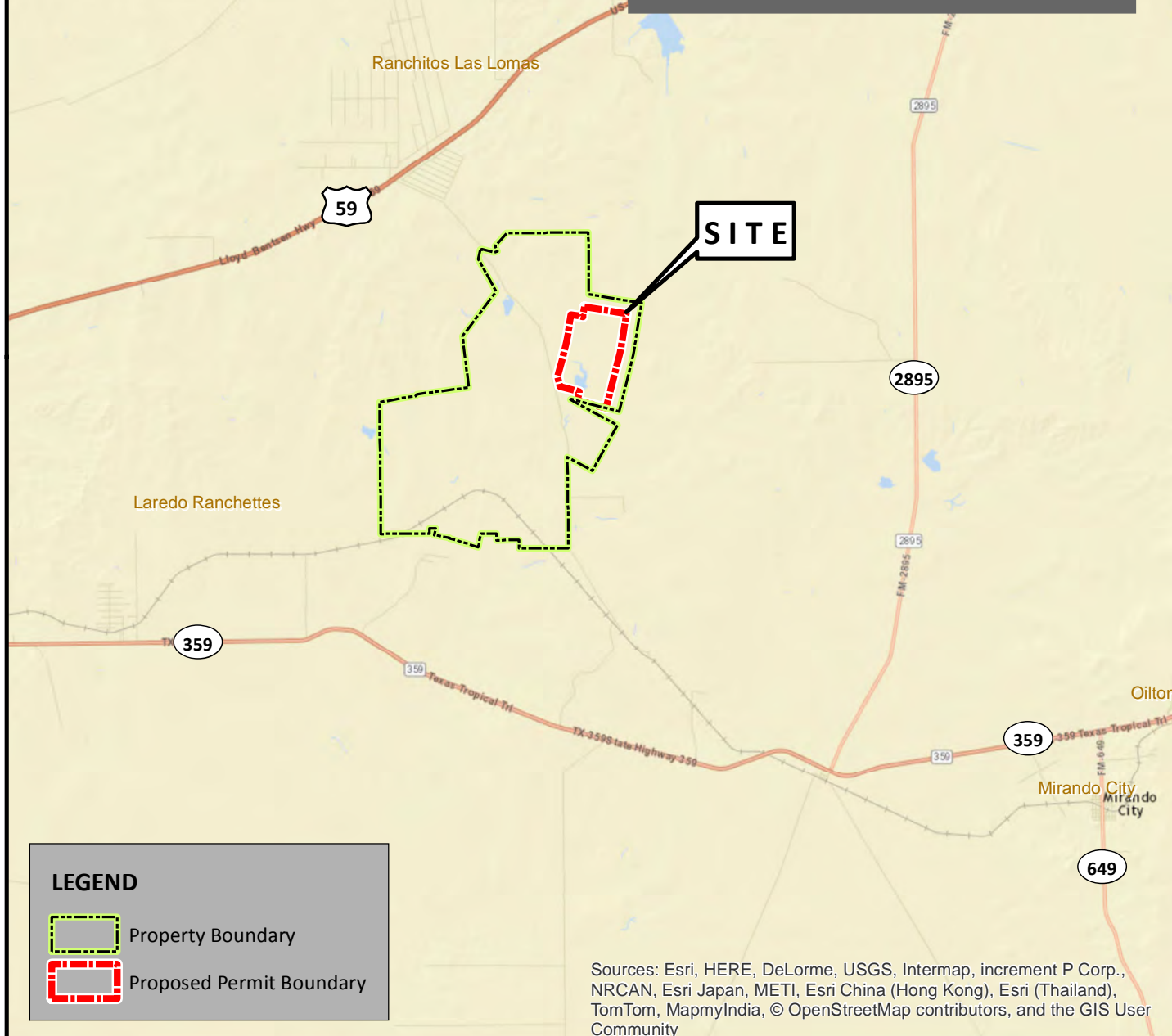
Test pit TP-1 was left open for approximately 24 hours following excavation in order to evaluate the nature and occurrence of near-surface shallow groundwater seepage at this location. As indicated on **Table 3**, slight groundwater seepage was observed in TP-1 during excavation in the north (upgradient) face of the excavation at 7 feet bgs during excavation through the contact between the Recent-Pleistocene (Stratum I), and subsequently observed in the highly weathered Yegua-Jackson (Stratum II) at a depth of approximately 11 to 11.5 feet bgs along a bedding contact within the uppermost, very weathered Yegua-Jackson (Stratum II). However, the observed seepage, for the most part, was observed to have dried up overnight and no accumulation of groundwater was observed in TP-1 throughout the 24-hour observation period. No indication of shallow groundwater seepage or accumulation was observed during excavation of TP-2 to a total depth of 26 feet bgs.



## FIGURES

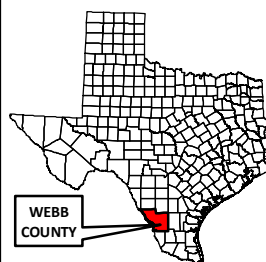


0 0.75 1.5 3  
Miles  
APPROXIMATE SCALE



**RABA KISTNER ENVIRONMENTAL**  
Raba Kistner Environmental, Inc.  
12821 West Golden Lane  
San Antonio, Texas 78249  
www.rkci.com  
P 210 :: 699 :: 9090  
F 210 :: 699 :: 6426  
TBPE Firm F-3257

**SITE LOCATION MAP**  
PESCADITO ENVIRONMENTAL RESOURCE CENTER  
TYPE I MSW MANAGEMENT FACILITY  
RANCHO VIEJO WASTE MANAGEMENT, LLC  
WEBB COUNTY, TEXAS  
MSW PERMIT NO. 2374



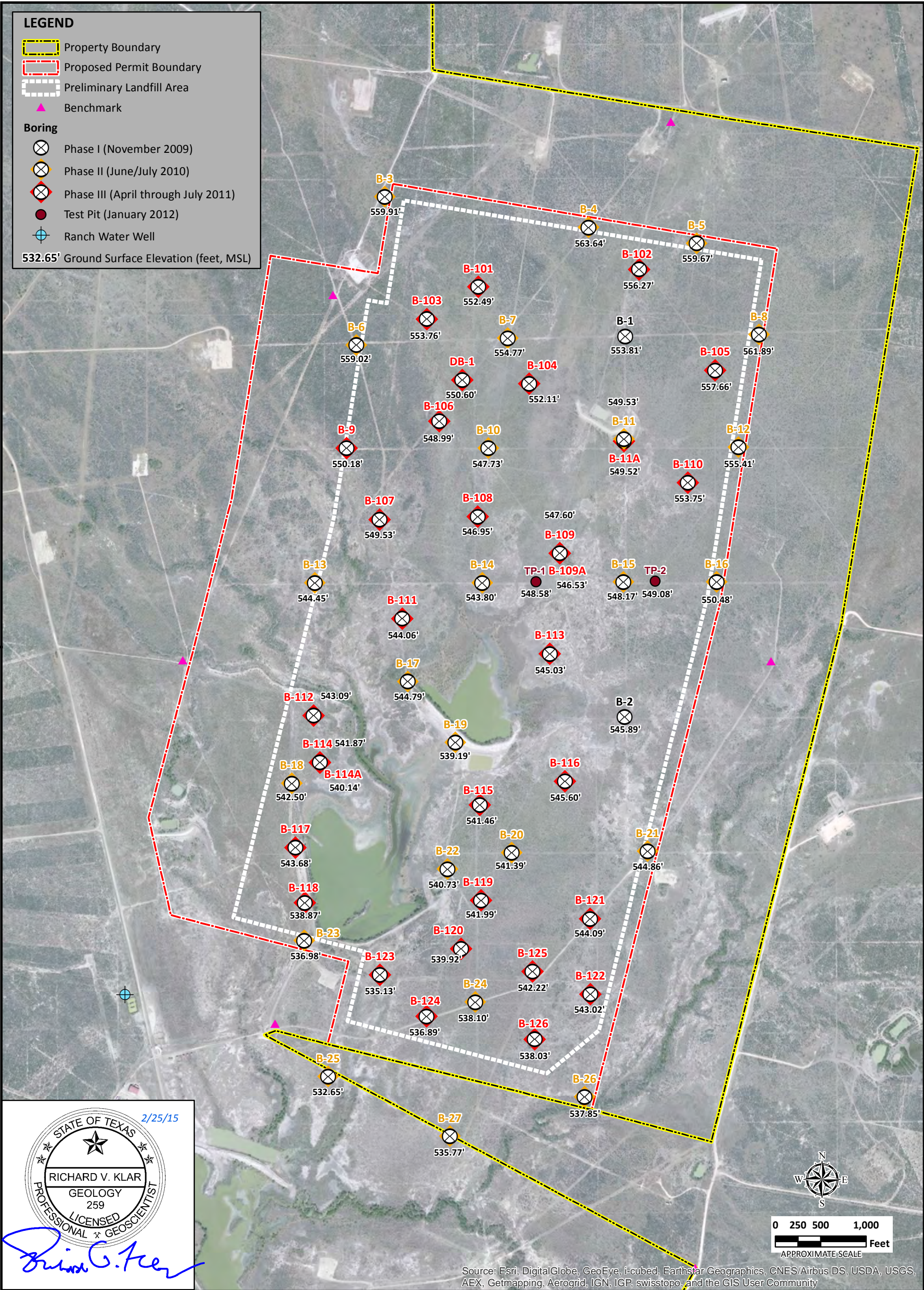
PROJECT No.:	ASF13-140-00
ISSUE DATE:	02-25-15
DRAWN BY:	LAW
CHECKED BY:	PMS
REVIEWED BY:	RVK

**FIGURE**

**1**

NOTE: This Drawing is Provided for Illustration Only, May Not be to Scale and is Not Suitable for Design or Construction Purposes







STATE OF TEXAS

2/25/15

★

RICHARD V. KLAR

GEOLOGY

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LICENSED

PROFESSIONAL GEOSCIENTIST

Signature

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

RABA

KISTNER

ENVIRONMENTAL

Raba Kistner Environmental, Inc.

12821 West Golden Lane

San Antonio, Texas 78249

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P 210 :: 699 :: 9090

F 210 :: 699 :: 6426

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CROSS SECTION INDEX MAP

PESCADITO ENVIRONMENTAL RESOURCE CENTER

TYPE I MSW MANAGEMENT FACILITY

RANCHO VIEJO WASTE MANAGEMENT, LLC

WEBB COUNTY, TEXAS

MSW PERMIT No. 2374

REVISIONS:		
No.	DATE	DESCRIPTION

PROJECT No.:  
ASF13-140-00

ISSUE DATE: 02-25-15

DRAWN BY: LAW

CHECKED BY: PMS

REVIEWED BY: RVK

FIGURE

3

NOTE: This Drawing is Provided for Illustration Only, May Not be to Scale and is Not Suitable for Design or Construction Purposes





This stratum underlies Strata III throughout the site, was encountered to total exploration depth for the landfill project on the order of 160 to 500 feet (based on single deep boring, DB-1), and is considered to represent relatively unweathered Eocene soils of the Yegua-Jackson Group formation (Y-J). This stratum consists predominantly of clay and sandy, silty clay, with thinly to very thinly interbedded claystone, siltstone and sandstone seams and lenses (i.e., bedding units 1 to 2 feet or less). The clays are hard and fractured, overconsolidated, light green to green and greenish gray (with some dark gray to gray and brown to reddish brown layer with scattered greenish gray mottling) with some ferrous staining, and have a blocky (intensely fissured) structure. Stratum IV is encountered throughout the site at depths ranging from approximately 16 feet to greater than 160 feet bgs, and has a thickness exceeding 144 feet. As indicated on boring logs, this stratum is complexly interbedded and does exhibit significant variation in the nature and occurrence of indurated materials, although very thinly interbedded claystone units are most frequently encountered throughout. Although relatively unweathered relative to Stratum III, zones of localized weathering indicated by ferrous staining and weathered surfaces of clay partings are present likely in association with shallow groundwater movement. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values.



**INTERPRETIVE GEOLOGIC  
CROSS SECTION B-B'**

PESCADITO ENVIRONMENTAL RESOURCE CENTER  
TYPE I MSW MANAGEMENT FACILITY  
RANCHO VIEJO WASTE MANAGEMENT, LLC  
WEBB COUNTY, TEXAS - MSW PERMIT No. 2374

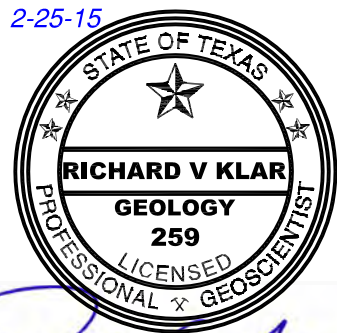
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5

·\Active Projects\San Antonio\2013\ASF13-140-00 Pescadito Environmental Resources Center, Laredo, TX - RVK\SIR\FINAL SIR\Working Files\FIG 5\_XSECT B-B.dwg





Stratum I

Stratum II

Stratum III

Stratum IV

VERTICAL: 0 40 80  
SCALE IN FEET

HORIZONTAL: 0 1200 2400

This stratum underlies Strata III throughout the site, was encountered to total exploration depth for the landfill project on the order of 160 to 500 feet (based on single deep boring, DB-1), and is considered to represent relatively unweathered Eocene soils of the Yegua-Jackson Group formation (Y-J). This stratum consists predominantly of clay and sandy, silty clay, with thinly to very thinly interbedded claystone, siltstone and sandstone seams and lenses (i.e., bedding units 1 to 2 feet or less). The clays are hard and fractured, overconsolidated, light green to green and greenish gray (with some dark gray to gray and brown to reddish brown layer with scattered greenish gray mottling) with some ferrous staining, and have a blocky (intensely fissured) structure. Stratum IV is encountered throughout the site at depths ranging from approximately 16 feet to greater than 160 feet bgs, and has a thickness exceeding 144 feet. As indicated on boring logs, this stratum is complexly interbedded and does exhibit significant variation in the nature and occurrence of indurated materials, although very thinly interbedded claystone units are most frequently encountered throughout. Although relatively unweathered relative to Stratum III, zones of localized weathering indicated by ferrous staining and weathered surfaces of clay partings are present likely in association with shallow groundwater movement. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values.

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6



**INTERPRETIVE GEOLOGIC  
CROSS SECTION D-D'**

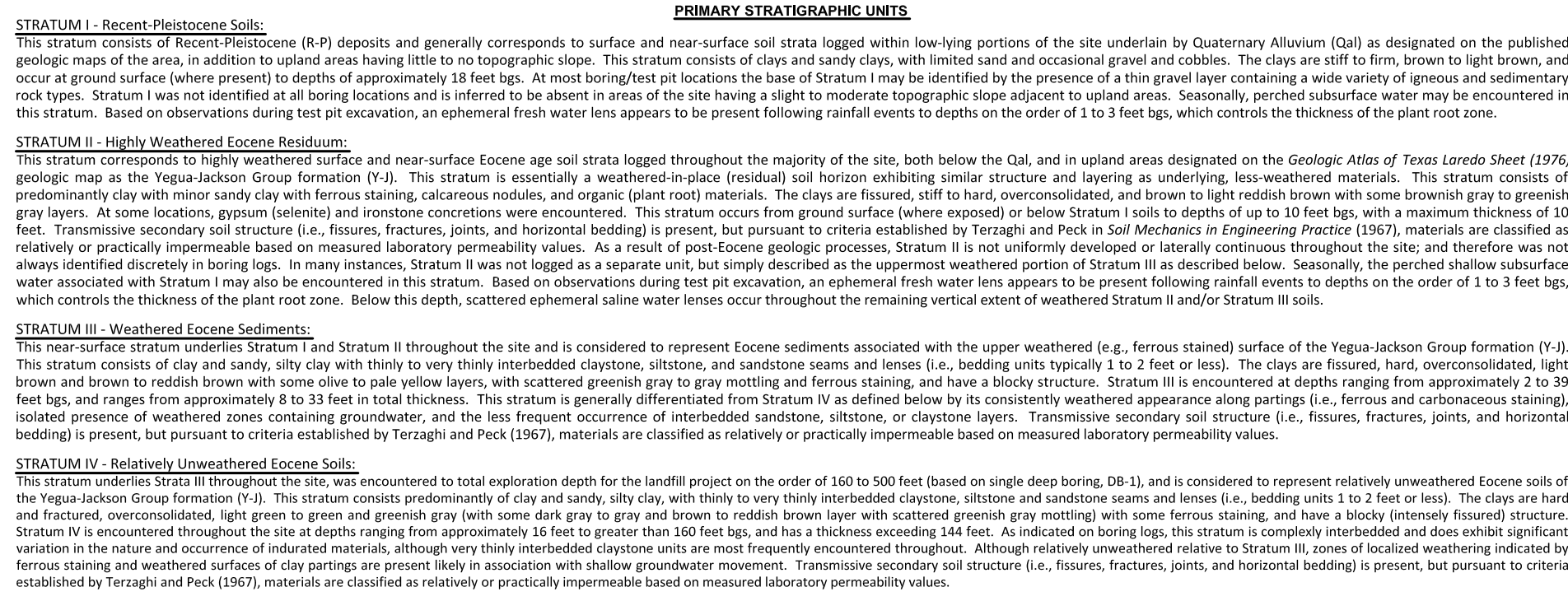
PESCADITO ENVIRONMENTAL RESOURCE CENTER  
TYPE I MSW MANAGEMENT FACILITY  
RANCHO VIEJO WASTE MANAGEMENT, LLC  
WEBB COUNTY, TEXAS - MSW PERMIT No. 2374

[illegible]

PROJECT No.:	ASF13-140-00
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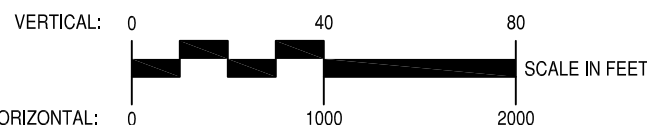
ISSUE DATE:	02-25-15
DRAWN BY:	LAW
CHECKED BY:	PMS
REVIEWED BY:	RVK

**FIGURE 7**



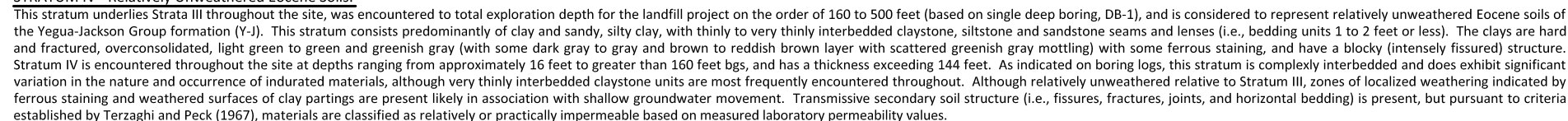


## 8

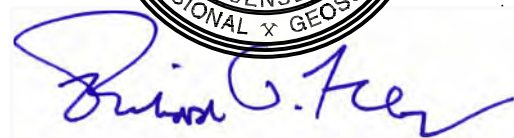


This stratum underlies Strata III throughout the site, was encountered to total exploration depth for the landfill project on the order of 160 to 500 feet (based on single deep boring, DB-1), and is considered to represent relatively unweathered Eocene soils of the Yegua-Jackson Group formation (Y-J). This stratum consists predominantly of clay and sandy, silty clay, with thin to very thinly interbedded claystone, siltstone and sandstone seams and lenses (i.e., bedding units 1 to 2 feet or less). The clays are hard and fractured, overconsolidated, light green to green and greenish gray (with some dark gray to gray and brown to reddish brown layer with scattered greenish gray mottling) with some ferrous staining, and have a blocky (intensely fissured) structure. Stratum IV is encountered throughout the site at depths ranging from approximately 16 feet to greater than 160 feet bgs, and has a thickness exceeding 144 feet. As indicated on boring logs, this stratum is complexly interbedded and does exhibit significant variation in the nature and occurrence of indurated materials, although very thinly interbedded claystone units are most frequently encountered throughout. Although relatively unweathered relative to Stratum III, zones of localized weathering indicated by ferrous staining and weathered surfaces of clay partings are present likely in association with shallow groundwater movement. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values.

## 9



VERTICAL: 0 40 80  
SCALE IN FEET  
HORIZONTAL: 0 1000 2000

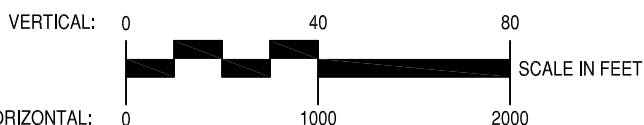




**FIGURE**

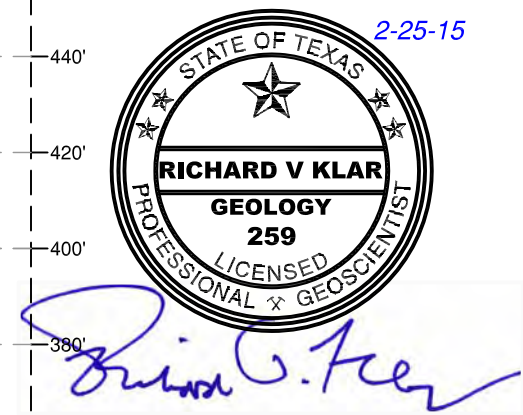
**10**

## 11



This stratum underlies Strata III throughout the site, was encountered to total exploration depth for the landfill project on the order of 160 to 500 feet (based on single deep boring, DB-1), and is considered to represent relatively unweathered Eocene soils of the Yegua-Jackson Group formation (Y-J). This stratum consists predominantly of clay and sandy, silty clay, with thinly to very thinly interbedded claystone, siltstone and sandstone seams and lenses (i.e., bedding units 1 to 2 feet or less). The clays are hard and fractured, overconsolidated, light green to green and greenish gray (with some dark gray to gray and brown to reddish brown layer with scattered greenish gray mottling) with some ferrous staining, and have a blocky (intensely fissured) structure. Stratum IV is encountered throughout the site at depths ranging from approximately 16 feet to greater than 160 feet bgs, and has a thickness exceeding 144 feet. As indicated on boring logs, this stratum is complexly interbedded and does exhibit significant variation in the nature and occurrence of indurated materials, although very thinly interbedded claystone units are most frequently encountered throughout. Although relatively unweathered relative to Stratum III, zones of localized weathering indicated by ferrous staining and weathered surfaces of clay partings are present likely in association with shallow groundwater movement. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values.



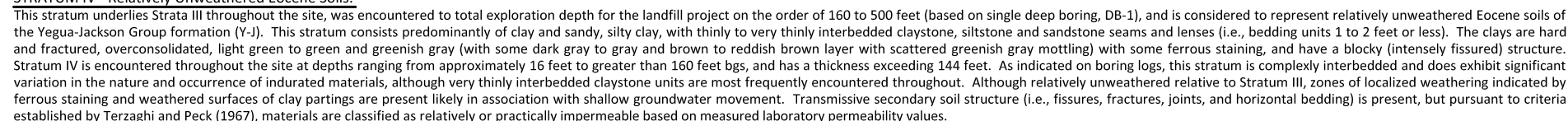


VERTICAL: 0 40 80  
SCALE IN FEET

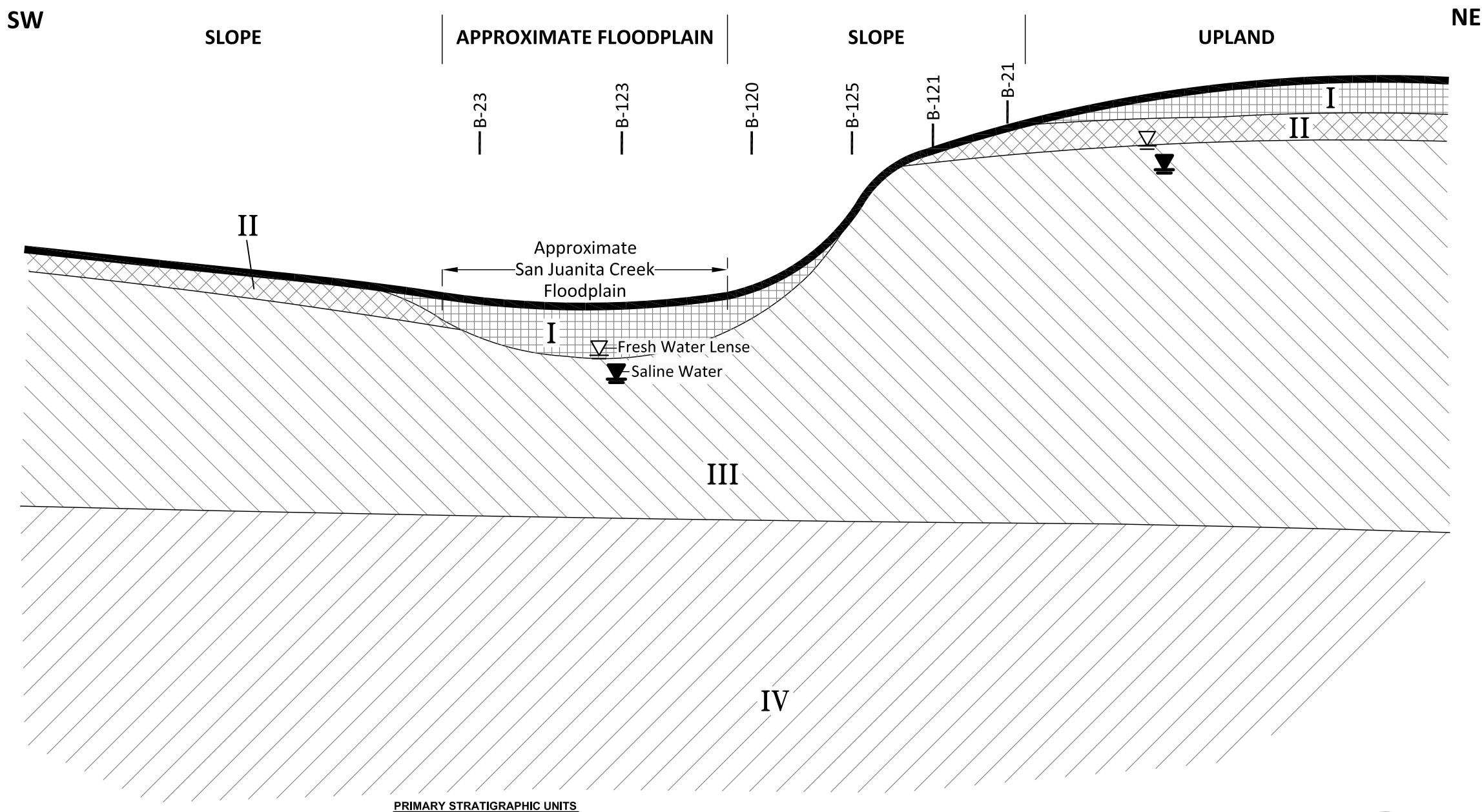
HORIZONTAL: 0 1000 2000

[illegible]

## 13







STRATUM I - Recent-Pleistocene Soils:

This stratum consists of Recent-Pleistocene (R-P) deposits and generally corresponds to surface and near-surface soil strata logged within low-lying portions of the site underlain by Quaternary Alluvium (Qal) as designated on the published geologic maps of the area, in addition to upland areas having little to no topographic slope. This stratum consists of clays and sandy clays, with limited sand and occasional gravel and cobbles. The clays are stiff to firm, brown to light brown, and occur at ground surface (where present) to depths of approximately 18 feet bgs. At most boring/test pit locations the base of Stratum I may be identified by the presence of a thin gravel layer containing a wide variety of igneous and sedimentary rock types. Stratum I was not identified at all boring locations and is inferred to be absent in areas of the site having a slight to moderate topographic slope adjacent to upland areas. Seasonally, perched subsurface water may be encountered in this stratum. Based on observations during test pit excavation, an ephemeral fresh water lens appears to be present following rainfall events to depths on the order of 1 to 3 feet bgs, which controls the thickness of the plant root zone.

STRATUM II - Highly Weathered Eocene Residuum:

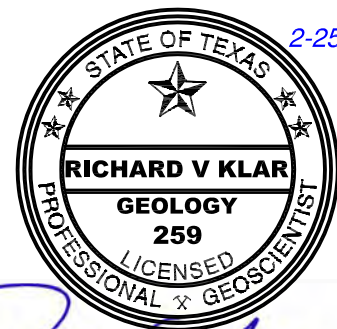
This stratum corresponds to highly weathered surface and near-surface Eocene age soil strata logged throughout the majority of the site, both below the Qal, and in upland areas designated on the *Geologic Atlas of Texas Laredo Sheet (1976)* geologic map as the Yegua-Jackson Group formation (Y-J). This stratum is essentially a weathered-in-place (residual) soil horizon exhibiting similar structure and layering as underlying, less-weathered materials. This stratum consists of predominantly clay with minor sandy clay with ferrug staining, calcareous nodules, and organic (plant root) materials. The clays are fissured, stiff to hard, overconsolidated, and brown to light reddish brown with some brownish gray to greenish gray layers. At some locations, gypsum (selenite) and ironstone concretions were encountered. This stratum occurs from ground surface (where exposed) or below Stratum I soils to depths of up to 10 feet bgs, with a maximum thickness of 10 feet. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck in *Soil Mechanics in Engineering Practice* (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values. As a result of post-Eocene geologic processes, Stratum II is not uniformly developed or laterally continuous throughout the site; and therefore was not always identified discretely in boring logs. In many instances, Stratum II was not logged as a separate unit, but simply described as the uppermost weathered portion of Stratum III as described below. Seasonally, the perched shallow subsurface water associated with Stratum I may also be encountered in this stratum. Based on observations during test pit excavation, an ephemeral fresh water lens appears to be present following rainfall events to depths on the order of 1 to 3 feet bgs, which controls the thickness of the plant root zone. Below this depth, scattered ephemeral saline water lenses occur throughout the remaining vertical extent of weathered Stratum II and/or Stratum III soils.

STRATUM III - Weathered Eocene Sediments:

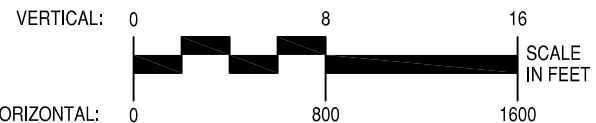
This near-surface stratum underlies Stratum I and Stratum II throughout the site and is considered to represent Eocene sediments associated with the upper weathered (e.g., ferrous stained) surface of the Yegua-Jackson Group formation (Y-J). This stratum consists of clay and sandy, silty clay with thinly to very thinly interbedded claystone, siltstone, and sandstone seams and lenses (i.e., bedding units typically 1 to 2 feet or less). The clays are fissured, hard, overconsolidated, light brown and brown to reddish brown with some olive to pale yellow layers, with scattered greenish gray to gray mottling and ferrous staining, and have a blocky structure. Stratum III is encountered at depths ranging from approximately 2 to 39 feet bgs, and ranges from approximately 8 to 33 feet in total thickness. This stratum is generally differentiated from Stratum IV as defined below by its consistently weathered appearance along partings (i.e., ferrous and carbonaceous staining), isolated presence of weathered zones containing groundwater, and the less frequent occurrence of interbedded sandstone, siltstone, or claystone layers. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values.

STRATUM IV - Relatively Unweathered Eocene Soils:

This stratum underlies Strata III throughout the site, was encountered to total exploration depth for the landfill project on the order of 160 to 500 feet (based on single deep boring, DB-1), and is considered to represent relatively unweathered Eocene soils of the Yegua-Jackson Group formation (Y-J). This stratum consists predominantly of clay and sandy, silty clay, with thinly to very thinly interbedded claystone, siltstone and sandstone seams and lenses (i.e., bedding units 1 to 2 feet or less). The clays are hard and fractured, overconsolidated, light green to green and greenish gray (with some dark gray to gray and brown to reddish brown layer with scattered greenish gray mottling) with some ferrous staining, and have a blocky (intensely fissured) structure. Stratum IV is encountered throughout the site at depths ranging from approximately 16 feet to greater than 160 feet bgs, and has a thickness exceeding 144 feet. As indicated on boring logs, this stratum is complexly interbedded and does exhibit significant variation in the nature and occurrence of indurated materials, although very thinly interbedded claystone units are most frequently encountered throughout. Although relatively unweathered relative to Stratum III, zones of localized weathering indicated by ferrous staining and weathered surfaces of clay partings are present likely in association with shallow groundwater movement. Transmissive secondary soil structure (i.e., fissures, fractures, joints, and horizontal bedding) is present, but pursuant to criteria established by Terzaghi and Peck (1967), materials are classified as relatively or practically impermeable based on measured laboratory permeability values.



2-25-15



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San Antonio, Texas 78249

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# CONCEPTUAL GEOLOGIC SECTION

PESCADITO ENVIRONMENTAL RESOURCE CENTER

## TYPE I MSW MANAGEMENT FACILITY

**RANCHO VIEJO WASTE MANAGEMENT, LLC**

WEBB COUNTY, TEXAS - MSW PERMIT NO. 2374

## REVISIONS:

[illegible]

PROJECT No.:

ASF13-140-00

ISSUE DATE:	02-25-15
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CHECKED BY:	PMS
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REVIEWED BY:	RVK
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## FIGURE

14



STATE OF TEXAS

2/25/15

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RICHARD V. KLAR

GEOLOGY

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LICENSED

PROFESSIONAL GEOSCIENTIST

<div><div><div><div>RABA</div><div>KISTNER</div></div><div>ENVIRONMENTAL</div></div><div>Raba Kistner Environmental, Inc. 12821 West Golden Lane San Antonio, Texas 78249 www.rkci.com  P 210 :: 699 :: 9090 F 210 :: 699 :: 6426  TBPE Firm F-3257</div></div>	SOURCE: Downloaded from Environmental Systems Research Institute (ESRI), 2013, Bing Maps Aerial.		PROJECT No.: ASF13-140-00	
	<div><div>PIEZOMETER/STAFF GAUGE</div><div>LOCATION MAP</div><div>PESCADITO ENVIRONMENTAL RESOURCE CENTER</div><div>TYPE I MSW MANAGEMENT FACILITY</div><div>RANCHO VIEJO WASTE MANAGEMENT, LLC</div><div>WEBB COUNTY, TEXAS</div><div>MSW PERMIT No. 2374</div></div>		ISSUE DATE:	02-25-15
			DRAWN BY:	LAW
			CHECKED BY:	PMS
			REVIEWED BY:	RVK
		FIGURE		
		15		

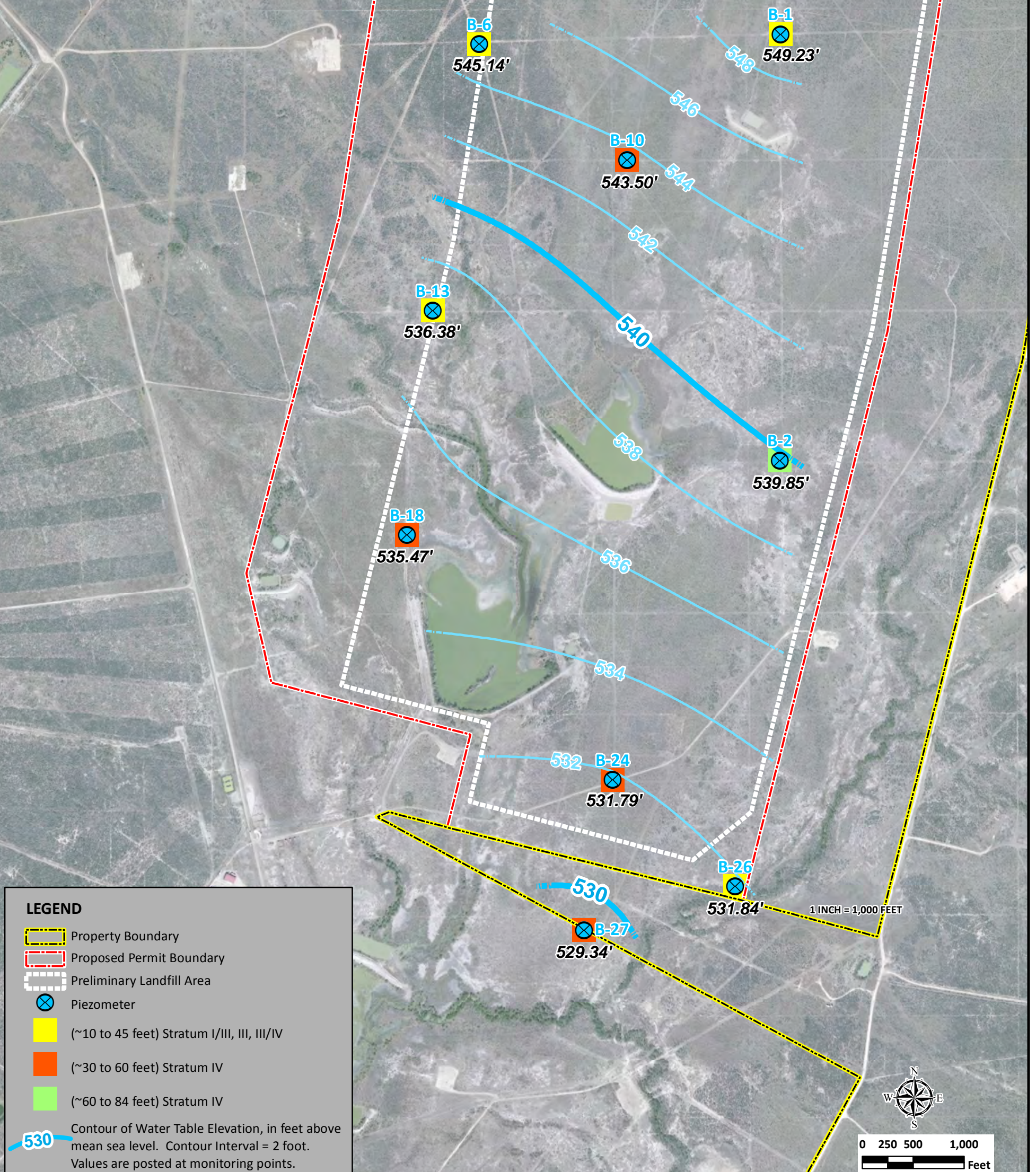
NOTE: This Drawing is Provided for Illustration Only, May Not be to Scale and is Not Suitable for Design or Construction Purposes





RICHARD V. KLAR  
GEOLOGY  
259  
LICENSED SCIENTIST

Erin G. Frey



NOTE: Gauging events were completed prior to Phase III deep borings were installed.

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SOURCE: Downloaded from Environmental Systems Research Institute (ESRI), 2013, Bing Maps Aerial.

# COMBINED WATER LEVEL CONTOUR MAP

PESCADITO ENVIRONMENTAL RESOURCE CENTER  
TYPE I MSW MANAGEMENT FACILITY  
RANCHO VIEJO WASTE MANAGEMENT, LLC  
WEBB COUNTY, TEXAS  
MSW PERMIT No. 2374

## REVISIONS:

No.	DATE	DESCRIPTION
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PROJECT No.:	
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ASF13-140-00

ISSUE DATE:	02-25-15
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CHECKED BY:	PMS
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**FIGURE**

16

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0 250 500 1,000 Feet  
APPROXIMATE SCALE

**530** Contour of Water Table Elevation, in feet above mean sea level. Contour Interval = 2 foot. Values are posted at monitoring points.

17

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RICHARD V. KLAR

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PROFESSIONAL GEOSCIENTIST

Richard V. Klar

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

<div><div><div>RABA</div><div>KISTNER</div><div>ENVIRONMENTAL</div></div><div>Raba Kistner Environmental, Inc. 12821 West Golden Lane San Antonio, Texas 78249 www.rkci.com  P 210 :: 699 :: 9090 F 210 :: 699 :: 6426  TBPE Firm F-3257</div></div>	<div>SOURCE: Downloaded from Environmental Systems Research Institute (ESRI), 2013, Bing Maps Aerial.</div> <div><div>COMBINED WATER LEVEL CONTOUR MAP</div><div>7/19-20/11</div><div>PESCADITO ENVIRONMENTAL RESOURCE CENTER</div><div>TYPE I MSW MANAGEMENT FACILITY</div><div>RANCHO VIEJO WASTE MANAGEMENT, LLC</div><div>WEBB COUNTY, TEXAS</div><div>MSW PERMIT No. 2374</div></div>	REVISIONS:		PROJECT No.:				
		No. DATE DESCRIPTION		ASF13-140-00				
				ISSUE DATE:	02-25-15			
				DRAWN BY:	LAW			
				CHECKED BY:	PMS			
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				FIGURE				
				18				

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Richard V. Klar

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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	<div><div>COMBINED WATER LEVEL CONTOUR MAP</div><div>1/10/12</div><div>PESCADITO ENVIRONMENTAL RESOURCE CENTER</div><div>TYPE I MSW MANAGEMENT FACILITY</div><div>RANCHO VIEJO WASTE MANAGEMENT, LLC</div><div>WEBB COUNTY, TEXAS</div><div>MSW PERMIT No. 2374</div></div>		ISSUE DATE:	02-25-15
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			REVIEWED BY:	RVK
		FIGURE		
		19		

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2/25/15

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GEOLOGY

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PROFESSIONAL GEOSCIENTIST

Richard V. Klar

LEGEND

Property Boundary

Proposed Permit Boundary

Preliminary Landfill Area

Staff Gauge

Piezometer

(~10 to 45 feet) Stratum I/III, III, III/IV

(~30 to 60 feet) Stratum IV

530

Contour of Water Table Elevation, in feet above mean sea level. Contour Interval = 2 foot. Values are posted at monitoring points.

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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SOURCE: Downloaded from Environmental Systems Research Institute (ESRI), 2013, Bing Maps Aerial.

SHALLOW WATER LEVEL CONTOUR MAP

WITH STAFF GAUGE DATA - 7/19-20/11

PESCADITO ENVIRONMENTAL RESOURCE CENTER

TYPE I MSW MANAGEMENT FACILITY

RANCHO VIEJO WASTE MANAGEMENT, LLC

WEBB COUNTY, TEXAS

MSW PERMIT No. 2374

REVISIONS:		
No.	DATE	DESCRIPTION

PROJECT No.:	
ASF13-140-00	
ISSUE DATE:	02-25-15
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REVIEWED BY:	RVK
FIGURE	
20	

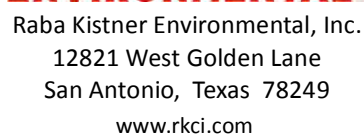
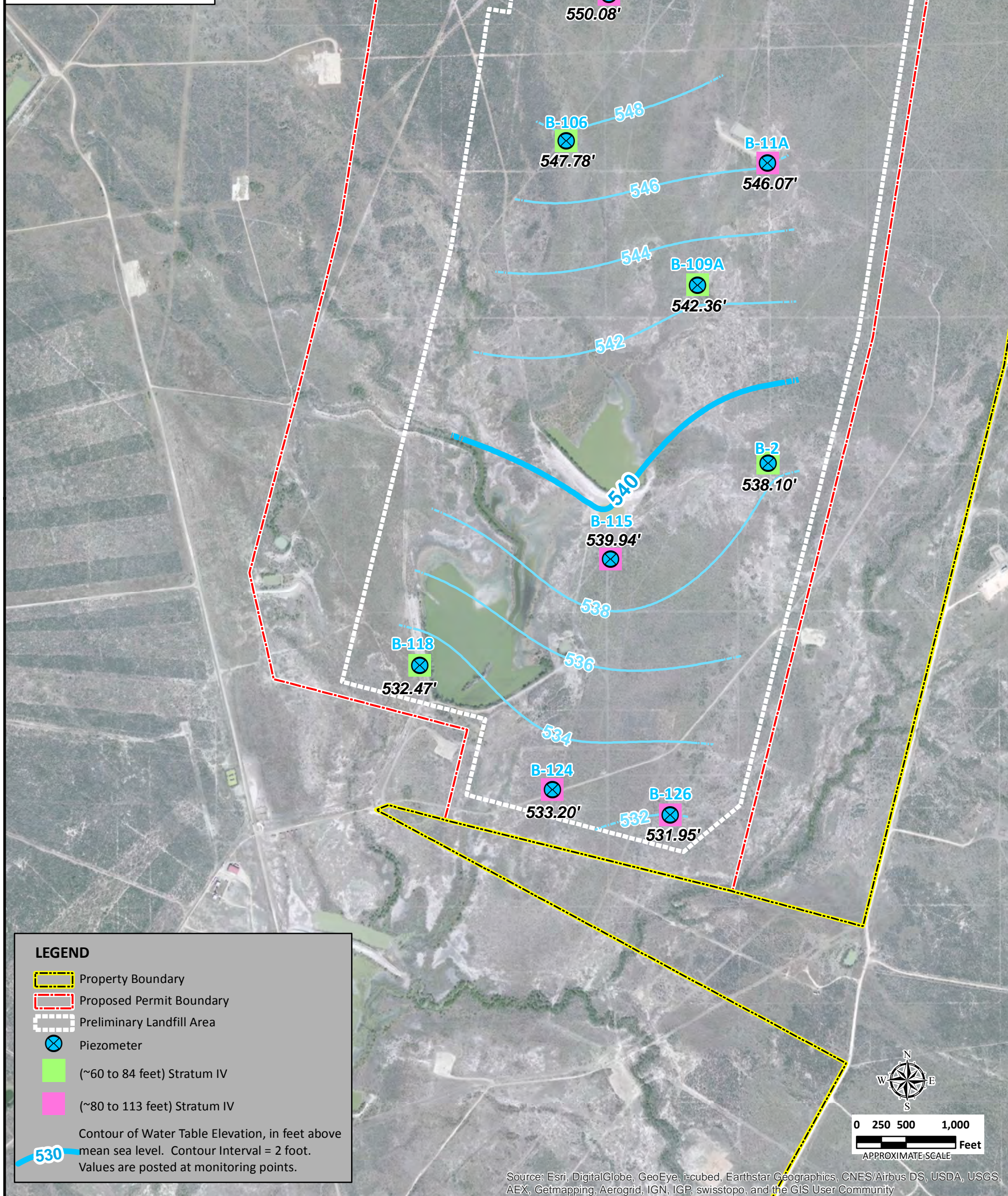
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# DEEP WATER LEVEL CONTOUR MAP

## 7/19-20/11

PESCADITO ENVIRONMENTAL RESOURCE CENTER  
TYPE I MSW MANAGEMENT FACILITY  
RANCHO VIEJO WASTE MANAGEMENT, LLC  
WEBB COUNTY, TEXAS  
MSW PERMIT No. 2374

## REVISIONS:

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PROJECT No.:
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ASF13-140-00

ISSUE DATE:	02-25-15
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**FIGURE**

21

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STATE OF TEXAS

2/25/15

RICHARD V. KLAR

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PROFESSIONAL GEOSCIENTIST

Richard V. Klar

LEGEND

Property Boundary

Proposed Permit Boundary

Preliminary Landfill Area

Test Pit (January 2012)

Staff Gauge

Piezometer

(~10 to 45 feet) Stratum I/III, III, III/IV

(~30 to 60 feet) Stratum IV

530

Contour of Water Table Elevation, in feet above mean sea level. Contour Interval = 2 foot. Values are posted at monitoring points.

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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SOURCE: Downloaded from Environmental Systems Research Institute (ESRI), 2013, Bing Maps Aerial.

SHALLOW WATER LEVEL CONTOUR MAP

WITH STAFF GAUGE DATA - 01/10/12

PESCADITO ENVIRONMENTAL RESOURCE CENTER

TYPE I MSW MANAGEMENT FACILITY

RANCHO VIEJO WASTE MANAGEMENT, LLC

WEBB COUNTY, TEXAS

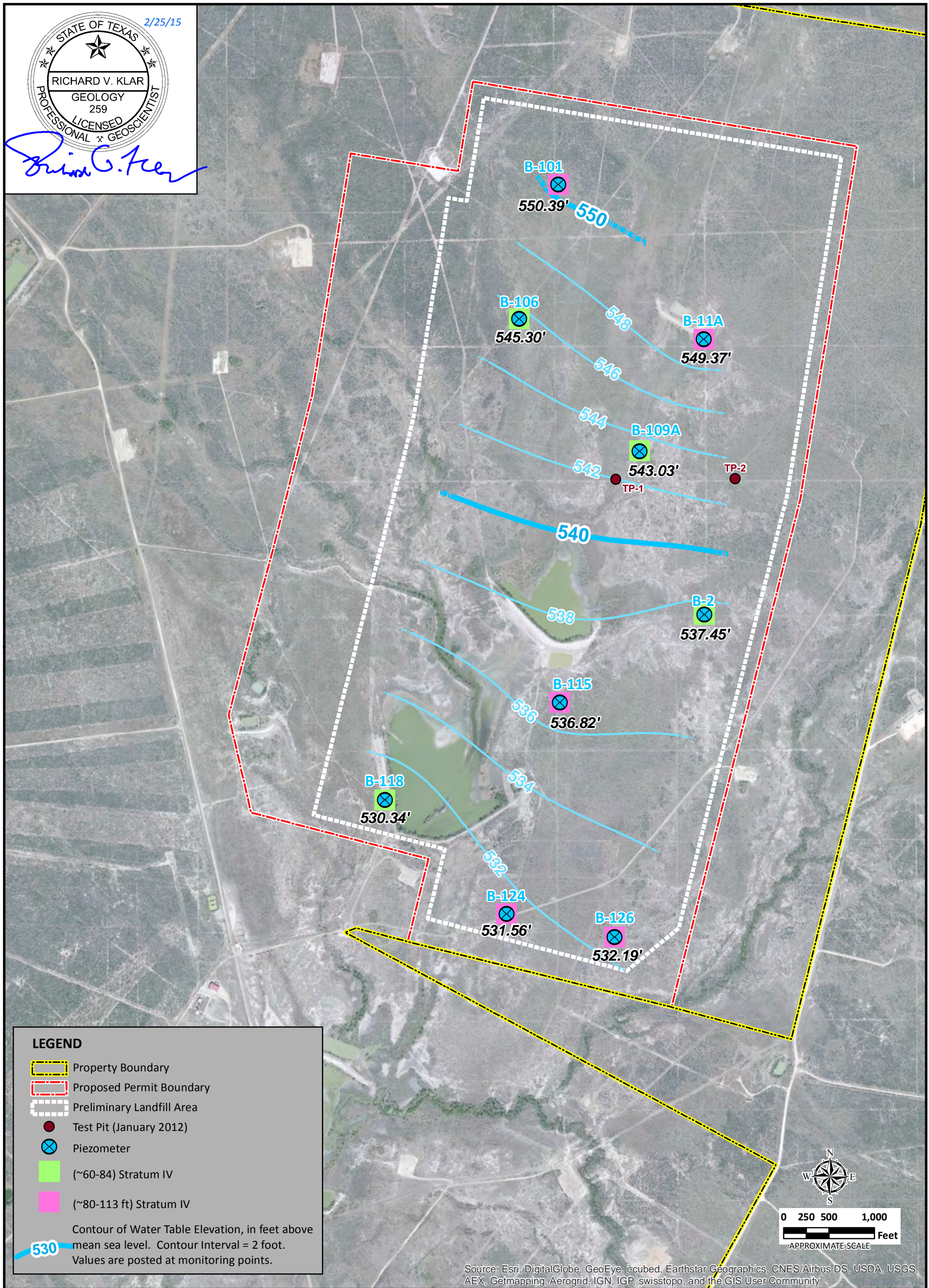
MSW PERMIT No. 2374

REVISIONS:		
No.	DATE	DESCRIPTION

PROJECT No.:	
ASF13-140-00	
ISSUE DATE:	02-25-15
DRAWN BY:	LAW
CHECKED BY:	PMS
REVIEWED BY:	RVK
FIGURE	
22	

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NOTE: This Drawing is Provided for Illustration Only, May Not be to Scale and is Not Suitable for Design or Construction Purposes



## TABLES

**TABLE 1**

**SOIL BORING/TEST PIT/STAFF GAUGE POSITION TABLE**

**SOIL BORING/TEST PIT/STAFF GAUGE POSITION TABLE**

Pescadito Environmental Resource Center  
Type I MSW Management Facility  
Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

Soil Boring/Test Pit/Staff Gauge Designation	Survey Date	Ground Surface Elevation (feet, MSL (NAD 83))	Geographic		State Plane (TX-South)	
			Longitude	Latitude	Easting	Northing
			hddd°mm'ss.s"	hddd°mm'ss.s"	(feet)	(feet)
SOIL BORINGS						
B-1	10/19/2010	553.81	-99°09 15.67252	27°34 28.69043	772273.60	17098253.56
B-2	10/19/2010	545.89	-99°09 15.81350	27°33 47.13971	772239.16	17094057.78
B-3	10/19/2010	559.91	-99°09 45.27954	27°34 43.68767	769617.37	17099781.90
B-4	10/19/2010	563.64	-99°09 20.32337	27°34 40.54554	771861.32	17099452.87
B-5	10/19/2010	559.67	-99°09 07.04395	27°34 38.71716	773055.27	17099262.05
B-6	10/19/2010	559.02	-99°09 48.65062	27°34 27.59904	769305.50	17098158.84
B-7	10/19/2010	554.77	-99°09 30.27359	27°34 28.37174	770959.56	17098228.21
B-8	10/19/2010	561.89	-99°08 59.34976	27°34 28.87048	773742.49	17098264.15
B-9	5/3/2011	550.18	-99°09 49.85489	27°34 16.53325	769191.25	17097041.97
B-10	10/19/2010	547.73	-99°09 32.54381	27°34 16.37950	770748.95	17097018.28
B-11	10/19/2010	549.53	-99°09 15.93379	27°34 17.32189	772244.14	17097105.67
B-11A	7/21/2011	549.52	-99°09 15.82777	27°34 17.39297	772185.30	17097065.63
B-12	10/19/2010	555.41	-99°09 01.86660	27°34 16.50955	773509.58	17097017.09
B-13	10/19/2010	544.45	-99°09 53.75188	27°34 01.70887	768832.69	17095546.84
B-14	10/19/2010	543.80	-99°09 33.28350	27°34 01.77077	770674.68	17095543.42
B-15	10/19/2010	548.17	-99°09 15.97600	27°34 01.88521	772232.26	17095546.87
B-16	10/19/2010	550.48	-99°09 04.64405	27°34 01.76411	773251.96	17095529.37
B-17	10/19/2010	544.79	-99°09 42.37214	27°33 50.88992	769851.03	17094448.94
B-18	10/19/2010	542.50	-99°09 56.49292	27°33 39.85212	768574.38	17093341.02
B-19	10/19/2010	539.19	-99°09 36.51160	27°33 44.30858	770374.96	17093781.59
B-20	10/19/2010	541.39	-99°09 29.59867	27°33 32.29043	770990.76	17092564.74
B-21	10/19/2010	544.86	-99°09 12.67810	27°33 32.54666	772513.69	17092582.70
B-22	10/19/2010	540.73	-99°09 37.43785	27°33 30.48970	770284.30	17092386.59
B-23	10/19/2010	536.98	-99°09 54.94697	27°33 22.74159	768704.40	17091612.45
B-24	10/19/2010	538.10	-99°09 34.42010	27°33 16.00877	770548.25	17090922.87
B-25	10/19/2010	532.65	-99°09 51.97500	27°33 07.80343	768963.93	17090102.58
B-26	10/19/2010	537.85	-99°09 20.86833	27°33 05.79338	771762.56	17089884.96
B-27	10/19/2010	535.77	-99°09 37.34558	27°33 01.36532	770277.21	17089445.54
B-101	7/21/2011	552.49	-99°09 33.79834	27°34 34.05733	770576.93	17098756.73

PROJECT No. ASF13-140-00

**SOIL BORING/TEST PIT/STAFF GAUGE POSITION TABLE**

Pescadito Environmental Resource Center  
Type I MSW Management Facility  
Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

Soil Boring/Test Pit/Staff Gauge Designation	Survey Date	Ground Surface Elevation (feet, MSL (NAD 83))	Geographic		State Plane (TX-South)	
			Longitude hddd°mm'ss.s"	Latitude hddd°mm'ss.s"	Easting (feet)	Northing (feet)
SOIL BORINGS						
B-102	7/21/2011	556.27	-99°09 14.10831	27°34 35.88118	772349.59	17098931.67
B-103	5/3/2011	553.76	-99°09 40.05169	27°34 30.61699	770080.87	17098459.53
B-104	5/3/2011	552.11	-99°09 27.53319	27°34 23.59018	771203.64	17097744.07
B-105	5/3/2011	557.66	-99°09 04.75992	27°34 25.08419	773253.69	17097884.31
B-106	7/21/2011	548.99	-99°09 38.54204	27°34 19.36845	770142.44	17097275.74
B-107	5/3/2011	549.53	-99°09 45.82069	27°34 08.75679	769550.16	17096254.79
B-108	5/3/2011	546.95	-99°09 33.82255	27°34 09.10708	770630.04	17096284.51
B-109	5/3/2011	547.60	-99°09 23.75147	27°34 05.09403	771534.22	17095874.54
B-109A	7/21/2011	546.53	-99°09 23.81677	27°34 05.14058	771460.08	17095832.16
B-110	5/3/2011	553.75	-99°09 08.08633	27°34 12.81205	772947.96	17096646.60
B-111	5/3/2011	544.06	-99°09 43.17785	27°33 57.92788	769782.25	17095160.03
B-112	5/3/2011	543.09	-99°09 53.86791	27°33 47.35922	768814.61	17094097.85
B-113	5/3/2011	545.03	-99°09 24.97624	27°33 54.15080	771418.25	17094770.05
B-114	5/3/2011	541.87	-99°09 53.07040	27°33 42.25926	768883.67	17093582.47
B-114A	7/21/2011	540.14	-99°09 53.46745	27°33 42.25242	768779.90	17093534.96
B-115	7/21/2011	541.46	-99°09 33.22013	27°33 37.64035	770599.56	17093059.69
B-116	5/3/2011	545.60	-99°09 23.09477	27°33 40.22916	771580.26	17093363.35
B-117	5/3/2011	543.68	-99°09 56.07198	27°33 32.97719	768608.60	17092646.59
B-118	7/21/2011	538.87	-99°09 54.90247	27°33 26.93711	768642.70	17091989.17
B-119	5/3/2011	541.99	-99°09 33.49257	27°33 27.22666	770637.64	17092055.23
B-120	5/3/2011	539.92	-99°09 35.78451	27°33 21.96451	770428.60	17091524.93
B-121	5/3/2011	544.09	-99°09 20.44820	27°33 25.65966	771810.79	17091890.87
B-122	5/3/2011	543.02	-99°09 19.96015	27°33 17.02162	771850.19	17091018.37
B-123	5/3/2011	535.13	-99°09 45.71248	27°33 19.11181	769533.57	17091241.54
B-124	5/3/2011	536.89	-99°09 39.92993	27°33 14.59186	769983.70	17090735.50
B-125	5/3/2011	542.22	-99°09 27.02918	27°33 19.48726	771215.27	17091270.66
B-126	5/3/2011	538.03	-99°09 26.78413	27°33 11.99201	771165.43	17090466.81
DB-1	12/29/2011	550.60	-99°09 35.71860	27°34 23.87799	770467.22	17097776.98

PROJECT No. ASF13-140-00

## SOIL BORING/TEST PIT/STAFF GAUGE POSITION TABLE

Pescadito Environmental Resource Center  
Type I MSW Management Facility  
Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

Soil Boring/Test Pit/Staff Gauge Designation	Survey Date	Ground Surface Elevation (feet, MSL (NAD 83))	Geographic		State Plane (TX-South)	
			Longitude hddd°mm'ss.s"	Latitude hddd°mm'ss.s"	Easting (feet)	Northing (feet)
TEST PITS						
TP-1	12/29/2011	548.58	-99°09 26.94209	27°34 02.43268	771245.69	17095607.29
TP-2	12/29/2011	549.08	-99°09 11.04230	27°34 02.11784	772676.36	17095568.06
STAFF GAUGES						
SG-1	7/21/2011	536.26	-99°09 32.68225	27°33 42.76707	770650.66	17093577.12
SG-2	7/21/2011	538.47	-99°09 37.01549	27°33 47.07673	770262.94	17094014.33
SG-3	7/21/2011	546.81	-99°09 18.35166	27°34 20.49050	771959.82	17097379.59
SG-4	7/21/2011	533.10	-99°09 53.58063	27°33 30.87891	768763.73	17092386.57

### NOTES:

1. A Leica System 1200 survey grade satellite based global positioning system (GPS) was used for the survey which incorporates satellites managed by the Department of Defense to allow for accurate geographic position measurement worldwide. Raw GPS data were collected using the Leica System 1200 Real Time Kinematic (RTK) rover interfaced with a Leica System 1200 base station. Use of the coupled RTK rover and the stationary base station provided for real time correction of raw GPS observables and generally afforded sub-meter position accuracy.
2. Geographic coordinates are additionally presented in State Plane TX-South Zone 5 in feet.
3. Reference datum is North American Datum (NAD) 83
4. GPS data were collected by Richard Sample, Jason Smith and Clint Laffere (RKEI Geoscience Professionals)

PROJECT No. ASF13-140-00

**TABLE 2**

**SUMMARY OF SOIL BORING/TEST PIT DEPTHS  
AND ELEVATIONS**

## SUMMARY OF SOIL BORING/TEST PIT DEPTHS AND ELEVATIONS

Pescadito Environmental Resource Center  
Type I MSW Management Facility  
Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

Soil Boring/ Test Pit Designation	Installation Date	Ground Surface Elevation (feet,MSL)	Soil Boring/ Test Pit Total Depth (feet)	Soil Boring/Test Pit Total Depth Elevation (feet, MSL)	Top of Stratum IV Elevation (feet,MSL) (Unweathered Y-J <sup>(2)</sup> )	Depth of Penetration into Stratum IV (feet) (Unweathered Y-J <sup>(2)</sup> )
<b>SOIL BORINGS</b>						
B-1	11/9/2009	553.81	97.5	456.31	523.81	67.5
B-2	11/12/2009	545.89	78.5	467.39	518.89	51.5
B-3	6/9/2010	559.91	160.0	399.91	525.41	125.5
B-4	7/1/2010	563.64	120.0	443.64	527.64	84.0
B-5	6/29/2010	559.67	160.0	399.67	529.67	130.0
B-6	6/13/2010	559.02	160.0	399.02	527.52	128.5
B-7	7/7/2010	554.77	160.0	394.77	528.77	134.0
B-8	6/26/2010	561.89	120.0	441.89	529.89	88.0
B-9	4/5/2011	550.18	160.0	390.18	519.18	129.0
B-10	7/14/2010	547.73	120.0	427.73	514.73	87.0
B-11	6/10/2010	549.53	160.0	389.53	523.53	134.0
B-11A	6/25/2011	549.52	104.0	445.52	519.52	74.0
B-12	6/25/2010	555.41	160.0	395.41	518.41	123.0
B-13	6/11/2010	544.45	160.0	384.45	517.45	133.0
B-14	6/23/2010	543.80	160.0	383.80	513.80	130.0
B-15	6/24/2010	548.17	120.0	428.17	513.17	85.0
B-16	6/25/2010	550.48	160.0	390.48	523.48	133.0
B-17	6/23/2010	544.79	120.0	424.79	507.79	83.0
B-18	7/15/2010	542.50	160.0	382.50	510.50	128.0
B-19	6/22/2010	539.19	160.0	379.19	500.19	121.0
B-20	7/15/2010	541.39	120.0	421.39	519.39	98.0
B-21	7/19/2010	544.86	160.0	384.86	519.86	135.0
B-22	7/18/2010	540.73	120.0	420.73	512.73	92.0
B-23	7/15/2010	536.98	120.0	416.98	508.98	92.0
B-24	7/23/2010	538.10	160.0	378.10	505.10	127.0
B-25	7/20/2010	532.65	120.0	412.65	499.65	87.0
B-26	7/22/2010	537.85	160.0	377.85	503.85	126.0
B-27	7/22/2010	535.77	120.0	415.77	510.77	95.0
B-101	7/6/2011	552.49	151.0	401.49	518.49	117.0
B-102	7/9/2011	556.27	160.0	396.27	521.27	125.0
B-103	4/6/2011	553.76	120.0	433.76	525.26	91.5
B-104	4/7/2011	552.11	120.0	432.11	531.11	99.0
B-105	4/6/2011	557.66	160.0	397.66	531.66	134.0
B-106	7/10/2011	548.99	120.0	428.99	524.99	96.0
B-107	4/8/2011	549.53	160.0	389.53	523.53	134.0
B-108	4/9/2011	546.95	120.0	426.95	520.95	94.0

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## SUMMARY OF SOIL BORING/TEST PIT DEPTHS AND ELEVATIONS

Pescadito Environmental Resource Center  
Type I MSW Management Facility  
Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

Soil Boring/ Test Pit Designation	Installation Date	Ground Surface Elevation (feet,MSL)	Soil Boring/ Test Pit Total Depth (feet)	Soil Boring/Test Pit Total Depth Elevation (feet, MSL)	Top of Stratum IV Elevation (feet,MSL) (Unweathered Y-J <sup>(2)</sup> )	Depth of Penetration into Stratum IV (feet) (Unweathered Y-J <sup>(2)</sup> )
<b>SOIL BORINGS</b>						
B-109	4/11/2011	547.60	160.0	387.60	520.60	133.0
B-109A	6/25/2011	546.53	85.0	461.53	519.53	58.0
B-110	5/11/2011	553.75	120.0	433.75	530.75	97.0
B-111	5/10/2011	544.06	120.0	424.06	509.06	85.0
B-112	5/5/2011	543.09	160.0	383.09	512.09	129.0
B-113	4/13/2011	545.03	160.0	385.03	518.03	133.0
B-114	5/3/2011	541.87	120.0	421.87	508.87	87.0
B-114A	6/25/2011	540.14	20.0	520.14	Not Encountered <sup>(1)</sup>	Not Encountered <sup>(1)</sup>
B-115	5/9/2011	541.46	120.0	421.46	505.46	84.0
B-116	4/15/2011	545.60	160.0	385.60	516.60	131.0
B-117	5/2/2011	543.68	120.0	423.68	515.68	92.0
B-118	4/29/2011	538.87	160.0	378.87	513.87	135.0
B-119	4/19/2011	541.99	160.0	381.99	515.99	134.0
B-120	4/18/2011	539.92	120.0	419.92	514.92	95.0
B-121	5/8/2011	544.09	120.0	424.09	516.09	92.0
B-122	4/16/2011	543.02	160.0	383.02	527.02	144.0
B-123	4/29/2011	535.13	160.0	375.13	503.13	128.0
B-124	5/6/2011	536.89	160.0	376.89	510.89	134.0
B-125	4/17/2011	542.22	121.0	421.22	524.22	103.0
B-126	5/7/2011	538.03	160.0	378.03	517.03	139.0
DB-1	6/7/2011	550.60	502.0	48.60	523.10	474.5
<b>TEST PIT</b>						
TP-1	1/16/2012	548.58	21.0	527.58	Not Encountered <sup>(1)</sup>	Not Encountered <sup>(1)</sup>
TP-2	1/17/2012	549.08	26.0	523.08	530.08	7.0

**NOTES:**

1. Not Encountered; borehole or test pit not deep enough to penetrate into Stratum IV.
2. Unweathered Y-J = Unweathered Eocene age sedimentary deposits of the Yegua Formation (Y) or Jackson Group (J).

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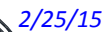


**TABLE 3**

**SUMMARY OF OBSERVATIONS DURING TEST  
PIT INSTALLATION**

Pescadito Environmental Resource Center  
Type I MSW Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

\* Discrete samples were taken in order to facilitate geotechnical testing requirements.



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**TABLE 4**

**SUMMARY OF PIEZOMETER CONSTRUCTION DETAILS  
AND SCREEN ELEVATIONS**

## SUMMARY OF PIEZOMETER CONSTRUCTION DETAILS AND SCREEN ELEVATIONS

Pescadito Environmental Resource Center

Type I MSW Management Facility

Rancho Viejo Waste Management, LLC

Webb County, Texas

MSW Permit No. 2374

Well Designation	Date Installed	Installation Contractor	Well TOC Elevation (feet)	Well Total Depth (feet)	Well Construction Details									
					Borehole Diameter (inches)	Well Casing Diameter (inches)	Well Casing Type	Approximate Riser Height (feet)	Concrete Seal (feet)	Grout/Bentonite Seal (feet)	Filter Pack Interval (feet)	Filter Pack Type	Well Screen Interval (feet)	Well Screen Size (inches)
B-1	11/10/2009	Vortex	555.61	45	8	2	PVC	1.80	0-2	2-28	28-45	10-20 Silica	30-45	0.010
B-2	11/12/2009	Vortex	547.59	75	8	2	PVC	1.70	0-2	2-58	58-75	10-20 Silica	60-75	0.010
B-6	6/13/2010	Boart Longyear	562.48	30	6	2	PVC	3.46	0-2	2-8	8-30	20-40 Silica	10-30	0.010
B-10	7/14/2010	Boart Longyear	550.86	60	6	2	PVC	3.13	0-2	2-38	38-60	20-40 Silica	40-60	0.010
B-11A	6/25/2011	Boart Longyear	553.59	104	6	2	PVC	4.07	0-2	2-92	92-104	20-40 Silica	94-104	0.010
B-13	6/12/2010	Boart Longyear	548.14	30	6	2	PVC	3.69	0-2	2-8	8-30	20-40 Silica	10-30	0.010
B-18	7/17/2010	Boart Longyear	545.85	60	6	2	PVC	3.35	0-2	2-43	43-60	20-40 Silica	45-60	0.010
B-24	7/23/2010	Boart Longyear	541.03	60	6	4	PVC	2.93	0-2	2-43	43-60	20-40 Silica	45-60	0.010
B-26	7/22/2010	Boart Longyear	540.79	30	6	4	PVC	2.94	0-2	2-8	8-30	20-40 Silica	10-30	0.010
B-27	7/22/2010	Boart Longyear	538.66	45	6	4	PVC	2.89	0-2	2-28	28-45	20-40 Silica	30-45	0.010
B-101	7/7/2011	GeoProjects	557.96	90	6	2	PVC	5.47	0-3	3-78	78-92	20-40 Silica	80-90	0.010
B-102	7/9/2011	GeoProjects	559.89	60	6	2	PVC	3.62	0-3	3-48	48-62	20-40 Silica	50-60	0.010
B-106	7/10/2011	GeoProjects	550.29	80	6	2	PVC	1.30	0-3	3-68	68-82	20-40 Silica	70-80	0.010
B-109A	6/25/2011	Boart Longyear	549.04	80	6	2	PVC	2.51	0-2	2-68	68-80	20-40 Silica	70-80	0.010
B-114A	6/25/2011	Boart Longyear	542.62	20	6	2	PVC	2.48	0-2	2-8	8-20	20-40 Silica	10-20	0.010
B-115	5/9/2011	Boart Longyear	543.95	102	6	2	PVC	2.49	0-2	2-92	92-105	20-40 Silica	94-102	0.010
B-118	4/29/2011	Boart Longyear	542.20	84	6	2	PVC	3.33	0-2	2-73	73-85	20-40 Silica	75-84	0.010
B-124	5/6/2011	Boart Longyear	539.45	113	6	2	PVC	2.56	0-2	2-98	98-113	20-40 Silica	100-113	0.010
B-126	5/7/2011	Boart Longyear	540.55	102	6	2	PVC	2.52	0-2	2-78	77-105	20-40 Silica	80.5-102	0.010

**NOTES:**

1. Well construction details obtained from State of Texas Well Reports in addition to Raba Kistner field notes.
2. TOC = top of casing

PROJECT No. ASF13-140-00

**TABLE 5**

**SUMMARY OF STATIC WATER LEVEL MEASUREMENTS –  
PIEZOMETERS**

# SUMMARY OF STATIC WATER LEVEL MEASUREMENTS - PIEZOMETERS

Pescadito Environmental Resource Center  
Type I MSW Management Facility  
Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

Piezometer Designation	Piezometer Installation Date	Boring Total Depth (feet, bgs)	Piezometer Total Depth (feet, TOC)	Screened Interval (feet, bgs)	TOC Elevation <sup>(1)</sup> (feet, NAD 83)	Measurement Date	Depth to Water (feet, TOC)	Groundwater Elevation (feet, NAD 83)
B-1	11/10/2009	97.5	48.08	(30 - 45)	555.61	6/12/2010	4.42	551.20
						6/13/2010	4.33	551.28
						6/14/2010	4.25	551.36
						6/16/2010	4.17	551.45
						6/22/2010	4.42	551.20
						6/25/2010	6.01	549.60
						6/28/2010	6.50	549.11
						7/21/2010	6.00	549.61
						8/11/2010	6.08	549.53
						10/19/2010	6.38	549.23
						2/3/2011	7.40	548.21
						3/23/2011	7.20	548.41
						4/7/2011	7.29	548.32
						4/12/2011	7.41	548.20
						4/19/2011	7.40	548.21
						4/26/2011	7.39	548.22
						4/30/2011	7.58	548.03
						5/24/2011	7.68	547.93
						6/5/2011	7.87	547.74
						6/14/2011	7.94	547.67
						6/22/2011	8.04	547.57
						6/29/2011	8.10	547.51
						7/11/2011	8.15	547.46
						7/19/2011	8.25	547.36
						1/10/2012	9.02	546.59
B-2	11/12/2009	78.5	76.33	(60 - 75)	547.59	6/12/2010	7.08	540.51
						6/13/2010	6.92	540.67
						6/14/2010	6.92	540.67
						6/16/2010	6.83	540.76
						6/22/2010	6.87	540.72
						6/25/2010	6.92	540.67
						6/28/2010	6.99	540.60
						7/6/2010	7.50	540.09
						7/7/2010	7.58	540.01
						7/13/2010	7.42	540.17
						7/16/2010	7.33	540.26
						7/21/2010	7.58	540.01
						8/11/2010	7.79	539.80
						10/19/2010	7.74	539.85
						2/3/2011	8.50	539.09
						3/23/2011	8.50	539.09
						4/7/2011	8.99	538.60

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# SUMMARY OF STATIC WATER LEVEL MEASUREMENTS - PIEZOMETERS

Pescadito Environmental Resource Center

Type I MSW Management Facility

Rancho Viejo Waste Management, LLC

Webb County, Texas

MSW Permit No. 2374

Piezometer Designation	Piezometer Installation Date	Boring Total Depth (feet, bgs)	Piezometer Total Depth (feet, TOC)	Screened Interval (feet, bgs)	TOC Elevation <sup>(1)</sup> (feet, NAD 83)	Measurement Date	Depth to Water (feet, TOC)	Groundwater Elevation (feet, NAD 83)
B-2	11/12/2009	77.5	76.33	(60 - 75)	547.59	4/12/2011	8.93	538.66
						4/19/2011	9.08	538.51
						4/26/2011	9.05	538.54
						4/30/2011	9.16	538.43
						5/24/2011	9.21	538.38
						6/5/2011	9.29	538.30
						6/14/2011	9.33	538.26
						6/22/2011	9.39	538.20
						6/29/2011	9.44	538.15
						7/11/2011	9.44	538.15
						7/19/2011	9.49	538.10
						1/10/2012	10.14	537.45
B-6	6/13/2010	160.0	33.88	(10 - 30)	562.48	6/14/2010	18.33	544.15
						6/16/2010	18.75	543.73
						6/22/2010	18.58	543.90
						6/25/2010	18.75	543.73
						6/28/2010	18.67	543.81
						7/6/2010	21.50	540.98
						7/7/2010	21.50	540.98
						7/13/2010	20.08	542.40
						7/16/2010	19.25	543.23
						7/21/2010	18.42	544.06
						8/11/2010	18.10	544.38
						10/19/2010	17.34	545.14
						2/3/2011	17.80	544.68
						3/23/2011	17.85	544.63
						4/7/2011	20.73	541.75
						4/12/2011	20.41	542.07
						4/19/2011	20.02	542.46
						4/26/2011	19.70	542.78
						4/30/2011	19.53	542.95
						5/24/2011	18.80	543.68
						6/5/2011	18.61	543.87
						6/14/2011	18.54	543.94
						6/22/2011	18.49	543.99
						6/29/2011	18.45	544.03
						7/11/2011	18.47	544.01
						7/19/2011	18.47	544.01
						1/10/2012	19.27	543.21
B-10	7/14/2010	120.0	55.31	(40 - 60)	550.86	7/16/2010	1.83	549.03
						7/19/2010	7.08	543.78
						7/21/2010	7.00	543.86

PROJECT No. ASF13-140-00

# SUMMARY OF STATIC WATER LEVEL MEASUREMENTS - PIEZOMETERS

Pescadito Environmental Resource Center

Type I MSW Management Facility

Rancho Viejo Waste Management, LLC

Webb County, Texas

MSW Permit No. 2374

Piezometer Designation	Piezometer Installation Date	Boring Total Depth (feet, bgs)	Piezometer Total Depth (feet, TOC)	Screened Interval (feet, bgs)	TOC Elevation <sup>(1)</sup> (feet, NAD 83)	Measurement Date	Depth to Water (feet, TOC)	Groundwater Elevation (feet, NAD 83)
B-10	7/14/2010	120.0	55.31	(40 - 60)	550.86	8/11/2010	7.42	543.44
						10/19/2010	7.36	543.50
						2/3/2011	8.50	542.36
						3/23/2011	9.48	541.38
						4/7/2011	9.21	541.65
						4/12/2011	9.54	541.32
						4/19/2011	9.31	541.55
						4/26/2011	9.63	541.23
						4/30/2011	9.79	541.07
						5/24/2011	9.89	540.97
						6/5/2011	9.99	540.87
						6/14/2011	10.01	540.85
						6/22/2011	10.08	540.78
						6/29/2011	10.21	540.65
						7/11/2011	10.28	540.58
B-11A	6/25/2011	104	107.95	(94 - 104)	553.59	7/11/2011	5.50	548.09
						7/19/2011	7.52	546.07
						1/10/2012	4.22	549.37
B-13	6/12/2010	160.0	32.83	(10 - 30)	548.14	6/14/2010	9.50	538.64
						6/16/2010	9.52	538.62
						6/22/2010	9.58	538.56
						6/25/2010	9.75	538.39
						6/28/2010	9.58	538.56
						7/6/2010	12.42	535.72
						7/7/2010	12.58	535.56
						7/13/2010	12.33	535.81
						7/16/2010	12.25	535.89
						7/21/2010	11.25	536.89
						8/11/2010	11.42	536.72
						10/19/2010	11.76	536.38
						2/3/2011	11.34	536.80
						3/23/2011	12.09	536.05
						4/7/2011	11.97	536.17
						4/12/2011	11.82	536.32
						4/19/2011	12.06	536.08
						4/26/2011	12.19	535.95
						4/30/2011	12.23	535.91
						5/24/2011	12.20	535.94
						6/5/2011	12.33	535.81
						6/14/2011	12.43	535.71

PROJECT No. ASF13-140-00



# SUMMARY OF STATIC WATER LEVEL MEASUREMENTS - PIEZOMETERS

Pescadito Environmental Resource Center

Type I MSW Management Facility

Rancho Viejo Waste Management, LLC

Webb County, Texas

MSW Permit No. 2374

Piezometer Designation	Piezometer Installation Date	Boring Total Depth (feet, bgs)	Piezometer Total Depth (feet, TOC)	Screened Interval (feet, bgs)	TOC Elevation <sup>(1)</sup> (feet, NAD 83)	Measurement Date	Depth to Water (feet, TOC)	Groundwater Elevation (feet, NAD 83)
B-13	6/12/2010	160.0	32.83	(10 - 30)	548.14	6/22/2011	11.48	536.66
						6/29/2011	12.52	535.62
						7/11/2011	12.48	535.66
						7/19/2011	12.55	535.59
						1/10/2012	11.44	536.70
B-18	7/17/2010	120.0	63.50	(45 - 60)	545.85	7/21/2010	10.58	535.27
						8/11/2010	10.33	535.52
						10/19/2010	10.38	535.47
						2/3/2011	10.80	535.05
						3/23/2011	11.82	534.03
						4/7/2011	10.99	534.86
						4/12/2011	10.99	534.86
						4/19/2011	11.14	534.71
						4/26/2011	11.28	534.57
						4/30/2011	11.09	534.76
						5/24/2011	10.92	534.93
						6/5/2011	11.53	534.32
						6/14/2011	11.51	534.34
						6/22/2011	11.52	534.33
						6/29/2011	11.65	534.20
B-24	7/23/2010	160.0	62.76	(45 - 60)	541.03	7/11/2011	11.88	533.97
						7/19/2011	11.93	533.92
						1/10/2012	11.34	534.51
						8/11/2010	9.21	531.82
						10/19/2010	9.24	531.79
						2/3/2011	9.30	531.73
						3/23/2011	11.82	529.21
						4/7/2011	10.80	530.23
						4/12/2011	10.80	530.23
						4/19/2011	10.94	530.09
						4/26/2011	11.04	529.99
						4/30/2011	11.09	529.94
						5/24/2011	11.31	529.72
						6/5/2011	11.46	529.57
						6/14/2011	11.59	529.44
B-26	7/22/2010	160.0	32.42	(10 - 30)	540.79	6/22/2011	11.70	529.33
						6/29/2011	11.79	529.24
						7/11/2011	11.87	529.16
						7/19/2011	11.93	529.10
						1/10/2012	11.04	529.99
						8/11/2010	9.08	531.70
						10/19/2010	8.95	531.84

PROJECT No. ASF13-140-00

# SUMMARY OF STATIC WATER LEVEL MEASUREMENTS - PIEZOMETERS

Pescadito Environmental Resource Center  
 Type I MSW Management Facility  
 Rancho Viejo Waste Management, LLC  
 Webb County, Texas  
 MSW Permit No. 2374

Piezometer Designation	Piezometer Installation Date	Boring Total Depth (feet, bgs)	Piezometer Total Depth (feet, TOC)	Screened Interval (feet, bgs)	TOC Elevation <sup>(1)</sup> (feet, NAD 83)	Measurement Date	Depth to Water (feet, TOC)	Groundwater Elevation (feet, NAD 83)
B-26	7/22/2010	160.0	32.42	(10 - 30)	540.79	2/3/2011	10.40	530.39
						3/23/2011	11.19	529.60
						4/7/2011	11.29	529.50
						4/12/2011	11.23	529.56
						4/19/2011	11.36	529.43
						4/26/2011	11.38	529.41
						4/30/2011	11.40	529.39
						5/24/2011	11.18	529.61
						6/5/2011	11.41	529.38
						6/14/2011	11.59	529.20
						6/22/2011	11.48	529.31
						6/29/2011	11.56	529.23
						7/11/2011	11.45	529.34
						7/19/2011	11.44	529.35
						1/10/2012	10.65	530.14
B-27	7/22/2010	120.0	47.78	(30 - 45)	538.66	8/11/2010	9.25	529.41
						10/19/2010	9.32	529.34
						2/3/2011	10.50	528.16
						3/23/2011	11.10	527.56
						4/7/2011	10.96	527.70
						4/12/2011	10.98	527.68
						4/19/2011	11.04	527.62
						4/26/2011	11.08	527.58
						4/30/2011	11.11	527.55
						5/24/2011	10.98	527.68
						6/5/2011	11.28	527.38
						6/14/2011	11.37	527.29
						6/22/2011	11.41	527.25
						6/29/2011	11.48	527.18
						7/11/2011	11.43	527.23
						7/19/2011	11.44	527.22
						1/10/2012	11.25	527.41
B-101	7/7/2011	151	88.01	(80 - 90)	557.96	7/20/2011	7.88	550.08
						1/10/2012	7.57	550.39
B-102	7/9/2011	160	64.01	(50 - 60)	559.89	7/20/2011	24.81 <sup>(5)</sup>	535.08
						1/10/2012	8.63	551.26
B-106	7/10/2011	120	83.16	(70 - 80)	552.29	7/20/2011	4.51	547.78
						1/10/2012	7.50	544.79
B-109A	6/25/2011	85	84.41	(70 - 80)	549.04	7/11/2011	6.20	542.84
						7/19/2011	6.68	542.36
						1/10/2012	6.01	543.03

PROJECT No. ASF13-140-00

## SUMMARY OF STATIC WATER LEVEL MEASUREMENTS - PIEZOMETERS

Pescadito Environmental Resource Center  
Type I MSW Management Facility  
Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

Piezometer Designation	Piezometer Installation Date	Boring Total Depth (feet, bgs)	Piezometer Total Depth (feet, TOC)	Screened Interval (feet, bgs)	TOC Elevation <sup>(1)</sup> (feet, NAD 83)	Measurement Date	Depth to Water (feet, TOC)	Groundwater Elevation (feet, NAD 83)
B-114A	6/25/2011	20	23.02	(10 - 20)	542.62	6/29/2011	18.55 <sup>(5)</sup>	524.07
						7/11/2011	9.22	533.40
						7/19/2011	9.27	533.35
						1/10/2012	10.09	532.53
B-115	5/9/2011	120	104.48	(94 - 102)	543.95	7/11/2011	4.00	539.95
						7/19/2011	4.01	539.94
						1/10/2012	7.13	536.82
B-118	4/29/2011	160	87.88	(75 - 84)	542.20	6/29/2011	9.68	532.52
						7/11/2011	9.64	532.56
						7/19/2011	9.73	532.47
						1/10/2012	11.86	530.34
B-124	5/6/2011	160	117.06	(100 - 113)	539.45	6/29/2011	10.73 <sup>(5)</sup>	528.72
						7/11/2011	6.20	533.25
						7/19/2011	6.25	533.20
						1/10/2012	7.89	531.56
B-126	5/7/2011	160	105.95	(80.5 - 102)	540.55	6/29/2011	11.88 <sup>(5)</sup>	528.67
						7/11/2011	8.64	531.91
						7/19/2011	8.60	531.95
						1/10/2012	8.36	532.19

### NOTES:

1. A Leica System 1200 survey grade satellite based global positioning system (GPS) was used for the survey which incorporates satellites managed by the Department of Defense to allow for accurate geographic position measurement worldwide. Raw GPS data were collected using the Leica System 1200 Real Time Kinematic (RTK) rover interfaced with a Leica System 1200 base station. Use of the coupled RTK rover and the stationary base station provided for real time correction of raw GPS observables and generally afforded sub-meter position accuracy. The units were equipped with Intuicom® radios to transmit and receive laterally coordinated positional data between each of the units.
2. bgs = below ground surface
3. NAD 83 = north american datum 1983
4. TOC = top of casing
5. Water level not static post-development purging.

PROJECT No. ASF13-140-00

**TABLE 6**

**SUMMARY OF STATIC WATER LEVEL MEASUREMENTS –  
STAFF GAUGES**

## SUMMARY OF STATIC WATER LEVEL MEASUREMENTS - STAFF GAUGES

Pescadito Environmental Resource Center  
Type I MSW Management Facility  
Rancho Viejo Waste Management, LLC  
Webb County, Texas  
MSW Permit No. 2374

Staff Gauge Designation	Ground Surface Elevation (feet, NAD 83)	Measurement Date	Top of T-Post Elevation (feet, NAD 83)	Depth to Water (feet, Top of T-Post)	Surface Water Elevation (feet, NAD 83)
SG-1 (B-19 Tank)	536.26	5/24/2011	540.22	4.79	535.43
		6/5/2011		5.02	535.20
		6/22/2011		5.50	534.72
		6/29/2011		6.81	533.41
		7/11/2011		5.60	534.62
		7/20/2011		6.40	533.82
		1/10/2012		5.70	534.52
SG-2 (B-17 Tank)	538.47	5/24/2011	542.83	4.91	537.92
		6/5/2011		NM	Dry
		6/22/2011		5.30	537.53
		6/29/2011		NM	Dry
		7/11/2011		NM	Dry
		7/20/2011		NM	Dry
		1/10/2012		4.78	538.05
SG-3 (B-11A Tank)	546.81	5/24/2011	551.00	4.81	546.19
		6/5/2011		5.10	545.90
		6/22/2011		5.60	545.40
		6/29/2011		6.21	544.79
		7/11/2011		5.80	545.20
		7/20/2011		6.70	544.30
		1/10/2012		4.99	546.01
SG-4 (Burrito Tank)	533.10	5/24/2011	537.42	4.31	533.11
		6/5/2011		4.57	532.85
		6/22/2011		5.10	532.32
		6/29/2011		5.74	531.68
		7/11/2011		5.30	532.12
		7/20/2011		NM	Dry
		1/10/2012		5.12	532.30

### NOTES:

1. A Leica System 1200 survey grade satellite based global positioning system (GPS) was used for the survey which incorporates satellites managed by the Department of Defense to allow for accurate geographic position measurement worldwide. Raw GPS data were collected using the Leica System 1200 Real Time Kinematic (RTK) rover interfaced with a Leica System 1200 base station. Use of the coupled RTK rover and the stationary base station provided for real time correction of raw GPS observables and generally afforded sub-meter position accuracy.
2. NM = not measured
3. Reference datum is North American Datum (NAD) 83

PROJECT No. ASF13-140-00



## **APPENDICES**

## **APPENDIX A**

**TCEQ APPROVAL LETTER – APRIL 21, 2011**

Bryan W. Shaw, Ph.D., *Chairman*  
Buddy Garcia, *Commissioner*  
Carlos Rubinstein, *Commissioner*  
Mark R. Vickery, P.G., *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

April 11, 2011

Mr. James Neyens, P.E.  
Project Manager  
TRC Solutions  
505 East Huntland Drive  
Suite 250  
Austin, Texas 78752

Re: Rancho Viejo – Webb County  
Proposed Municipal Solid Waste (MSW) Type I Landfill  
Proposed Site Investigation  
Tracking Nos. 14595775 & 14641992

Dear Mr. Neyens:

The Texas Commission on Environmental Quality (TCEQ) received a revised soil boring plan (SBP) on March 22, 2011, for the proposed municipal solid waste landfill facility referenced above. The revised plan was submitted in response to a notice of deficiency letter dated March 7, 2011 for the original SBP dated February 1, 2001. The original and revised SBPs were submitted by you on behalf of Rancho Viejo Waste Management, LLC (RVWM), Geoffrey Connor, attorney for RVWM, and Raba-Kistner Consultants, Inc.

The original and revised SBPs provide a description and results of previously installed soil borings and piezometers performed during preliminary subsurface investigations. These preliminary investigations were conducted to evaluate the feasibility of developing an approximately 800 to 850-acre Type I MSW landfill at the 12,194 acre property. The revised SBP proposes installation of an additional 27 borings ranging in depth from 120 to 160 feet, including 10 soil borings that will be converted to temporary piezometers, for a combined total of 53 borings and 19 piezometers. Our review of the revised plan indicates that it complies with the Municipal Solid Waste Regulations. This letter constitutes approval of your plan.

Please be advised that under Title 30 Texas Administrative Code, Chapter 330, Section 330.63(e)(4)(B), the uppermost aquifer and any hydraulically interconnected aquifers below the site must be identified, as well as the underlying confining unit. It is anticipated that this SBP, when implemented, will accurately characterize the in-situ geologic, hydrologic, and engineering properties of the surface and subsurface strata at this site. Although this plan appears to comply with the Municipal Solid Waste Regulations concerning site investigations, additional soil borings and piezometers could be required by the Commission should the data generated by this revised SBP prove to be inconclusive.

If you should find it necessary to modify this approved plan, another plan detailing any proposed modifications must be submitted to the Commission for approval before implementation of the modifications.

Mr. James Neyens, P.E.

Page 2

April 11, 2011

If you have questions regarding this letter, please contact me by telephone at (512) 239-6669, or in writing at the address on our letterhead (please include mail code MC 124 on the first line of our address).

Sincerely,



David R. Dippel, P.G.

Municipal Solid Waste Permits Section

Waste Permits Division

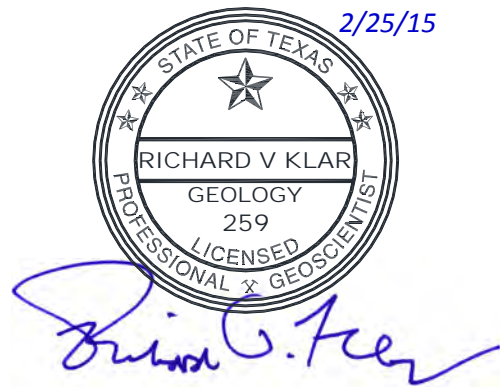
Texas Commission on Environmental Quality

DRD/fp

## APPENDIX B

### BORING LOGS AND KEY TO TERMS AND SYMBOLS

(Boring Logs B-1 through B-26, B-11A, B-109A, B-114A,  
B-101 through B-126, and DB-1)





# LOG OF BORING NO. B-1

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006838.42; E 1590429.65

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 553.81 ft			10	20	30	40	50	60	70	80		
5				<b>STRATUM I (553.81 ft):</b> CLAYEY SAND (SC), medium dense, tan to brown, moist - light brown from 3' to 7.5'	12										34	50
				- scattered small caliche pockets, widely scattered small gravels and decreasing sand from 5' to 7.5'	11											
10				<b>STRATUM II (546.31 ft):</b> FAT CLAY (CH), blocky, bentonitic, stiff to hard, tan to light green and brown, moist, with trace carbonaceous material and ferrous staining - scattered greenish-gray flocculated clay from 7.5' to 8'	10											
				- soft from 8.2' to 10'	16											
15				<b>STRATUM III (543.81 ft):</b> FAT CLAY (CH), mildly calcareous, hard, brown, moist, with widely scattered gypsum crystals - sandy parting at 10.6', at 13.3' and at 16.4'	30										116	86
				- laminated from 25' to 30'	25											
20					27											
25					40											
					50										110	86
30					50/4											
					50/5.5											
35				<b>STRATUM IV (523.81 ft):</b> SILTSTONE, moderately fractured, hard, light gray CORE RUN (30'-35') = 46% RQD - moderately hard, with white very thinly interbedded, fine-grained sandstone and widely scattered organic matter from 35' to 39'												
40				CORE RUN (35'-40') = 81% RQD - gray to green at 38.6'												
45				CLAY-SHALE, stiff to hard, gray-green, moist to wet, with widely scattered carbonaceous material along partings - free water observed at 38.9'												
50				SANDSTONE, fine grained, medium bedded, gray, moist, with very thinly interbedded fine-grained sandstone and mudstone - clay partings at 41.5' and at 45.25'												
55				CORE RUN (40'-45') = 78% RQD - increasing clay content from 43.8' to 53'; decreasing grain size with depth CORE RUN (45'-50') = 31% RQD CORE RUN (50'-53') = 67% RQD												
60				FAT CLAY (CH), blocky, stiff to hard, tan to light green, moist, with very thinly interbedded sandstone lenses - less indurated, with very thinly interbedded, fine-grained, light red sandstone at 54'											152	89
				SANDY FAT CLAY (CH), hard, partially indurated, gray to brown, moist to wet	50/1											
DEPTH DRILLED: 97.5 ft				DEPTH TO WATER: 9.02 ft				PROJ. No.:				ASF13-140-00				
DATE DRILLED: 11/9/2009				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-1

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Rotosonic

LOCATION: N 10006838.42; E 1590429.65

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 553.81 ft												
68				SANDY FAT CLAY (CH), hard, partially indurated, gray to brown, moist to wet (continued)	50/2										91	65
				- sandstone stringer from 68' to 70'												
70				- free water observed at 70'												
72				FAT CLAY (CH), hard, gray, moist to wet, with very thinly interbedded indurated siltstone	50/5											
75				- increasing indurated siltstone layers from 75' to 95'												
78																
80					50											
82																
85				- moist, with glauconite from 85' to 95'	50/6											
88																
90																
92																
95				FAT CLAY (CH), blocky, hard, very dark brown to reddish-brown with gray mottling, moist to wet	50/6										43	
				- free water observed at 95'												
100				Boring Terminated												
105																
110																
115																
120																
125																

DEPTH DRILLED: 97.5 ft  
DATE DRILLED: 11/9/2009

DEPTH TO WATER: 9.02 ft  
DATE MEASURED: 1/10/2012

PROJ. No.: ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-2

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 10002643.81; E 1590411.31

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200	
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT				
				SURFACE ELEVATION: 545.89 ft			10	20	30	40	50	60	70	80		
				<b>STRATUM II (545.89 ft):</b> FAT CLAY (CH), firm, dark gray to brown, moist				×	●					×	43	
5				<b>STRATUM III (542.89 ft):</b> FAT CLAY (CH), bentonitic, firm to hard, tan to light brown, moist					●							
10					16				●							
15				- slightly sandy, tan, with gypsum crystals and widely scattered carbonaceous material from 12.5' to 22.5'												
20					27											
25				SANDY FAT CLAY (CH), hard, gray to green, moist - partially indurated layers interbedded with clay from 25' to 27'												
30				<b>STRATUM IV (518.89 ft):</b> FAT CLAY (CH), hard, gray to green, moist to wet												
35					50/6				●	×					143	115
40				- free water observed from 38.5'					●							
45				- moisture decreases from 41.5' to 42.5' - blocky, dark brown, moist from 42.5' to 55'					●	×					116	84
50				- sandy, moderately hard, red-gray from 45' to 50'					●	×				×		48
55				- gray from 50' to 55'					●							
60				- weakly-indurated, gray to brown from 55' to 70'					●							
					49				●	×				×	50	88
DEPTH DRILLED: 78.5 ft				DEPTH TO WATER: 10.14 ft		PROJ. No.: ASF13-140-00										
DATE DRILLED: 11/12/2009				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-2

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10002643.81; E 1590411.31

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 545.89 ft												
70				<b>STRATUM IV (518.89 ft):</b> FAT CLAY (CH), hard, gray to green, moist to wet ( <i>continued</i> )  - soft, gray to green, slightly moist from 70' to 75'  - free water observed from 70' to 75'												
75				SILTSTONE, sandy, moderately hard, gray, moist												
80				Boring Terminated												
85																
90																
95																
100																
105																
110																
115																
120																
125																

<b>DEPTH DRILLED:</b> 78.5 ft	<b>DEPTH TO WATER:</b> 10.14 ft	<b>PROJ. No.:</b> ASF13-140-00
<b>DATE DRILLED:</b> 11/12/2009	<b>DATE MEASURED:</b> 1/10/2012	

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-3

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 10008355.94; E 1587768.24

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 559.91 ft			10	20	30	40	50	60	70	80		
5				<b>STRATUM II (559.91 ft):</b> FAT CLAY (CH), hard, brown to reddish-brown, moist, with organic matter and ferrous staining - cherty gravels at ground surface - blocky, light green from 2' to 3'												
10				<b>STRATUM III (556.91 ft):</b> FAT CLAY (CH), calcareous, hard, moist  - light green from 10' 12'											91	98
15				- fractured, moisture decreasing from 15' to 34.5'												
20				- reddish-brown with some greenish-gray mottling, with ferrous staining along partings from 17' to 34.5'												
25																
30															40	100
35				<b>STRATUM IV (525.41 ft):</b> SANDY LEAN CLAY (CL), hard, dark brown to light brown with greenish-gray mottling, slightly moist, with some weakly-cemented clay and siltstone - trace siltstone fragments from 34.5' to 37'												
40																
45				- brown with green mottling and very thinly interbedded siltstone from 45' to 57'												
50																
55																
60				- blocky, fractured, with some greenish-gray glauconite from 57' to 67'												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.58 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/9/2010				DATE MEASURED: 6/9/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-3

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10008355.94; E 1587768.24

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 559.91 ft			10	20	30	40	50	60	70	80		
				FAT CLAY (CH), hard, light green, slightly moist to moist			●		×		⊗				17	69
70				FAT CLAY (CH), hard, dark brown to reddish-brown with greenish-gray mottling and some light gray mottling, slightly moist to moist, with blocky to laminated siltstone layers	117		●	×		⊗		×			41	91
75										⊗						
80										⊗						
85										⊗						
90										⊗						
95										⊗						
100				- blocky, fractured, dark brown to light brown with greenish-gray mottling from 99' to 102'	107		●			⊗						
105				- calcareous, green to light green from 102' to 106'						⊗						
110				LEAN CLAY (CL), hard, reddish-brown with light green pockets, slightly moist to moist, with greenish-gray coloration and some caliche pockets						⊗						
115							●	×		⊗					18	99
120				FAT CLAY (CH), hard, reddish-brown with light green colored pockets, slightly moist to moist, with greenish-gray coloration and some caliche pockets	109		●	×		⊗		×			27	100
125					106		●			⊗						
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.58 ft	PROJ. No.: ASF13-140-00											
DATE DRILLED: 6/9/2010				DATE MEASURED: 6/9/2010												

**DEPTH DRILLED:** 160.0 ft  
**DATE DRILLED:** 6/9/2010

**DEPTH TO WATER:** 5.58 ft  
**DATE MEASURED:** 6/9/2010

**PROJ. No.:** ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-3

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING  
METHOD:**

Rotosonic

**LOCATION:** N 10008355.94; E 1587768.24

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div>✕✕✕✕✕</div></div></div></div>									
							10	20	30	40	50	60	70	80		
135				LEAN CLAY (CL), hard, greenish-gray to light green, slightly moist to moist, with light green coloration <i>(continued)</i>	114								23	99		
- very thinly interbedded, fine-grained sandstone from 134' to 135'																
- brown to light brown from 135' to 148'																
140																
145																
				- calcareous from 146' to 148'												
150				FAT CLAY (CH), blocky, fractured, hard, dark brown to brown with greenish-gray mottling, slightly moist to moist												
155				- greenish-gray below 154'												
160				Boring Terminated												
165																
170																
175																
180																
185																
190																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.58 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/9/2010				DATE MEASURED: 6/9/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

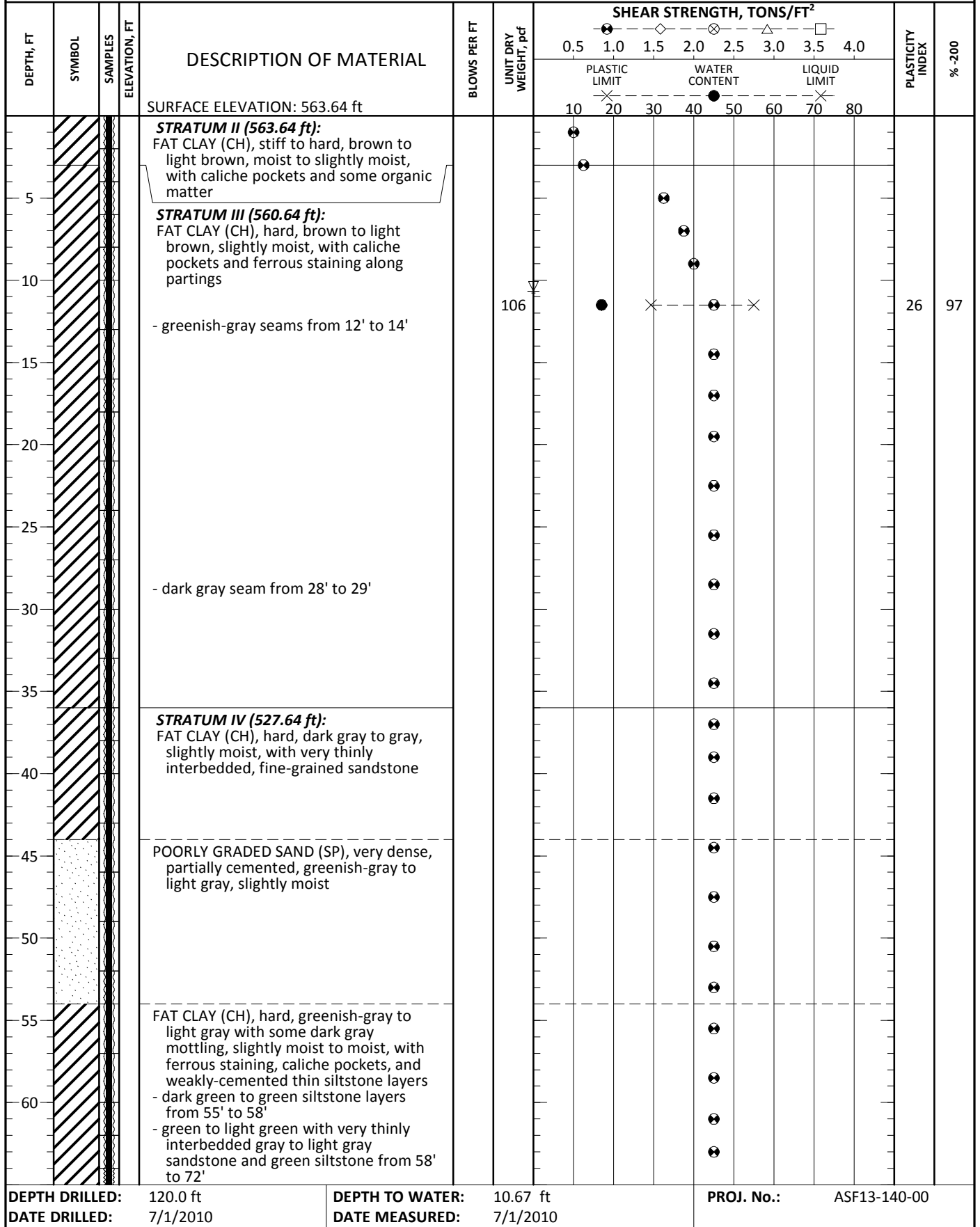
# LOG OF BORING NO. B-4

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10008035.86; E 1590012.69



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

<b>DEPTH DRILLED:</b> 120.0 ft	<b>DEPTH TO WATER:</b> 10.67 ft	<b>PROJ. No.:</b> ASF13-140-00
<b>DATE DRILLED:</b> 7/1/2010	<b>DATE MEASURED:</b> 7/1/2010	

# LOG OF BORING NO. B-4

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10008035.86; E 1590012.69

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200		
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT							
				SURFACE ELEVATION: 563.64 ft			10	20	30	40	50	60	70	80				
70				FAT CLAY (CH), hard, greenish-gray to light gray with some dark gray mottling, slightly moist to moist, with ferrous staining, caliche pockets, and weakly-cemented thin siltstone layers (continued)		95		●	×		⊗						169	90
				- free water observed from 72' to 88'							⊗							
75											⊗							
											⊗							
80											⊗							
											⊗							
85				- silty, sandy gray with dark gray to greenish-gray mottling from 85' to 88'							⊗							
											⊗							
90				FAT CLAY (CH), hard, brown to reddish-brown with greenish-gray mottling and pinkish-gray mottling, moist, with caliche pockets							⊗							
											⊗							
95						106		●	×		⊗						21	99
						105		●	×		⊗		×				31	100
100											⊗							
											⊗							
105											⊗							
				- caliche pockets increasing from 107' to 109'							⊗							
110				- blocky, fractured from 109' to 120'							⊗							
											⊗							
115											⊗							
											⊗							
120				Boring Terminated							⊗							
125																		
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 10.67 ft	PROJ. No.: ASF13-140-00													
DATE DRILLED: 7/1/2010				DATE MEASURED: 7/1/2010														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 120.0 ft      DEPTH TO WATER: 10.67 ft      PROJ. No.: ASF13-140-00  
DATE DRILLED: 7/1/2010      DATE MEASURED: 7/1/2010

# LOG OF BORING NO. B-5

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

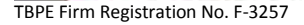
**LOCATION:** N 10007849.80; E 1591206.98

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 559.67 ft												
				<b>STRATUM II (559.67 ft):</b> FAT CLAY (CH), stiff, brown to reddish-brown, moist, with caliche pockets and some organic matter												
5				<b>STRATUM III (556.67 ft):</b> FAT CLAY (CH), hard, reddish-brown with greenish-gray to gray mottling, slightly moist												
10				- caliche pockets from 12' to 14'												
15																
20				- light brown with ferrous staining along partings from 18' to 20'												
25																
30				- reddish-brown with green and greenish-gray mottling, with ferrous staining along partings from 28' to 30'												
35				<b>STRATUM IV (529.67 ft):</b> FAT CLAY (CH), blocky, hard, wet to moist, with ferrous staining												
40				- free water observed from 30' to 34'												
45																
50				- fractured, dark green and dark gray sandstone layers from 39' to 62'												
55																
60																
				- very thinly interbedded sandstone from 62' to 68'												
<b>DEPTH DRILLED:</b> 160.0 ft							<b>DEPTH TO WATER:</b> 4.75 ft							<b>PROJ. No.:</b> ASF13-140-00		
<b>DATE DRILLED:</b> 6/29/2010							<b>DATE MEASURED:</b> 6/29/2010									

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10007849.80; E 1591206.98

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT				WATER CONTENT						LIQUID LIMIT							
SURFACE ELEVATION: 559.67 ft							10	20	30	40	50	60	70	80										
70				<b>STRATUM IV (529.67 ft):</b> FAT CLAY (CH), blocky, hard, wet to moist, with ferrous staining <i>(continued)</i>																				
75				- fractured, dark gray to green, with sandstone layers (approximately 1-3 inches thick) from 71' to 80'																				
80				- dark gray to gray sandstone layers and an increase of green sand from 80' to 85'																				
85				- green, wet, with dark gray laminated sandstone layers from 85' to 123'																				
90				- free water observed from 85' to 95'																				
95																								
100				- dark gray sandstone layers from 100' to 102'																				
105				- fractured from 100' to 123'																				
110																								
115																								
120																								
125				FAT CLAY (CH), calcareous, hard, brown to reddish-brown with greenish-gray and gray mottling, slightly moist - reddish-brown from 126' to 130'																				
DEPTH DRILLED: 160.0 ft DATE DRILLED: 6/29/2010				DEPTH TO WATER: 4.75 ft DATE MEASURED: 6/29/2010				PROJ. No.: ASF13-140-00																

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT


# LOG OF BORING NO. B-5

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



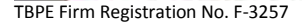
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10007849.80; E 1591206.98

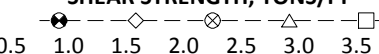
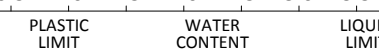
DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT			
				SURFACE ELEVATION: 559.67 ft			10	20	30	40	50	60	70	80		
135				FAT CLAY (CH), calcareous, hard, brown to reddish-brown with greenish-gray and gray mottling, slightly moist (continued)							45					
				- brown to reddish-brown with greenish-gray mottling from 136' to 139'							45					
140											45					
											45					
145											45					
											45					
150					- caliche pockets from 150' to 160'						45					
											45					
155											45					
											45					
160					Boring Terminated						45					
165																
170																
175																
180																
185																
190																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 4.75 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/29/2010				DATE MEASURED: 6/29/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10006731.93; E 1587462.83

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200			
																		
							0.5		1.0		1.5		2.0			2.5		3.0
SURFACE ELEVATION: 559.02 ft																		
				<b>STRATUM II (559.02 ft):</b> FAT CLAY (CH), hard, brown to greenish-gray, moist to slightly moist, with ferrous staining, flocculated clay, and some organic matter														
5				<b>STRATUM III (556.02 ft):</b> FAT CLAY (CH), hard, brown to reddish-brown with some greenish-gray mottling, slightly moist, with scattered glauconite - caliche pockets from 5' to 12'														
10																		
15																		
20																		
25																		
30				SANDY FAT CLAY (CH), hard, greenish-gray to gray, wet - free water observed from 26' to 31.5' - sandstone lenses from 29' to 31.5'														
35				<b>STRATUM IV (527.52 ft):</b> FAT CLAY (CH), blocky, fractured, hard, brown to light brown, slightly moist, with scattered fine-grained sandstone lenses  - greenish-gray to green, with very thinly interbedded sandstone from 41' to 47'  - free water observed from 44' to 47'  - brown to light gray with siltstone fragments from 47' to 51'  - dark green to greenish-gray from 51' to 53' - dark brown to reddish-brown from 53' to 62'														
40																		
45																		
50																		
55																		
60																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 19.27 ft				PROJ. No.:				ASF13-140-00						
DATE DRILLED: 6/13/2010				DATE MEASURED: 1/10/2012														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-6

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006731.93; E 1587462.83

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 559.02 ft												
70				<b>STRATUM IV (527.52 ft):</b> FAT CLAY (CH), blocky, fractured, hard, brown to light brown, slightly moist, with scattered fine-grained sandstone lenses ( <i>continued</i> )												
75				LEAN CLAY (CL), hard, dark brown and dark green with reddish-brown mottling, moist to slightly moist, with siltstone layers and some ferrous staining												
80																
85				- caliche pockets from 83' to 127'												
90																
95																
100																
105				- light green mottling from 104.5' to 107'		106		●	×	×					16	100
110																
115																
120																
125																
						100		●	×	×					13	99
<b>DEPTH DRILLED:</b> 160.0 ft				<b>DEPTH TO WATER:</b> 19.27 ft				<b>PROJ. No.:</b> ASF13-140-00								
<b>DATE DRILLED:</b> 6/13/2010				<b>DATE MEASURED:</b> 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10006731.93; E 1587462.83

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-7

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



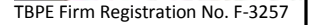
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006808.07; E 1589116.07

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT			WATER CONTENT				LIQUID LIMIT				
							10	20	30	40	50	60	70	80				
5				<b>STRATUM I (554.77 ft):</b> FAT CLAY (CH), firm, brown to light brown, moist, with caliche pockets, scattered gravel and some organic matter														
10				<b>STRATUM III (547.77 ft):</b> FAT CLAY (CH), hard, light yellow with green-brown mottling, moist, with ferrous staining along partings														
15																		
20				- green to greenish-gray from 18' to 26'														
25																		
30				<b>STRATUM IV (528.77 ft):</b> LEAN CLAY (CL), hard, greenish-gray to light gray, moist to wet, with gray seams, some ferrous staining and very thinly interbedded sandstone														
35				- free water observed from 32' to 40'														
40				FAT CLAY (CH), blocky, hard, brown to reddish-brown with greenish-gray and light gray mottling, moist, with some caliche pockets and very thinly interbedded brown sandstone														
45				- greenish-gray from 44' to 46'														
50				- light reddish-brown from 46' to 47'														
55																		
60				- greenish-gray to green from 58' to 64'														
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.33 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 7/7/2010				DATE MEASURED: 7/7/2010														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10006808.07; E 1589116.07

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200						
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0														
							PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT									
SURFACE ELEVATION: 554.77 ft							10	20	30	40	50	60	70	80							
70				SANDY FAT CLAY (CH), hard, light brown to reddish-brown with greenish-gray mottling, slightly moist to moist, with very thinly interbedded dark gray sandstone (continued)							●										
75									- green sand with sandstone fragments from 72' to 76'							●					
80									- dark green to brown sand with very thinly interbedded sandstone from 76' to 82'							●					
85									- caliche pockets from 82' to 86'								●				
90									- brown sand from 88' to 90'								●				
95				FAT CLAY (CH), hard, light greenish-gray to green, slightly moist, with scattered caliche pockets								●									
100				- laminated sandstone from 96' to 98'								●									
105				- brown to reddish-brown with greenish-gray mottling from 100 to 132'								●									
				- laminated sandstone from 102' to 104'																	
				- caliche pockets from 104' to 108'																	
110												●									
115				- dark green to gray laminated sandstone from 112' to 116'								●									
120												●									
125				- dark gray to green laminated sandstone layers from 116' to 132'								●									

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-7

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006808.07; E 1589116.07

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>											
							<div><div>1020304050607080</div></div>											
				SURFACE ELEVATION: 554.77 ft														
135				FAT CLAY (CH), blocky, calcareous, hard, brown to reddish-brown with greenish-gray to light gray mottling, slightly moist, with sandstone fragments														
140				Core barrel broke, sample interval from 136' to 147' was not collected.														
145																		
150				SANDY LEAN CLAY (CL), blocky, hard, reddish-brown with greenish-gray to light gray mottling, slightly moist, with caliche pockets and scattered sandstone lenses														
155				- light greenish-gray to green from 152' to 160'														
160				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.33 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 7/7/2010				DATE MEASURED: 7/7/2010														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

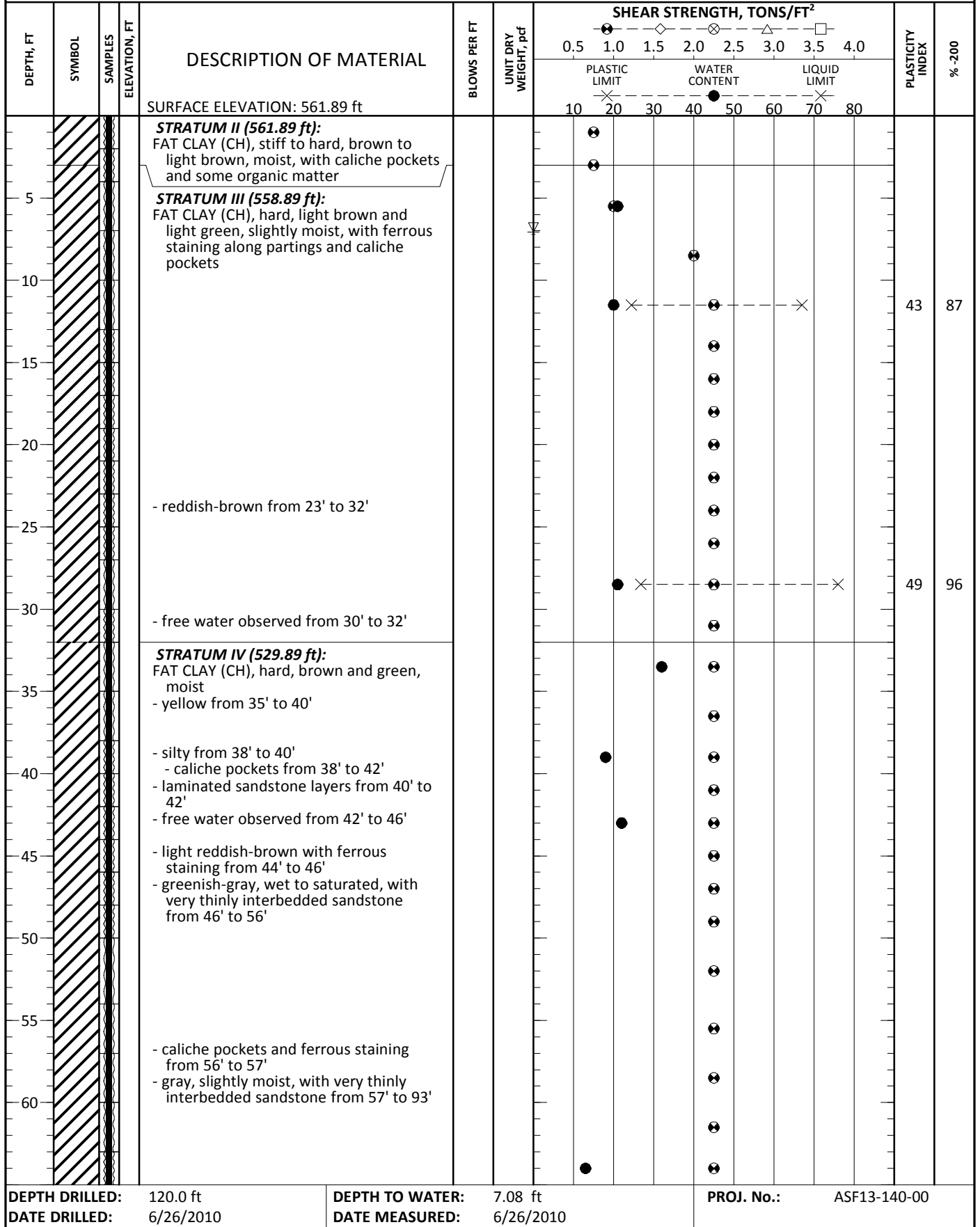
# LOG OF BORING NO. B-8

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 10006854.96; E 1591897.89



DEPTH DRILLED: 120.0 ft  
DATE DRILLED: 6/26/2010

DEPTH TO WATER: 7.08 ft  
DATE MEASURED: 6/26/2010

PROJ. No.: ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-8

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

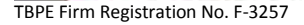
LOCATION: N 10006854.96; E 1591897.89

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 561.89 ft			10	20	30	40	50	60	70	80		
				<b>STRATUM IV (529.89 ft):</b> FAT CLAY (CH), hard, brown and green, moist (continued)												
70																
75				- green from 76' to 79'											102	100
80				- gray from 79' to 93'												
85																
90																
95				FAT CLAY (CH), hard, gray, slightly moist, with very thinly interbedded sandstone												
100				- greenish-gray from 98' to 107'												
105				- green, with ferrous staining and caliche pockets from 107' to 120'												
110																
115																
120				Boring Terminated												
125																
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.08 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/26/2010				DATE MEASURED: 6/26/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374

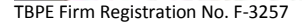


**LOCATION:** N 10005615.30; E 1587353.05

[illegible]

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10005615.30; E 1587353.05

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
SURFACE ELEVATION: 550.18 ft																								
70				LEAN CLAY (CL), blocky, bentonitic, hard, reddish-brown to brown and light brown with light green mottling, moist to slightly moist ( <i>continued</i> ) - glauconitic, light brown with greenish-mottling from 69' to 75'																				
75				LEAN CLAY (CL), hard, reddish-brown to brown with green mottling, moist to slightly moist - very fine-grained sand from 75' to 81'																				
80																								
85																								
90																								
95																								
100																								
105				- glauconite coatings along partings from 103' to 116'																				
110																								
115				- light brown below 116'																				
120																								
125				LEAN CLAY (CL), glauconitic, hard, greenish-gray and light brown, slightly moist, with very thinly interbedded siltstone and/or claystone																				
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 8.20 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 4/5/2011				DATE MEASURED: 4/5/2011																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-9

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING  
METHOD:**

Rotosonic

**LOCATION:** N 10005615.30; E 1587353.05

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>●</div><div>◆</div><div>⊗</div><div>△</div><div>□</div></div><div>0.51.01.52.02.53.03.54.0</div></div>											
							<div><div>PLASTIC LIMIT</div><div>WATER CONTENT</div><div>LIQUID LIMIT</div></div> <div><div>×</div><div>●</div><div>×</div></div> <div>1020304050607080</div>											
135				LEAN CLAY (CL), glauconitic, hard, greenish-gray and light brown, slightly moist, with very thinly interbedded siltstone and/or claystone <i>(continued)</i>														
140				- no glauconite from 136' to 142.5'														
145				LEAN CLAY (CL), hard, light brown to reddish-brown and brown, slightly moist														
150																		
155				- glauconitic, light gray, with very thinly interbedded siltstone from 153' to 155'														
160				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 8.20 ft				PROJ. No.:				ASF13-140-00						
DATE DRILLED: 4/5/2011				DATE MEASURED: 4/5/2011														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-10

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10005597.35; E 1588909.94

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 547.73 ft			10	20	30	40	50	60	70	80										
5				<b>STRATUM I (547.73 ft):</b> FAT CLAY (CH), stiff to very firm, light brown to dark brown, moist, with caliche pockets and organic matter																				
10				<b>STRATUM III (540.73 ft):</b> FAT CLAY (CH), hard, light brown, moist																				
15				- reddish-brown with light gray mottling from 10' to 13'																				
20				- sandy from 13' to 15'																				
25				- reddish-brown with ferrous staining along partings and scattered green fine-grained sand pockets from 15' to 27'																				
30				- ferrous staining from 30' to 33'																				
35				<b>STRATUM IV (514.73 ft):</b> SANDY LEAN CLAY (CL), hard, greenish-gray to light gray, moist, with very thinly interbedded sandstone																				
40				- free water observed from 33' to 37'																				
45				- free water observed from 47' to 51'		120																		
50				FAT CLAY (CH), calcareous, hard, dark greenish-gray to green, moist, with very thinly interbedded sandstone																				
55				- brown to reddish-brown from 57' to 60'																				
60				LEAN CLAY (CL), hard, light greenish-gray to green, slightly moist																				
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 10.27 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 7/14/2010				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-10

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Rotosonic

LOCATION: N 10005597.35; E 1588909.94

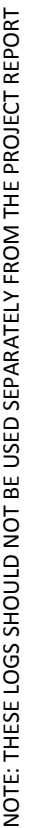
DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200	
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>												
							<div><div><div>1020304050607080</div><div><div>×</div><div>●</div><div>×</div></div></div></div>												
SURFACE ELEVATION: 547.73 ft																			
70				LEAN CLAY (CL), hard, light greenish-gray to green, slightly moist ( <i>continued</i> )															
75																	18	97	
80				- dark brown with greenish-gray mottling from 78' to 82' - laminated sandstone layers from 78' to 88' - dark brown to brown from 82' to 85'															
85																			
90				FAT CLAY (CH), hard, dark gray to dark green, slightly moist, with scattered sandstone lenses															
95																			
100																			
105				LEAN CLAY (CL), hard, brown to reddish-brown with greenish-gray and olive mottling, slightly moist, with caliche pockets															
110																			
115				FAT CLAY (CH), hard, dark brown to brown, slightly moist, with very thinly interbedded sandstone													23	100	
120				Boring Terminated															
125																			
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 10.27 ft				PROJ. No.: ASF13-140-00											
DATE DRILLED: 7/14/2010				DATE MEASURED: 1/10/2012															

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10005690.98; E 1590404.62



# LOG OF BORING NO. B-11

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10005690.98; E 1590404.62

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 549.53 ft			10	20	30	40	50	60	70	80		
70				greenish-gray mottling, moist to slightly moist, with laminated siltstone layers from 63' to 78'											16	99
75															12	100
80				SILT (ML), blocky, very dense, dark green to green, with very thinly interbedded clay-shale layers - wet to saturated from 47' to 47.5' (continued) - dark brown to brown, with scattered caliche pockets from 72' to 78'												
85				FAT CLAY (CH), hard, greenish-gray to green, moist to slightly moist  - reddish-brown from 78' to 81' - free water observed from 82' to 82.5'												
90																
95				LEAN CLAY (CL), hard, reddish-brown, moist to slightly moist											20	91
100				SILTY SAND (SM), very dense, dark brown to light brown with greenish-gray mottling, moist to slightly moist											6	36
105				FAT CLAY (CH), hard, dark brown to light brown with greenish-gray mottling, moist to slightly moist - brown from 103' to 114'												
110																
115				- greenish-gray to green from 114' to 118'												
120				- silty, dark brown to brown with greenish-gray mottling, from 118' to 137'												
125																
						103									28	99
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 4.83 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/10/2010				DATE MEASURED: 6/10/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-11

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10005690.98; E 1590404.62

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>●</div><div>◆</div><div>⊗</div><div>△</div><div>□</div></div><div>0.51.01.52.02.53.03.54.0</div></div>											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
				SURFACE ELEVATION: 549.53 ft														
135				FAT CLAY (CH), hard, dark brown to light brown with greenish-gray mottling, moist to slightly moist <i>(continued)</i>				●	×		⊗		×		30	100		
140				SANDY FAT CLAY (CH), hard, greenish-gray to green, moist							⊗							
145											⊗							
150											⊗							
155				FAT CLAY (CH), hard, brown to reddish-brown with greenish-gray mottling, slightly moist, with very thinly interbedded clay-shale and siltstone							⊗							
160				- light green and reddish mottling from 156' to 160'							⊗							
165				Boring Terminated														
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 4.83 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 6/10/2010				DATE MEASURED: 6/10/2010														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10005707.61; E 1590415.60

**NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT**

# LOG OF BORING NO. B-11A

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10005707.61; E 1590415.60

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 549.52 ft			10	20	30	40	50	60	70	80										
70				LEAN CLAY (CL), blocky, gray and reddish-brown, slightly moist, with green glauconite and thinly interbedded clay-shale layers <i>(continued)</i> - sandstone fragments at 70' - ferrous staining from 70' to 86'																				
75																								
80																								
85																								
90				FAT CLAY (CH), hard, greenish-gray to green, moist to slightly moist with very thinly interbedded sandstone																				
95																								
100				- sand content increasing from 98' to 104'																				
105				Boring Terminated																				
110																								
115																								
120																								
125																								
DEPTH DRILLED: 104.0 ft				DEPTH TO WATER: 4.22 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 6/25/2011				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



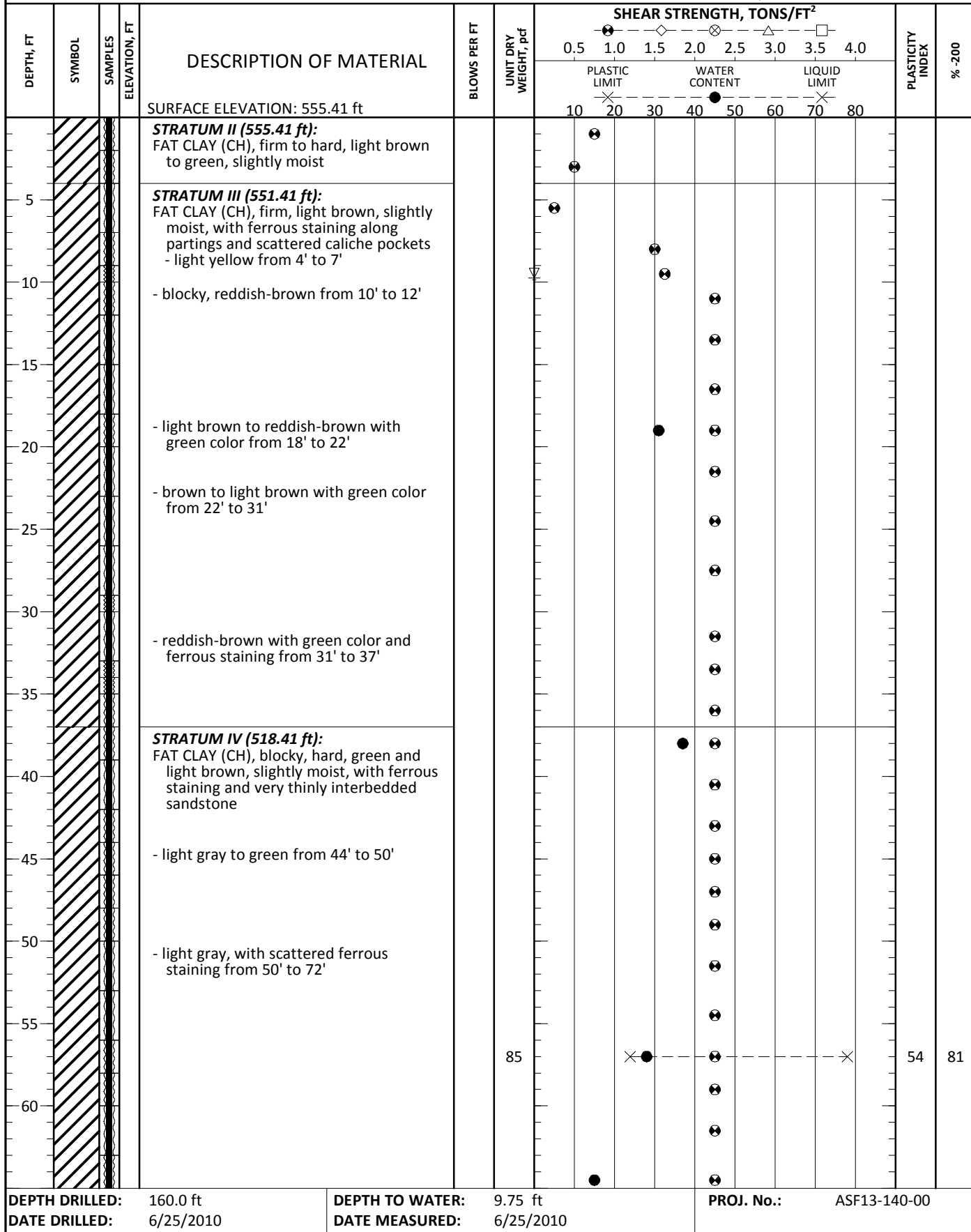
# LOG OF BORING NO. B-12

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 10005607.42; E 1591669.97



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 160.0 ft  
DATE DRILLED: 6/25/2010

DEPTH TO WATER: 9.75 ft  
DATE MEASURED: 6/25/2010

PROJ. No.: ASF13-140-00

# LOG OF BORING NO. B-12

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 10005607.42; E 1591669.97

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 555.41 ft			10	20	30	40	50	60	70	80		
70				<b>STRATUM IV (518.41 ft):</b> FAT CLAY (CH), blocky, hard, green and light brown, slightly moist, with ferrous staining and very thinly interbedded sandstone (continued)							⊗					
				- gray to light gray from 72' to 89'							⊗					
75											⊗					
											⊗					
80											⊗					
											⊗					
85				- fractured from 86' to 89'							⊗					
				- increased thin sandstone interbeds from 87' to 97'	103			●			⊗					47
90				- free water observed from 87' to 97'							⊗					
											⊗					
95											⊗					
				FAT CLAY (CH), hard, gray to light gray, slightly moist							⊗					
100											⊗					
				- blocky, gray from 102' to 116'							⊗					
105											⊗					
					102			●	×		⊗				74	99
110											⊗					
											⊗					
115											⊗					
				- gray to green from 116' to 121'				●			⊗					
120											⊗					
				FAT CLAY (CH), hard, brown to green, slightly moist, with very thinly interbedded sandstone							⊗					
125										●	⊗					
											⊗					
											⊗					
											⊗					
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 9.75 ft	PROJ. No.: ASF13-140-00											
DATE DRILLED: 6/25/2010				DATE MEASURED: 6/25/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 160.0 ft      DEPTH TO WATER: 9.75 ft      PROJ. No.: ASF13-140-00  
DATE DRILLED: 6/25/2010      DATE MEASURED: 6/25/2010

# LOG OF BORING NO. B-12

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING  
METHOD:**

Rotosonic

**LOCATION:** N 10005607.42; E 1591669.97

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT			WATER CONTENT				LIQUID LIMIT				
							10	20	30	40	50	60	70	80				
				SURFACE ELEVATION: 555.41 ft														
135				- light brown to gray from 129' to 131' - caliche pockets from 129' to 131' FAT CLAY (CH), hard, brown to green, slightly moist, with very thinly interbedded sandstone (continued)														
140				- sandstone from 140' to 146'		103												
145																		
150																		
155																		
160				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 9.75 ft				PROJ. No.:				ASF13-140-00						
DATE DRILLED: 6/25/2010				DATE MEASURED: 6/25/2010														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-13

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10004119.53; E 1586999.94

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 544.45 ft			10	20	30	40	50	60	70	80		
				<b>STRATUM II (544.45 ft):</b> FAT CLAY (CH), soft, dark brown to brown, moist, with scattered organic matter												
5				<b>STRATUM III (542.45 ft):</b> FAT CLAY (CH), hard, brown with greenish-gray mottling, slightly moist, with caliche pockets												
10				- silty, reddish-brown from 10' to 12'												
15				- ferrous staining along partings from 13' to 15'												
20				- free water observed from 17' to 18'												
25				- silty, dark gray, with ferrous staining and scattered clay-shale fragments from 19' to 27'												
30				<b>STRATUM IV (517.45 ft):</b> FAT CLAY (CH), hard, reddish-brown to gray, slightly moist - ferrous staining from 27' to 35'												
35				- reddish-brown from 35' to 45'												
40															33	99
45				FAT CLAY (CH), hard, green to gray, slightly moist, with very thinly interbedded siltstone and sandstone - brown with greenish-gray mottling from 47' to 57'												
50																
55				- greenish-gray to green with laminated siltstone layers from 57' to 63'												
60				- brown with greenish-gray mottling and												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.44 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/11/2010				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-13

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10004119.53; E 1586999.94

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 544.45 ft			10	20	30	40	50	60	70	80		
70				dark brown with laminated siltstone layers from 63' to 69'							⊗					
				FAT CLAY (CH), hard, green to gray, slightly moist, with very thinly interbedded siltstone and sandstone (continued)							⊗					
				- greenish-gray to green with sandstone layers from 69' to 71'							⊗					
				- free water observed from 71' to 75'							⊗					
75											⊗					
											⊗					
											⊗					
80				- free water observed from 80' to 86'			⊗	×					×		43	71
											⊗					
											⊗					
85											⊗					
				FAT CLAY (CH), hard, dark brown to brown, slightly moist, with thinly interbedded siltstone							⊗					
90				- green to gray from 90' to 94'							⊗					
											⊗					
											⊗					
95				- silt to siltstone, blocky from 94' to 108'							⊗					
											⊗					
											⊗					
											⊗					
											⊗					
											⊗					
											⊗					
											⊗					
				- dark gray mottling from 113' to 115.5'							⊗					
115											⊗					
											⊗					
											⊗					
120				FAT CLAY (CH), hard, dark greenish-gray to green, slightly moist, with very thinly interbedded clay-shale							⊗					
											⊗					
											⊗					
											⊗					
											⊗					
											⊗					
											⊗					
											⊗					
125				- dark gray from 124' to 128'							⊗					
											⊗					
											⊗					
											⊗					
				- dark greenish-gray to green from 128'							⊗					
											⊗					
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.44 ft	PROJ. No.: ASF13-140-00											
DATE DRILLED: 6/11/2010				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 160.0 ft      DEPTH TO WATER: 11.44 ft      PROJ. No.: ASF13-140-00  
DATE DRILLED: 6/11/2010      DATE MEASURED: 1/10/2012



# LOG OF BORING NO. B-13

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING  
METHOD:**

Rotosonic

**LOCATION:** N 10004119.53; E 1586999.94

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div>●</div><div>◆</div><div>⊗</div><div>△</div><div>□</div></div><div>0.51.01.52.02.53.03.54.0</div></div>									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 544.45 ft			10	20	30	40	50	60	70	80		
				to 150'							●					
135				FAT CLAY (CH), hard, dark greenish-gray to green, slightly moist, with very thinly interbedded clay-shale <i>(continued)</i>							●					
140											●					
145											●					
150				- brown with greenish-gray and dark gray mottling from 150' to 160'							●					
155									×		●				×	61
160				Boring Terminated							●					
165																
170																
175																
180																
185																
190																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.44 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/11/2010				DATE MEASURED: 1/10/2012												

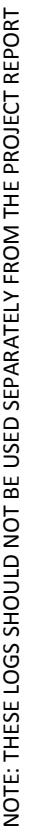
×

×

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10004123.11; E 1588841.86



# LOG OF BORING NO. B-14

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Rotosonic

LOCATION: N 10004123.11; E 1588841.86

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT WATER CONTENT LIQUID LIMIT											
				SURFACE ELEVATION: 543.80 ft			10	20	30	40	50	60	70	80				
				LEAN CLAY (CL), hard, dark brown, moist to slightly moist <i>(continued)</i>														
70				FAT CLAY (CH), hard, greenish-gray, slightly moist to moist, with ferrous staining and very thinly interbedded sandstone														
				- dark brown, with laminated siltstone layers from 72' to 73'														
75				- light gray to light brown, with scattered sandstone lenses from 73' to 77'														
80																		
85																		
90				LEAN CLAY (CL), hard, brown to reddish-brown with greenish-gray mottling, slightly moist, with ferrous staining and scattered caliche pockets														
				- green mottling from 92' to 100'														
95				- increase of caliche pockets from 96' to 98'														
100																		
105				FAT CLAY (CH), hard, greenish-gray to gray and brown to reddish-brown, slightly moist														
				- greenish-gray mottling, with very thinly interbedded sandstone														
110																		
115				- free water observed from 116' to 117'														
120				- light brown to brown with sandstone fragments from 118' to 120'														
125				FAT CLAY (CH), hard, reddish-brown with greenish-gray mottling, slightly moist, with ferrous staining and very thinly interbedded sandstone														
				- greenish-gray to green from 123' to 130'														
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.33 ft			PROJ. No.: ASF13-140-00											
DATE DRILLED: 6/23/2010				DATE MEASURED: 6/23/2010														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-14

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

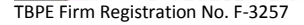
METHOD: Rotosonic

LOCATION: N 10004123.11; E 1588841.86

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200	
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△▢</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>—</div><div>×</div></div></div></div></div>												
							<div><div>1020304050607080</div></div>												
				SURFACE ELEVATION: 543.80 ft															
135				FAT CLAY (CH), hard, reddish-brown with greenish-gray mottling, slightly moist, with ferrous staining and very thinly interbedded sandstone ( <i>continued</i> ) - dark gray from 131' to 132' - reddish-brown, with scattered caliche pockets from 132' to 140'															
140				- dark green sandstone fragments from 140' to 141' - greenish-gray to green with some gray mottling from 141' to 145'															
145				FAT CLAY (CH), hard, dark brown to light brown, moist, with scattered caliche pockets and scattered very thinly interbedded sandstone															
150																			
155				- dark gray and greenish-gray mottling, with increase in caliche pockets from 153' to 160'															
160				Boring Terminated															
165																			
170																			
175																			
180																			
185																			
190																			
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.33 ft				PROJ. No.: ASF13-140-00											
DATE DRILLED: 6/23/2010				DATE MEASURED: 6/23/2010															

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10004132.69; E 1590398.88

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-15

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING METHOD: Rotosonic

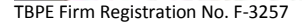
LOCATION: N 10004132.69; E 1590398.88

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 548.17 ft			10	20	30	40	50	60	70	80		
70				- dark gray to gray with dark brown siltstone inclusions and greenish-gray mottling 64' to 66'							●					
				<b>STRATUM IV (513.17 ft):</b>							●					
				FAT CLAY (CH), blocky, hard, dark green to green, moist, with very thinly interbedded sandstone (continued)							●					
75				- greenish-gray with sandstone lenses from 66' to 70'							●					
				- free water observed from 70' to 88'							●					
80											●					
											●					
85											●					
				SANDY LEAN CLAY (CL), hard, dark gray to gray, slightly moist			×		×		●				20	52
90							×				●				33	55
											●					
95											●					
				SANDY FAT CLAY (CH), blocky, hard, reddish-brown with greenish-gray mottling, moist, with caliche pockets							●					
100				- dark brown to reddish-brown with gray mottling, with very thinly interbedded sandstone from 97' to 105'							●					
											●					
105											●					
				- free water observed from 105' to 108'			×				●			×	59	67
110											●					
											●					
115											●					
											●					
120											●					
				Boring Terminated												
125																
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 5.25 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/24/2010				DATE MEASURED: 6/24/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

DEPTH DRILLED: 120.0 ft	DEPTH TO WATER: 5.25 ft	PROJ. No.: ASF13-140-00
DATE DRILLED: 6/24/2010	DATE MEASURED: 6/24/2010	

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10004119.20; E 1591418.30

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT				WATER CONTENT					
SURFACE ELEVATION: 550.48 ft							10	20	30	40	50	60	70	80		
				<b>STRATUM II (550.48 ft):</b> FAT CLAY (CH), firm, dark brown, moist, with organic matter												
5				<b>STRATUM III (547.48 ft):</b> SANDY LEAN CLAY (CL), firm to hard, light brown to dark brown, moist												
				- greenish to light brown from 7' to 20'												
				- ferrous staining along partings from 7' to 27'												
10																
15																
20				- light brown from 20' to 27'												
25																
30				<b>STRATUM IV (523.48 ft):</b> FAT CLAY (CH), blocky, hard, dark gray, wet to saturated, with very thinly interbedded siltstone												
				- free water observed from 27' to 34'												
35																
				- dark gray to light gray, moist from 34 to 49'												
40																
				- scattered caliche pockets from 38' to 40'												
45																
				- free water observed from 42' to 52'												
50																
				- dark gray to green from 49' to 61'												
55																
60				- light gray to greenish-gray from 61' to 80'												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.33 ft	PROJ. No.: ASF13-140-00											
DATE DRILLED: 6/25/2010				DATE MEASURED: 6/25/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-16

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



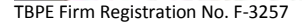
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10004119.20; E 1591418.30

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
							10	20	30	40	50	60	70	80		
				<b>STRATUM IV (523.48 ft):</b> FAT CLAY (CH), blocky, hard, dark gray, wet to saturated, with very thinly interbedded siltstone <i>(continued)</i>												
70																
75				- free water observed from 75' to 80'												
80																
85				FAT CLAY (CH), hard, brown to reddish-brown with green mottling, slightly moist, with scattered sandstone lenses		112									114	92
90				- greenish-gray from 89' to 90' - brown to reddish-brown with greenish-gray mottling from 90' to 100'											56	98
95																
100				- greenish-gray, wet to saturated from 100' to 104' - free water observed from 102' to 104'												
105				- brown to light brown from 104' to 108'												
110				- dark greenish-gray to green from 108' to 122'												
115																
120				SANDY LEAN CLAY (CL), hard, dark gray to brown with greenish-gray mottling, moist		120									23	71
125																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.33 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/25/2010				DATE MEASURED: 6/25/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10004119.20; E 1591418.30

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-17

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10003025.77; E 1588022.80

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 544.79 ft												
5				<b>STRATUM I (544.79 ft):</b> CLAYEY SAND (SC), medium dense, brown to light brown, moist - fill dirt from levee to 10'												
10				- brown, with organic matter and scattered gravel from 10' to 15'												
15															21	49
20				<b>STRATUM III (529.79 ft):</b> FAT CLAY (CH), hard, reddish-brown with some greenish-gray and light green mottling, moist to slightly moist - trace of ferrous staining from 15' to 17'												
25				- light brown from 17' to 20' - gray to light gray, with ferrous staining along partings and scattered very thinly interbedded sandstone from 20' to 29'											16	49
30				- brown to reddish-brown with greenish-gray to gray mottling from 28' to 32'												
35				- caliche pockets from 28' to 37' - greenish-gray mottling from 29' to 32'												
40				<b>STRATUM IV (507.79 ft):</b> FAT CLAY (CH), hard, brown to reddish-brown with greenish-gray to gray mottling, slightly moist, with caliche pockets												
45				- light brown to gray, with very thinly interbedded sandstone from 37' to 43'												
50				- greenish-gray to gray from 43' to 50'												
55															30	93
60				- some light green mottling from 57' to 59'												
<b>DEPTH DRILLED:</b> 120.0 ft		<b>DATE DRILLED:</b> 6/23/2010		<b>DEPTH TO WATER:</b> -		<b>DATE MEASURED:</b> -		<b>PROJ. No.:</b> ASF13-140-00								

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-17

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10003025.77; E 1588022.80

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 544.79 ft			10	20	30	40	50	60	70	80		
				- light gray to greenish-gray from 64' to 67'												
				- reddish-brown from 67' to 69'												
70				LEAN CLAY (CL), hard, greenish-gray, slightly moist, with caliche pockets												
75																
80				FAT CLAY (CH), hard, dark gray to gray, slightly moist to moist, with very thinly interbedded sandstone												
85																
90				- greenish-gray from 89' to 93'												
95				FAT CLAY (CH), calcareous, hard, brown to reddish-brown with greenish-gray mottling, slightly moist												
100																
				- brown to light brown with scattered sandstone layers from 101' to 107'												
105																
				- greenish-gray with gray mottling from 107' to 116'												
110																
115																
				- light brown from 116' to 120'												
120				Boring Terminated												
125																
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/23/2010				DATE MEASURED: -												

**DEPTH DRILLED:** 120.0 ft  
**DATE DRILLED:** 6/23/2010

**DEPTH TO WATER:** -  
**DATE MEASURED:** -

**PROJ. No.:** ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-18

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10001912.98; E 1586750.43

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
							10	20	40	50	70	80				
				SURFACE ELEVATION: 542.50 ft												
5				<b>STRATUM I (542.50 ft):</b> FAT CLAY (CH), hard, dark brown, moist, with organic matter												
10				SAND, firm, light brown, wet to saturated, with scattered gravel  - free water observed from 7' to 13'												
15				<b>STRATUM III (529.50 ft):</b> FAT CLAY (CH), calcareous, hard, brown to reddish-brown with gray and greenish-gray mottling, moist  - soft, brown to light brown, wet to saturated, with gray to greenish-gray clayey sand layers from 18' to 26' - free water observed from 20' to 26'												
20																
25																
30																
35				<b>STRATUM IV (510.50 ft):</b> FAT CLAY (CH), hard, reddish-brown to brown with greenish-gray and gray mottling, moist, with scattered caliche pockets and very thinly interbedded sandstone - red-gray to gray mottling from 35' to 65'												
40																
45																
50																
55																
60																
				- green sandstone fragments from 63' to												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.34 ft		PROJ. No.: ASF13-140-00										
DATE DRILLED: 7/15/2010				DATE MEASURED: 1/10/2012												

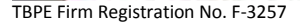
NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10001912.98; E 1586750.43

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10001912.98; E 1586750.43

[illegible]

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-19

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10002360.71; E 1588549.18

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% < 200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 539.19 ft												
5				<b>STRATUM I (539.19 ft):</b> FAT CLAY (CH), firm, brown to light brown, wet to saturated, with some organic matter - free water observed from 4.5' to 10'												
10				<b>STRATUM III (529.19 ft):</b> FAT CLAY (CH), firm to hard, light brown to brown, wet to saturated - free water observed from 10' to 12' - ferrous staining along partings 12' to 19'											12	52
15																
20				- dark brown from 19' to 20'												
25				ELASTIC SILT (MH), very dense, dark brown to reddish-brown with greenish-gray mottling, moist to slightly moist - reddish-brown with calcareous material below 27'												
30																
35															33	95
40				<b>STRATUM IV (500.19 ft):</b> SANDY FAT CLAY (CH), hard, green to light green, wet to saturated, with scattered sandstone lenses - free water observed from 39' to 50'												
45																
50															57	60
55				FAT CLAY (CH), greenish-gray to dark green, moist to slightly moist, with thinly interbedded sandstone and siltstone - greenish-gray to gray, with laminated sandstone layers from 52' to 59' - calcareous, dark brown to gray with greenish-gray mottling from 56' to 59'												
60				- reddish-brown, with ferrous staining from 59' to 75'		110									33	96

**DEPTH DRILLED:** 160.0 ft  
**DATE DRILLED:** 6/22/2010

**DEPTH TO WATER:** -  
**DATE MEASURED:** -

**PROJ. No.:** ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-19

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



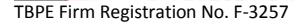
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10002360.71; E 1588549.18

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div>●◆⊗△□</div><div>0.51.01.52.02.53.03.54.0</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div>⊗⊗</div></div></div>									
							<div><div>1020304050607080</div></div>									
SURFACE ELEVATION: 539.19 ft																
70				FAT CLAY (CH), greenish-gray to dark green, moist to slightly moist, with thinly interbedded sandstone and siltstone <i>(continued)</i>												
75				- greenish-gray, with very thinly interbedded, fine-grained sandstone from 75' to 85'												
80																
85				- brown from 85' to 87'												
				- greenish-gray from 87' to 89'												
90				FAT CLAY (CH), calcareous, blocky, hard, reddish-brown to dark gray with greenish-gray mottling, slightly moist												
95																
100																
105																
110				- dark green to green with clay-shale fragments from 110' to 113'												
115																
120				- greenish-gray to green, moist, with scattered sandstone fragments from 117' to 126'												
				- free water observed from 120' to 126'												
125																
				- sandstone fragments 126' to 128'												
				- ferrous staining from 128' to 130'												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/22/2010				DATE MEASURED: -												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10002360.71; E 1588549.18

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
SURFACE ELEVATION: 539.19 ft							10	20	30	40	50	60	70	80										
135				FAT CLAY (CH), calcareous, hard, greenish-gray to green, moist																				
				- sandstone layers from 137' to 139'																				
140				- laminated sandstone layers from 140' to 142'																				
145																								
150																								
155																								
160				Boring Terminated																				
165																								
170																								
175																								
180																								
185																								
190																								

DEPTH DRILLED: 160.0 ft  
DATE DRILLED: 6/22/2010

DEPTH TO WATER: -  
DATE MEASURED: -

PROJ. No.: ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-20

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10001146.71; E 1589169.55

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
							10	20	30	40	50	60	70	80		
				SURFACE ELEVATION: 541.39 ft												
				<b>STRATUM II (541.39 ft):</b> FAT CLAY (CH), stiff to firm, brown to light brown, moist, with organic matter, and traces of caliche pockets												
5				<b>STRATUM III (538.39 ft):</b> LEAN CLAY (CL), hard, light brown to reddish-brown, slightly moist												
10																
15				- blocky from 13' to 15'												
20				- greenish-gray to green sandstone layers from 15' to 22'												
25				<b>STRATUM IV (519.39 ft):</b> FAT CLAY (CH), blocky, hard, dark brown to reddish-brown, moist, with very thinly interbedded sandstone and siltstone												
30				- brown to reddish-brown from 29' to 41'												
35																
40				- caliche pockets below 35'												
45				- red-gray mottling from 37' to 41'												
50																
55				- reddish-brown with dark gray to gray mottling, with scattered fine-grained sandstone from 52' to 54'												
60				- greenish-gray from 54' to 71'												
				- scattered dark gray seams from 62' to 71'												
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 6.58 ft				PROJ. No.:				ASF13-140-00				
DATE DRILLED: 7/15/2010				DATE MEASURED: 7/15/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-20

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10001146.71; E 1589169.55

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 541.39 ft			10	20	30	40	50	60	70	80		
70				<b>STRATUM IV (519.39 ft):</b> FAT CLAY (CH), blocky, hard, dark brown to reddish-brown, moist, with very thinly interbedded sandstone and siltstone <i>(continued)</i>												
75				LEAN CLAY (CL), calcareous, hard, brown to reddish-brown with green, gray and red-gray mottling, slightly moist, with caliche pockets - increase in caliche pockets from 75' to 120'	116										21	93
80																
85				- free water observed from 84' to 87'												
90				FAT CLAY (CH), hard, brown to reddish-brown with greenish-gray to gray mottling, moist, with very thinly interbedded dark brown sandstone and scattered caliche pockets												
95				- sandstone fragments from 95' to 100'												
100				- white caliche pockets from 100' to 103'												
105				- gray and greenish-gray sand from 103' to 109'												
110															43	100
115																
120				Boring Terminated												
125																
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 6.58 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 7/15/2010				DATE MEASURED: 7/15/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

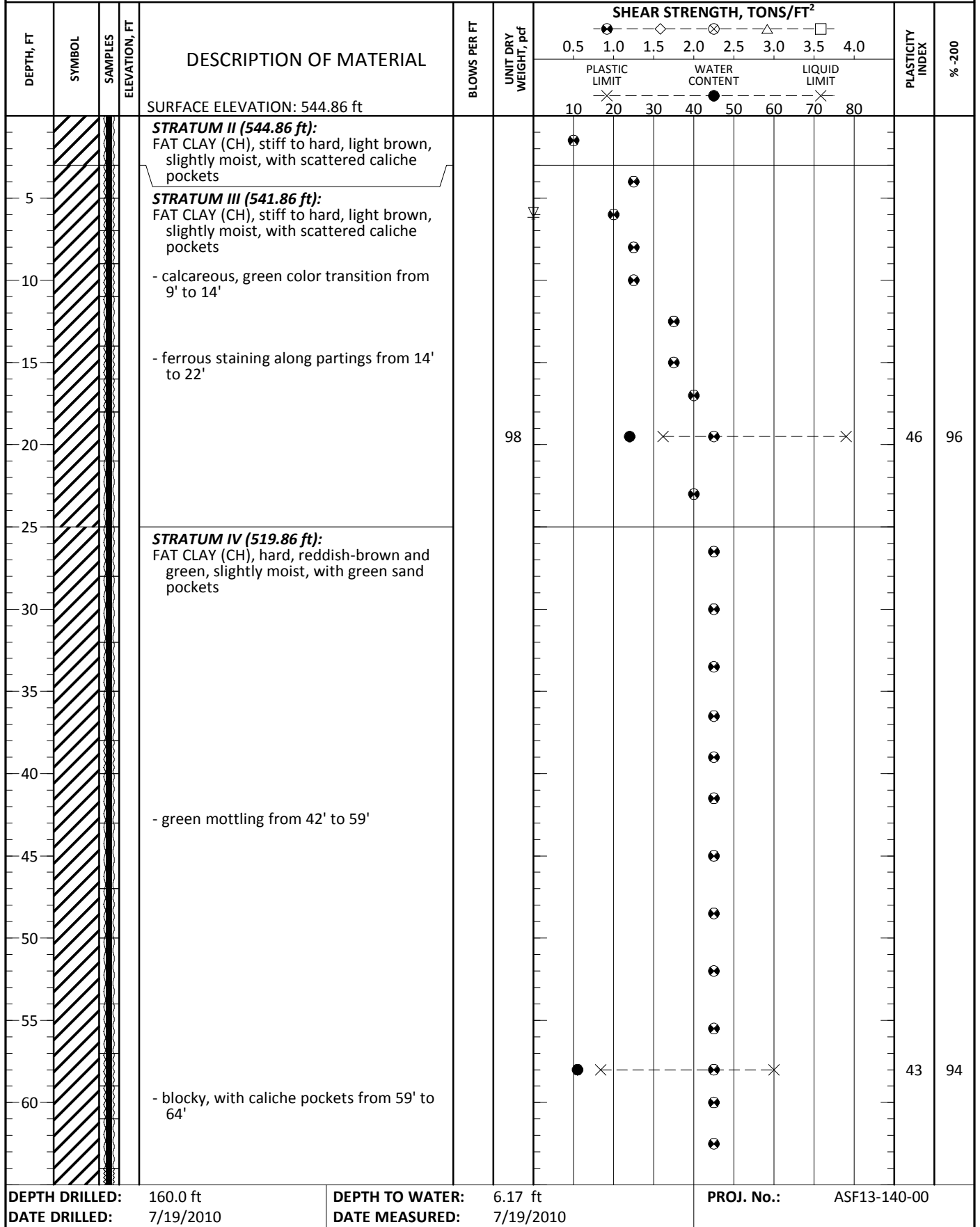
# LOG OF BORING NO. B-21

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10001170.66; E 1590691.89



**DEPTH DRILLED:** 160.0 ft  
**DATE DRILLED:** 7/19/2010

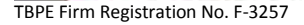
**DEPTH TO WATER:** 6.17 ft  
**DATE MEASURED:** 7/19/2010

**PROJ. No.:** ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10001170.66; E 1590691.89

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
SURFACE ELEVATION: 544.86 ft							10	20	30	40	50	60	70	80										
70				- green from 64' to 67' <b>STRATUM IV (519.86 ft):</b> FAT CLAY (CH), hard, reddish-brown and green, slightly moist, with green sand pockets ( <i>continued</i> ) - brown from 67' to 77'																				
75																								
80				- ferrous staining from 80' to 87'																				
85																								
90				FAT CLAY (CH), blocky, hard, reddish-brown with green mottling, slightly moist, with caliche pockets																				
95																								
100				- fractured, brown to dark brown with some greenish-gray mottling from 100' to 105'																				
105				- greenish-gray mottling increasing from 103' to 105'																				
110				- dark green to green, with very thinly interbedded dark green sandstone from 105' to 124'																				
115																								
120																								
125				- brown to reddish-brown with greenish-gray and gray mottling from 124' to 140'																				
				- gray seam with greenish-gray mottling from 127' to 130'																				
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 6.17 ft	PROJ. No.: ASF13-140-00																			
DATE DRILLED: 7/19/2010				DATE MEASURED: 7/19/2010																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-21

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



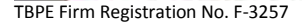
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10001170.66; E 1590691.89

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT			WATER CONTENT			LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
135				FAT CLAY (CH), blocky, hard, reddish-brown with green mottling, slightly moist, with caliche pockets (continued)														
			- brown to reddish-brown with greenish-gray mottling from 130' to 140'															
140				FAT CLAY (CH), hard, green to light green, slightly moist														
145																		
150																		
155																		
160																		
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 6.17 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 7/19/2010				DATE MEASURED: 7/19/2010														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10000965.83; E 1588464.04

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0				PLASTIC LIMIT WATER CONTENT LIQUID LIMIT					
SURFACE ELEVATION: 540.73 ft							10	20	30	40	50	60	70	80		
5				<b>STRATUM I (540.73 ft):</b> SANDY FAT CLAY (CH), stiff to hard, brown to light brown, moist, with caliche pockets and scattered gravel												
10																
15																
20				- light gray, with ferrous staining and traces of caliche pockets from 16' to 18'  <b>STRATUM III (522.73 ft):</b> ELASTIC SILT (MH), very dense, reddish-brown, slightly moist, with ferrous staining along partings and scattered caliche pockets - green to light gray from 22' to 28'		99									19	96
25																
30				<b>STRATUM IV (512.73 ft):</b> FAT CLAY (CH), hard, green, slightly moist, with scattered ferrous staining  - brown from 33' to 36'												
35																
40				- brown, gray and green with ferrous staining and scattered caliche pockets from 40' to 55'												
45																
50																
55				- brown to light brown with green mottling from 55' to 59'												
60				SAND, hard, green to light gray, slightly moist - scattered light brown clay from 60' to 63'												
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 5.50 ft				PROJ. No.:				ASF13-140-00				
DATE DRILLED: 7/18/2010				DATE MEASURED: 7/18/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-22

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:**

Rotosonic

**LOCATION:** N 10000965.83; E 1588464.04

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>●</div><div>◇</div><div>⊗</div><div>△</div><div>□</div></div><div>0.51.01.52.02.53.03.54.0</div></div>											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
				SURFACE ELEVATION: 540.73 ft														
				SAND, hard, green to light gray, slightly moist <i>(continued)</i>														
70				FAT CLAY (CH), blocky, hard, light brown with orange to green mottling, slightly moist, with ferrous staining and scattered caliche pockets							⊗							
											⊗							
75											⊗							
				- light green from 76' to 79'							⊗							
											⊗							
80				ELASTIC SILT (MH), dense, reddish-brown, slightly moist, with scattered caliche pockets							⊗							
				- green from 82' to 92'							⊗							
85											⊗							
											⊗							
90					100			●		×	⊗		×		30	98		
				- light gray to brown from 93' to 100'							⊗							
95											⊗							
											⊗							
100											⊗							
				- ferrous staining from 101' to 104'							⊗							
105				FAT CLAY (CH), hard, green to brown, slightly moist							⊗							
											⊗							
110											⊗							
											⊗							
115											⊗							
											⊗							
120				Boring Terminated														
125																		
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 5.50 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 7/18/2010				DATE MEASURED: 7/18/2010														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-23

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10000185.75; E 1586887.73

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% < 200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 536.98 ft												
				<b>STRATUM I (536.98 ft):</b> FAT CLAY (CH), stiff to very firm, brown to light brown, moist, with organic matter and ferrous staining												
5																
				<b>STRATUM III (531.98 ft):</b> FAT CLAY (CH), hard, light yellow to light brown, slightly moist, with traces of ferrous staining along partings and scattered caliche pockets												
10																
				- grayish-brown to light brown from 11' to 14'												
15																
				- reddish-brown from 14' to 15'												
				- light gray with green mottling from 15' to 18'												
20																
				- red-gray from 18' to 23'												
25																
				- reddish-brown with greenish-gray and gray mottling from 23' to 28'												
30																
				<b>STRATUM IV (508.98 ft):</b> FAT CLAY (CH), hard, slightly moist, with scattered very thinly interbedded sandstone												
35						104									37	100
				- gray and greenish-gray mottling, calcareous from 33' to 45'												
40																
45																
				SILT (ML), dense, gray with greenish-gray mottling, slightly moist, with caliche pockets and sandstone fragments												
50						99									19	100
				FAT CLAY (CH), hard, greenish-gray to brown with green mottling, slightly moist, with scattered caliche pockets												
55																
				- blocky, gray from 53' to 57'												
60																
				- brown with greenish-gray and gray mottling from 57' to 63'												
				- reddish-brown, with caliche pockets												
<b>DEPTH DRILLED:</b> 120.0 ft				<b>DEPTH TO WATER:</b> 6.83 ft				<b>PROJ. No.:</b> ASF13-140-00								
<b>DATE DRILLED:</b> 7/15/2010				<b>DATE MEASURED:</b> 7/15/2010												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10000185.75; E 1586887.73

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-24

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9999504.32; E 1588733.73

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200						
							0.5		1.0		1.5		2.0		2.5				3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 538.10 ft			10	20	30	40	50	60	70	80										
5				<b>STRATUM I (538.10 ft):</b> SANDY FAT CLAY (CH), firm to stiff, light brown, moist, with organic matter, small gravel, and scattered caliche pockets																				
10				<b>STRATUM III (530.10 ft):</b> FAT CLAY (CH), stiff to hard, pinkish-red with some greenish-gray and gray mottling, slightly moist, with scattered caliche pockets																				
15				- reddish-brown from 16' to 22'																				
20																								
25																								
30																								
35				<b>STRATUM IV (505.10 ft):</b> LEAN CLAY (CL), hard, light reddish-brown with greenish-gray and gray mottling, slightly moist, with very thinly interbedded sandstone and scattered caliche pockets																				
40				FAT CLAY (CH), hard, reddish-brown with greenish-gray and gray mottling, slightly moist, with very thinly interbedded sandstone																				
45				- green to light green seams from 42' to 45'																				
50																								
55				- greenish-gray to light green from 55' to 69'																				
60																								
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.04 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 7/23/2010				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-24

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9999504.32; E 1588733.73

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200	
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0										
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT						
				SURFACE ELEVATION: 538.10 ft			10	20	30	40	50	60	70	80			
70				FAT CLAY (CH), hard, reddish-brown with greenish-gray and gray mottling, slightly moist, with very thinly interbedded sandstone ( <i>continued</i> ) - reddish-brown with greenish-gray mottling from 69' to 73'				●	×		⊗	×				28	98
75				FAT CLAY (CH), hard, green to light green, moist							⊗						
80											⊗						
85				- dark brown to brown, with caliche pockets and greenish-gray sandy seams from 81' to 84' - calcareous, brown to reddish-brown with greenish-gray and gray mottling from 84' to 88'							⊗						
90				- greenish-gray and gray, with very thinly interbedded sandstone from 88' to 94'							⊗						
95				Core barrel broke at 94', lost samples from 94' to 106'							⊗						
100																	
105																	
110				FAT CLAY (CH), hard, light greenish-gray to green, slightly moist							⊗						
115				LEAN CLAY (CL), hard, brown to light brown, slightly moist - greenish-gray mottling from 111' to 114'				●	×		⊗					24	94
120				- dark gray with greenish-gray very thinly interbedded sandstone from 114' to 117' - reddish-brown to light brown, with dark gray and greenish-gray very thinly interbedded sandstone from 117' to 120'							⊗						
125				FAT CLAY (CH), hard, green to light green, slightly moist  - scattered light brown, greenish-gray							⊗						
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.04 ft				PROJ. No.: ASF13-140-00									
DATE DRILLED: 7/23/2010				DATE MEASURED: 1/10/2012													

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-24

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9999504.32; E 1588733.73

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200		
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0													
							PLASTIC LIMIT			WATER CONTENT			LIQUID LIMIT							
SURFACE ELEVATION: 538.10 ft							10	20	30	40	50	60	70	80						
135				very thinly interbedded sandstone from 128' to 131'																
140				FAT CLAY (CH), hard, green to light green, slightly moist ( <i>continued</i> )																
145				- brown to reddish-brown with some greenish-gray and gray mottling 131' to 143'																
				- green from 143' to 150'																
150				- reddish-brown to brown with greenish-gray and gray mottling from 150' to 156'																
155				- greenish-gray and gray from 156' to 158'																
160				- greenish-gray to green from 158' to 160'																
				Boring Terminated																
165																				
170																				
175																				
180																				
185																				
190																				
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.04 ft				PROJ. No.: ASF13-140-00												
DATE DRILLED: 7/23/2010				DATE MEASURED: 1/10/2012																

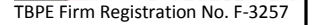
NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

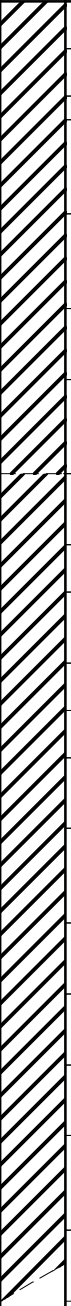
**LOCATION:** N 9998677.42; E 1587153.12

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 9998677.42; E 1587153.12

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200		
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0										
							PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT					
				SURFACE ELEVATION: 532.65 ft			10	20	30	40	50	60	70	80			
70				FAT CLAY (CH), hard, dark green to green with green and dark gray mottling, moist to slightly moist, with scattered very thinly interbedded sandstone (continued)							●						
75											●						
80											●						
85											●						
90					FAT CLAY (CH), fractured, hard, brown to reddish-brown with greenish-gray and gray mottling, slightly moist to moist, with scattered caliche pockets and very thinly interbedded sandstone			●	×		●			×		43	99
95											●						
100					- greenish-gray to green with dark gray mottling, with scattered sandstone fragments from 97' to 100'						●						
105					- dark gray mottling increasing from 100' to 102'						●						
110					- green increasing from 102' to 104'						●						
115											●						
120					Boring Terminated						●						
125																	
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00									
DATE DRILLED: 7/20/2010				DATE MEASURED: -													

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-26

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9998471.29; E 1589951.50

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 537.85 ft			10	20	30	40	50	60	70	80		
				<b>STRATUM II (537.85 ft):</b> FAT CLAY (CH), firm to hard, light brown, moist, with organic matter and scattered caliche pockets												
5				<b>STRATUM III (534.85 ft):</b> LEAN CLAY (CL), hard, brown to reddish-brown, moist, with scattered caliche pockets												
10																
15				- brown to light brown sand, with ferrous staining along partings from 13' to 34'												
20				- green from 18' to 28'											25	81
25																
30																
35				<b>STRATUM IV (503.85 ft):</b> FAT CLAY (CH), hard, light greenish-gray to green with greenish-gray mottling, slightly moist to moist												
40																
45				- brown to reddish-brown with greenish-gray mottling, with scattered caliche pockets and very thinly interbedded sandstone from 45' to 56'												
50																
55				- caliche pockets from 53' to 87'												
60				- greenish-gray from 56' to 67'												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 10.65 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 7/22/2010				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-26

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9998471.29; E 1589951.50

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200	
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>										
							10	20	30	40	50	60	70	80			
SURFACE ELEVATION: 537.85 ft																	
70				<b>STRATUM IV (503.85 ft):</b> FAT CLAY (CH), hard, light greenish-gray to green with greenish-gray mottling, slightly moist to moist ( <i>continued</i> ) - brown to reddish-brown with greenish-gray and gray mottling from 67' to 87'							●						
75											●						
80				- dark gray to gray mottling from 77' to 83'							●						
85				- greenish-gray from 83' to 87'				●	×		●	×			30	85	
90				FAT CLAY (CH), hard, brown to reddish-brown with greenish-gray and gray mottling, slightly moist, with scattered caliche pockets and very thinly interbedded sandstone - green to light green gray from 89' to 95'							●						
95				- brown to reddish-brown from 95' to 97'				●	×		●			×	55	99	
100				- reddish-brown and gray with dark gray and some green sandstone fragments from 97' to 124'							●						
105				- calcareous, brown to reddish-brown with greenish-gray and gray mottling from 104' to 114'							●						
110											●						
115											●						
120				- dark brown to brown from 117' to 119'							●						
125				FAT CLAY (CH), fractured, hard, dark green to green, moist, with scattered caliche pockets							●						
DEPTH DRILLED:				160.0 ft	DEPTH TO WATER:				10.65 ft	PROJ. No.:				ASF13-140-00			
DATE DRILLED:				7/22/2010	DATE MEASURED:				1/10/2012								

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-26

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING  
METHOD:**

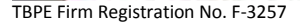
Rotosonic

**LOCATION:** N 9998471.29; E 1589951.50

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>●</div><div>◆</div><div>⊗</div><div>△</div><div>□</div></div><div>0.51.01.52.02.53.03.54.0</div></div>											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
				FAT CLAY (CH), fractured, hard, dark green to green, moist, with scattered caliche pockets <i>(continued)</i>														
135																		
140																		
145																		
150																		
155																		
160																		
				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 10.65 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 7/22/2010				DATE MEASURED: 1/10/2012														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 9998025.75; E 1588468.18

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT				WATER CONTENT						LIQUID LIMIT							
SURFACE ELEVATION: 535.77 ft							10	20	30	40	50	60	70	80										
				<b>STRATUM II (535.77 ft):</b> FAT CLAY (CH), firm, light brown, moist, with organic matter and traces of small caliche pockets																				
5				<b>STRATUM III (532.77 ft):</b> FAT CLAY (CH), hard, light brown to red with light reddish-brown coloration, moist to slightly moist, with scattered ferrous staining along partings and caliche pockets																				
10																								
15																								
20																								
25				- green and light reddish-brown coloration from 21' to 25'																				
30				<b>STRATUM IV (510.77 ft):</b> LEAN CLAY (CL), hard, light brown, slightly moist, with very thinly interbedded brown to light brown sandstone																				
35																								
40																								
45																								
50				FAT CLAY (CH), hard, light green and gray to reddish-brown, with scattered caliche pockets and very thinly interbedded sandstone																				
55				- light greenish-gray to green sandy clay, with ferrous staining from 47' to 50'																				
60				- green from 50' to 54'																				
				- reddish-brown with gray to greenish-gray mottling, with scattered caliche pockets from 54' to 73'																				
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 11.25 ft	PROJ. No.: ASF13-140-00																			
DATE DRILLED: 7/22/2010				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-27

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9998025.75; E 1588468.18

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div>●</div><div>◆</div><div>⊗</div><div>△</div><div>□</div></div><div>0.51.01.52.02.53.03.54.0</div></div>									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
							10	20	30	40	50	60	70	80		
70				FAT CLAY (CH), hard, light green and gray to reddish-brown, with scattered caliche pockets and very thinly interbedded sandstone <i>(continued)</i>												
75																
80				FAT CLAY (CH), fractured, hard, greenish-gray to green, slightly moist, with scattered thinly interbedded green sandstone												
85																
90																
95																
100																
105				FAT CLAY (CH), hard, brown to reddish-brown with greenish-gray and dark gray to gray mottling, slightly moist												
110																
115																
120				Boring Terminated												
125																

DEPTH DRILLED:	120.0 ft	DEPTH TO WATER:	11.25 ft	PROJ. No.:	ASF13-140-00
DATE DRILLED:	7/22/2010	DATE MEASURED:	1/10/2012		

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-101

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Wet Rotary, Core & GPI Modified Pitcher Barrel

LOCATION: N 10007392.30; E 1588801.54

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div>×●×</div></div></div>									
							<div><div>1020304050607080</div></div>									
				SURFACE ELEVATION: 552.49 ft												
5				<b>STRATUM I (552.49 ft):</b> FAT CLAY (CH), firm, tan and brown, moist												
10				<b>STRATUM III (547.49 ft):</b> FAT CLAY (CH), hard, tan to greenish-gray, slightly moist, with ferrous staining along partings - scattered fine-grained sand from 10' to 15'												
15				- greenish-tan from 15' to 20'												
20				- tan from 20' to 25'												
25				- saturated, with fine-grained sand at 25'												
30				NO RECOVERY - interbedded dark gray claystone from 30' to 33'												
35				- interbedded gray to brown claystone from 33' to 34'												
40				<b>STRATUM IV (518.49 ft):</b> FAT CLAY (CH), hard, dark grayish-brown to brown, slightly moist, with scattered very thinly interbedded gray and brown siltstone/claystone												
45																
50																
55				- reddish-brown, with caliche pockets, ferrous staining and reddish-brown claystone from 55' to 60'												
60				SANDSTONE, very fine-grained, massive, gray, slightly moist, with fine laminations - reddish-brown clay seam and brown siltstone from 62.5' to 63'												
DEPTH DRILLED: 151.0 ft				DEPTH TO WATER: 7.57 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 7/6/2011				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-101

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Wet Rotary, Core & GPI Modified Pitcher Barrel

LOCATION: N 10007392.30; E 1588801.54

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 552.49 ft			10	20	30	40	50	60	70	80										
70				FAT CLAY (CH), hard, grayish-brown, slightly moist, with very thinly interbedded claystone/siltstone - dark green siltstone and a trace of sand from 70' to 72'																				
75				- dark green siltstone and a trace of sand from 75' to 85'																				
80																								
85				- grayish-green, with fine-grained sandstone from 85' to 89.5'																				
90																								
95				NO RECOVERY																				
100				FAT CLAY (CH), hard, brown to grayish-brown, slightly moist, with very thinly interbedded claystone/siltstone - interbedded gray siltstone from 100' to 115'																				
105																								
110																								
115				NO RECOVERY																				
120				- interbedded brown siltstone from 120' to 141'																				
125																								
DEPTH DRILLED: 151.0 ft				DEPTH TO WATER: 7.57 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 7/6/2011				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-101

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Wet Rotary, Core & GPI Modified Pitcher Barrel

LOCATION: N 10007392.30; E 1588801.54

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200	
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0			
SURFACE ELEVATION: 552.49 ft																	
135				- interbedded grayish-green siltstone/claystone from 141' to 146'													
140																	
145																	
150				SANDSTONE, fine-grained, greenish-gray, slightly moist													
155				Boring Terminated													
160																	
165																	
170																	
175																	
180																	
185																	
190																	

DEPTH DRILLED: 151.0 ft  
DATE DRILLED: 7/6/2011

DEPTH TO WATER: 7.57 ft  
DATE MEASURED: 1/10/2012

PROJ. No.: ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-102

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Wet Rotary, Core & GPI Modified Pitcher Barrel

LOCATION: N 10007574.88; E 1590573.87

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 556.27 ft			10	20	30	40	50	60	70	80		
5				<b>STRATUM I (556.27 ft):</b> FAT CLAY (CH), dark brown to brown, slightly moist - organic material to 2' - scattered gravel from 2' to 5'												
10				<b>STRATUM III (551.27 ft):</b> FAT CLAY (CH), stiff to hard, tan to brown, slightly moist, with ferrous staining along partings and scattered caliche pockets												
15																
20				NO RECOVERY - Driller's note: silty, fine-grained sand on core barrel												
25				- caliche pockets from 21' to 23'  - black laminations at partings from 23' to 35'												
30																
35				<b>STRATUM IV (521.27 ft):</b> FAT CLAY (CH), light gray to gray, slightly moist, with very thinly interbedded sandstone												
40																
45																
50				SILTSTONE, light gray, slightly moist, with mechanical breaks												
55				SANDSTONE, light gray, dry												
60				NO RECOVERY FAT CLAY (CH), hard, brown, slightly moist, with very thinly interbedded light gray siltstone - gray, with lignite seams from 60' to 62.5'												
DEPTH DRILLED:				160.0 ft	DEPTH TO WATER:				8.63 ft	PROJ. No.:				ASF13-140-00		
DATE DRILLED:				7/9/2011	DATE MEASURED:				1/10/2012							

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-102

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Wet Rotary, Core & GPI Modified Pitcher Barrel

LOCATION: N 10007574.88; E 1590573.87

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
							10	20	30	40	50	60	70	80		
70				LEAN CLAY (CL), hard, dark gray to greenish-gray, slightly moist, with very thinly interbedded sandstone and siltstone ( <i>continued</i> ) - interbedded gray-green siltstone from 65' to 68' - strongly cemented, fine-grained, grayish-green sandstone from 69.5' to 70' - interbedded very fine-grained gray sandstone or siltstone from 70' to 86'												
75																
80																
85																
90				- interbedded weakly-indurated gray siltstone from 86' to 88' FAT CLAY (CH), hard, dark gray to brown and reddish-brown, slightly moist, with very thinly interbedded claystone/mudstone - interbedded greenish-gray claystone from 90' to 92.5' - interbedded gray claystone from 95' to 96' - very thinly interbedded gray siltstone/claystone from 96' to 105'												
95																
100																
105				FAT CLAY (CH), hard, reddish-brown to brown, slightly moist, with very thinly interbedded claystone and siltstone - thinly interbedded claystone from 105' to 122'												
110																
115				- grayish-brown to reddish-brown from 113.8' to 120'												
120																
125				- brown, with interbedded claystone/siltstone from 122' to 138'												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 8.63 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 7/9/2011				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-102

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Wet Rotary, Core & GPI Modified Pitcher Barrel

LOCATION: N 10007574.88; E 1590573.87

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT			WATER CONTENT			LIQUID LIMIT					
							10	20	30	40	50	60	70	80				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-103

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10007035.86; E 1588236.78

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT				WATER CONTENT						LIQUID LIMIT							
				SURFACE ELEVATION: 553.76 ft			10	20	30	40	50	60	70	80										
5				<b>STRATUM I (553.76 ft):</b> SANDY LEAN CLAY (CL), silty, calcareous, soft to firm, dark brown and light brown to light green and gray, moist, with organic matter																				
10				<b>STRATUM III (547.76 ft):</b> LEAN CLAY (CL), blocky, hard, dark reddish-brown with green mottling, moist  - gypsum crystals along weathered partings from 11.5' to 16'											25	64								
15																								
20																								
25																								
30				<b>STRATUM IV (525.26 ft):</b> LEAN CLAY (CL), blocky, hard, brown and reddish-brown and light gray with greenish mottling, moist to slightly moist - light gray to light green, with very thinly interbedded fine-grained sandstone and siltstone from 28.5' to 34'																				
35																								
40																								
45																								
50				- light gray to light green, with very thinly fine-grained sandstone and siltstone from 46' to 51.5'											27	91								
55																								
60				SANDSTONE, fine-grained, hard, green to tan, slightly moist  - softer with clay seams from 56.6' to 58'																				
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.00 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 4/6/2011				DATE MEASURED: 4/6/2011																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-103

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10007035.86; E 1588236.78

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 553.76 ft			10	20	30	40	50	60	70	80		
70				LEAN CLAY (CL), hard, brown to dark reddish-brown with green mottling, moist to slightly moist							⊗					
				- light gray interbeds from 71' to 80'							⊗					
75											⊗					
				- slightly moist, with a trace of sand from 81' to 82'							⊗					
				- gray sandstone fragments from 82' to 92'							⊗					
80											⊗					
				- very thinly interbedded brown clay-shale from 85' to 90'							⊗					
90											⊗					
									×		⊗			×	62	92
95											⊗					
											⊗					
100				FAT CLAY (CH), hard, brown to dark reddish-brown with greenish-gray mottling, moist to slightly moist, with very thinly interbedded sandstone							⊗					
				- light gray mottling from 100' to 105'							⊗					
105											⊗					
				- light brown with gray sandstone interbeds from 105' to 110'							⊗					
110											⊗					
				- brown to light brown with greenish-gray mottling from 110' to 120'							⊗					
115											⊗					
				- glauconitic from 112' to 118'							⊗					
120				Boring Terminated												
125																
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.00 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 4/6/2011				DATE MEASURED: 4/6/2011												

DEPTH DRILLED: 120.0 ft      DEPTH TO WATER: 7.00 ft      PROJ. No.: ASF13-140-00  
DATE DRILLED: 4/6/2011      DATE MEASURED: 4/6/2011

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-104

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006325.07; E 1589361.97

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT			
				SURFACE ELEVATION: 552.11 ft			10	20	30	40	50	60	70	80		
				<b>STRATUM II (552.11 ft):</b> FAT CLAY (CH), very firm, dark brown, moist, with organic matter												
5				<b>STRATUM III (550.11 ft):</b> FAT CLAY (CH), very firm to hard, light brown, moist, with caliche pockets, ferrous staining along partings, and gypsum crystals												
10															38	98
15																
20				- hard, gray and light brown, slightly moist from 16' to 21'												
25				<b>STRATUM IV (531.11 ft):</b> FAT CLAY (CH), hard, greenish-gray, slightly moist, with very thinly interbedded clay-shale and sandstone												
30				- thinly interbedded claystone from 21' to 25'												
35				- dark gray clay seams from 27' to 30'												
40				- ferrous staining and very thinly interbedded claystone from 30' to 36'												
45																
50				- caliche pockets from 36' to 37'												
55				- dark greenish-gray, with weakly-indurated claystone from 37' to 40'												
60				- ferrous staining from 40' to 50'												
				- glauconite at partings from 40' to 54'												
				- sandstone fragments from 54' to 55'												
				FAT CLAY (CH), blocky, hard, brown, slightly moist, with very thinly interbedded sandstone and clay-shale												
				- caliche pockets from 55' to 56'												
				- weakly-indurated clay-shale from 60' to 70'												
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 6.50 ft	PROJ. No.: ASF13-140-00											
DATE DRILLED: 4/7/2011				DATE MEASURED: 4/7/2011												

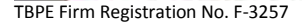
NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10006325.07; E 1589361.97

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10006473.33; E 1591410.75

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5		
SURFACE ELEVATION: 557.66 ft															
				<b>STRATUM II (557.66 ft):</b> FAT CLAY (CH), stiff, dark brown to brown, moist, with organic matter and caliche pockets											
5				<b>STRATUM III (554.66 ft):</b> FAT CLAY (CH), hard, light brown to green, slightly moist - ferrous staining along partings and gypsum crystals from 8' to 16'											
10				- trace of caliche from 13' to 16'											
15				- weakly-indurated claystone fragments from 15' to 16' and from 17' to 18'											
20				- reddish-brown from 16' to 17'											
25				- interbedded brown clay from 24' to 26'											
30				<b>STRATUM IV (531.66 ft):</b> FAT CLAY (CH), hard, greenish-gray to gray with dark green mottling, slightly moist to moist, with ferrous staining and very thinly interbedded siltstone and sandstone - siltstone fragments from 26' to 44'											
35				- dark green mottling from 41' to 44'											
40															
45															
50				LEAN CLAY (CL), greenish-gray with brown mottling, slightly moist to moist  - gray and dark gray from 50' to 55'											
55				- siltstone from 55' to 56'											
60				- very thinly interbedded sandstone from 56' to 57'											
				- very thinly interbedded sandstone from 58' to 63.5'											
				- gray from 60' to 90'											
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 8.10 ft	PROJ. No.: ASF13-140-00										
DATE DRILLED: 4/6/2011				DATE MEASURED: 4/6/2011											

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10006473.33; E 1591410.75

**NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT**



**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10006473.33; E 1591410.75

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-106

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Wet Rotary, Core & GPI Modified Pitcher Barrel

LOCATION: N 10005909.94; E 1588373.08

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200						
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0								
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT											
				SURFACE ELEVATION: 548.99 ft			10	20	30	40	50	60	70	80								
5				<b>STRATUM II (548.99 ft):</b> FAT CLAY (CH), firm, brown to tan, moist, with organic matter and caliche pockets																		
10																						
15																						
20				- fine-grained brownish-gray sandstone fragments from 20' to 21'																		
25																						
30																						
35				<b>STRATUM IV (524.99):</b> FAT CLAY (CH), hard, dark greenish-gray, slightly moist, with very thinly interbedded greenish-gray siltstone and sandstone																		
40																						
45																						
50				SANDSTONE, very thinly interbedded, fine-grained, gray																		
55																						
60																						
65				- some clay from 33' to 35'																		
70																						
75																						
80				- interbedded brown claystone from 38' to 40'																		
85																						
90																						
95				FAT CLAY (CH), hard, brown to reddish-brown, slightly moist, with very fine-grained sand and widely scattered very thinly interbedded siltstone and claystone																		
100																						
105																						
110				- greenish-gray to brown, with interbedded siltstone from 46' to 70'																		
115																						
120																						
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.50 ft				PROJ. No.: ASF13-140-00														
DATE DRILLED: 7/10/2011				DATE MEASURED: 1/10/2012																		

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-106

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

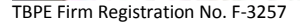
METHOD: Wet Rotary, Core & GPI Modified Pitcher Barrel

LOCATION: N 10005909.94; E 1588373.08

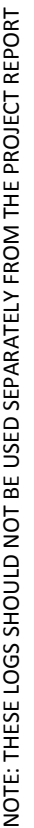
DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
70				FAT CLAY (CH), hard, brown to reddish-brown, slightly moist, with very fine-grained sand and widely scattered very thinly interbedded siltstone and claystone ( <i>continued</i> ) - brown with some green, with interbedded claystone from 70' to 71.8' - sandy from 71.8' to 72'														
75				SANDSTONE, very fine-grained, gray, dry														
80				FAT CLAY (CH), hard, gray and brown with greenish-gray mottling, slightly moist														
85																		
90				- brown, with caliche pockets from 88' to 90'														
95																		
100				- blocky, reddish-brown with gray mottling at 96' - grayish-brown to brown, with very thinly interbedded claystone from 98' to 105'														
105																		
110				- greenish-gray to grayish-green, with interbedded claystone/siltstone from 113' to 114'														
115				NO RECOVERY FAT CLAY (CH), hard, grayish-green, slightly moist - interbedded fine-grained, grayish-green sandstone from 117.5' to 118' - interbedded siltstone from 118' to 120'														
120				Boring Terminated														
125																		
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.50 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 7/10/2011				DATE MEASURED: 1/10/2012														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374

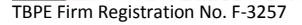


**LOCATION:** N 10004829.80; E 1587714.93





Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374

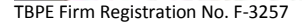


**LOCATION:** N 10004829.80; E 1587714.93

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
SURFACE ELEVATION: 549.53 ft							10	20	30	40	50	60	70	80										
70				- thinly interbedded brown claystone from 66' to 71'							●													
											●													
											●													
				SILTSTONE, dark greenish-gray to light greenish-gray							●													
											●													
											●													
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											●													
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NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



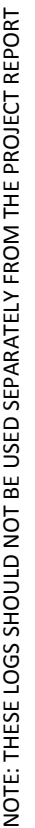
**LOCATION:** N 10004829.80; E 1587714.93

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 549.53 ft			PLASTIC LIMIT	WATER CONTENT				LIQUID LIMIT				
							10	20	30	40	50	60	70	80		
				FAT CLAY (CH), hard, dark green to yellowish-green, slightly moist <i>(continued)</i>												
135																
				- greenish-gray mottling from 138' to 144'												
140																
				- large caliche pockets from 145' to 146'												
145																
				- very thinly interbedded light gray siltstone from 147' to 148'												
150																
				- very thinly interbedded grayish-brown claystone from 151' to 160'												
155																
160				- light brown from 158' to 160'												
				Boring Terminated												
165																
170																
175																
180																
185																
190																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 9.20 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 4/8/2011				DATE MEASURED: 4/8/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10004863.76; E 1588794.32



# LOG OF BORING NO. B-108

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10004863.76; E 1588794.32

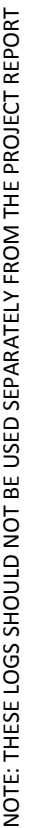
DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>											
							<div><div><div>1020304050607080</div><div><div>×</div><div>●</div><div>×</div></div></div></div>											
				SURFACE ELEVATION: 546.95 ft														
70				<b>STRATUM IV (520.95 ft):</b> FAT CLAY (CH), hard, greenish-gray and brown with greenish-gray mottling, slightly moist, with very thinly interbedded siltstone and claystone <i>(continued)</i>														
75																		
80				- light greenish-gray, with very thinly interbedded very fine-grained sandstone from 79' to 82'														
85				- light greenish-gray, with very thinly interbedded very fine-grained sandstone from 83' to 84'														
90				- caliche pockets from 88' to 90'														
95				FAT CLAY (CH), hard, brown, with light greenish-gray mottling, slightly moist													35	100
100				- green mottling from 98' to 99'														
105																		
110				- very thinly interbedded siltstone from 109' to 120'														
115																		
120				Boring Terminated														
125																		
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 6.00 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 4/9/2011				DATE MEASURED: 4/9/2011														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10004457.49; E 1589699.80



# LOG OF BORING NO. B-109

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



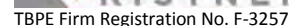
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10004457.49; E 1589699.80

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div><div></div><div></div></div><div></div></div></div>									
							<div><div><div></div><div></div></div><div></div></div>									
				SURFACE ELEVATION: 547.60 ft			10	20	30	40	50	60	70	80		
70				<b>STRATUM IV (520.60 ft):</b> LEAN CLAY (CL), hard, brown to reddish-brown, slightly moist, with green glauconite and gray caliche and very thinly interbedded sandstone <i>(continued)</i> - brown to light brown from 67' to 70' - brown to red at 70'												
75				- brown from 74' to 77'												
80				- green to brown from 77' to 88'												
85																
90				LEAN CLAY (CL), hard, reddish-brown to brown, slightly moist, with green to light green glauconite												
95																
100				- gray to light brown, with very thinly interbedded sandstone from 101' to 116'												
105																
110				- brown from 112' to 113'												
115				LEAN CLAY (CL), hard, blocky, brown to reddish-brown, slightly moist, with green glauconite and ferrous staining												
120																
125																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.00 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 4/11/2011				DATE MEASURED: 4/11/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10004457.49; E 1589699.80

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200		
							0.5		1.0		1.5		2.0		2.5				3.0	
SURFACE ELEVATION: 547.60 ft																				
				LEAN CLAY (CL), hard, blocky, brown to reddish-brown, slightly moist, with green glauconite and ferrous staining (continued)																
135				- brown to green from 136' to 143'															27	98
140																				
145				SANDY LEAN CLAY (CL), silty, hard, light gray to green and reddish-brown with dark gray mottling, slightly moist, with very thinly interbedded siltstone																
150																				
155				- glauconite from 152' to 160'																
				- gray with brown mottling from 155' to 160'																
160				Boring Terminated																
165																				
170																				
175																				
180																				
185																				
190																				
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.00 ft				PROJ. No.:				ASF13-140-00								
DATE DRILLED: 4/11/2011				DATE MEASURED: 4/11/2011																

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-109A

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10004471.97; E 1589695.17

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 546.53 ft			10	20	30	40	50	60	70	80		
5				<b>STRATUM I (546.53 ft):</b> SANDY LEAN CLAY (CL), firm, brown to light brown, moist, with caliche pockets and organic matter												
10				<b>STRATUM III (540.53 ft):</b> LEAN CLAY (CL), sandy, stiff, light brown with some green mottling, slightly moist, with ferrous staining along partings - green with scattered red sandy pockets from 6' to 10'												
15																
20				- green at 20'												
25																
30				<b>STRATUM IV (519.53 ft):</b> LEAN CLAY (CL), hard, reddish-brown, with green glauconite, caliche pockets												
35				- very thinly interbedded siltstone from 34' to 40'												
40				- very thinly interbedded sandstone from 40' to 56'												
45																
50				- sandy from 50' to 66'												
55																
60																
DEPTH DRILLED: 85.0 ft				DEPTH TO WATER: 6.01 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/25/2011				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-109A

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10004471.97; E 1589695.17

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>●</div><div>◆</div><div>⊗</div><div>△</div><div>□</div></div><div>0.51.01.52.02.53.03.54.0</div></div>											
							PLASTIC LIMIT			WATER CONTENT			LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
				<b>STRATUM IV (519.53 ft):</b> LEAN CLAY (CL), hard, reddish-brown, with green glauconite, caliche pockets <i>(continued)</i> - brown from 66' to 76' - reddish-brown claystone from 68' to 70'							●							
70																		
75				- green and light gray from 76' to 80'														
80				- ferrous staining and very thinly interbedded brown claystone from 80' to 85'							●							
85				Boring Terminated														
90																		
95																		
100																		
105																		
110																		
115																		
120																		
125																		
DEPTH DRILLED: 85.0 ft				DEPTH TO WATER: 6.01 ft				PROJ. No.:				ASF13-140-00						
DATE DRILLED: 6/25/2011				DATE MEASURED: 1/10/2012														

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NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-110

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10005234.85; E 1591110.00

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 553.75 ft												
				<b>STRATUM II (553.75 ft):</b> LEAN CLAY (CL), firm, brown to light brown, moist, with ferrous staining, caliche pockets and flocculated clay												
5				<b>STRATUM III (549.75 ft):</b> SANDY LEAN CLAY (CL), stiff to hard, light gray to light brown with orange and yellow mottling, moist to slightly moist, with ferrous staining along partings												
10																
15																
20				- light brown to reddish-brown with greenish-gray mottling, with caliche pockets, and a trace of sand from 18' to 23'												
25				<b>STRATUM IV (530.75 ft):</b> SANDY LEAN CLAY (CL), hard, light grayish-brown and reddish-brown, slightly moist, with ferrous staining and very thinly interbedded sandstone and siltstone											42	59
30																
35																
40				- claystone fragments from 40' to 47.5'												
45																
50				- sandy clay from 47.5' to 67'												
55																
60																
															NP	48
<b>DEPTH DRILLED:</b> 120.0 ft				<b>DEPTH TO WATER:</b> 6.80 ft				<b>PROJ. No.:</b> ASF13-140-00								
<b>DATE DRILLED:</b> 5/11/2011				<b>DATE MEASURED:</b> 5/11/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-110

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



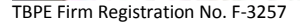
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10005234.85; E 1591110.00

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% <200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>									
							<div><div>1020304050607080</div></div>									
				SURFACE ELEVATION: 553.75 ft												
70				<b>STRATUM IV (530.75 ft):</b> SANDY LEAN CLAY (CL), hard, light grayish-brown and reddish-brown, slightly moist, with ferrous staining and very thinly interbedded sandstone and siltstone <i>(continued)</i>							●					
75											●					
80											●					
85				- siltstone fragments from 82' to 85'							●					
90				FAT CLAY (CH), hard, reddish-brown with greenish-gray mottling, slightly moist, with caliche pockets, with scattered very thinly interbedded siltstone							●					
95											●					
100											●					
105				- greenish-gray mottling from 103' to 106'						●	×	—	—	×		
110											●					
115											●					
120				Boring Terminated							●					
125																
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 6.80 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 5/11/2011				DATE MEASURED: 5/11/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10003736.33; E 1587951.25

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>				PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0					
							PLASTIC LIMIT		WATER CONTENT			
SURFACE ELEVATION: 544.06 ft												
				<b>STRATUM I (544.06 ft)</b> SANDY LEAN CLAY (CL), firm, light brown, moist, with caliche pockets and ferrous staining								
5												
				<b>STRATUM III (538.06 ft)</b> FAT CLAY (CH), firm to hard, light brown to dark brown and reddish-brown with greenish-gray mottling, slightly moist, with caliche pockets, scattered ferrous staining along partings, and scattered silt and fine-grained sand								
10												
15												
20												
25												
30												
35												
				<b>STRATUM IV (509.06 ft)</b> FAT CLAY (CH), hard, reddish-brown with greenish-gray mottling to greenish-gray to red with gray mottling, slightly moist, with very thinly interbedded sandstone and siltstone and scattered caliche pockets - widely scattered claystone interbeds from 35' to 52.5'								
40												
45												
50				- ferrous staining and gypsum crystals from 48' to 52.5'								
55												
60				- ferrous staining from 57' to 64'								
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.00 ft	PROJ. No.: ASF13-140-00							
DATE DRILLED: 5/10/2011				DATE MEASURED: 5/10/2011								

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-111

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10003736.33; E 1587951.25

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>									
							10	20	30	40	50	60	70	80		
				SURFACE ELEVATION: 544.06 ft												
70				<b>STRATUM IV (509.06 ft)</b> FAT CLAY (CH), hard, reddish-brown with greenish-gray mottling to greenish-gray to red with gray mottling, slightly moist, with very thinly interbedded sandstone and siltstone and scattered caliche pockets <i>(continued)</i>						●						
75										●						
80										●						
85										●						
90										●						
95										●						
100				FAT CLAY (CH), hard, reddish-brown to green to greenish-gray, with a trace of sand - very thinly interbedded green claystone from 97' to 110'						●						
105										●						
110				- ferrous staining, scattered caliche pockets, and some silt from 110' to 120'						●						
115										●						
120				Boring Terminated						●						
125																
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.00 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 5/10/2011				DATE MEASURED: 5/10/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-112

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10002670.72; E 1586988.13

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 543.09 ft			10	20	30	40	50	60	70	80										
				<b>STRATUM I (543.09 ft):</b> SANDY FAT CLAY (CH), stiff, dark brown to tan, with organic matter NO RECOVERY																				
5				- sand with scattered gravel from 6' to 7'																				
				<b>STRATUM III (536.09 ft):</b> FAT CLAY (CH), hard, light brown, slightly moist, with caliche pockets - brown to reddish-brown with greenish-gray and orange-brown mottling from 9' to 27'																				
10				- gray mottling from 18' to 26'																				
15				- ferrous staining along partings from 24' to 26'																				
20				- silty, light greenish-gray with light brown mottling from 27' to 31'																				
25																								
30																								
35				<b>STRATUM IV (512.09 ft):</b> FAT CLAY (CH), hard, reddish-brown to brown with greenish-gray mottling, slightly moist - caliche pockets and glauconite from 32' to 34'																				
40				- caliche pockets and scattered ferrous staining from 35' to 40'																				
45				- gray with greenish-gray and brown mottling, with scattered fine-grained sand and very thinly interbedded gray very fine-grained sandstone to siltstone from 35' to 50'																				
50				- dark grayish-brown from 41' to 43'																				
55				- silty, light greenish-gray from 50' to 52'																				
60				- dark gray with grayish-green mottling from 52' to 54'																				
				- caliche pockets and scattered weakly-indurated reddish-brown claystone from 52' to 61'																				
				- reddish-brown with grayish-green mottling from 54' to 61'																				
				- silty, dark green to light grayish-green, with scattered fine-grained sand and weakly-indurated siltstone or claystone from 61' to 66'																				
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.20 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 5/5/2011				DATE MEASURED: 5/5/2011																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-112

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10002670.72; E 1586988.13

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 543.09 ft			10	20	30	40	50	60	70	80		
				<b>STRATUM IV (512.09 ft):</b> FAT CLAY (CH), hard, reddish-brown to brown with greenish-gray mottling, slightly moist ( <i>continued</i> ) - blocky, reddish-brown with greenish-gray mottling, with large caliche pockets and very thinly interbedded gray-brown claystone from 66' to 68' - reddish-brown from 68' to 73' - light greenish-gray, with a trace of fine-grained sand from 73' to 74' - caliche pockets and glauconite from 74' to 75' - thinly interbedded very fine-grained sandstone or siltstone from 79' to 83' - orange-brown mottling from 81.5' to 82'												
70																
75																
80																
85																
90																
95																
100																
105																
110																
115																
120																
125																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.20 ft				PROJ. No.:				ASF13-140-00				
DATE DRILLED: 5/5/2011				DATE MEASURED: 5/5/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-112

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

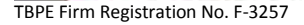
**LOCATION:** N 10002670.72; E 1586988.13

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT			WATER CONTENT			LIQUID LIMIT					
				SURFACE ELEVATION: 543.09 ft			10	20	30	40	50	60	70	80				
				FAT CLAY (CH), hard, grayish-green with brown mottling, slightly moist <i>(continued)</i>												33	92	
135																		
140																		
145																		
150				- weakly-indurated reddish-brown claystone fragments, widely scattered fine-grained sand with very thinly interbedded sandstone from 148' to 154'														
155																		
160				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.20 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 5/5/2011				DATE MEASURED: 5/5/2011														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10003352.93; E 1589588.22

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200			
							0.5		1.0		1.5		2.0				2.5		3.0
SURFACE ELEVATION: 545.03 ft																			
5				<b>STRATUM I (545.03 ft):</b> SANDY LEAN CLAY (CL), silty, firm, brown to dark brown, moist, with organic matter and caliche nodules  - scattered gypsum crystals from 5' to 10'															
10				<b>STRATUM III (535.03 ft):</b> LEAN CLAY (CL), hard, brown to light gray to yellowish, slightly moist, with green glauconite, ferrous staining along partings, and a trace of sand - friable, with caliche pockets from 12' to 15' - gray to reddish-brown from 15' to 27'															
15																			
20																			
25																			
30				<b>STRATUM IV (518.03 ft):</b> SANDY LEAN CLAY (CL), hard, gray to light gray and brown, slightly moist, with very thinly interbedded sandstone - brown with green glauconite and caliche pockets at 30'															
35																			
40																			
45				- sandstone fragments at 46'															
50																			
55				- silty, green to light gray from 55' to 57'															
60																			
DEPTH DRILLED: 160.0 ft DATE DRILLED: 4/13/2011				DEPTH TO WATER: 5.20 ft DATE MEASURED: 4/13/2011				PROJ. No.: ASF13-140-00				23 95							

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-113

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10003352.93; E 1589588.22

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 545.03 ft			10	20	30	40	50	60	70	80										
70				<b>STRATUM IV (518.03 ft):</b> SANDY LEAN CLAY (CL), hard, gray to light gray and brown, slightly moist, with very thinly interbedded sandstone (continued) - green glauconite from 67' to 69'				×			×				27	90								
75				FAT CLAY (CH), hard, brown to reddish-brown with greenish-gray mottling, slightly moist							×													
80											×													
85											×													
90											×													
95				- very thinly interbedded brown siltstone from 93' to 97'							×													
100				- very thinly interbedded light gray siltstone from 97' to 98' - very thinly interbedded brown siltstone from 99' to 104'							×													
105				LEAN CLAY (CL), hard, grayish-green to reddish-brown, slightly moist, with very thinly interbedded siltstone				×			×		×		33	69								
110				- silty from 110' to 115'							×													
115											×													
120				- caliche pockets from 116' to 117' - green mottling from 117' to 120'							×													
125				- caliche pockets and scattered ferrous staining from 124' to 129'							×													
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.20 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 4/13/2011				DATE MEASURED: 4/13/2011																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-113

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10003352.93; E 1589588.22

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>											
							<div><div><div>1020304050607080</div></div></div>											
				SURFACE ELEVATION: 545.03 ft														
135				LEAN CLAY (CL), hard, grayish-green to reddish-brown, slightly moist, with very thinly interbedded siltstone <i>(continued)</i>								●						
												●						
												●						
140												●						
												●						
												●						
145												●						
				LEAN CLAY (CL), hard, light gray to dark gray, slightly moist, with very thinly interbedded siltstone								●						
150				- dark gray from 149.5' to 150'								●						
				- gray from 152' to 157'								●						
												●						
155												●						
				- greenish-gray to light brown and gray, with weakly-indurated gray siltstone from 157' to 160'								●						
160				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.20 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 4/13/2011				DATE MEASURED: 4/13/2011														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

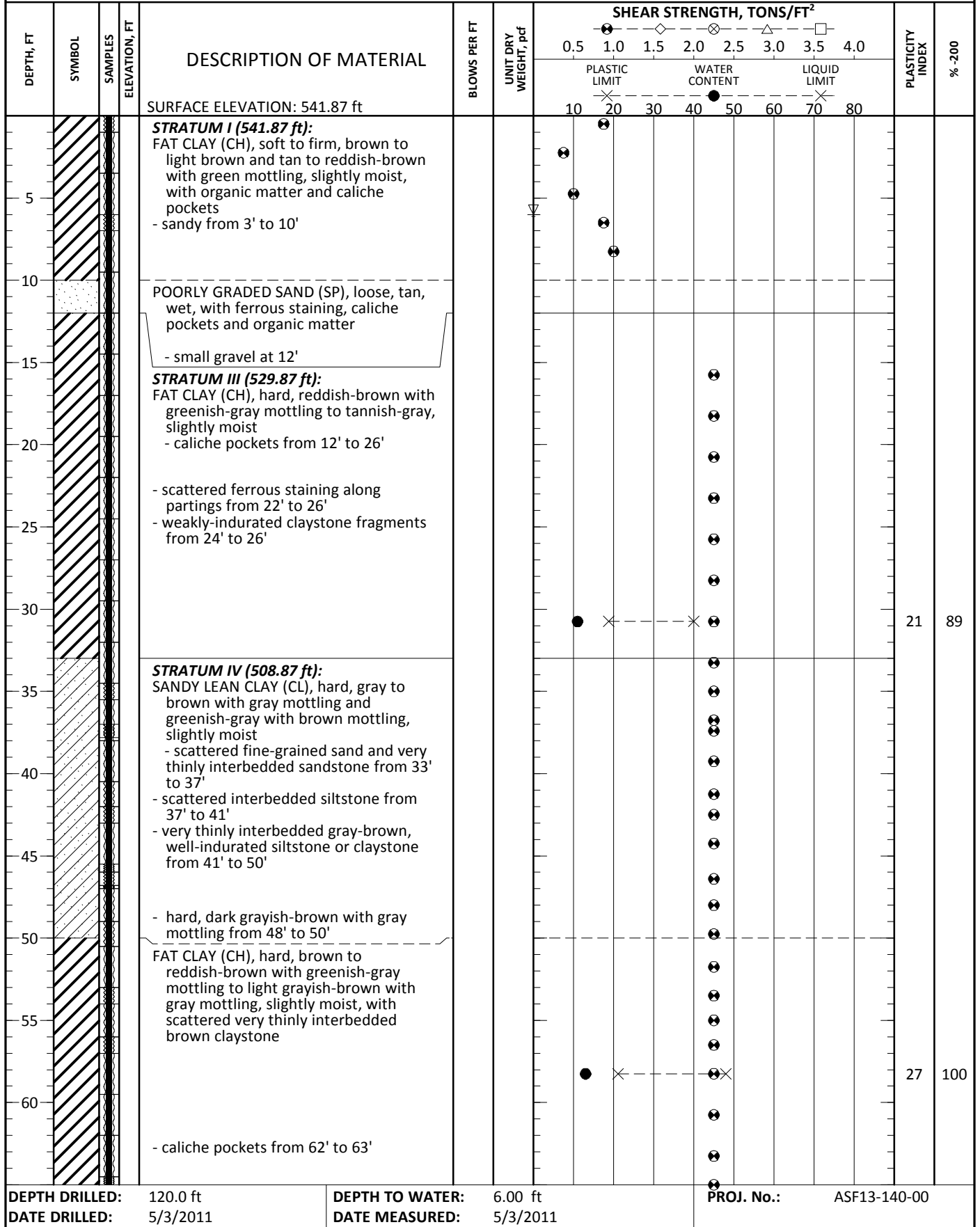
# LOG OF BORING NO. B-114

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10002155.79; E 1587059.19



**DEPTH DRILLED:** 120.0 ft  
**DATE DRILLED:** 5/3/2011

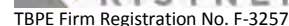
**DEPTH TO WATER:** 6.00 ft  
**DATE MEASURED:** 5/3/2011

**PROJ. No.:** ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10002155.79; E 1587059.19

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200
							<div><div>●</div><div>◇</div><div>⊗</div><div>△</div><div>□</div></div>								
							0.5	1.0	1.5	2.0	2.5	3.0	3.5		
				SURFACE ELEVATION: 541.87 ft											
				FAT CLAY (CH), hard, brown to reddish-brown with greenish-gray mottling to light grayish-brown with gray mottling, slightly moist, with scattered very thinly interbedded brown claystone ( <i>continued</i> ) - caliche pockets from 67' to 68'											
70															
				- yellow mottling, with weathered ferrous staining along partings from 74' to 75'											
75															
				- weakly-indurated brown very thinly interbedded claystone from 80' to 89'											
80															
85															
				- scattered fine-grained sand and fine-grained sandstone fragments from 89' to 93'											
90															
95															
100															
105															
				- glauconite from 110' to 111'											
110															
115															
120				Boring Terminated											
125															
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 6.00 ft				PROJ. No.:				ASF13-140-00			
DATE DRILLED: 5/3/2011				DATE MEASURED: 5/3/2011											

**NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT**

# LOG OF BORING NO. B-114A

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:**

Rotosonic

**LOCATION:** N 10002164.95; E 1587025.17

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 540.14 ft			10	20	30	40	50	60	70	80										
5				<b>STRATUM I (540.14 ft):</b> SANDY LEAN CLAY (CL), soft to firm, dark brown, moist, with organic matter, caliche pockets and ferrous staining																				
10																								
15				<b>STRATUM III (528.14 ft):</b> LEAN CLAY (CL), hard, reddish-brown, slightly moist, with ferrous staining, glauconite, and a trace of sand																				
20				Boring Terminated																				
25																								
30																								
35																								
40																								
45																								
50																								
55																								
60																								
DEPTH DRILLED: 20.0 ft				DEPTH TO WATER: 10.09 ft				PROJ. No.:				ASF13-140-00												
DATE DRILLED: 5/25/2011				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-115

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10001696.77; E 1588845.84

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 541.46 ft			10	20	30	40	50	60	70	80										
5				<b>STRATUM I (541.46 ft):</b> SANDY LEAN CLAY (CL), silty, firm to hard, brown, moist, with caliche pockets and ferrous staining																				
10				<b>STRATUM III (532.46 ft):</b> FAT CLAY (CH), hard, light brown and brown to reddish-brown and gray with greenish-gray mottling, with some sand - ferrous staining along partings from 9' to 14' - scattered brown claystone fragments from 14' to 36'																				
15																								
20																								
25																								
30				- ferrous staining from 27' to 31'																				
35																								
40				<b>STRATUM IV (505.46 ft):</b> FAT CLAY (CH), hard, light grayish-green to reddish-brown with light brown mottling, slightly moist, - scattered caliche pockets from 36' to 41' - very thinly interbedded fine-grained sandstone from 41' to 55'																				
45																								
50																								
55				- ferrous staining at 53' - green claystone fragments at 55'																				
60																								
				- very thinly interbedded gray-green claystone from 61' to 68'																				
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.13 ft	PROJ. No.: ASF13-140-00																			
DATE DRILLED: 5/9/2011				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-115

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 10001696.77; E 1588845.84

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
				SURFACE ELEVATION: 541.46 ft			10	20	30	40	50	60	70	80				
				<b>STRATUM IV (505.46 ft):</b> FAT CLAY (CH), hard, light grayish-green to reddish-brown with light brown mottling, slightly moist, <i>(continued)</i>														
70																		
				- sandy from 75' to 78'														
75																		
80																		
85																		
90																		
95				NO RECOVERY - Driller's Note: Cracked core barrel														
100																		
105																		
110																		
115				FAT CLAY (CH), hard, light gray to reddish-brown with scattered greenish-gray mottling, with scattered caliche pockets														
120				Boring Terminated														
125																		
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 7.13 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 5/9/2011				DATE MEASURED: 1/10/2012														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-116

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10001947.36; E 1589755.70

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 545.60 ft			10	20	30	40	50	60	70	80		
				<b>STRATUM II (545.60 ft):</b> FAT CLAY (CH), hard, light brown, moist, with organic matter and caliche pockets												
5				<b>STRATUM III (542.60 ft):</b> FAT CLAY (CH), hard, brown to reddish-brown, slightly moist - caliche pockets from 7' to 12'												
10				- greenish-gray mottling from 12' to 29'												
15																
20				- caliche pockets from 20' to 21'												
25																
30				- caliche pockets from 27' to 28'												
35				<b>STRATUM IV (516.60 ft):</b> FAT CLAY (CH), hard, grayish-brown and gray and reddish-brown with scattered brown mottling, slightly moist - ferrous staining from 29' to 31' - very thinly interbedded siltstone from 31' to 35'												
40				- very thinly interbedded siltstone from 38' to 41'												
45																
50																
55																
60																
															28	93
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 8.20 ft	PROJ. No.: ASF13-140-00											
DATE DRILLED: 4/15/2011				DATE MEASURED: 4/15/2011												

**DEPTH DRILLED:** 160.0 ft  
**DATE DRILLED:** 4/15/2011

**DEPTH TO WATER:** 8.20 ft  
**DATE MEASURED:** 4/15/2011

**PROJ. No.:** ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-116

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10001947.36; E 1589755.70

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 545.60 ft			10	20	30	40	50	60	70	80										
				- weakly-indurated siltstone from 64' to 66'																				
				<b>STRATUM IV (516.60 ft):</b>																				
				FAT CLAY (CH), hard, grayish-brown and gray and reddish-brown with scattered brown mottling, slightly moist (continued)																				
70				- caliche pockets and glauconite from 66' to 71'											24	99								
75																								
80																								
85																								
90				- 6 gray siltstone seam at 89.5'																				
				- very thinly interbedded gray and brown siltstone from 90' to 100'																				
95																								
				- caliche pockets and glauconite from 95' to 100'																				
100																								
105																								
110				- very thinly interbedded gray and brown siltstone from 108' to 112'											30	98								
115																								
				FAT CLAY (CH), hard, greenish-gray with brown mottling and reddish-brown with gray mottling, slightly moist																				
120				- caliche pockets at 116.5'																				
125																								
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 8.20 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 4/15/2011				DATE MEASURED: 4/15/2011																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-116

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

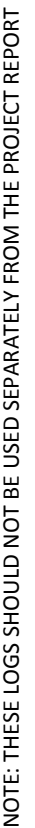
**LOCATION:** N 10001947.36; E 1589755.70

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>PLASTIC LIMIT</div><div>WATER CONTENT</div><div>LIQUID LIMIT</div></div></div></div>											
							<div><div><div>1020304050607080</div></div></div>											
				SURFACE ELEVATION: 545.60 ft														
135				FAT CLAY (CH), hard, greenish-gray with brown mottling and reddish-brown with gray mottling, slightly moist <i>(continued)</i> - blocky from 130' to 135'														
140				- caliche pockets at 141'														
145				- caliche pockets from 145' to 148'														
150																		
155				- caliche pockets from 155' to 157'														
160				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 8.20 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 4/15/2011				DATE MEASURED: 4/15/2011														

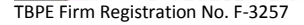
NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
**KISTNER**  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10001219.15; E 1586787.90



Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10001219.15; E 1586787.90

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
SURFACE ELEVATION: 543.68 ft							10	20	30	40	50	60	70	80										
70				FAT CLAY (CH), hard, dark gray with grayish-green mottling, slightly moist, with very thinly interbedded weakly-indurated dark gray claystone and sandstone ( <i>continued</i> ) - brown with gray mottling from 66' to 69' - grayish-green with brown mottling, with a trace of sand from 69' to 72' - scattered fine-grained sandstone from 72' to 82'																				
75																								
80																								
85																								
90																								
95				- blocky, fractured, with dark gray interbeds from 93' to 94' - scattered fine-grained sandstone from 94' to 102'																				
100																								
105																								
110				- light brown and gray from 106' to 108'																				
115				- gray with greenish-gray claystone from 114' to 116' - greenish-gray with brown mottling and greenish-gray siltstone and very fine-grained sandstone from 116' to 120'																				
120				- caliche pockets from 118' to 119' Boring Terminated																				
125																								
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 8.90 ft	PROJ. No.: ASF13-140-00																			
DATE DRILLED: 5/2/2011				DATE MEASURED: 5/2/2011																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-118

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10000619.03; E 1586893.89

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 538.87 ft			10	20	30	40	50	60	70	80										
5				<b>STRATUM I (538.87 ft):</b> FAT CLAY (CH), stiff to very firm, brown to light brown, moist, with organic matter and caliche pockets											31	63								
				- small gravel from 6' to 7'																				
10				<b>STRATUM III (531.87 ft):</b> FAT CLAY (CH), hard, greenish-tan and brown with orange mottling, slightly moist, with scattered ferrous staining along partings and caliche pockets																				
15																								
20				- tan with orange-brown mottling, with a trace of fine-grained sand from 18' to 20'																				
25				- silty from 18' to 22'																				
				- greenish-gray with tan and green mottling from 20' to 24'																				
				- sandy from 22' to 25'																				
				- dark gray with some orange-brown mottling from 24' to 25'																				
30				<b>STRATUM IV (513.87 ft):</b> FAT CLAY (CH), hard, reddish-brown with gray mottling, slightly moist																				
35				- weakly-indurated brown claystone from 25' to 36'																				
40				- grayish-green, with scattered fine-grained sand from 36' to 37.5'																				
45				- brown to reddish-brown with greenish-gray mottling, with scattered caliche pockets and glauconite seams from 37.5' to 47'											30	98								
50				- brownish-dark gray, with very thinly interbedded sandstone from 47' to 48'																				
55				- greenish-gray with brown mottling from 48' to 63'																				
60				- dark brownish-gray with brown																				
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.86 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 4/29/2011				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 10000619.03; E 1586893.89

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-118

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10000619.03; E 1586893.89

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>											
							<div><div><div>1020304050607080</div><div><div>×</div><div>●</div><div>×</div></div></div></div>											
				SURFACE ELEVATION: 538.87 ft														
135				FAT CLAY (CH), hard, brown to reddish-brown with gray mottling, slightly moist ( <i>continued</i> ) - interbedded gray-brown siltstone from 133' to 140'														
140				- greenish-gray with brown mottling and gray siltstone from 139' to 141'														
145																		
150				- green mottling, with caliche pockets from 151' to 153'														
155																		
160				Boring Terminated													41	97
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 11.86 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 4/29/2011				DATE MEASURED: 1/10/2012														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-119

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 10000635.98; E 1588818.57

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 541.99 ft												
				<b>STRATUM II (541.99 ft):</b> FAT CLAY (CH), stiff, brown to tan, moist, with organic matter and caliche pockets												
5				<b>STRATUM III (538.99 ft):</b> FAT CLAY (CH), stiff, light brown to tan with orange mottling, moist - caliche pockets and ferrous staining along partings from 7' to 9'											30	62
10																
15				- ferrous staining seam and gypsum crystals from 14.5' to 14.75'												
20				- interbedded gray-brown claystone from 16' to 26'												
25																
30				<b>STRATUM IV (515.99 ft):</b> LEAN CLAY (CL), hard, greenish-gray and brown to reddish-brown with yellow mottling, slightly moist, with very thinly interbedded claystone and sandstone												
35																
40				- light gray from 36' to 42'												
45				- glauconite at partings from 40' to 42'												
50				- grayish-green from 42' to 52'											37	62
55				- brown mottling from 51' to 52'												
60				- caliche pockets from 52' to 53'												
				- caliche pockets from 56' to 61'												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.80 ft		PROJ. No.: ASF13-140-00										
DATE DRILLED: 4/19/2011				DATE MEASURED: 4/19/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-119

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10000635.98; E 1588818.57

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
							10	20	30	40	50	60	70	80		
70				SANDY SILT (ML), slightly firm, greenish-dark gray, very moist, with a trace of clay  - Driller's note: easy drilling with rapid penetration							●					
75				FAT CLAY (CH), hard, reddish-brown to light greenish-gray, slightly moist - very thinly interbedded reddish-brown claystone from 74' to 78'							●					
80				- caliche pockets from 82.5' to 83' - reddish-brown claystone interbeds from 83' to 87'				*			●	*			28	86
85											●					
90				LEAN CLAY (CL), hard, light grayish-green to gray and brown to reddish-brown with green and yellow mottling, slightly moist, with very thinly interbedded weakly to moderately-indurated gray siltstone and claystone							●					
95											●					
100											●					
105											●					
110											●					
115				- glauconite and caliche pockets from 111.5' to 112.5'							●					
120				- caliche pockets from 117' to 118'				*			●		*		40	100
125				- caliche pockets from 125' to 126'							●					
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.80 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 4/19/2011				DATE MEASURED: 4/19/2011												

**DEPTH DRILLED:** 160.0 ft  
**DATE DRILLED:** 4/19/2011

**DEPTH TO WATER:** 7.80 ft  
**DATE MEASURED:** 4/19/2011

**PROJ. No.:** ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-119

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



## DRILLING

METHOD: Rotosonic

LOCATION: N 10000635.98; E 1588818.57

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>									
							10	20	30	40	50	60	70	80		
				SURFACE ELEVATION: 541.99 ft												
135				LEAN CLAY (CL), hard, light grayish-green to gray and brown to reddish-brown with green and yellow mottling, slightly moist, with very thinly interbedded weakly to moderately-indurated gray siltstone and claystone <i>(continued)</i> - interbedded gray siltstone from 133' to 142'						●						
140				- interbedded gray claystone from 142' to 153						●						
145										●						
150										●						
155				- dark gray, with interbedded dark gray claystone from 153' to 156'						●						
160				NO RECOVERY - Driller's note: cracked core barrel; not safe to extrude						●						
160				Boring Terminated												
165																
170																
175																
180																
185																
190																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.80 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 4/19/2011				DATE MEASURED: 4/19/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-120

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



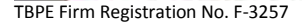
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10000105.04; E 1588611.68

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT				WATER CONTENT					
SURFACE ELEVATION: 539.92 ft							10	20	30	40	50	60	70	80		
5				<b>STRATUM I (539.92 ft):</b> FAT CLAY (CH), stiff to hard, brown to light brown, moist, with caliche pockets - organic matter to 2'												
10				- sandy, moist to wet from 8' to 12'												
15				- clayey sand lens from 11.5' to 12' - gravel from 12' to 13.5'												
20				<b>STRATUM III (526.42 ft):</b> LEAN CLAY (CL), hard, grayish-brown with green mottling, slightly moist - ferrous staining along partings from 16' to 25'											32	87
25				- wet, poorly graded, fine-grained sand from 21.5' to 23'												
30				<b>STRATUM IV (514.92 ft):</b> FAT CLAY (CH), hard, light brown and green to reddish-brown with green mottling, slightly moist - ferrous staining from 29' to 33'												
35																
40				- scattered caliche pockets from 36' to 40'												
45				- very thinly interbedded brown claystone from 40' to 62'												
50				- indurated siltstone interbeds from 45' to 51' - light greenish-gray to brown and reddish-brown from 45' to 58'											25	73
55				- very thinly interbedded light grayish-brown and brown claystone from 54' to 56'												
60				- brown to reddish-brown with greenish-gray mottling from 58' to 62'												
				- very thinly interbedded claystone from 62' to 63.5'												
DEPTH DRILLED: 120.0 ft				DEPTH TO WATER: 8.50 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 4/18/2011				DATE MEASURED: 4/18/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10000105.04; E 1588611.68

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT						LIQUID LIMIT									
							X		●						X									
							10		20		30		40		50		60		70		80			
SURFACE ELEVATION: 539.92 ft																								
70				<b>STRATUM IV (514.92 ft):</b> FAT CLAY (CH), hard, light brown and green to reddish-brown with green mottling, slightly moist ( <i>continued</i> )																				
				FAT CLAY (CH), hard, light grayish-brown to gray, slightly moist - interbedded claystone from 71' to 73'																				
75				- brown to reddish-brown with gray mottling and caliche pockets from 76' to 83'																				
80				- blocky from 82' to 112'																				
85																								
90												X								X				
95																								
100																								
105																								
110																								
115				- brown with dark gray mottling, with very thinly interbedded gray claystone from 112' to 120'																				
120				Boring Terminated																				
125																								

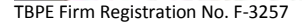
DEPTH DRILLED: 120.0 ft  
DATE DRILLED: 4/18/2011

DEPTH TO WATER: 8.50 ft  
DATE MEASURED: 4/18/2011

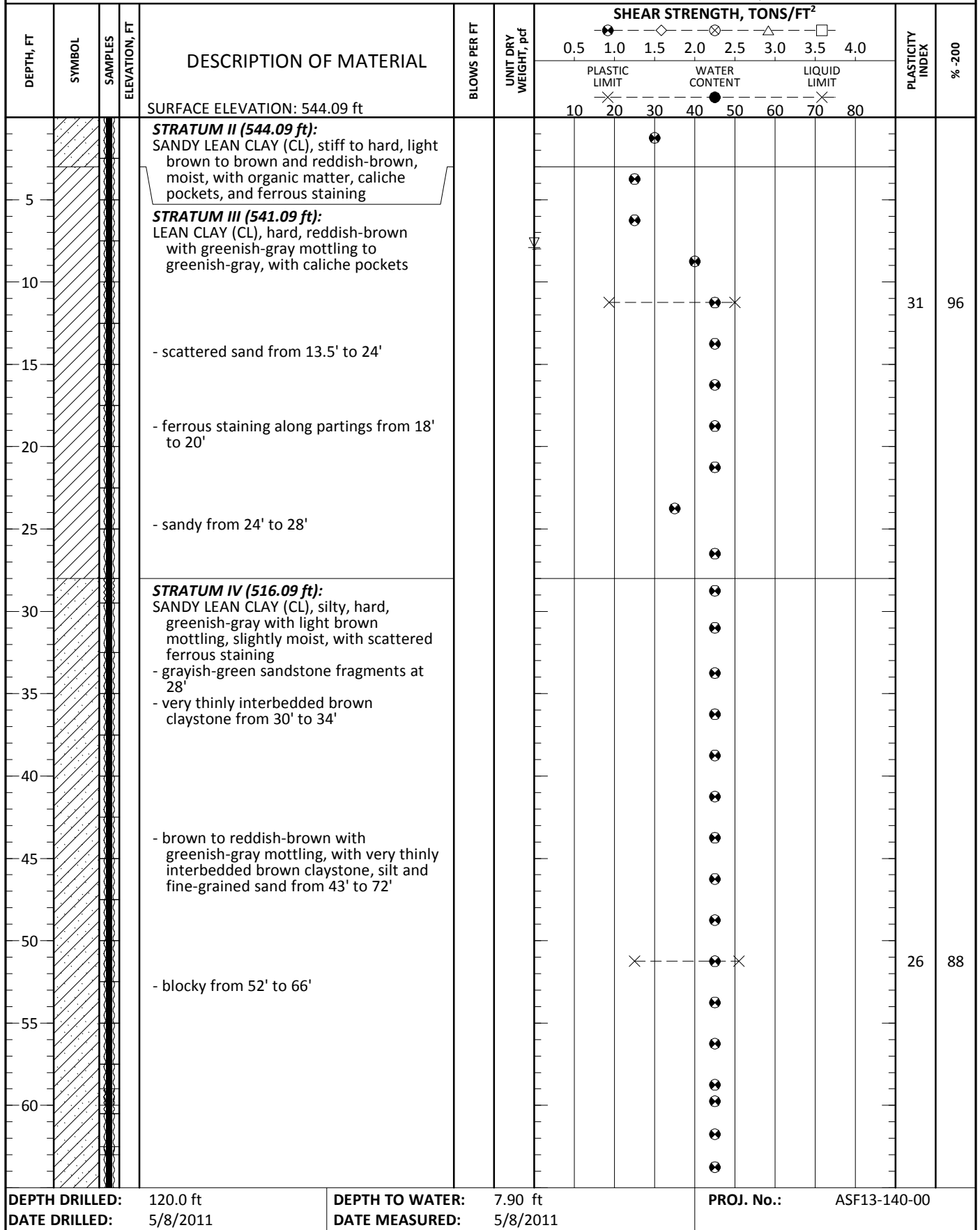
PROJ. No.: ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10000476.30; E 1589991.96



NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-121

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10000476.30; E 1589991.96

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

SURFACE ELEVATION: 544.09 ft

**STRATUM IV (516.09 ft):**  
SANDY LEAN CLAY (CL), silty, hard, greenish-gray with light brown mottling, slightly moist, with scattered ferrous staining (*continued*)

- very thinly interbedded sandstone from 72' to 88'  
- grayish-brown with greenish-gray mottling, with some fine-grained sand from 72' to 91.5'

- blocky, with very thinly interbedded claystone from 88' to 91.5'

FAT CLAY (CH), blocky, fractured, hard, reddish-brown to dark grayish-brown with gray and greenish-gray mottling, slightly moist, with a trace of sand and scattered ferrous staining

Boring Terminated

**DEPTH DRILLED:** 120.0 ft  
**DATE DRILLED:** 5/8/2011

**DEPTH TO WATER:** 7.90 ft  
**DATE MEASURED:** 5/8/2011

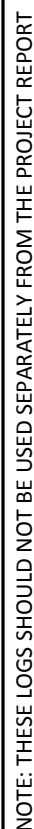
**PROJ. No.:** ASF13-140-00

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 9999604.26; E 1590034.77



# LOG OF BORING NO. B-122

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9999604.26; E 1590034.77

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div></div></div></div>									
							<div><div><div>1020304050607080</div><div><div>✕✕</div><div>✕✕</div></div></div></div>									
SURFACE ELEVATION: 543.02 ft																
70				<b>STRATUM IV (527.02 ft):</b> FAT CLAY (CH), hard, gray to brown, slightly moist, with very thinly interbedded grayish-brown siltstone <i>(continued)</i> - brown-gray mottling from 65' to 69' - glauconite at partings and gray siltstone from 69' to 75'						●						
75				- grayish-green with caliche at partings from 75' to 76'							●					
80				FAT CLAY (CH), hard, brown with greenish-gray mottling, slightly moist - caliche pockets from 76' to 77'							●					
85				- caliche pockets from 83' to 84'							●					
90				- very thinly interbedded gray siltstone from 87' to 94'							●					66
95				- very thinly interbedded brown claystone from 94' to 98'							●				31	
100											●					
105				- very thinly interbedded greenish-gray siltstone from 104' to 111'							●					
110											●					
115				- very thinly interbedded gray to light brown claystone from 111' to 116'							●					
120				- yellow mottling from 118' to 119' - caliche pockets from 118.5' to 120'							●					
125				- caliche pockets at 124'							●					
				- very thinly interbedded brown claystone from 126' to 131'							●				28	95
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 9.80 ft	PROJ. No.: ASF13-140-00											
DATE DRILLED: 4/16/2011				DATE MEASURED: 4/16/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-122

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



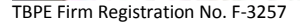
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9999604.26; E 1590034.77

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>0.5</div><div>1.0</div><div>1.5</div><div>2.0</div><div>2.5</div><div>3.0</div><div>3.5</div><div>4.0</div></div><div><div><div></div><div></div><div></div></div></div></div>											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
				FAT CLAY (CH), hard, brown with greenish-gray mottling, slightly moist <i>(continued)</i> - caliche pockets from 131' to 137'														
135																		
				FAT CLAY (CH), hard, light grayish-brown and dark brown to brown with gray mottling, slightly moist, with very thinly interbedded gray siltstone														
140																		
				- sandy from 146' to 148'														
145				- dark grayish-green with brown mottling and intermittent yellow mottling, with ferrous staining from 146' to 152'														
150				- caliche pockets from 152' to 156'														
155																		
160				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 9.80 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 4/16/2011				DATE MEASURED: 4/16/2011														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374

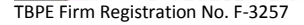


**LOCATION:** N 9999818.23; E 1587718.08

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200	
							PLASTIC LIMIT			WATER CONTENT			LIQUID LIMIT			
				SURFACE ELEVATION: 535.13 ft			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
							10	20	30	40	50	60	70	80		
5				<b>STRATUM I (535.13 ft):</b> SANDY LEAN CLAY (CL), firm to stiff, light brown to brown, moist, with organic matter and caliche pockets  - scattered gravel from 8' to 10'												
10				<b>STRATUM III (525.13 ft):</b> FAT CLAY (CH), hard, light brown to reddish-brown with gray and scattered orange mottling, slightly moist - scattered ferrous staining along partings from 10' to 17' - caliche pockets from 12' to 17' - fine-grained sand from 17' to 22'  - green mottling, with caliche pockets from 22' to 26'  - light greenish-gray mottling from 26' to 32'											23	83
15																
20																
25																
30																
35				<b>STRATUM IV (503.13 ft):</b> FAT CLAY (CH), hard, brown to reddish-brown and dark grayish-brown to gray with brown and greenish-gray mottling, slightly moist - scattered fine-grained sand from 36' to 40'  - caliche pockets and glauconite from 40' to 46'  - brown with gray mottling, with thinly interbedded moderately-indurated brown to reddish-brown claystone from 56' to 80.5'  - scattered fine-grained sand, with												
40																
45																
50																
55																
60																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.30 ft	PROJ. No.: ASF13-140-00											
DATE DRILLED: 4/29/2011				DATE MEASURED: 4/29/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



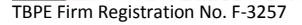
**LOCATION:** N 9999818.23; E 1587718.08

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200	
							<div><div><div>✕</div><div>◇</div><div>⊗</div><div>△</div><div>□</div></div><div>0.51.01.52.02.53.03.54.0</div></div>									
							PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT				
							✕	20	30	40	50	60	70	80		
SURFACE ELEVATION: 535.13 ft																
70				weakly-indurated sandstone from 63' to 64'							✗					
				<b>STRATUM IV (503.13 ft):</b> FAT CLAY (CH), hard, brown to reddish-brown and dark grayish-brown to gray with brown and greenish-gray mottling, slightly moist ( <i>continued</i> )							✗					
75				- caliche pockets from 78' to 80.5'							✗					
80											✗					
85				FAT CLAY (CH), hard, gray and brown to reddish-brown with greenish-gray mottling, slightly moist							✗					
90				- scattered fine-grained sand, very thinly interbedded fine-grained sandstone/siltstone from 84' to 88'			✕		✕		✗				14	54
				- scattered fine-grained sand from 92' to 98'							✗					
95				- very thinly fine-grained sandstone/siltstone from 94' to 96'							✗					
				- interbedded brown claystone from 98' to 105'							✗					
100											✗					
105				- scattered fine-grained sand from 105' to 115'							✗					
110											✗					
				- very thinly interbedded fine-grained sandstone/siltstone from 112' to 115'							✗					
115				- interbedded brown claystone from 115' to 125'							✗					
120				- scattered fine-grained sand from 120' to 135'							✗					
125											✗					
							✕			✕					24	49
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.30 ft		DATE DRILLED: 4/29/2011		DATE MEASURED: 4/29/2011		PROJ. No.: ASF13-140-00						

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 9999818.23; E 1587718.08

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
SURFACE ELEVATION: 535.13 ft																
				FAT CLAY (CH), hard, gray and brown to reddish-brown with greenish-gray mottling, slightly moist <i>(continued)</i>												
135																
140																
145																
150																
				- very thinly interbedded, very fine-grained gray sandstone/siltstone from 151' to 154'												
155																
				- interbedded grayish-brown claystone from 154' to 160'												
160																
				Boring Terminated												
165																
170																
175																
180																
185																
190																
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 5.30 ft				PROJ. No.:				ASF13-140-00				
DATE DRILLED: 4/29/2011				DATE MEASURED: 4/29/2011												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
**KISTNER**  
TBPE Firm Registration No. F-3257

**LOCATION:** N 9999371.12; E 1588239.28

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-124

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 9999371.12; E 1588239.28

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0		
				SURFACE ELEVATION: 536.89 ft												
70				<b>STRATUM IV (510.89 ft):</b> SANDY LEAN CLAY (CL), hard, grayish-green to reddish-brown with greenish-gray mottling, slightly moist to moist ( <i>continued</i> ) - brown with scattered light greenish-gray mottling, with very thinly interbedded brown claystone from 67' to 71'												
75																
80																
85				- interbeds and induration decreasing from 82' to 93'												
90																
95				- gray with light brown mottling from 91' to 92'												
				FAT CLAY (CH), hard, dark grayish-green with dark gray mottling, slightly moist to moist - gray from 94' to 100'												
100				- greenish-gray siltstone from 99.5' to 99.75'												
105				- gray to greenish-gray to brown-gray, with thinly interbedded gray sandstone and claystone from 100' to 113'												
110				- caliche pockets from 109' to 110'												
115																
120				- reddish-brown with greenish-gray mottling, with weakly-indurated reddish-brown claystone from 117' to 123'												
125				- grayish-brown to grayish-green with claystone inclusions from 123' to 126'												
				- reddish-brown with greenish-gray mottling with weakly-indurated												
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.89 ft				PROJ. No.: ASF13-140-00								
DATE DRILLED: 5/6/2011				DATE MEASURED: 1/10/2012												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-124

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9999371.12; E 1588239.28

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							<div><div><div>0.51.01.52.02.53.03.54.0</div><div><div>●◆⊗△□</div><div>PLASTIC LIMITWATER CONTENTLIQUID LIMIT</div><div><div>×</div><div>●</div><div>×</div></div></div></div></div>											
							<div><div><div>1020304050607080</div></div></div>											
				SURFACE ELEVATION: 536.89 ft														
135				claystone from 127' to 134.5' FAT CLAY (CH), hard, dark grayish-green with dark gray mottling, slightly moist to moist ( <i>continued</i> ) - caliche pockets from 131' to 134.5' - gray, with very thinly interbedded siltstone from 134.5' to 135'													43	96
140																		
145				- gray, with very thinly interbedded well-indurated sandstone/siltstone from 141' to 150'														
150				- greenish-gray from 148' to 150'														
155				- reddish-brown with very thinly interbedded gray siltstone and weakly-indurated claystone from 150' to 154'														
160				- trace of fine-grained sand from 154' to 160'														
160				Boring Terminated														
165																		
170																		
175																		
180																		
185																		
190																		
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 7.89 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 5/6/2011				DATE MEASURED: 1/10/2012														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 9999853.96; E 1589399.08

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. B-125

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9999853.96; E 1589399.08

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
				SURFACE ELEVATION: 542.22 ft														
70				FAT CLAY (CH), blocky, hard, reddish-brown to brown with light greenish-gray mottling, slightly moist, with very thinly interbedded brown claystone/shale and siltstone (continued)														
75				- large caliche pockets from 74' to 76'														
80																		
85				- weakly-indurated siltstone from 82' to 83'														
90				- reddish-brown with light gray mottling from 86' to 92'														
95				- reddish-brown with light gray mottling from 94' to 97'														
100				- light greenish-gray siltstone from 97' to 98.5'														
105				FAT CLAY (CH), hard, reddish-brown, slightly moist, with interbedded gray-brown claystone														
110				- gray mottling from 101' to 107'														
115				- yellow mottling from 103' to 104'														
120				- caliche pockets at 106'														
				- caliche pockets from 111' to 113'														
				- caliche at partings from 116' to 118'														
				- caliche at partings from 119' to 120'														
				Boring Terminated														
125																		
DEPTH DRILLED: 121.0 ft				DEPTH TO WATER: 9.00 ft				PROJ. No.: ASF13-140-00										
DATE DRILLED: 4/17/2011				DATE MEASURED: 4/17/2011														

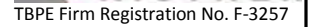
NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

**RABA**  
KISTNER  
TBPE Firm Registration No. F-3257

**LOCATION:** N 9999107.12; E 1589421.42

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 9999107.12; E 1589421.42

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200								
							0.5		1.0		1.5		2.0				2.5		3.0		3.5		4.0	
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT													
				SURFACE ELEVATION: 538.03 ft																				
				- reddish-brown to gray, with some fine-grained sand, thinly interbedded gray sandstone from 63' to 71'																				
				<b>STRATUM IV (517.03 ft):</b>																				
70				FAT CLAY (CH), hard, reddish-brown to gray, slightly moist, with thinly interbedded well-indurated claystone, siltstone and fine-grained sandstone (continued)																				
75				- greenish-gray from 71' to 76'																				
				- brown with greenish-gray mottling from 76' to 81'																				
80																								
				- gray, with very thinly interbedded sandstone from 81' to 83'																				
85				- brown with gray mottling, with interbedded brown claystone from 83' to 84'																				
				FAT CLAY (CH), hard, light greenish-gray to gray and reddish-brown, slightly moist																				
90																								
				- brown and gray from 91' to 94.5'																				
				- thinly interbedded reddish-brown claystone from 92' to 93'																				
95																								
				- reddish and chocolate brown with greenish-gray mottling from 94.5' to 97'																				
				- dark greenish-gray, with scattered fine-grained sand from 97' to 102'																				
100																								
				- reddish-brown with greenish-gray mottling, with caliche pockets from 102' to 115'																				
105																								
110																								
115																								
				FAT CLAY (CH), hard, green with light brown mottling, slightly moist																				
120																								
125																								
DEPTH DRILLED: 160.0 ft				DEPTH TO WATER: 8.36 ft				PROJ. No.: ASF13-140-00																
DATE DRILLED: 5/7/2011				DATE MEASURED: 1/10/2012																				

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. B-126

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 9999107.12; E 1589421.42

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
				SURFACE ELEVATION: 538.03 ft			10	20	30	40	50	60	70	80				
				FAT CLAY (CH), hard, green with light brown mottling, slightly moist <i>(continued)</i> - weakly-indurated gray claystone from 131' to 134' - caliche pockets from 132' to 133' - brown with gray mottling from 134' to 136' - thinly interbedded gray siltstone and a trace of fine-grained sand from 136' to 141'											38	97		
135																		
140																		
145																		
150																		
155																		
160																		

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. DB-1

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



DRILLING  
METHOD: Rotosonic

LOCATION: N 10006365.24; E 1588627.29

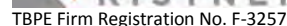
DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
				<b>STRATUM I (550.60 ft):</b> FAT CLAY (CH), firm, tan to brown, moist, with caliche pockets, organic matter, ferrous staining and scattered sand														
5				<b>STRATUM III (547.60 ft):</b> CLAY, stiff to hard, light greenish-brown to reddish-brown, slightly moist, with ferrous staining along partings and scattered caliche pockets														
10																		
15				- greenish-tan from 13' to 16'														
20				- grayish-brown with green mottling from 16' to 18'														
25				- reddish-brown with green and some orange mottling from 18' to 27.5'														
30				<b>STRATUM IV (523.10 ft):</b> FAT CLAY (CH), hard, greenish-gray with light brown mottling, slightly moist														
35				- sandy from 30.5' to 34.5'														
40				- brown with green mottling, with scattered brown claystone fragments from 34.5' to 36'														
45				- brown, with widely scattered fine-grained sand and scattered ferrous staining from 36' to 49'														
50				- green siltstone from 49' to 50'														
55				- thinly interbedded brown claystone from 50' to 51'														
60				- thinly interbedded greenish-gray fine-grained sandstone from 51' to 55'														
				- brown, with interbedded gray-brown siltstone/claystone from 55' to 57'														
				- gray siltstone/claystone from 58.5' to 61'														
				- green claystone from 62' to 64.5'														
DEPTH DRILLED: 502.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00										
DATE DRILLED: 6/7/2011				DATE MEASURED: -														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

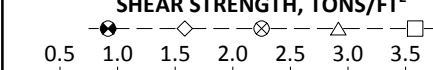
DEPTH DRILLED:	502.0 ft	DEPTH TO WATER:	-	PROJ. No.:	ASF13-140-00
DATE DRILLED:	6/7/2011	DATE MEASURED:	-		



Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10006365.24; E 1588627.29

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200	
																
							PLASTIC LIMIT		WATER CONTENT			LIQUID LIMIT				
							10	20	30	40	50	60	70	80		
				SURFACE ELEVATION: 550.60 ft												
				SANDSTONE, very fine-grained, grayish-green, slightly moist, with greenish-gray clay ( <i>continued</i> )												
70				FAT CLAY (CH), hard, grayish-green to brown and reddish-brown, slightly moist												
				- very thinly interbedded grayish-green fine-grained sandstone from 66' to 72'												
75				- brown with gray mottling and gray-brown siltstone from 70' to 72'												
				- reddish-brown with greenish-gray mottling from 72' to 84'												
80				- very thinly interbedded brown claystone from 79' to 81'												
85				- caliche pockets from 83.5' to 84'												
				NO RECOVERY												
				- very thinly interbedded gray fine-grained sandstone from 86' to 90'												
90				- scattered gray siltstone from 90' to 101'												
95																
100																
				- greenish-gray with light brown mottling, with scattered fine-grained sandstone from 101' to 103'												
105				- caliche pockets from 104' to 105'												
				FAT CLAY (CH), hard, brown with green mottling to reddish-brown with light gray mottling, slightly moist												
110				- scattered brown claystone from 105' to 106'												
				- glauconite pockets from 106' to 107'												
				- orange-brown mottling from 106' to 110'												
115				- scattered brown claystone from 110' to 119'												
				- orange-brown mottling from 116' to 125'												
120				- grayish-brown siltstone from 120' to 122'												
125				- scattered weakly-indurated grayish-green claystone from 125' to 126'												
				- reddish-brown with light gray mottling, with thinly interbedded brown												
DEPTH DRILLED: 502.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/7/2011				DATE MEASURED: -												

**NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT**

# LOG OF BORING NO. DB-1

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006365.24; E 1588627.29

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT		WATER CONTENT				LIQUID LIMIT					
				SURFACE ELEVATION: 550.60 ft			10	20	30	40	50	60	70	80				
135				claystone from 126' to 129' - greenish-gray with light brown mottling, with very fine-grained greenish-gray sandstone, caliche pockets, and gypsum crystals from 129' to 131'							⊗							
140				FAT CLAY (CH), hard, brown with green mottling to reddish-brown with light gray mottling, slightly moist <i>(continued)</i>							⊗							
145				- thinly interbedded brown siltstone/claystone from 131' to 136' - dark gray with greenish-gray mottling and some orange mottling, with scattered gray claystone from 136' to 139'							⊗							
150				- brown with dark gray and greenish-gray mottling, with scattered silt and interbedded brown with green siltstone from 146' to 149'							⊗							
155				- light greenish-gray from 149' to 151' - fine-grained, thinly interbedded grayish-brown and greenish-gray sandstone from 149' to 151'							⊗							
160				- sandstone fragments from 151' to 151.5'							⊗							
165				- brown with light gray and greenish-gray mottling from 151' to 152'														
170				- gray with light green mottling from 151' to 153'														
175				- brown with greenish-gray mottling from 153' to 156'							⊗							
180				FAT CLAY (CH), hard, grayish-brown to reddish-brown, slightly moist														
185				- very fine-grained gray sandstone from 156' to 164'														
190				- grayish-light brown siltstone from 164' to 166'														
				- sandy, with thinly interbedded, very fine-grained gray sandstone from 166' to 168'							⊗							
				- reddish-brown to brown with greenish-gray and orange-brown mottling with scattered fine-grained sand from 168' to 171'														
				- scattered brown claystone from 168' to 173'														
				- greenish-gray with light brown mottling from 171' to 173'														
				- greenish-gray and reddish-brown with fine-grained sand from 173' to 174'							⊗							
				- dark grayish-green with brown mottling with siltstone from 173' to 176'														
				- greenish-gray and light brown and gray fine-grained sandstone from 176' to 183'														
				- dark brown with dark green mottling from 183' to 186'														
				- siltstone interbeds from 184' to 186'														
				- moderately-indurated claystone from 186' to 191.5'							⊗							
				- gray with very fine-grained sandstone from 191.5' to 192'														
DEPTH DRILLED: 502.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00										
DATE DRILLED: 6/7/2011				DATE MEASURED: -														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. DB-1

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006365.24; E 1588627.29

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 550.60 ft			10	20	30	40	50	60	70	80		
200				FAT CLAY (CH), hard, grayish-brown to reddish-brown, slightly moist <i>(continued)</i> - siltstone from 196' to 199' - brown claystone from 199' to 199.5' - brown to reddish-brown with light gray mottling from 200' to 205'							●					
205				- green, with fine-grained sand and very fine-grained sandstone from 205' to 207' - thinly interbedded brown claystone from 207' to 222'												
210				- glauconite and caliche pockets from 211' to 212' - reddish-brown to brown, with light greenish-gray mottling from 212' to 222'							●					
215																
220											●					
225				- brown claystone from 222' to 222.5' - thinly interbedded brown claystone from 222.5' to 228'												
230																
235				- grayish-green with brown mottling and grayish-green very fine-grained sandstone interbeds from 230' to 236'							●					
240				- reddish-brown with light gray mottling and brown claystone from 236' to 240'												
245				FAT CLAY (CH), hard, reddish-brown and gray-green, slightly moist, with thinly interbedded dark grayish-green claystone and siltstone - gypsum crystals and caliche pockets from 240' to 242' and from 245' to 246'							●					
250				- blocky, brown to reddish-brown with light gray mottling, with brown claystone from 249' to 253'							●					
255				NO RECOVERY												
DEPTH DRILLED: 502.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/7/2011				DATE MEASURED: -												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. DB-1

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006365.24; E 1588627.29

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>								PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0									
							PLASTIC LIMIT		WATER CONTENT		LIQUID LIMIT					
				SURFACE ELEVATION: 550.60 ft			10	20	30	40	50	60	70	80		
265				- grayish-brown claystone from 263' to 266'												
270																
275																
280				NO RECOVERY												
285				CLAYSTONE or SILTSTONE, hard, brown and gray												
290				SANDSTONE, very fine-grained, gray, with interbedded clays containing very thinly interbedded sandstone												
295				- clay from 288' to 296'												
300				- caliche pockets from 290' to 295'												
305																
310				- interbedded gray sandy clay 304' to 306'												
315				- greenish-gray siltstone from 309' to 312'												
320				- interbedded hard gray sandy clay from 314' to 316'												
DEPTH DRILLED: 502.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00								
DATE DRILLED: 6/7/2011				DATE MEASURED: -												

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

# LOG OF BORING NO. DB-1

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006365.24; E 1588627.29

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0											
							PLASTIC LIMIT			WATER CONTENT			LIQUID LIMIT					
							10	20	30	40	50	60	70	80				
				SURFACE ELEVATION: 550.60 ft														
330				SANDSTONE, very fine-grained, gray, with interbedded clays containing very thinly interbedded sandstone <i>(continued)</i>														
335				- interbedded gray and dark gray sandy clay and thinly interbedded gray sandstone from 332' to 336'														
340				- dark gray from 338' to 340' - with pyrite and oyster shells from 339' to 340'														
345																		
350																		
355				FAT CLAY (CH), hard, gray to dark brownish-gray and reddish-brown, slightly moist - thinly interbedded gray sandstone from 355' to 356'														
360				NO RECOVERY - Driller's note: sample washed out														
365																		
370				- dark green siltstone from 366' to 368'														
375																		
380				- very fine-grained greenish-gray sandstone from 376' to 377' - brown claystone from 378' to 379'														
385				- very fine-grained brownish-gray sandstone from 380' to 381' FAT CLAY (CH), hard, brown with green mottling, slightly moist, with fine-grained sand - green from 382' to 386'														
				NO RECOVERY														
DEPTH DRILLED: 502.0 ft				DEPTH TO WATER: -				PROJ. No.: ASF13-140-00										
DATE DRILLED: 6/7/2011				DATE MEASURED: -														

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT



# LOG OF BORING NO. DB-1

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



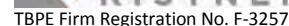
**DRILLING METHOD:** Rotosonic

**LOCATION:** N 10006365.24; E 1588627.29

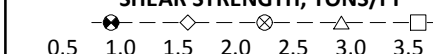
DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>										PLASTICITY INDEX	% -200					
							0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0																
							PLASTIC LIMIT WATER CONTENT LIQUID LIMIT																
SURFACE ELEVATION: 550.60 ft							10 20 30 40 50 60 70 80																
395				- very fine-grained greenish-gray sandstone from 389' to 391' (continued)																			
				- light to dark gray claystone from 391' to 395'																			
				- green claystone from 395' to 397'																			
400				- dark greenish-gray siltstone/claystone from 400' to 404'																			
405				- very fine-grained dark greenish-gray sandstone from 404' to 406'																			
410																							
415				NO RECOVERY																			
				- Driller's note: Soft zone/caving																			
420																							
425																							
430				SANDSTONE, very fine-grained, brown to light green																			
435																							
440				FAT CLAY (CH), hard, green to brown and reddish-brown, slightly moist, with thinly interbedded sandstone and claystone																			
445				- caliche pockets and thinly interbedded fine-grained greenish-gray sandstone from 445' to 446'																			
450																							
DEPTH DRILLED: 502.0 ft				DEPTH TO WATER: -				PROJ. No.:				ASF13-140-00											
DATE DRILLED: 6/7/2011				DATE MEASURED: -																			

NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT

Pescadito Environmental Resource Center - Type I MSW  
Management Facility - Rancho Viejo Waste Management, LLC  
Webb County, Texas - MSW Permit No. 2374



**LOCATION:** N 10006365.24; E 1588627.29

DEPTH, FT	SYMBOL	SAMPLES	ELEVATION, FT	DESCRIPTION OF MATERIAL	BLOWS PER FT	UNIT DRY WEIGHT, pcf	SHEAR STRENGTH, TONS/FT <sup>2</sup>							PLASTICITY INDEX	% -200
															
							0.5	1.0	1.5	2.0	2.5	3.0	3.5		
				SURFACE ELEVATION: 550.60 ft											
				FAT CLAY (CH), hard, green to brown and reddish-brown, slightly moist, with thinly interbedded sandstone and claystone ( <i>continued</i> ) - caliche pockets and interbedded fine-grained green and gray sandstone from 455' to 456' - dark gray siltstone from 456' to 460'											
460															
465															
470				- wet from 468' to 470'											
475															
480															
485				NO RECOVERY											
490															
495				- caliche pockets from 490' to 494'											
500															
505				Boring Terminated											
510															
515															

DEPTH DRILLED: 502.0 ft

DATE DRILLED: 6/7/2011

DEPTH TO WATER: -

DATE MEASURED: -

PROJ. No.: ASF13-140-00

**NOTE: THESE LOGS SHOULD NOT BE USED SEPARATELY FROM THE PROJECT REPORT**

**APPENDIX C**

**BOREHOLE GEOPHYSICAL LOGS**

## **BORINGS**



## Logs: GAMMA, RESISTIVITY,

## Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

**Project: RANCHO VIEJO SITE**

Date: 04-08-11

Client: **RABA-KISTNER CONSULTANTS INC.**

County: WEBB

**Location:** N 27° 34' 16.2" W 99° 09' 49.9"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 459' GPS

Logger T.D. (ft) : 140'

Depth Ref: G.L.

Date Drilled: 04-04-11

Drill Method: SONIC CORE

Weight:

**Fluid Level (ft) : 10**

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

**Rm:**

at:

Deg C

Logged by: Kelly O. Tuten

Unit/Truck: 03

Witness: Robert Becknal

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
----------	--------	----------------	-----------	---------	---------

## GAMMA

20

134

2

20

RESISTIVITY, SP

20

136

35

20

## CALIPER

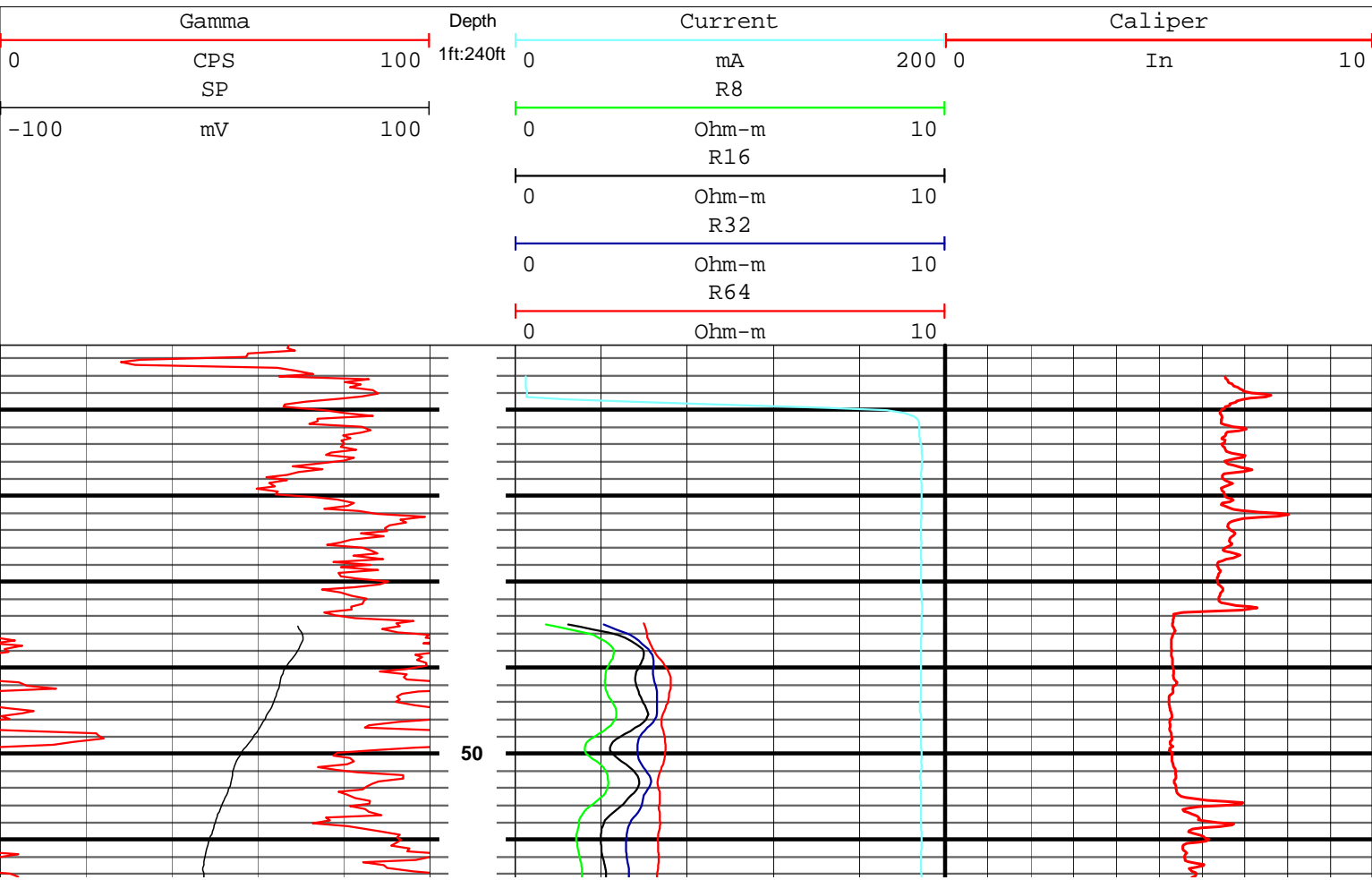
20

139

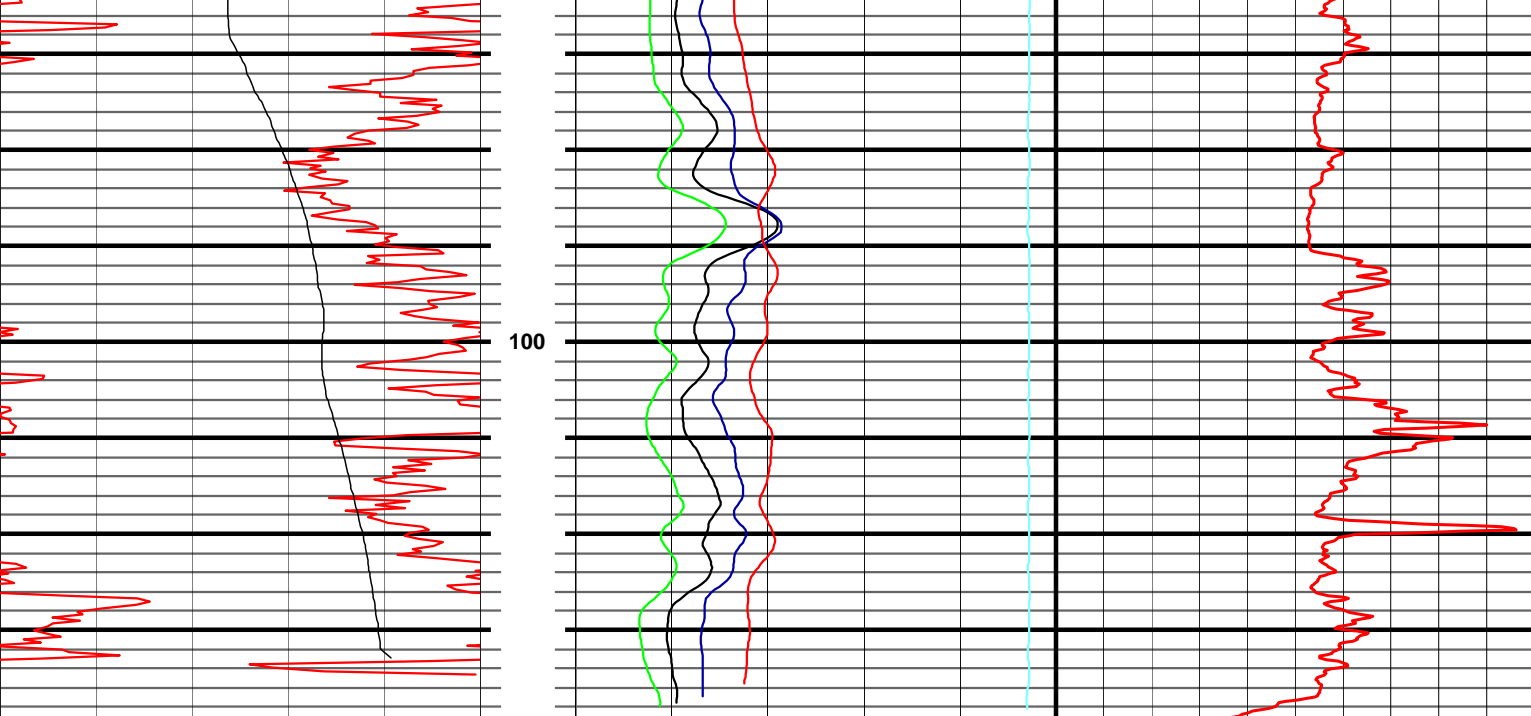
9

20

Comments:









Borehole: WELL B-103

Logs: GAMMA, RESISTIVITY,  
CALIPER, SP

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Date: 04-08-11

Project: RANCHO VIEJO SITE

County: WEBB

Client: RABA-KISTNER CONSULTANTS INC.

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 120'

Elevation: 478' GPS

Logger T.D. (ft) : 120.5'

Depth Ref: G.L.

Date Drilled: 04-05-11

BIT RECORD

CASING RECORD

RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	6"	0	120	NONE		
2						
3						

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 5

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

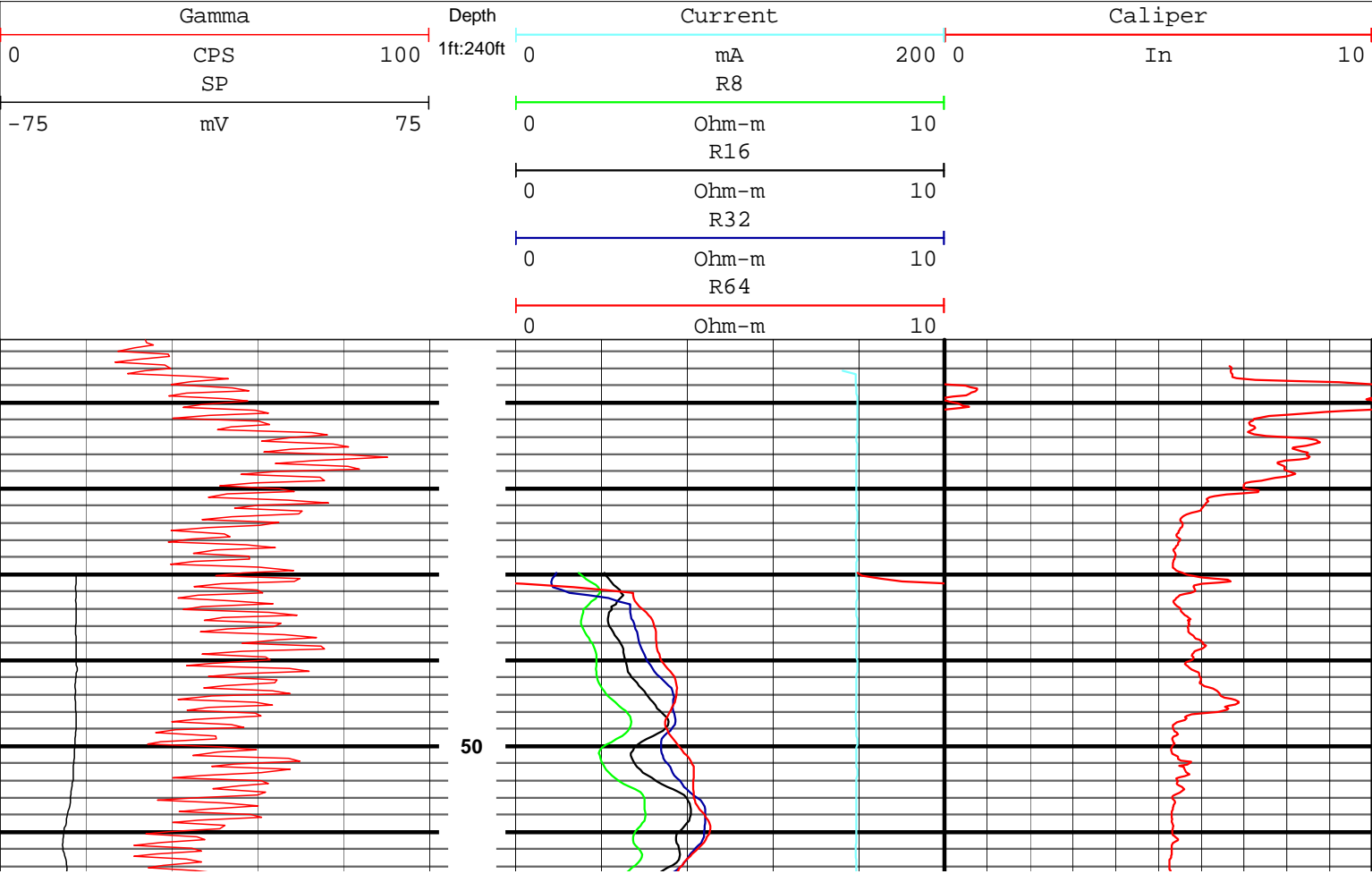
Logged by: Kelly O. Tuten

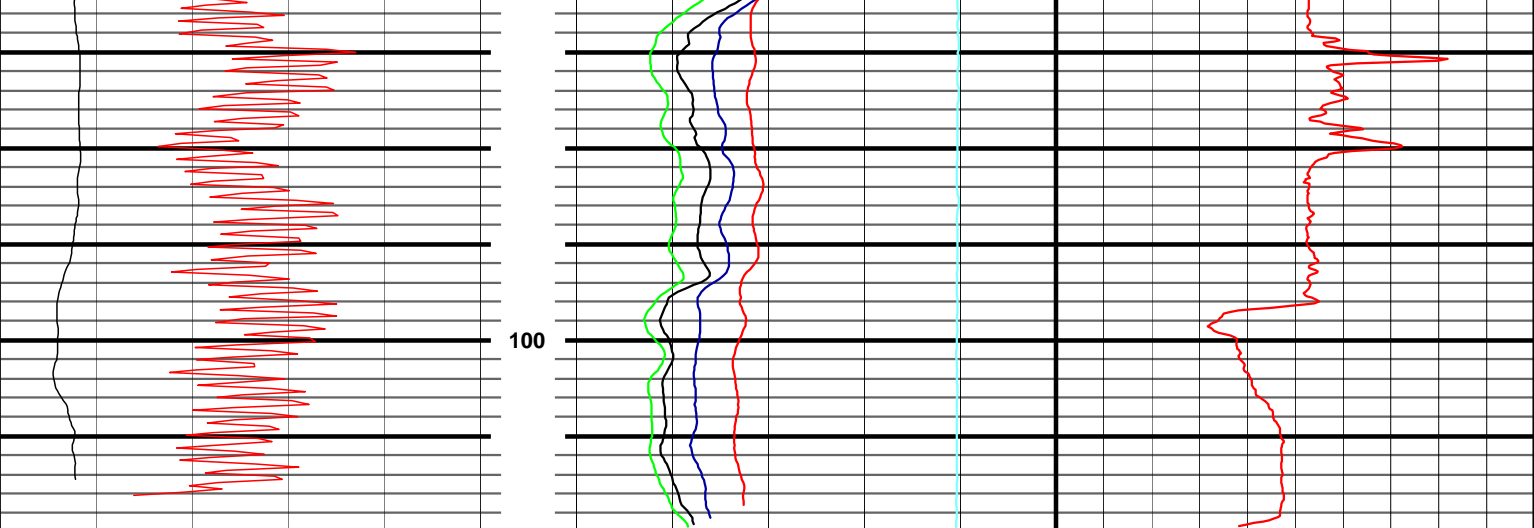
Unit/Truck: 03

Witness: Robert Becknal

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	2	20	116	3	20
RESISTIVITY, SP	2	20	118	30	20
CALIPER	1	20	119	6	20

Comments:







Borehole: WELL B-104

Logs: GAMMA, RESISTIVITY, CALIPER, SP

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Date: 04-08-11

Project: RANCHO VIEJO SITE

County: WEBB

Client: RABA-KISTNER CONSULTANTS INC.

State: TX

Location: N 27° 34' 23.7" W 99° 09' 27.6"

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 120'

Elevation: 478' GPS

Logger T.D. (ft) : 116'

Depth Ref: G.L.

Date Drilled: 04-07-11

BIT RECORD

CASING RECORD

RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	6"	0	120	NONE		
2						
3						

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 5

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

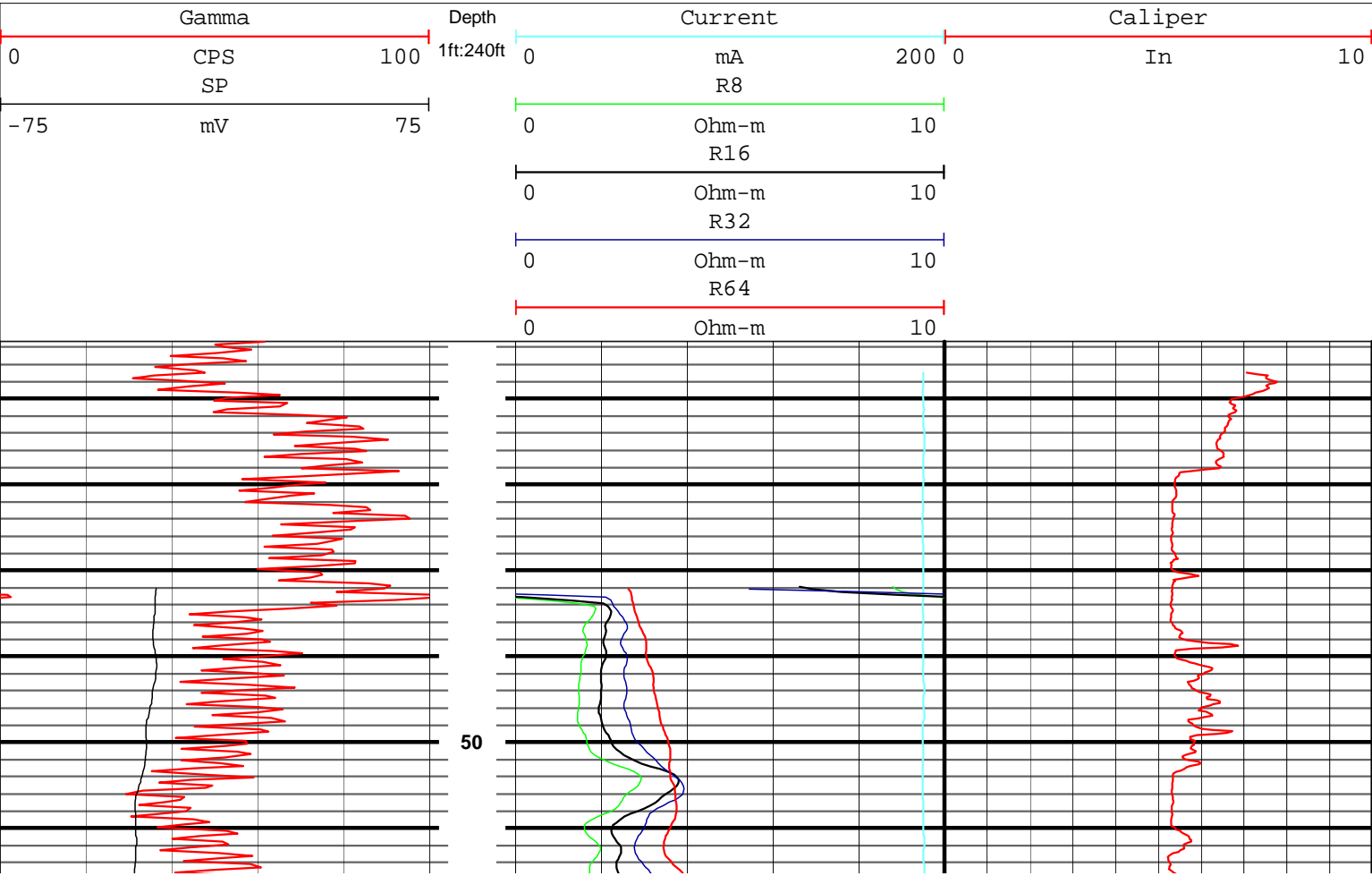
Logged by: Kelly O. Tuten

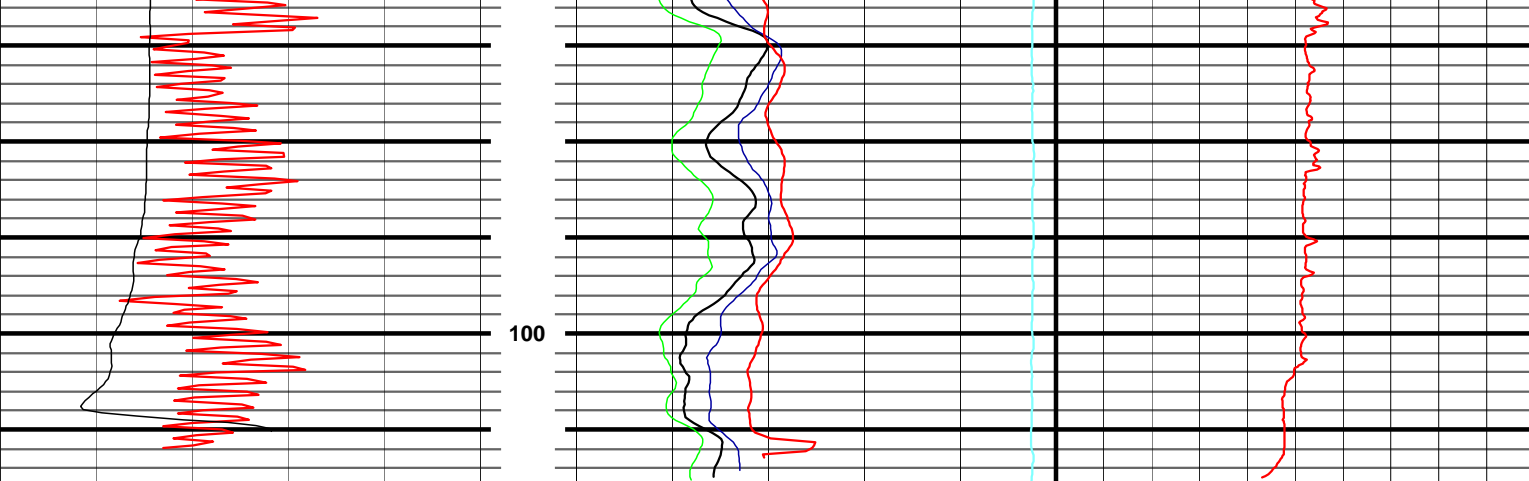
Unit/Truck: 03

Witness: Robert Becknal

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	2	20	112	3	20
RESISTIVITY, SP	2	20	114	32	20
CALIPER	1	20	115	7	20

Comments:









Borehole: WELL B-105

Logs: GAMMA, RESISTIVITY,  
CALIPER, SP

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCHO VIEJO SITE

Date: 04-08-11

Client: RABA-KISTNER CONSULTANTS INC.

County: WEBB

Location: N 27° 34' 25.3" W 99° 09' 04.5"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 482' GPS

Logger T.D. (ft) : 159'

Depth Ref: G.L.

Date Drilled: 04-06-11

BIT RECORD

CASING RECORD

RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	6"	0	160	NONE		
2						
3						

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 5

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

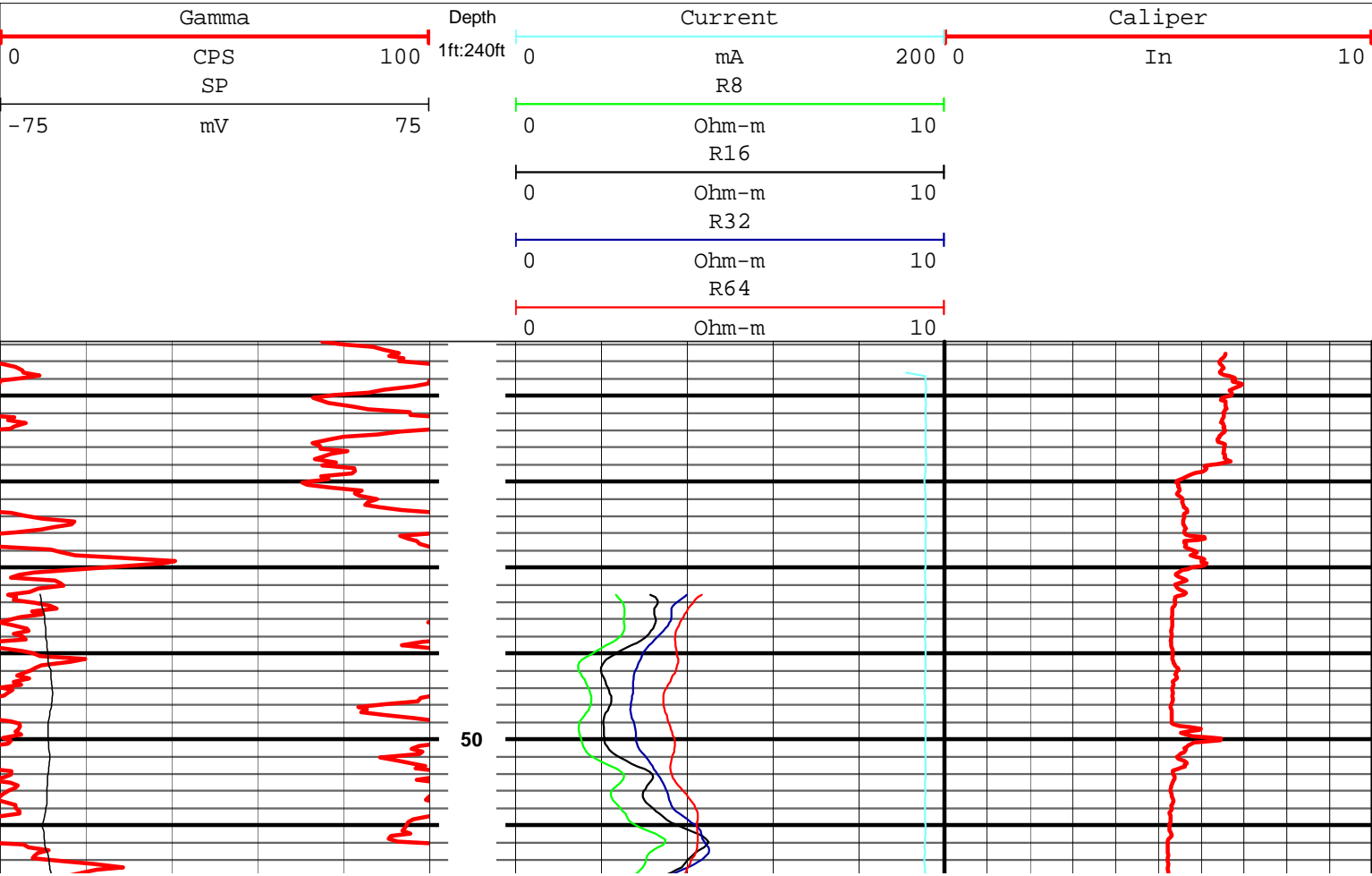
Logged by: Kelly O. Tuten

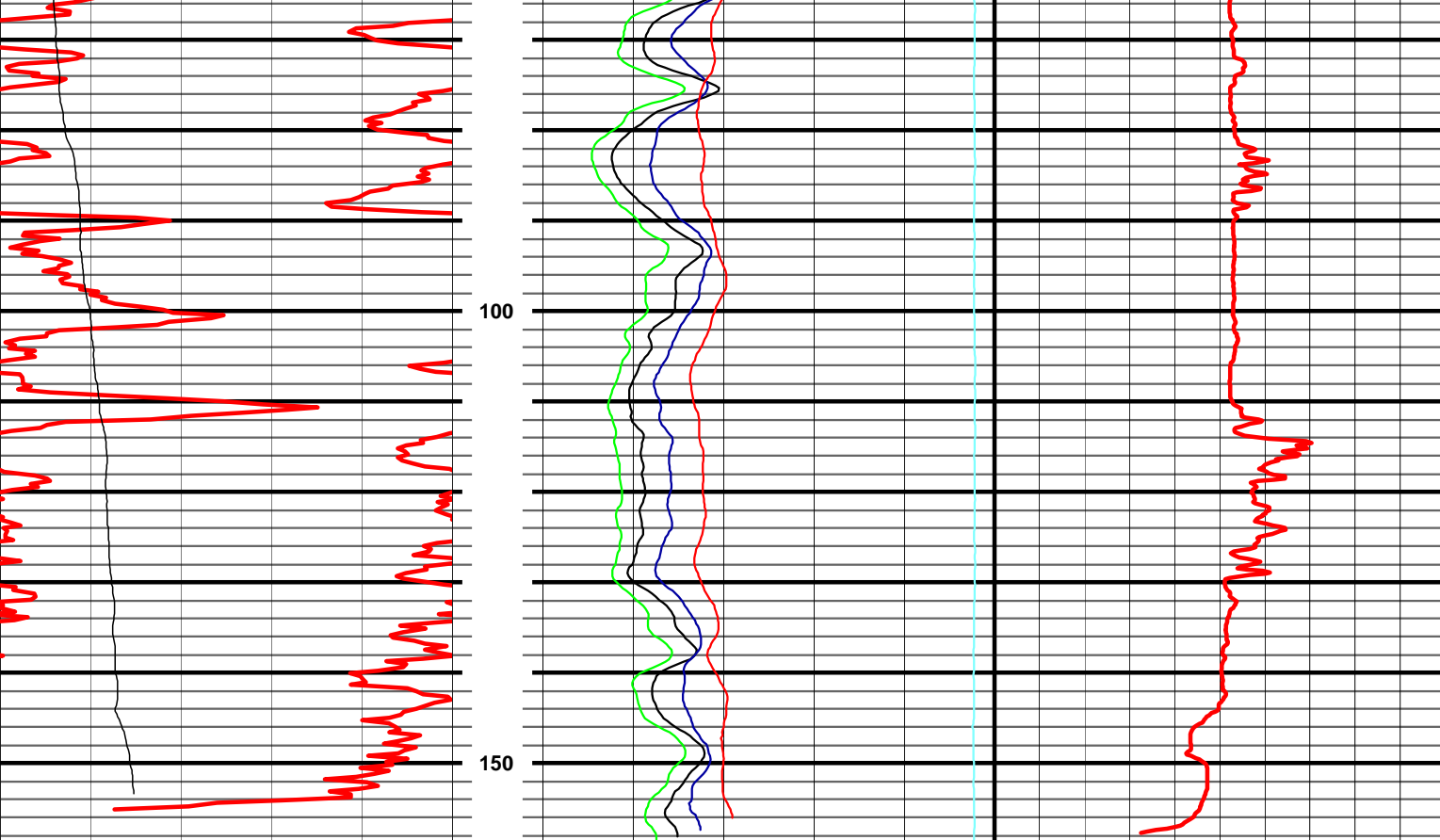
Unit/Truck: 03

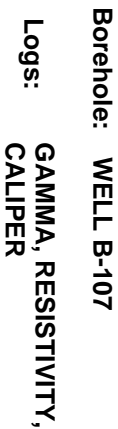
Witness: Robert Becknal

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	2	20	155	4	20
RESISTIVITY, SP	2	20	157	33	20
CALIPER	1	20	158	5	20

Comments:







Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Date: 04-21-11

County: WEBB

State: TX

**Driller T.D. (ft) : 160'**

Logger T.D. (ft) : 137'

Date Drilled: 04-07-11

Drill Method: SONIC CORE

Weight:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

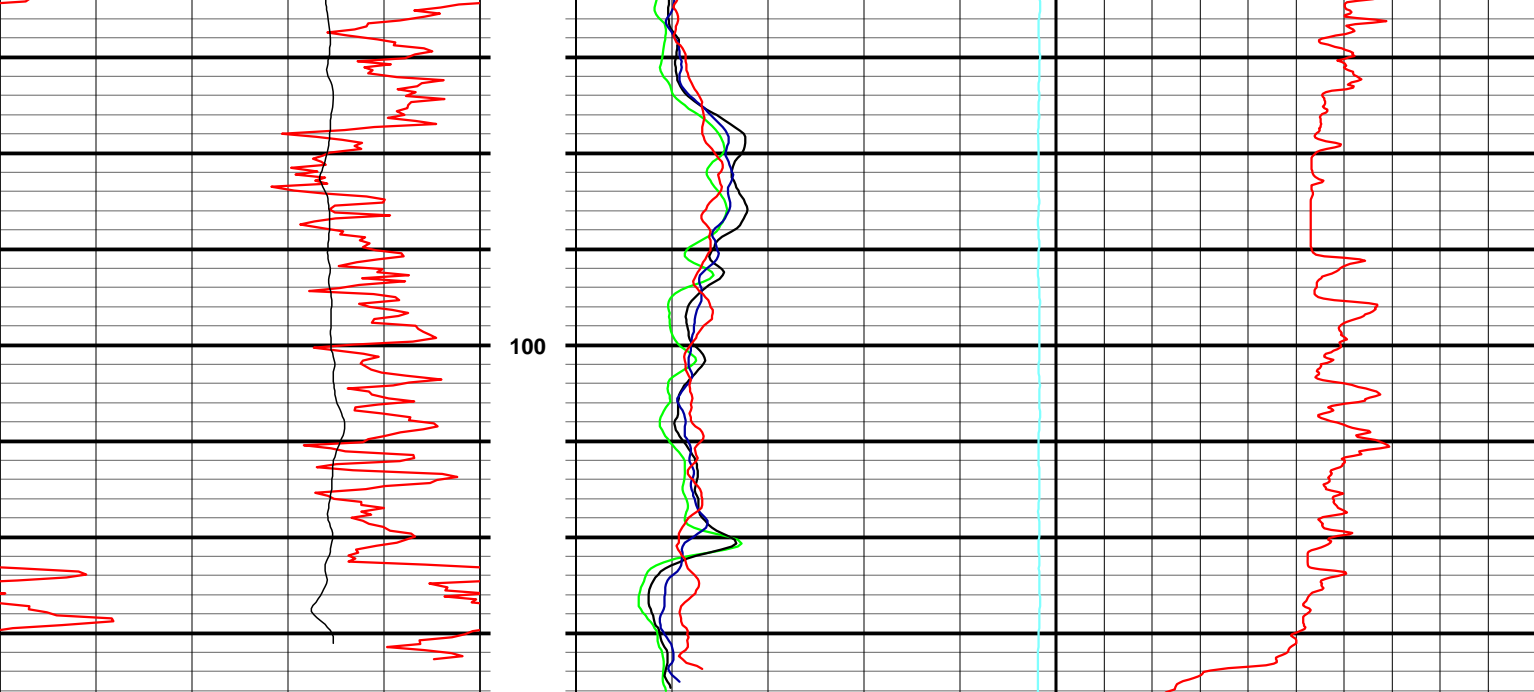
• •

Logged by: Kelly Tuten

Unit/Truck: 05

Witness:

Comments:





Borehole: WELL B-108

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 04-21-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 34' 09.1" W 99° 09' 33.8"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 120'

Elevation: 525' GPS

Logger T.D. (ft) : 95'

Depth Ref: G.L.

Date Drilled: 04-09-11

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	120	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 5'

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

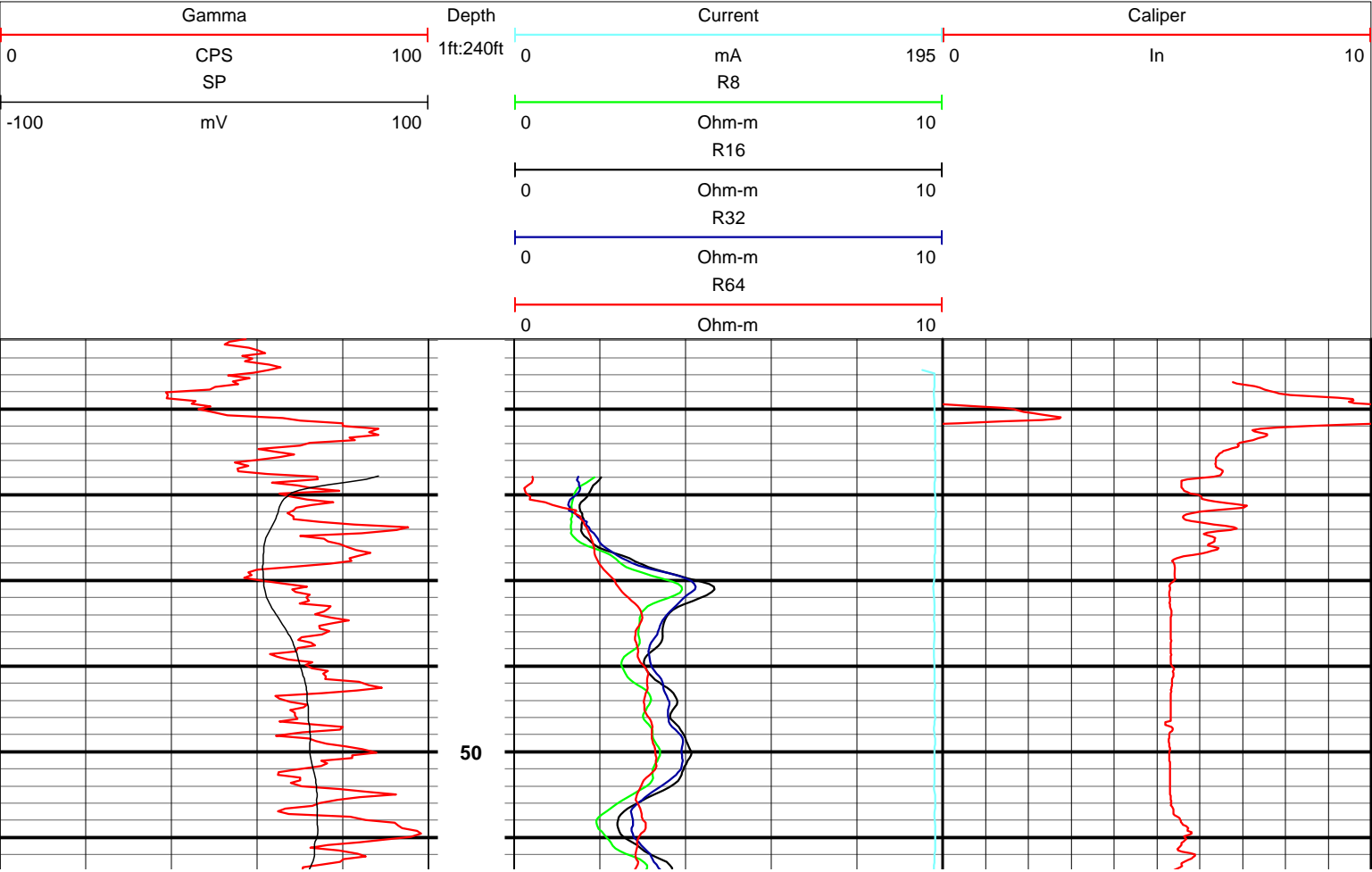
Logged by: Kelly Tuten

Unit/Truck: 05

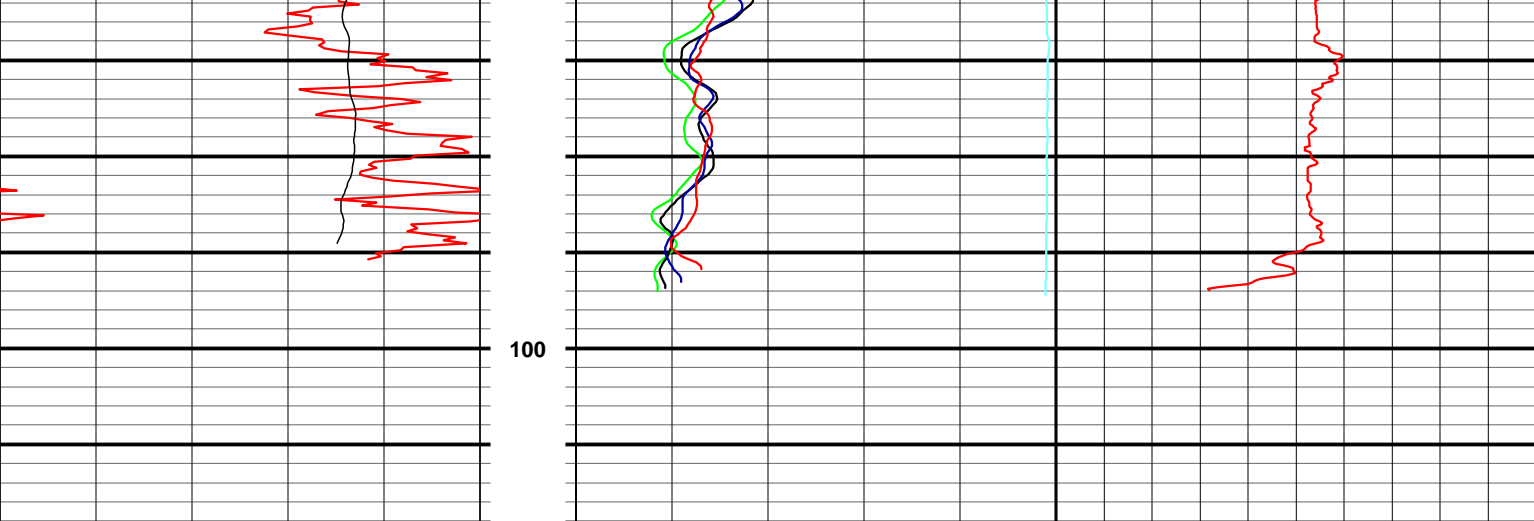
Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	91	2	20
RESISTIVITY, SP	2	16	93	18	20
CALIPER	1	20	94	7	20

Comments:









Borehole: WELL B-109

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 04-21-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 34' 05.0" W 99° 09' 23.7"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 532' GPS

Logger T.D. (ft) : 139'

Depth Ref: G.L.

Date Drilled: 04-11-11

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	160	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 4'

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at: Deg C

GENERAL DATA

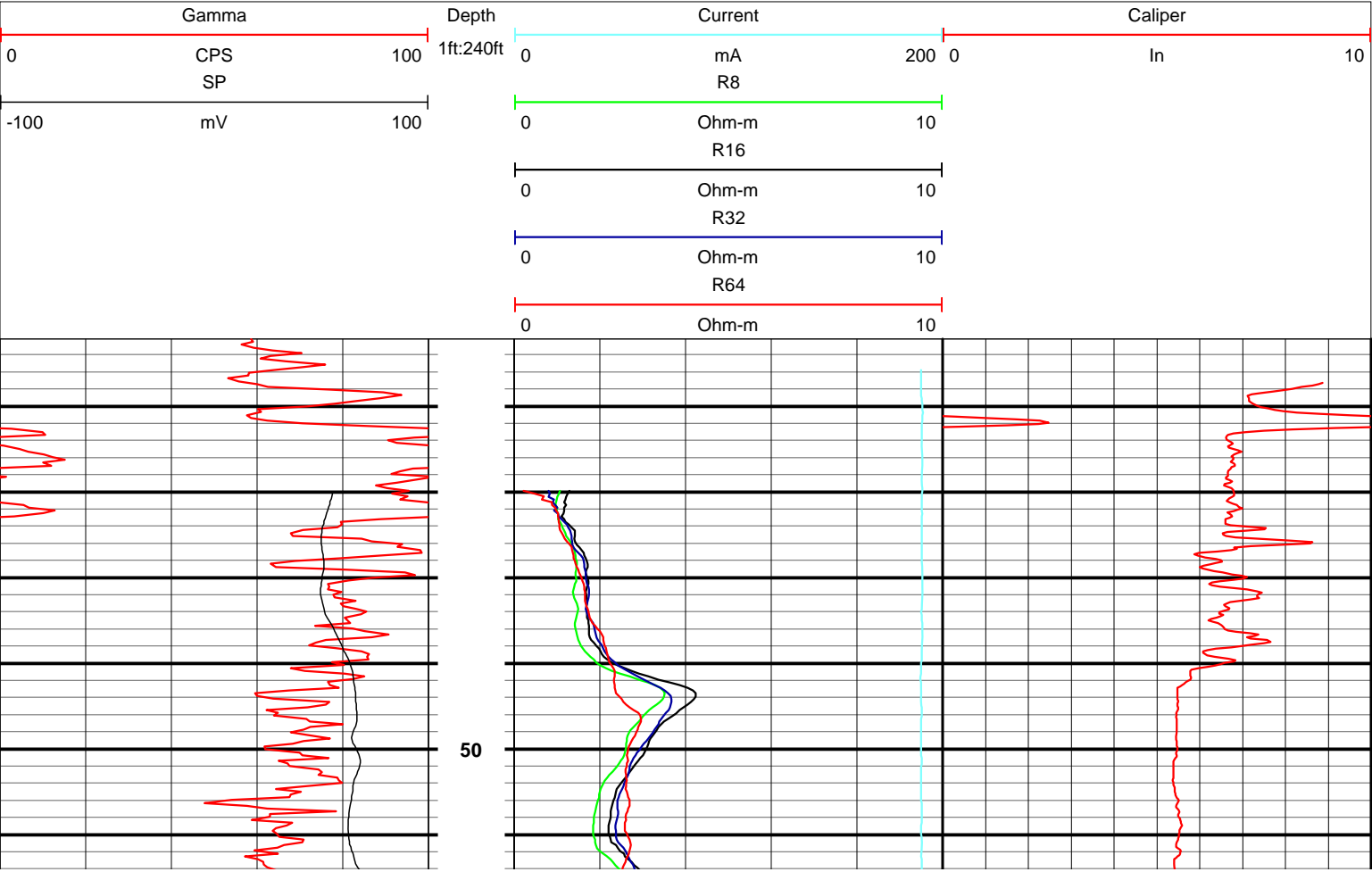
Logged by: Kelly Tuten

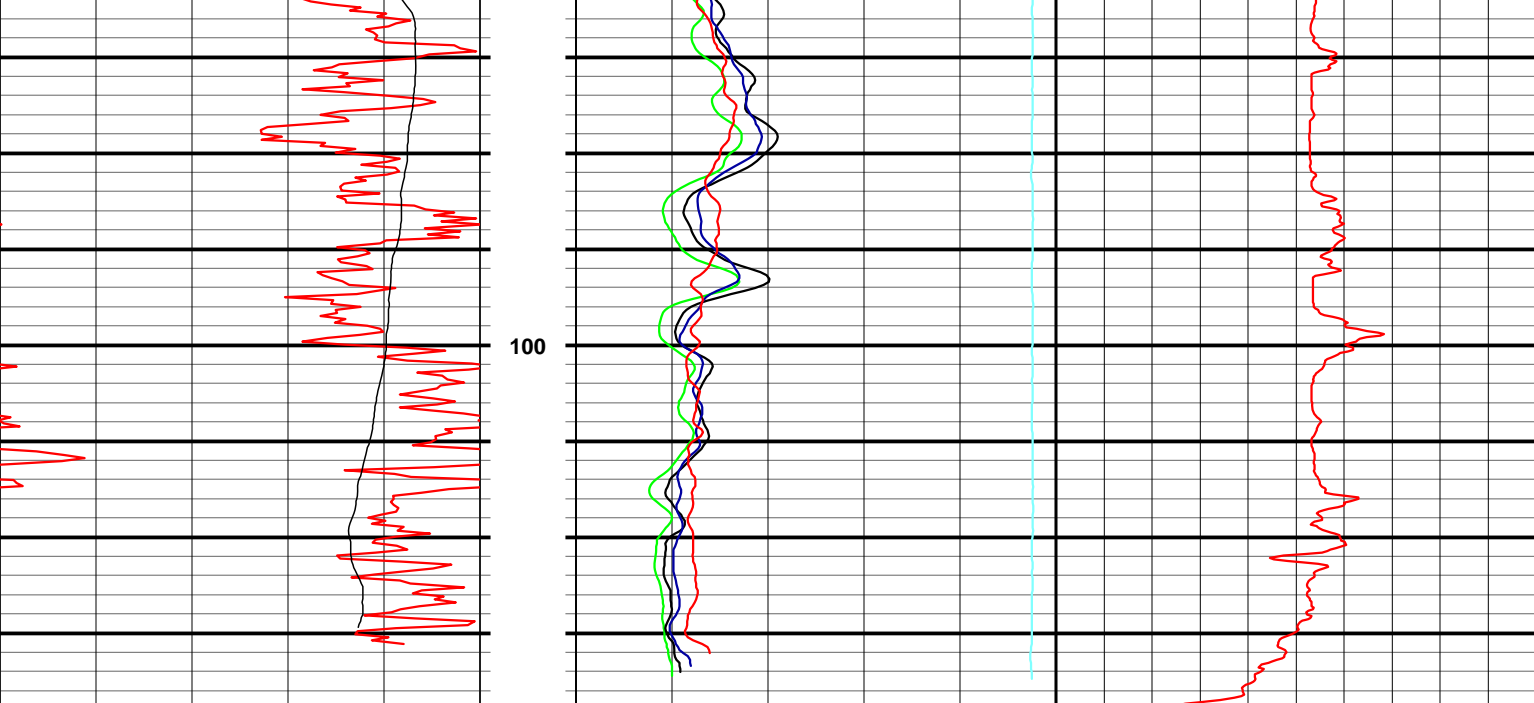
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	131	2	20
RESISTIVITY, SP	2	16	133	20	20
CALIPER	1	20	138	7	20

Comments:







Borehole: WELL B-112

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 05-12-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 47.3" W 99° 09' 53.8"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 534'

Logger T.D. (ft) : 82.6'

Depth Ref: G.L.

Date Drilled: 5/4-5/2011

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	150	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 5

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

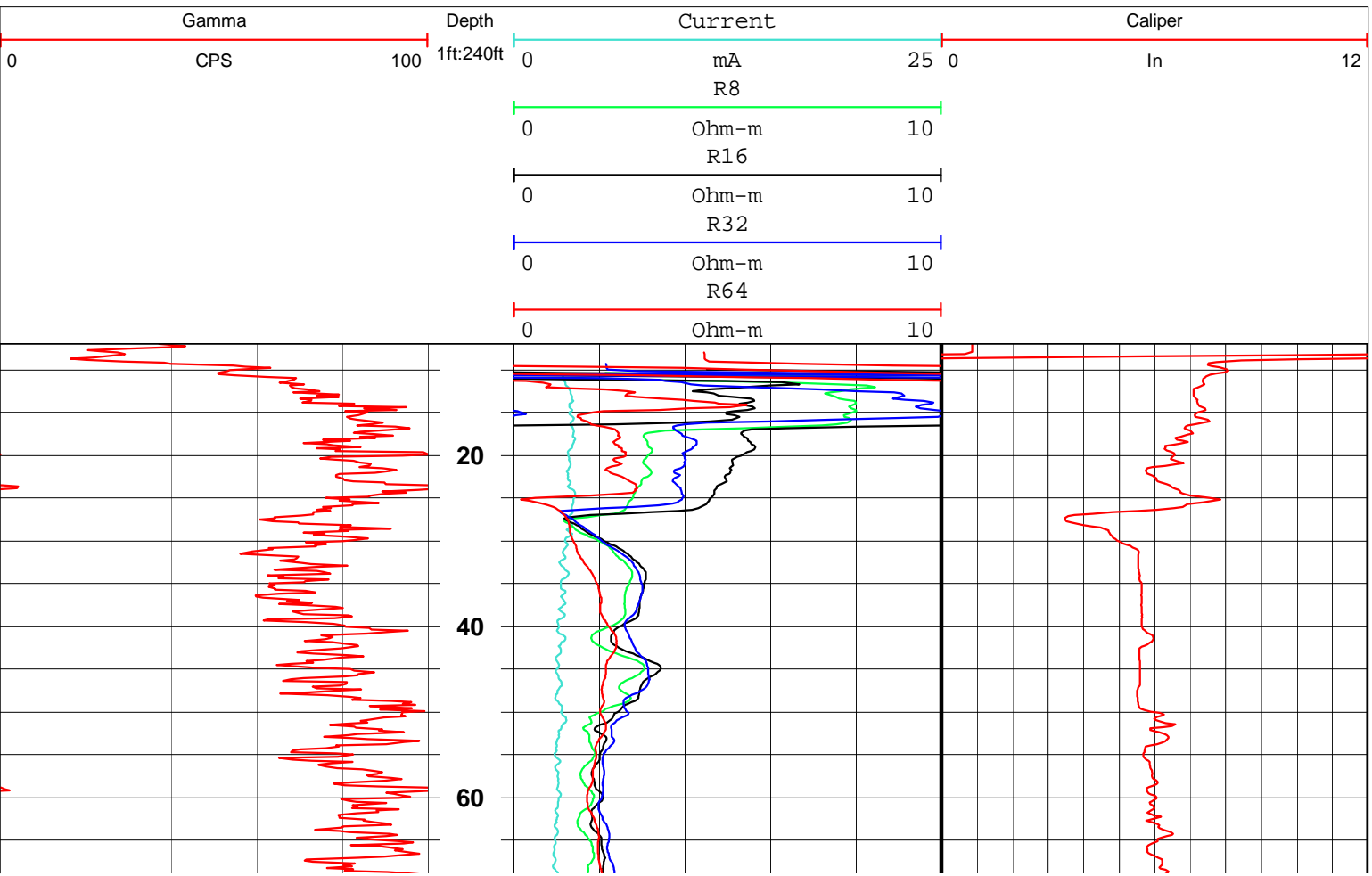
Logged by: Kelly Tuten

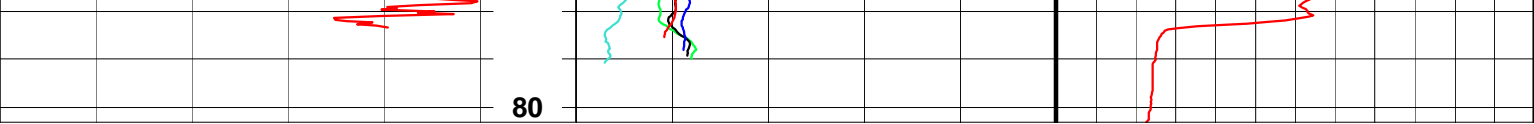
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	71.7	7	20
RESISTIVITY, SP	2	16	74	9	20
CALIPER	1	20	81.6	7	20

Comments:









Borehole: WELL B-113

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 04-21-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 54.1" W 99° 09' 25.0"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 528' GPS

Logger T.D. (ft) : 136'

Depth Ref: G.L.

Date Drilled: 04-12-11

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	160	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 4

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

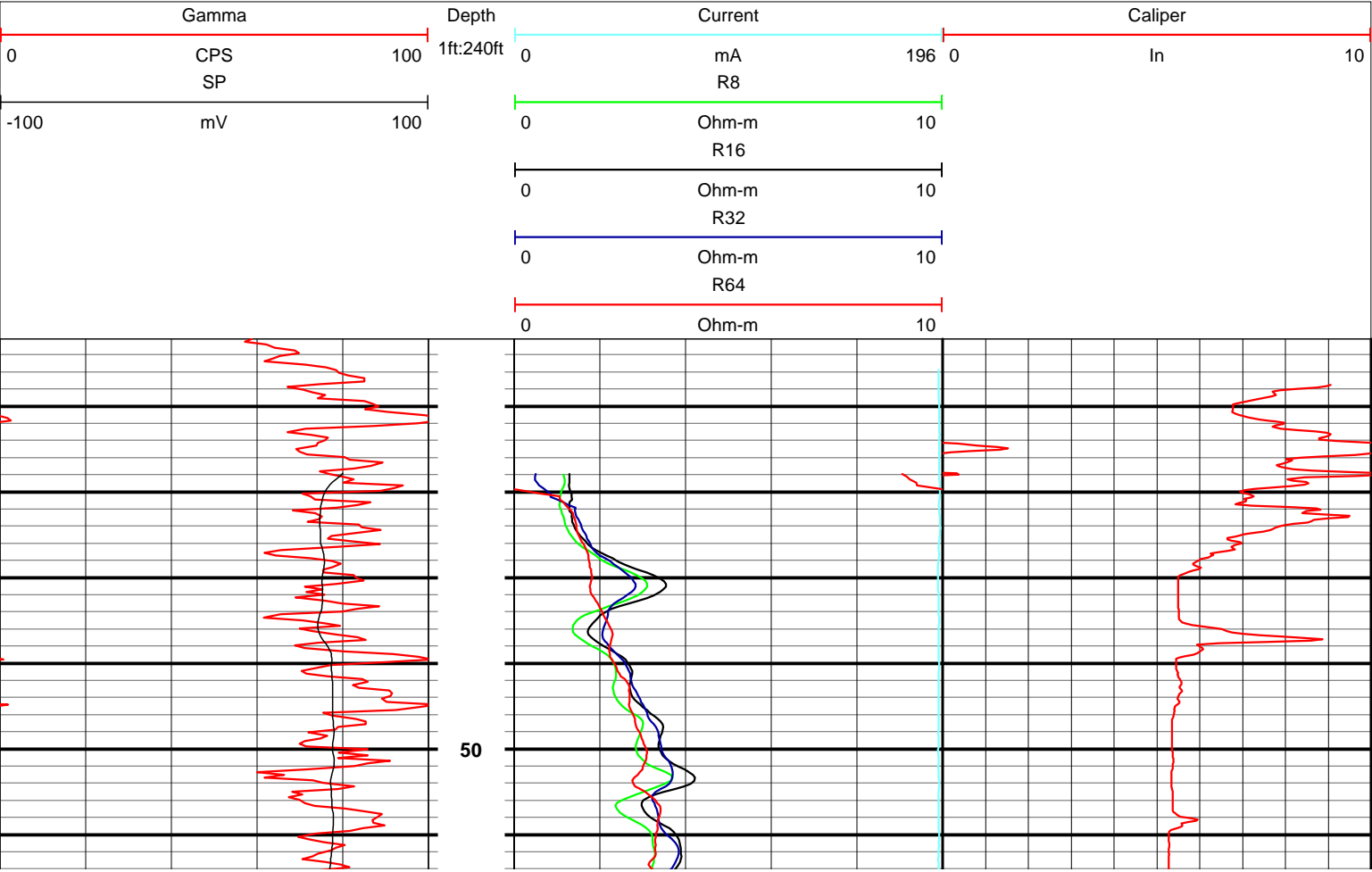
Logged by: Kelly Tuten

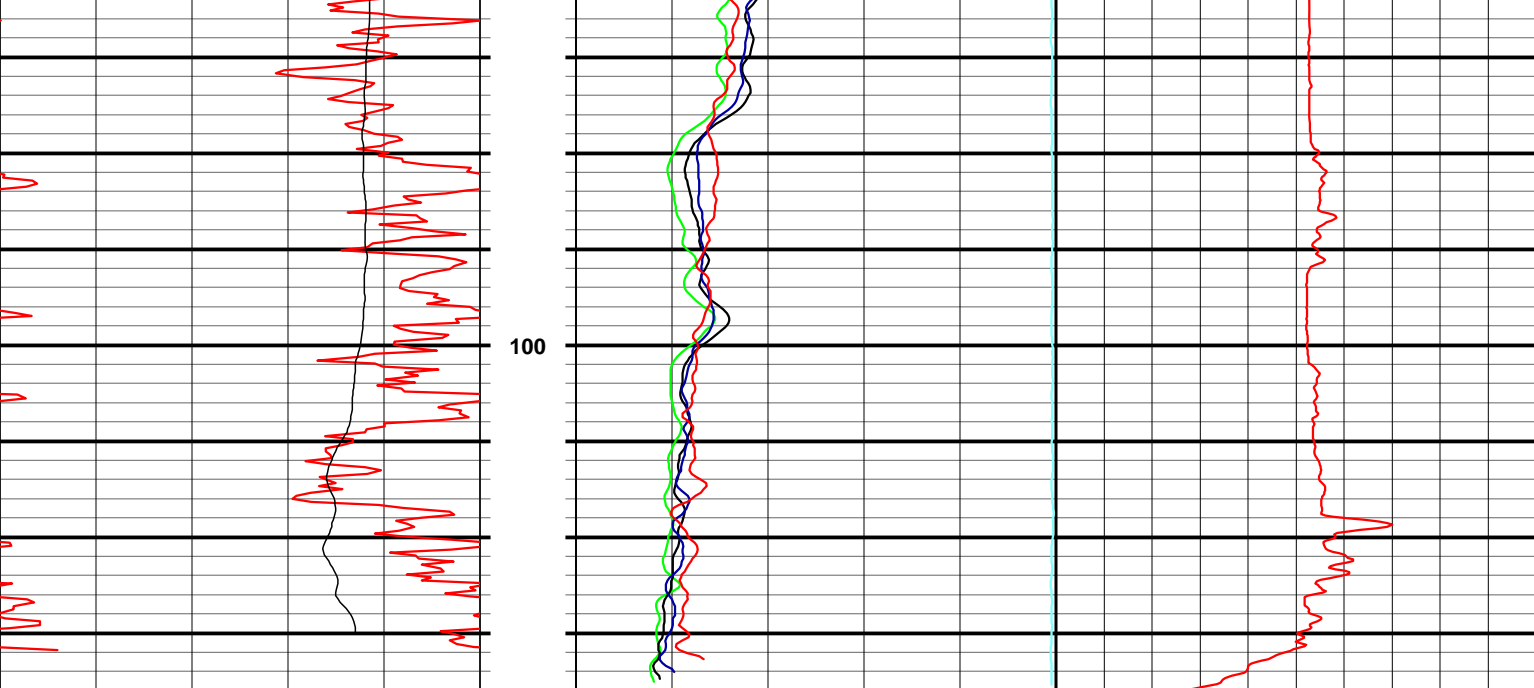
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	132	2	20
RESISTIVITY, SP	2	16	134	18	20
CALIPER	1	20	136	7	20

Comments:







Borehole: WELL B-116

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 04-21-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 16.9" W 99° 09' 23.1"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 531' GPS

Logger T.D. (ft) : 153'

Depth Ref: G.L.

Date Drilled: 04-13-11

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	160	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 10

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

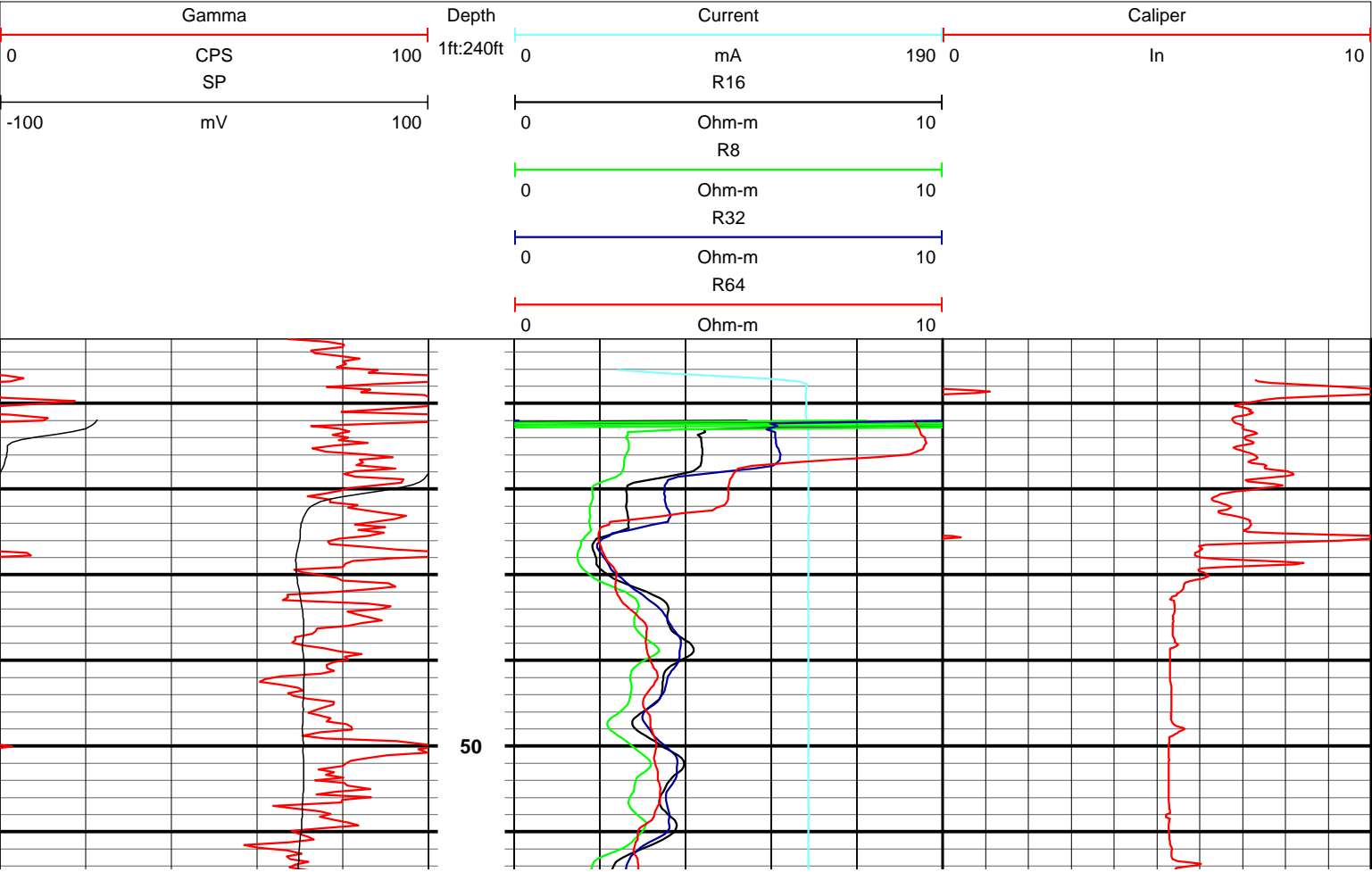
Logged by: Kelly Tuten

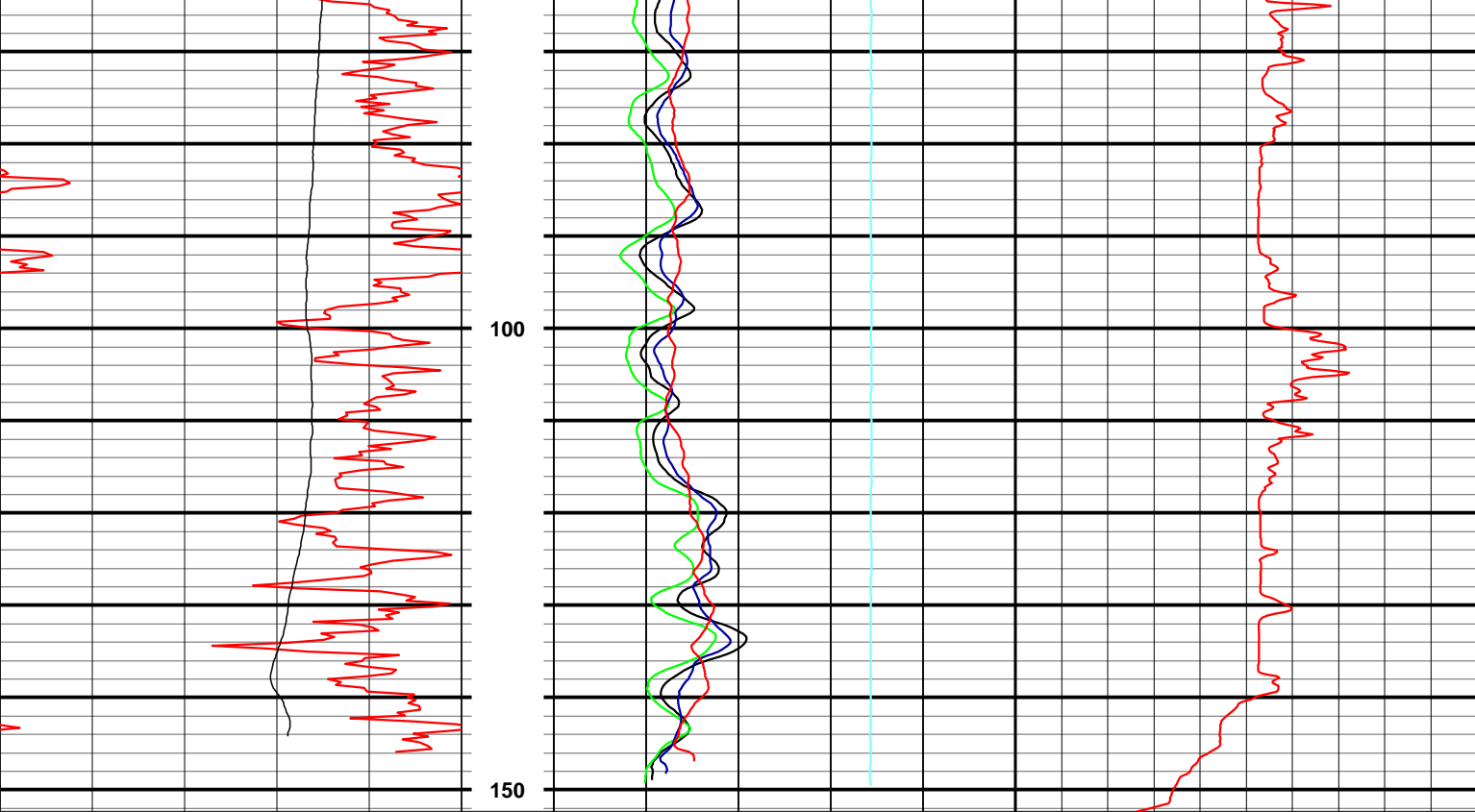
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	146	3	20
RESISTIVITY, SP	2	16	148	12	20
CALIPER	1	20	152	7	20

Comments:







Borehole: WELL B-117

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 05-12-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 32.9" W 99° 09' 56.0"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 120'

Elevation: 543'

Logger T.D. (ft) : 107'

Depth Ref: G.L.

Date Drilled: 04/30-05/02-2011

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	150	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 6

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

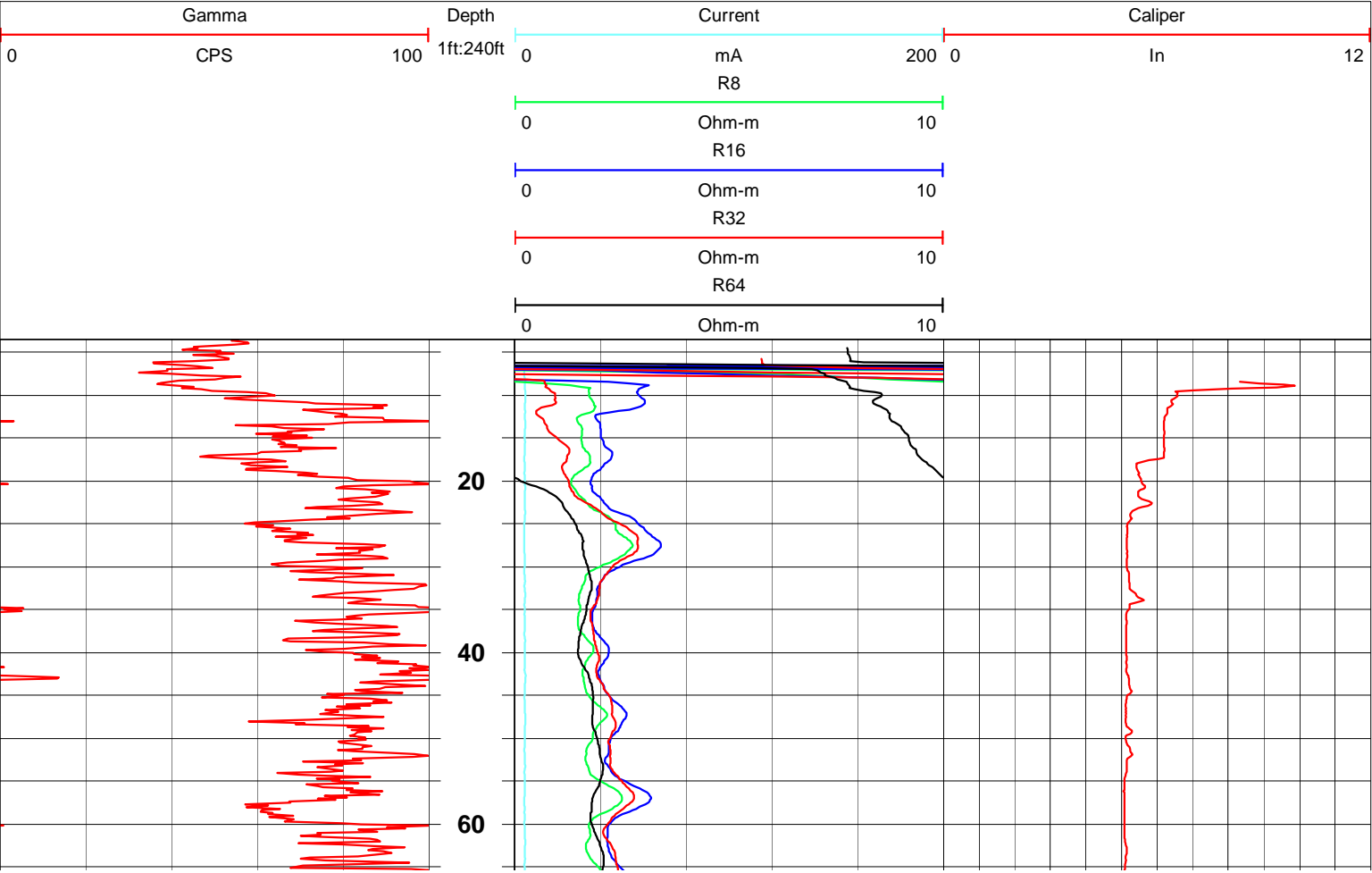
Logged by: Kelly Tuten

Unit/Truck: 05

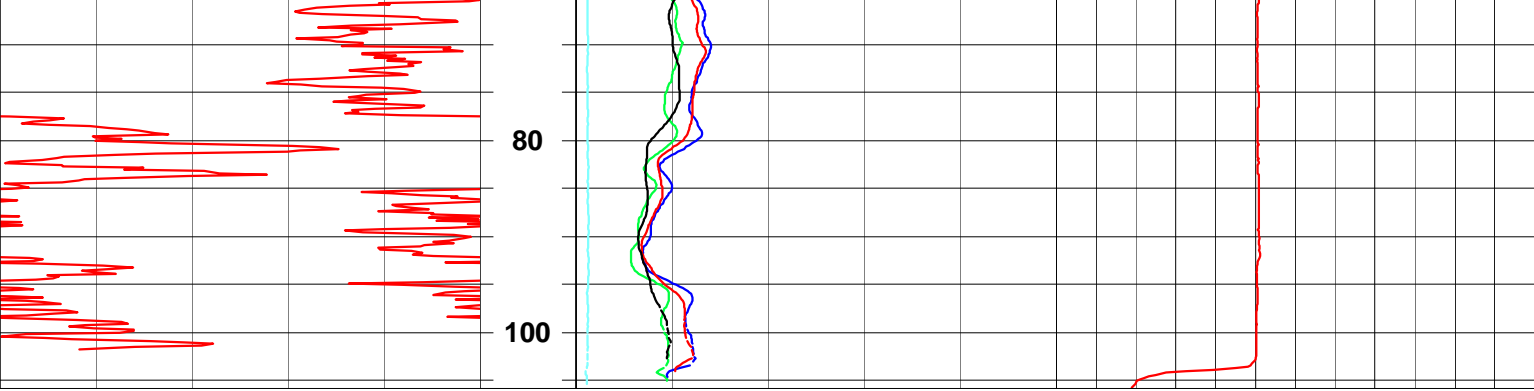
Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	101.7	3.5	20
RESISTIVITY, SP	2	16	105.9	8.4	20
CALIPER	1	20	104	5.8	20

Comments:









Borehole: WELL B-119

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 04-20-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 27.1" W 99° 09' 33.4"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 538' GPS

Logger T.D. (ft) : 130'

Depth Ref: G.L.

Date Drilled: 04-18-11

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	150	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 6

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

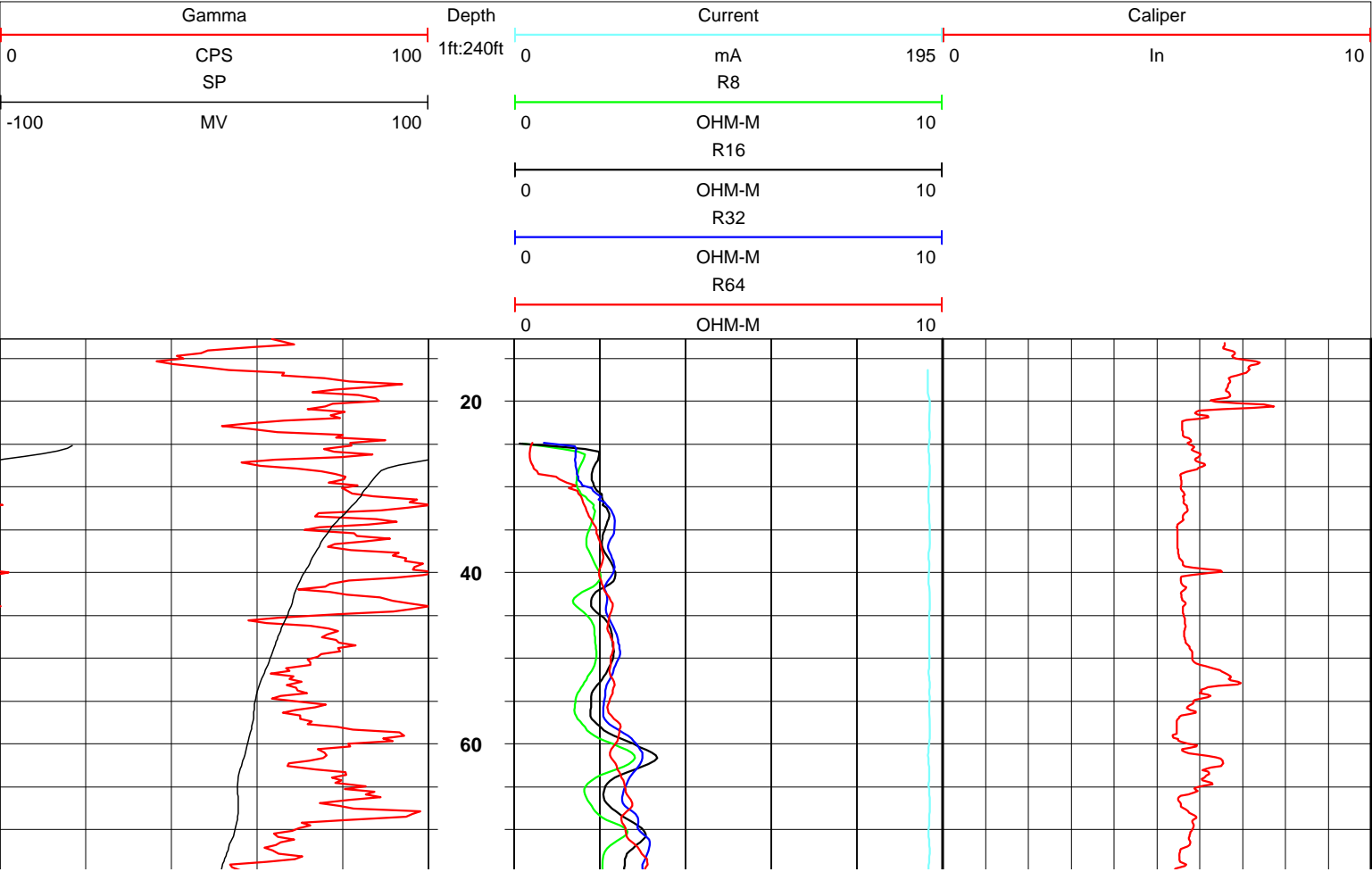
Logged by: Kelly Tuten

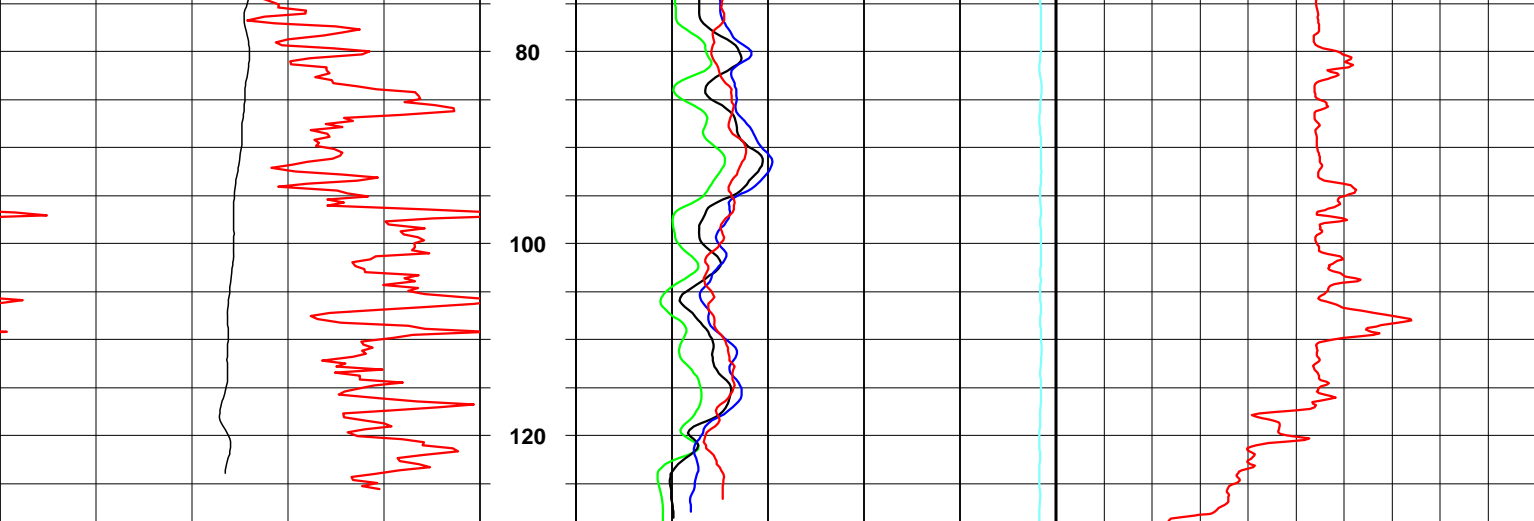
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	125	12	20
RESISTIVITY, SP	2	16	128	25	20
CALIPER	1	20	129	13	20

Comments:







Borehole: WELL B-121

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 05-12-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 25.6" W 99° 09' 20.4"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 120'

Elevation: 544'

Logger T.D. (ft) : 115'

Depth Ref: G.L.

Date Drilled: 05-08-2011

BIT RECORD

CASING RECORD

RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	6"	0	150	NONE		
2						
3						

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 3

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

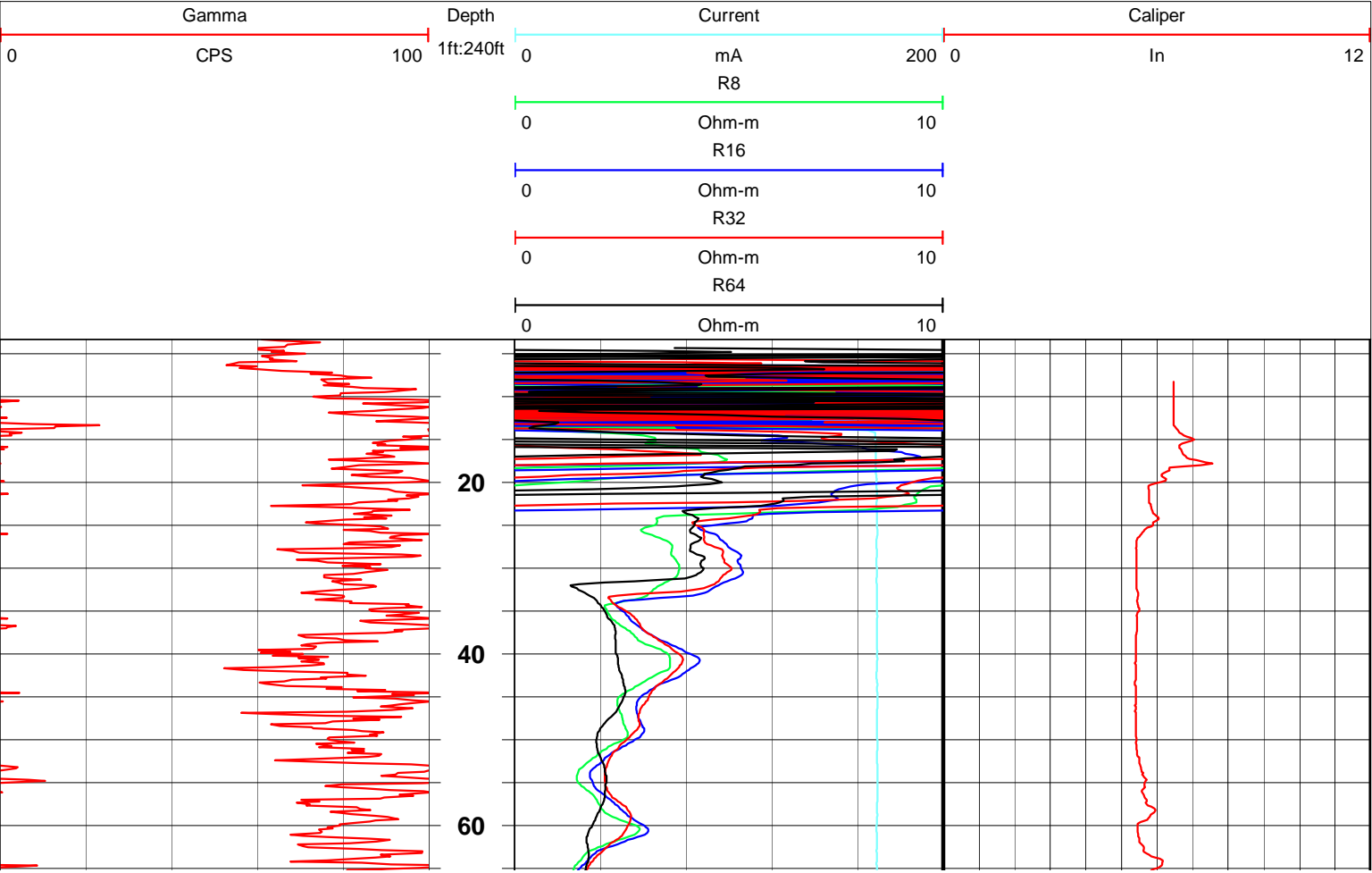
Logged by: Kelly Tuten

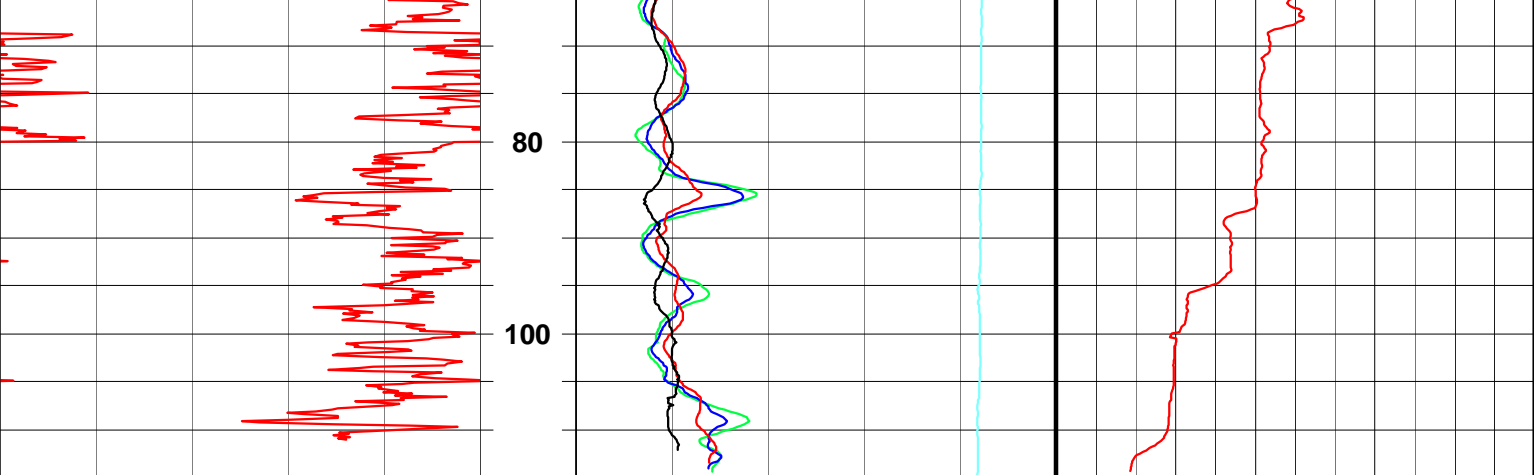
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	111.1	3.3	20
RESISTIVITY, SP	2	16	114.2	8.3	20
CALIPER	1	20	113.4	5.6	20

Comments:









Borehole: WELL B-122

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 04-20-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 16.9" W 99° 09' 20.0"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 523' GPS

Logger T.D. (ft) : 150'

Depth Ref: G.L.

Date Drilled: 04-15-11

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	160	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 8

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

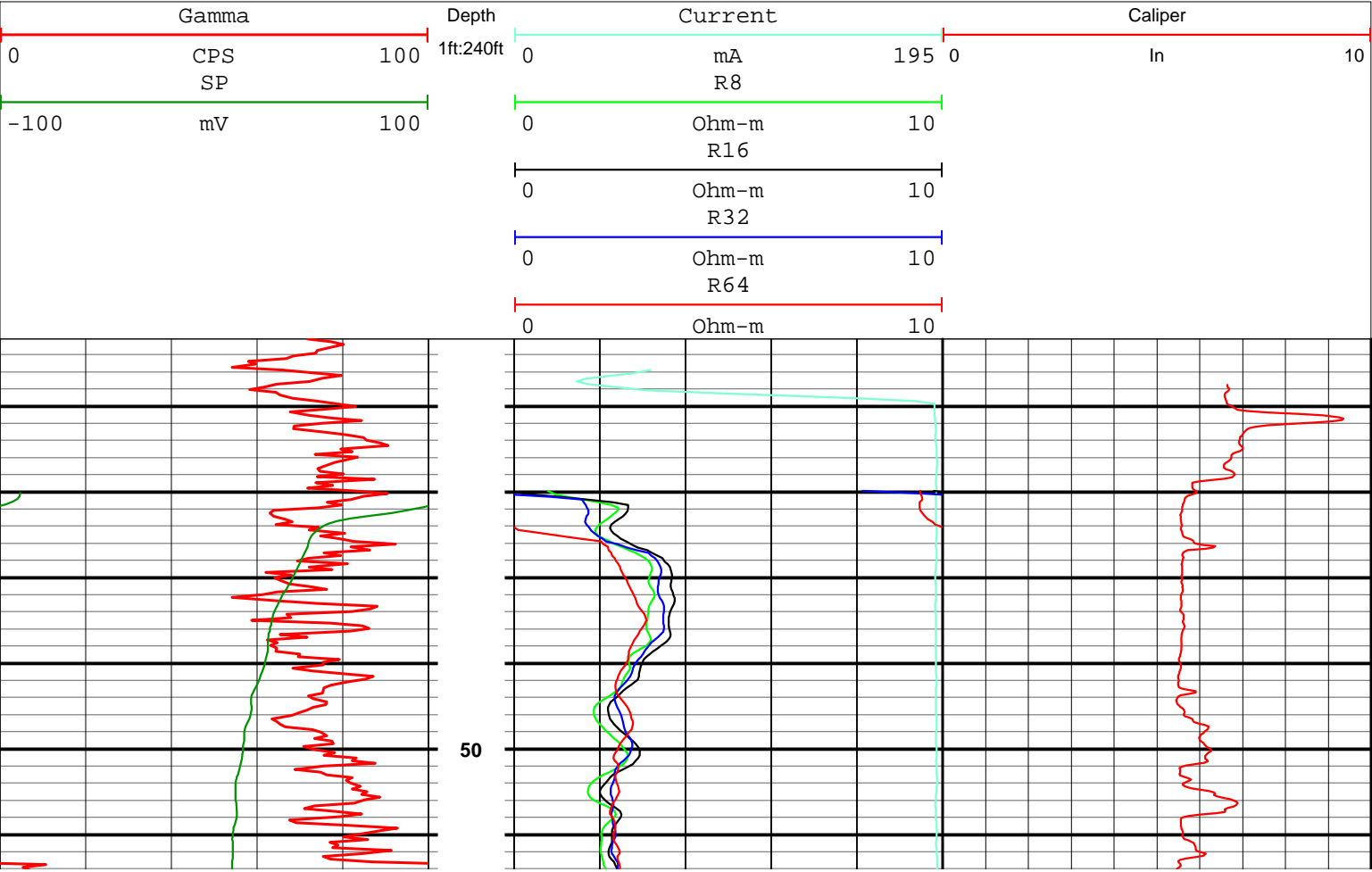
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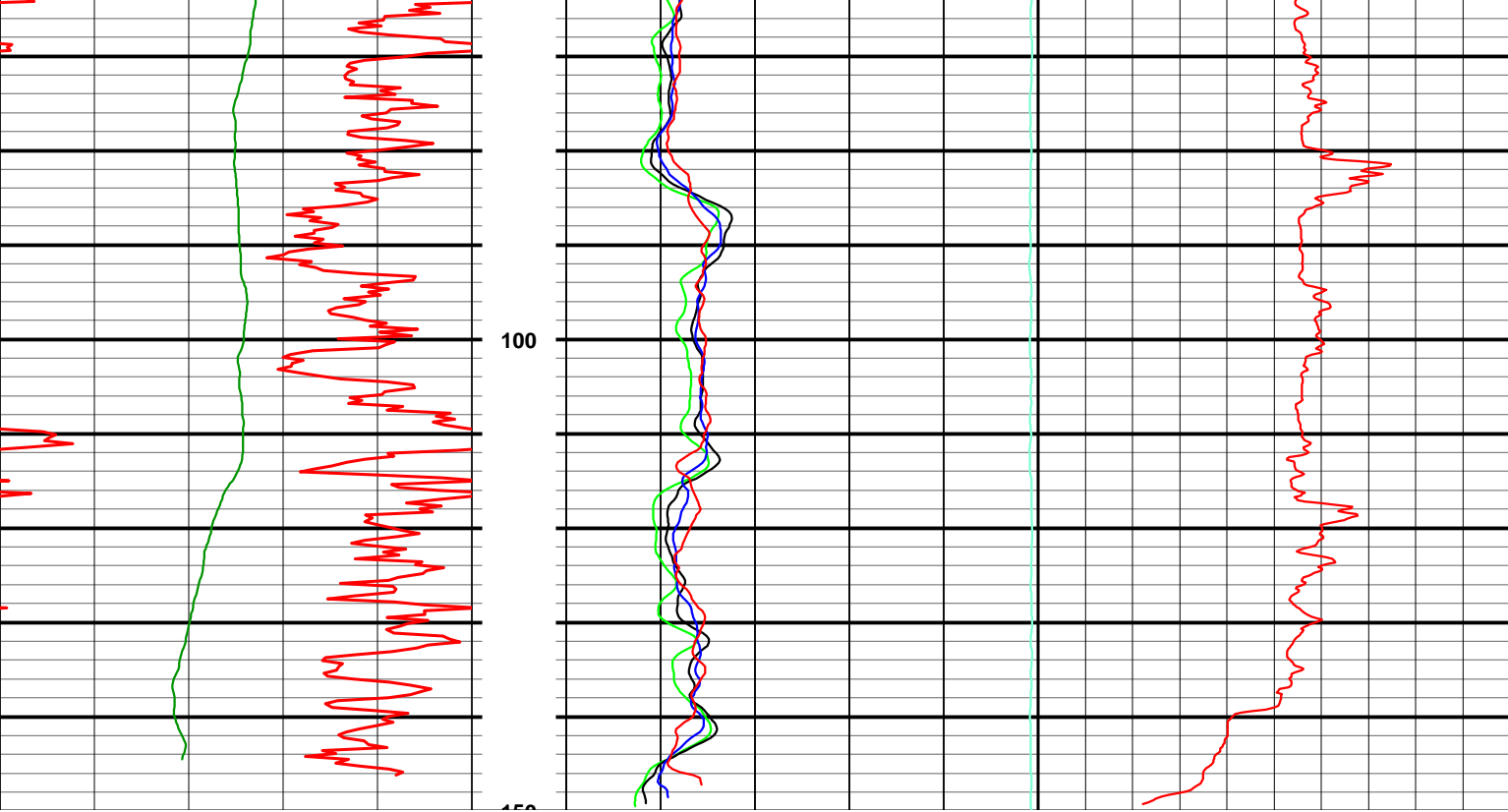
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	146	3	20
RESISTIVITY, SP	2	16	149	20	20
CALIPER	1	20	150	7	20

Comments:







Borehole: WELL B-123

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 05-12-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 19.1" W 99° 09' 45.7"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 535'

Logger T.D. (ft) : 145'

Depth Ref: G.L.

Date Drilled: 04/28-29/2011

BIT RECORD

CASING RECORD

RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	6"	0	150	NONE		
2						
3						

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 3

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

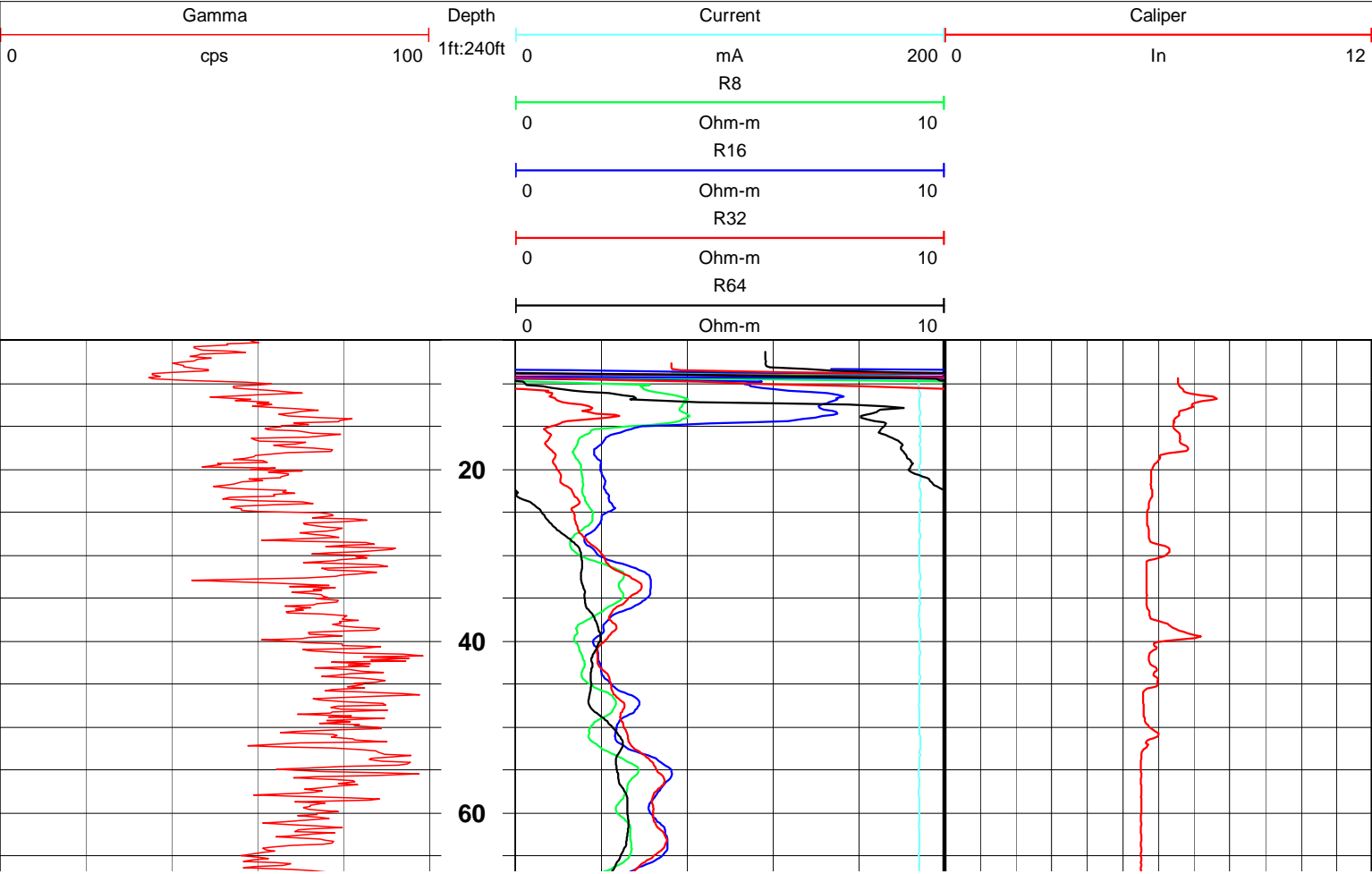
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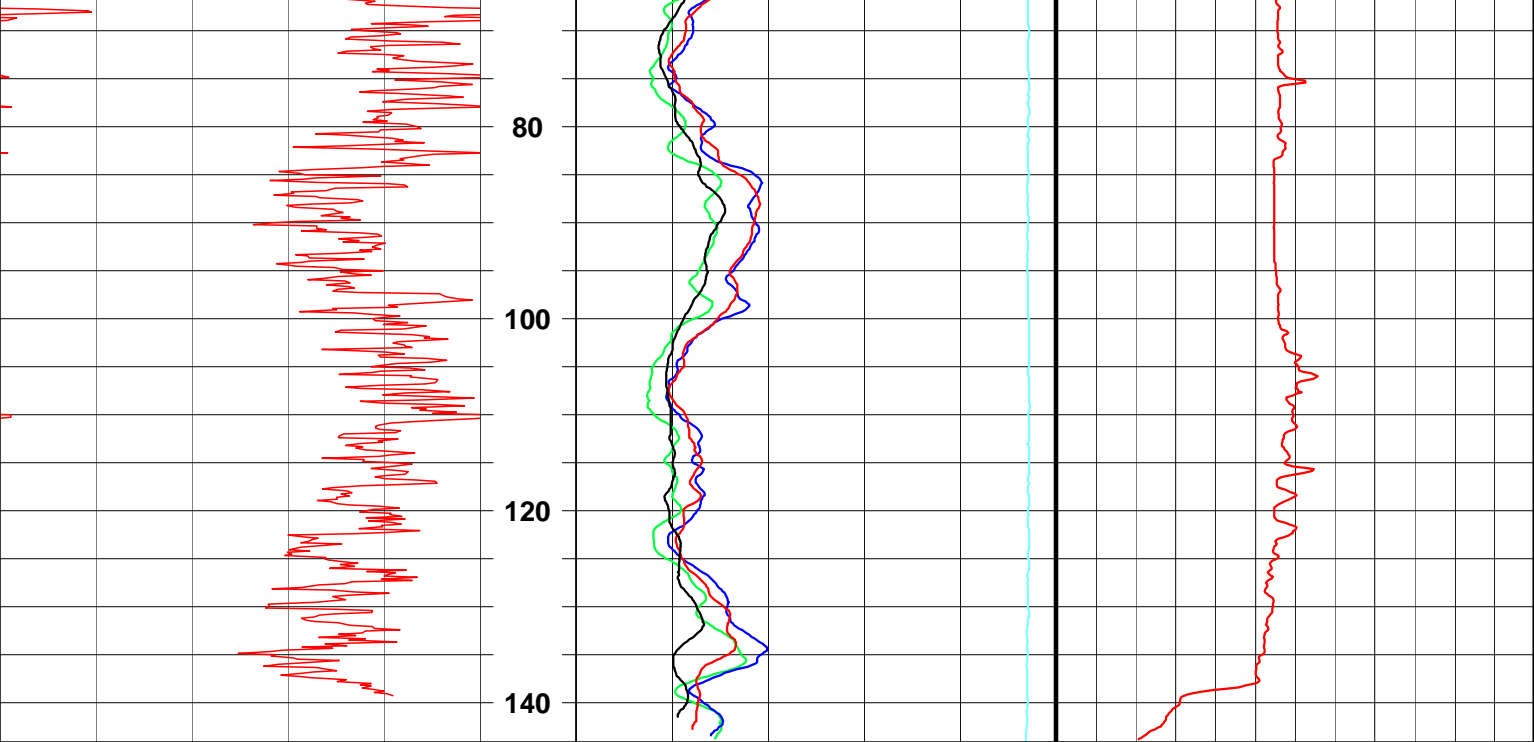
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	139.2	4.9	20
RESISTIVITY, SP	2	16	142.7	7.6	20
CALIPER	1	20	143.8	9.4	20

Comments:







Borehole: WELL B-125

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 04-21-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 19.3" W 99° 09' 27.2"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 120'

Elevation: 525' GPS

Logger T.D. (ft) : 119'

Depth Ref: G.L.

Date Drilled: 04-16-11

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	120	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 10

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

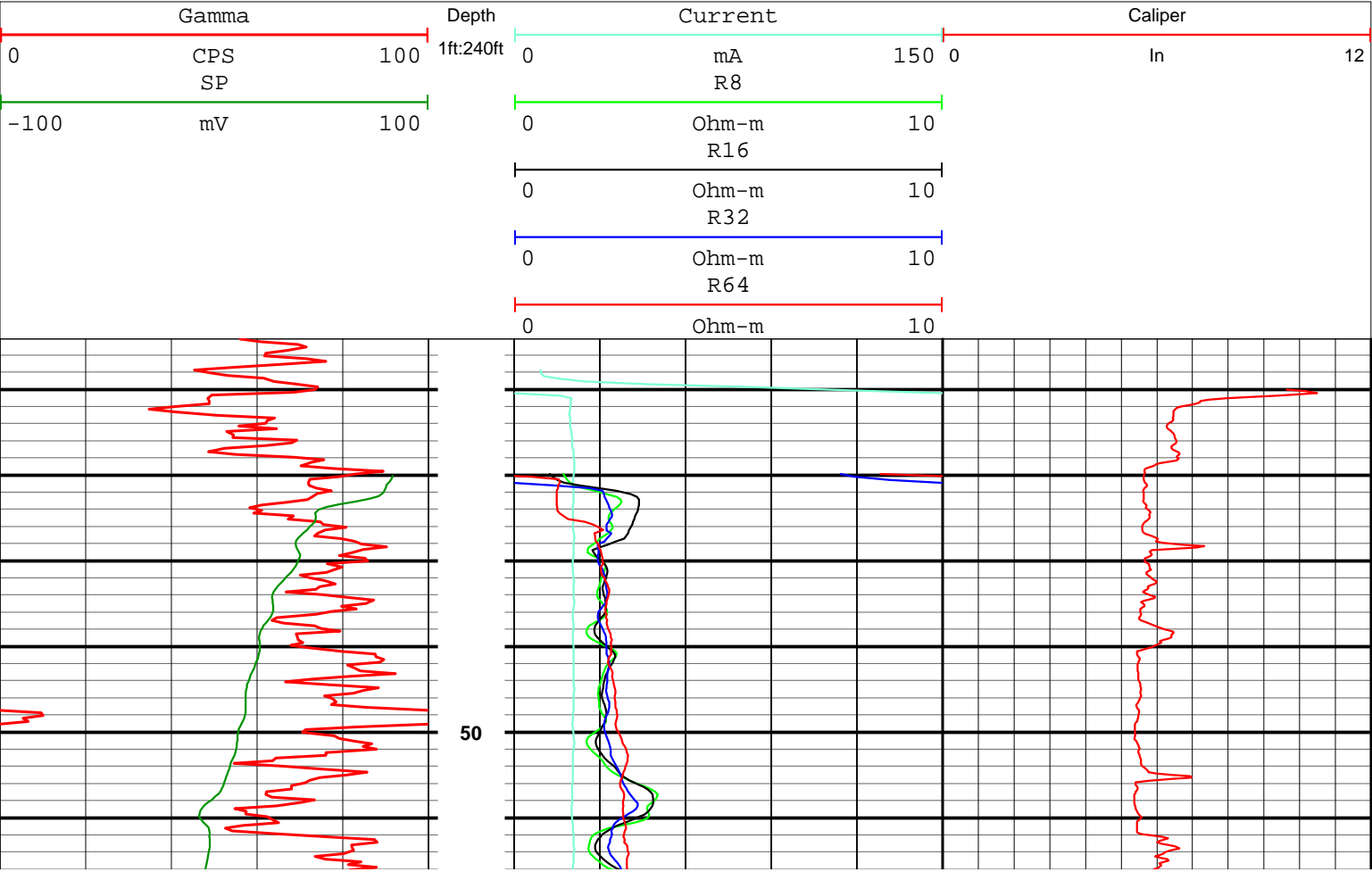
Logged by: Kelly Tuten

Unit/Truck: 05

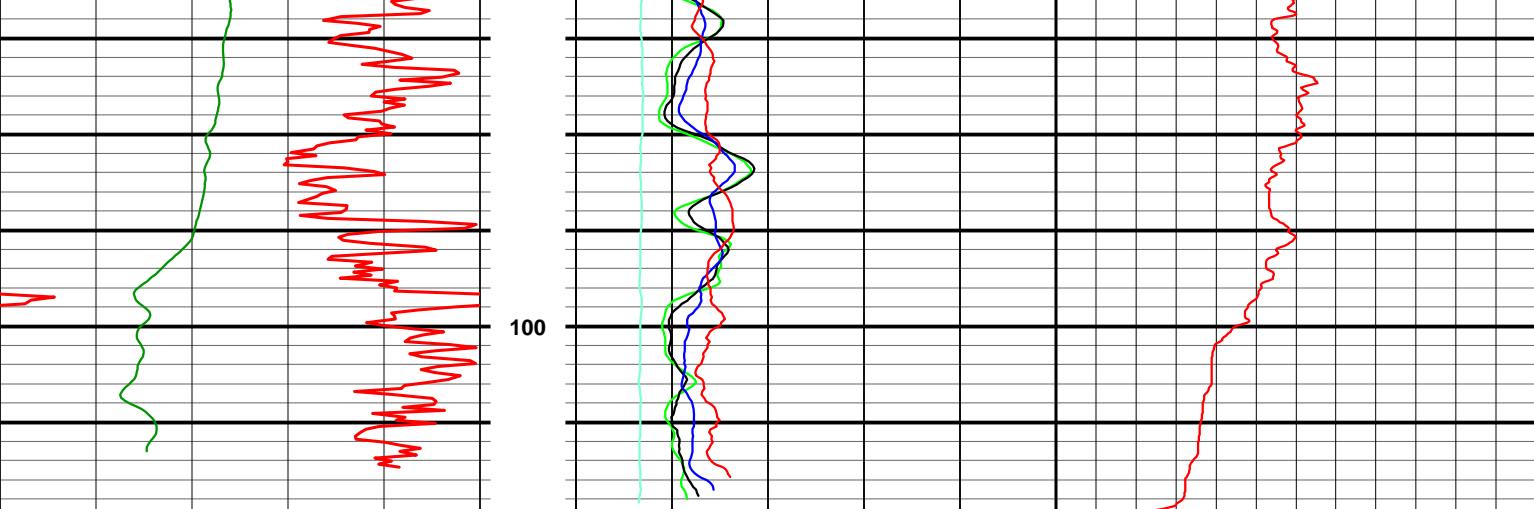
Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	115	4	20
RESISTIVITY, SP	2	16	117	20	20
CALIPER	1	20	118	10	20

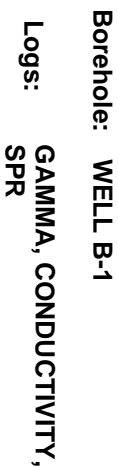
Comments:







## **PIEZOMETERS**



## **Water Well Logging & Video Recording Services**

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

**Project: RANCH VIEJO SITE**

Date: 02-03-11

Client: **RABA KISTNER**

County: WEBB

**Location:** N 3050093, E 484764

State: TX

Drilling Contractor: VORTEX

**Driller T.D. (ft) : 98'**

Elevation: 555.61FT MSL

Logger T.D. (ft) : 47.93'

Depth Ref: T.C.

Date Drilled: 11-09-2009

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	8"	0'	30'	2" PVC	+ 2	45'	
2	6"	30'	98.5'				
3							

Drill Method: NA

Weight:

**Fluid Level (ft) : 7.4**

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

Logged by: Kelly Tuten

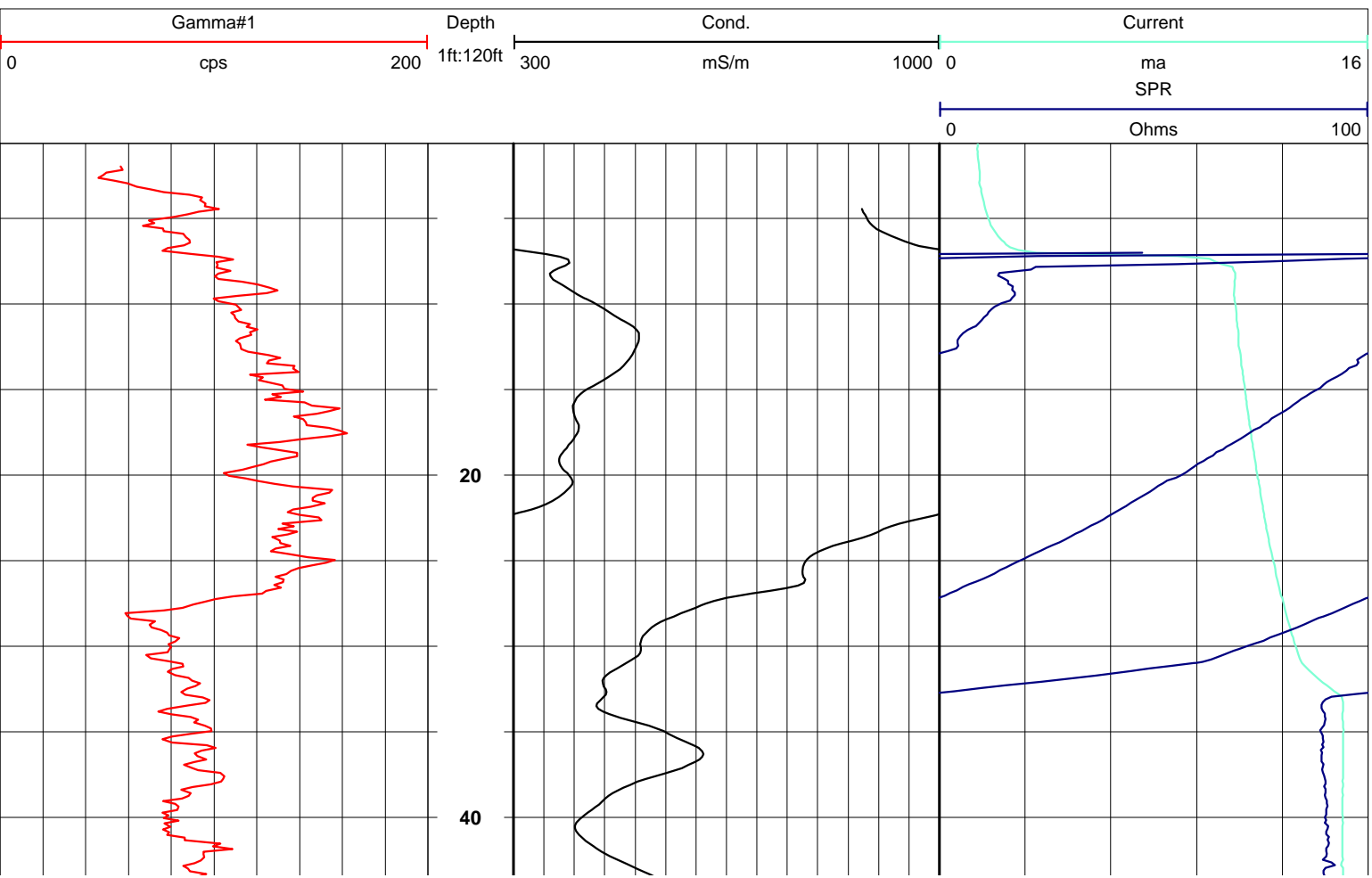
Unit/Truck: 05

Witness: Rick Klar

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	1	20	47.3	2	20
CONDUCTIVITY	2	16	45.5	4.5	20
SPR	1	20	7	45.9	20

SCREENED 30-45FT. BGS.

Comments:







Borehole: WELL B-2

Logs: GAMMA, CONDUCTIVITY,  
SPR

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 02-03-11

Client: RABA KISTNER

County: WEBB

Location: 3048815 N, 484764 E

State: TX

BOREHOLE DATA

Drilling Contractor: VORTEX

Driller T.D. (ft) : 75'

Elevation: 547.59' MSL

Logger T.D. (ft) : 74.5'

Depth Ref: T.C.

Date Drilled: 11/12/2009

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0'	78.5'	2" PVC	+2.3	75'	
2							
3							

Drill Method: NA

Weight:

Fluid Level (ft) : 8.5'

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

Logged by: Kelly Tuten

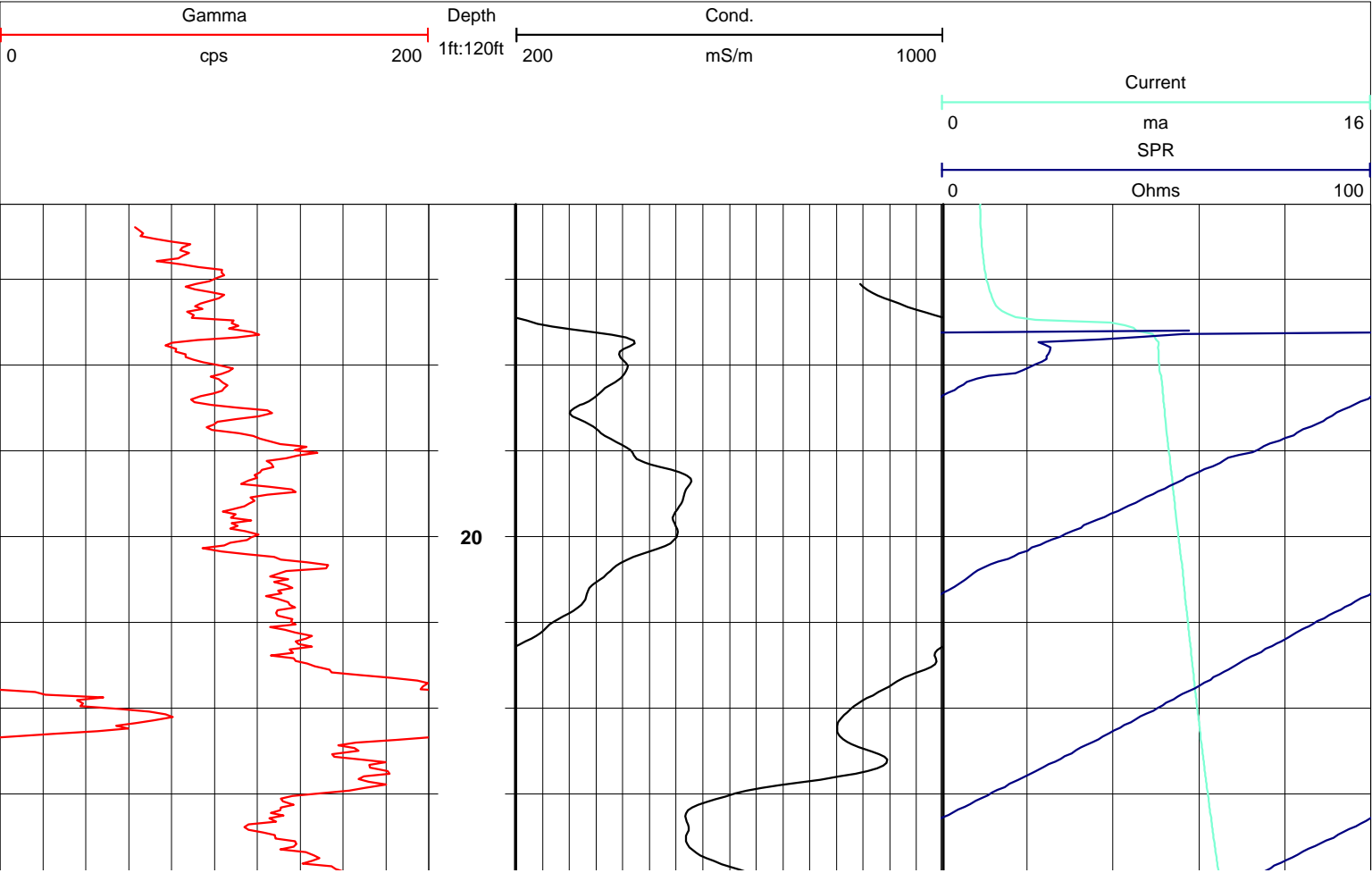
Unit/Truck: 05

Witness: Rick Klar

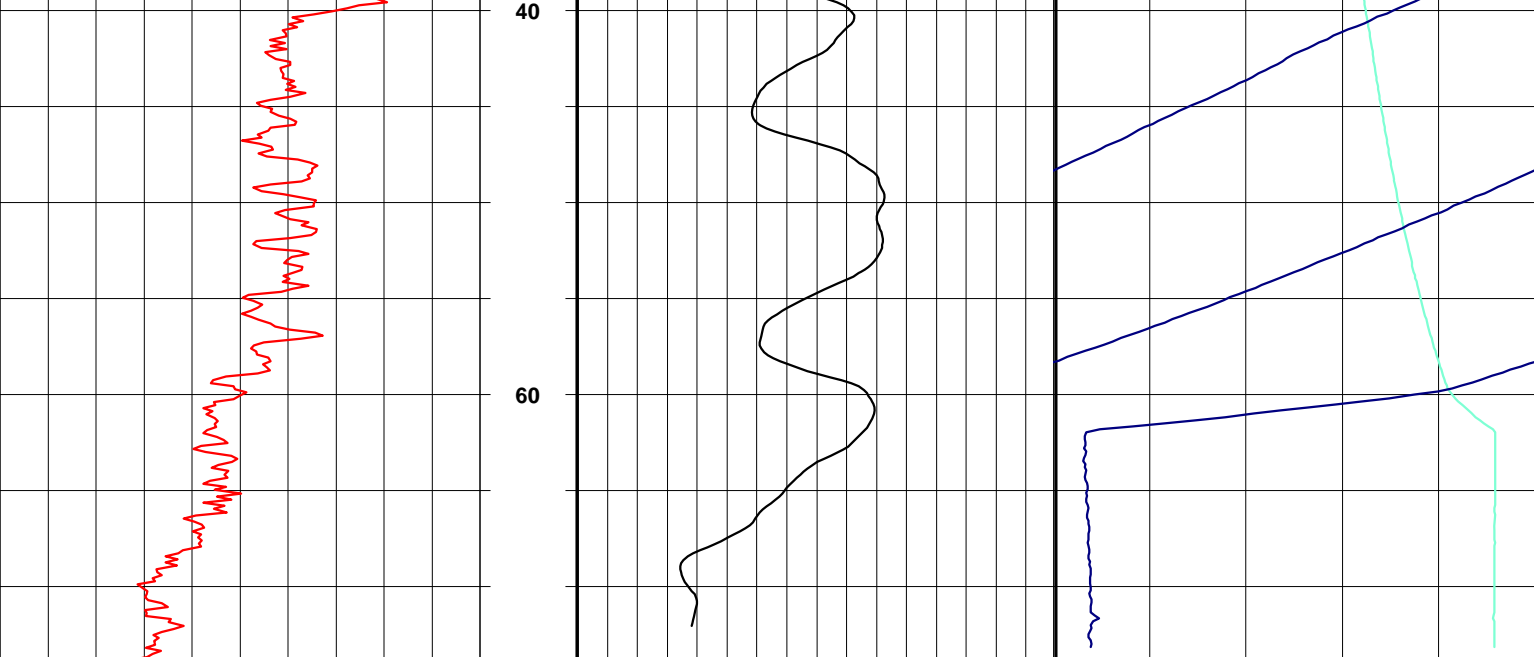
LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	1	20	73.8	2	20
CONDUCTIVITY	2	16	72	5.3	20
SPR	1	20	8	73.1	20

SCREENED FROM 61-75FT. BGS

Comments:









Borehole: WELL B-10  
Logs: GAMMA, COND., SPR

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 02-03-11

Client: RABA KISTNER

County: WEBB

Location: 3049715 N, 484758 E

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 120FT.

Elevation: 550.86' MSL

Logger T.D. (ft) : 56.2'

Depth Ref: T.C.

Date Drilled: 07-14-2009

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0'	120'	2" PVC	+ 3.3'	60'	
2							
3							

Drill Method: NA

Weight:

Fluid Level (ft) : 8.5

Hole Medium:

Mud Type:

Time Since Circ: NA

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

Logged by: Kelly Tuten

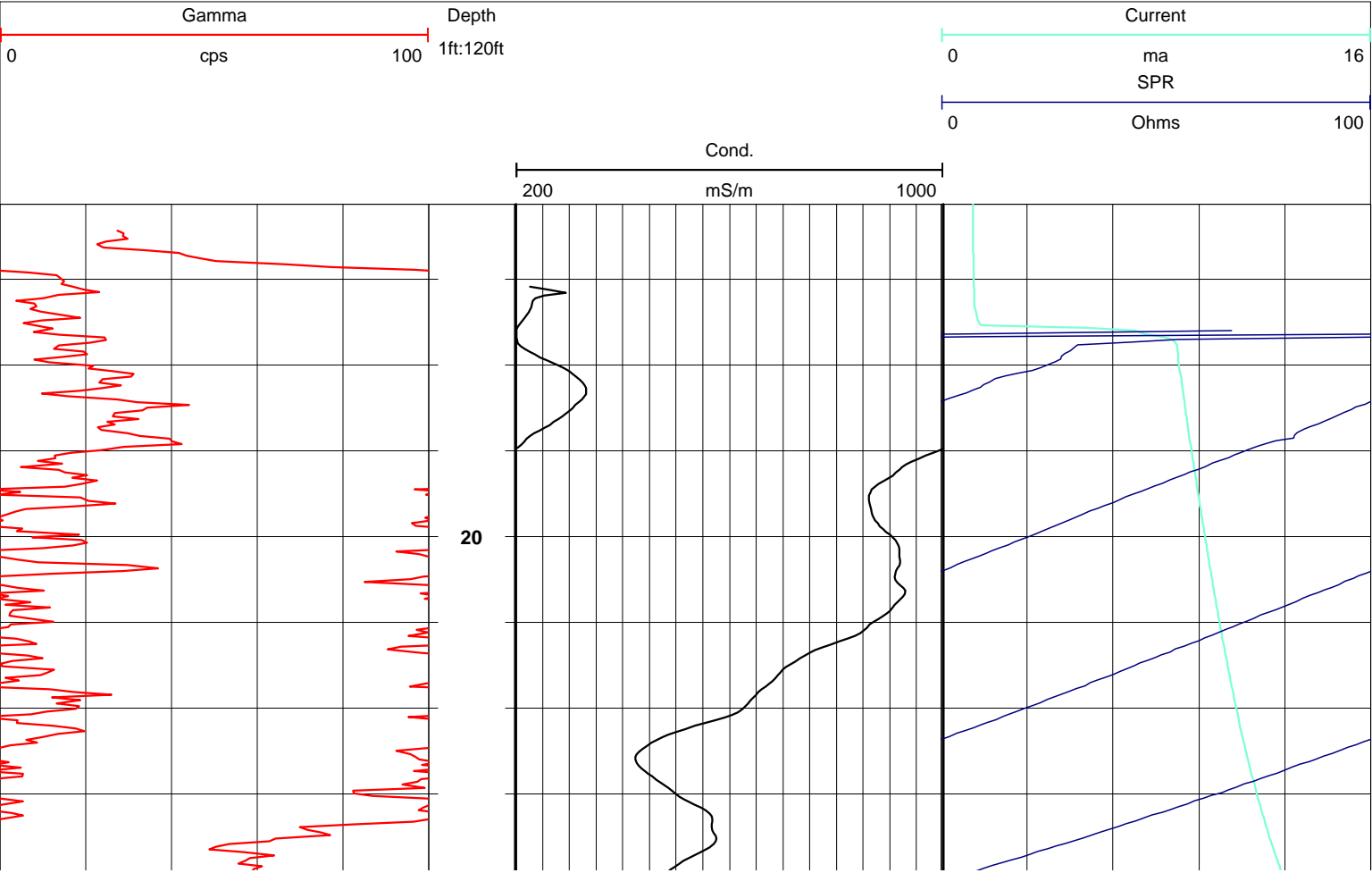
Unit/Truck: 05

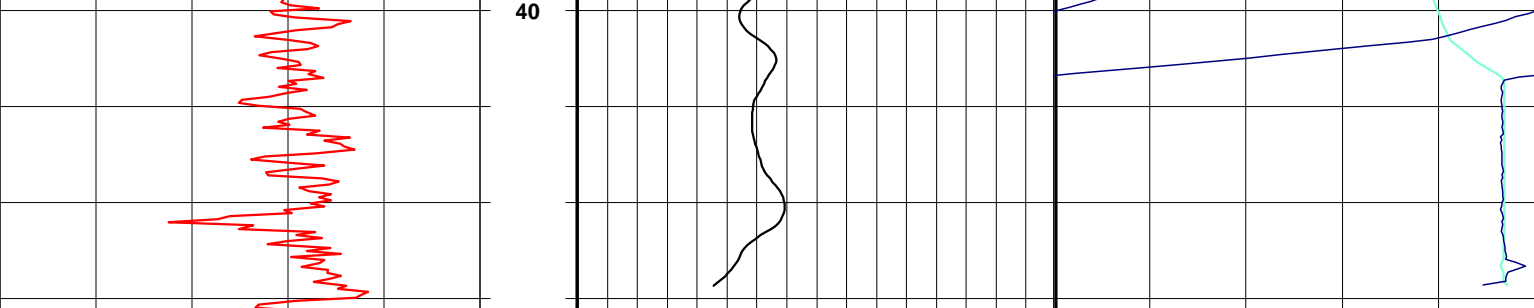
Witness: Rick Klar

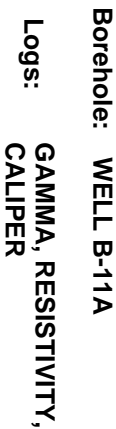
LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	1	20	55.5	2	20
CONDUCTIVITY	2	16	54.3	5.4	20
SPR	1	20	8	54.3	20

SCREENED FROM 40 TO 60FT. BGS

Comments:







## **Water Well Logging & Video Recording Services**

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

**Project: RANCH VIEJO SITE**

Date: 04-26-11

Client: **RABA KISTNER**

County: WEBB

**Location:** N 27° 34' 17.1" W 99° 09' 16.1"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

**Driller T.D. (ft) : 103'**

Elevation: 541' GPS

Logger T.D. (ft) : 102"

Depth Ref: T.C.

Date Drilled:

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	103	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

**Fluid Level (ft) : 3'**

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

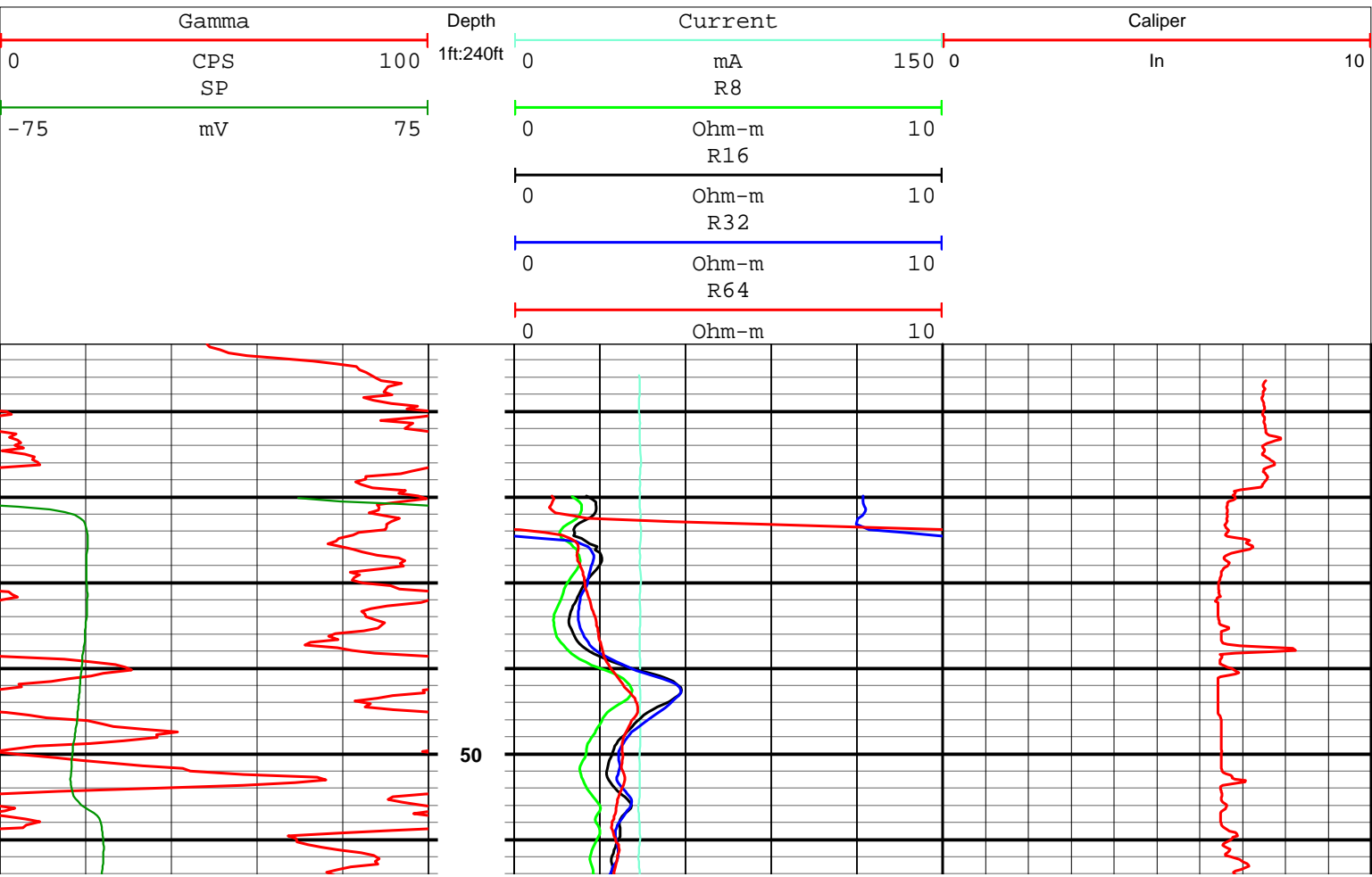
Logged by: Kelly Tuten

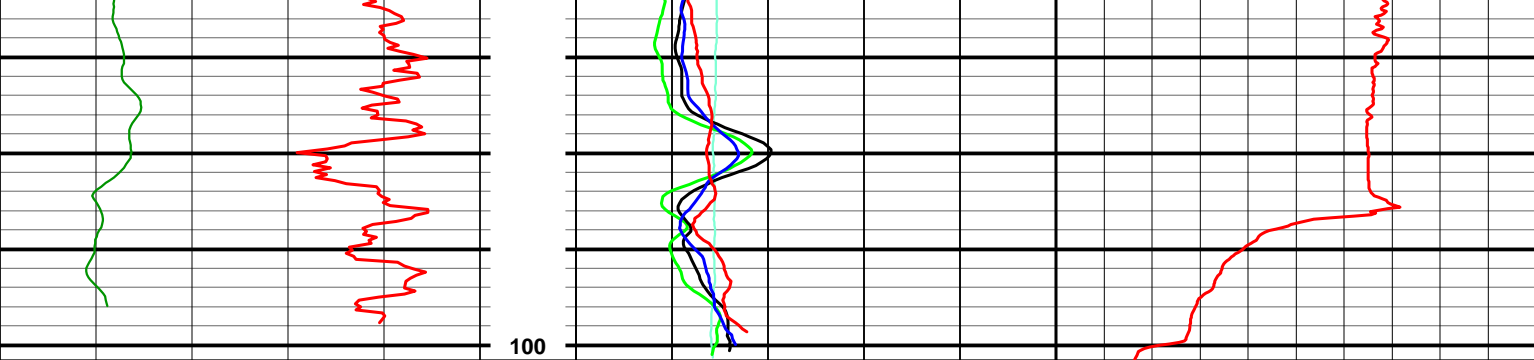
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	98	2	20
RESISTIVITY, SP	2	16	100	20	20
CALIPER	1	20	101	6	20

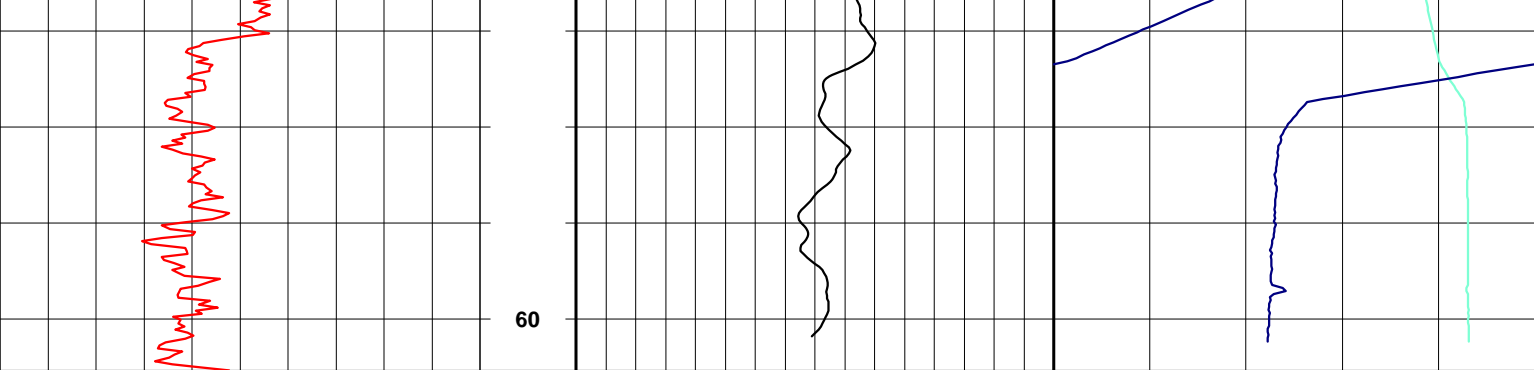
Comments:













Borehole: WELL B-24

Logs: GAMMA, CONDUCTIVITY

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 02-03-11

Client: RABA KISTNER

County: WEBB

Location: 3047858 N, 48247 E

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160FT.

Elevation: 541.03FT. MSL

Logger T.D. (ft) : 62.79'

Depth Ref: T.C.

Date Drilled: 07-23-2010

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0'	160'	4" PVC	+ 3.3	60'	
2							
3							

Drill Method: NA

Weight:

Fluid Level (ft) : 9.3'

Hole Medium:

Mud Type:

Time Since Circ: NA

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

Logged by: Kelly Tuten

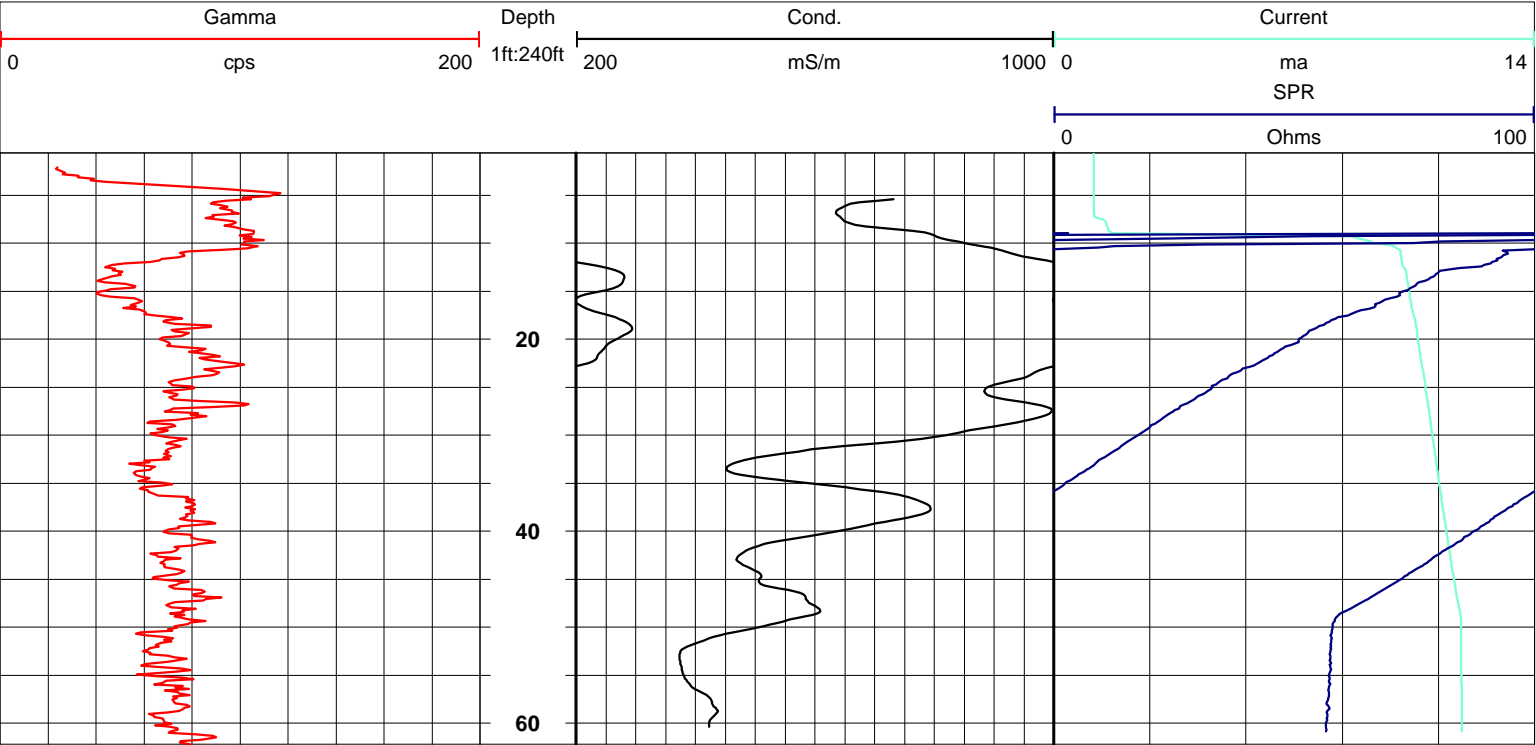
Unit/Truck: 05

Witness: Rick Klar

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	1	20	62.2	2	20
CONDUCTIVITY	2	16	60.4	5.4	20
SPR	1	20	9	60.8	20

SCREENED FROM 45 TO 60FT. BGS.

Comments:









Borehole: WELL B-109A

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 06-26-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 34' 05.2" W 99° 09' 24.1"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 85'

Elevation: 506' GPS

Logger T.D. (ft) : 85'

Depth Ref: T.C.

Date Drilled:

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	85	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 4'

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

Logged by: Kelly Tuten

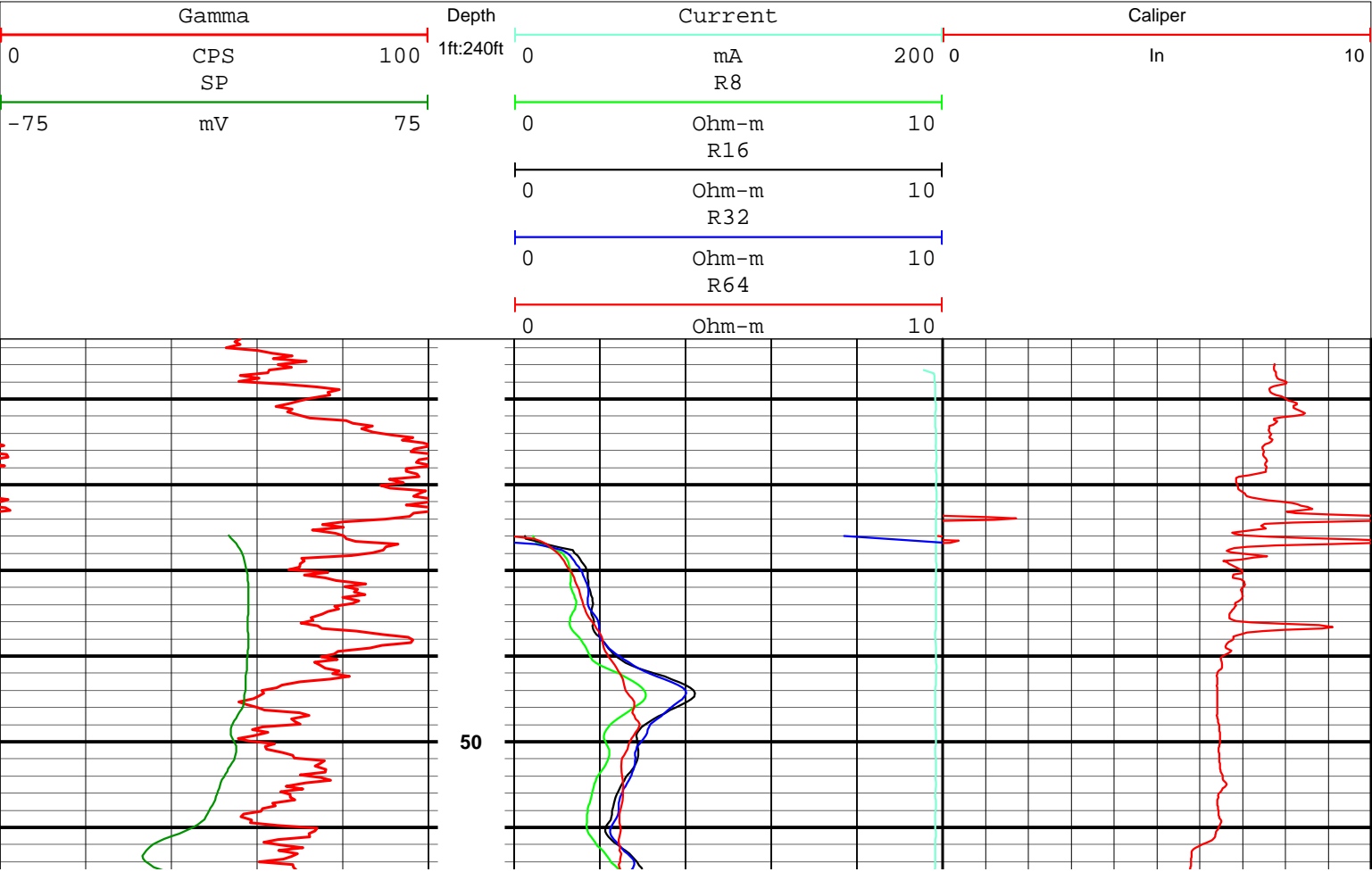
Unit/Truck: 05

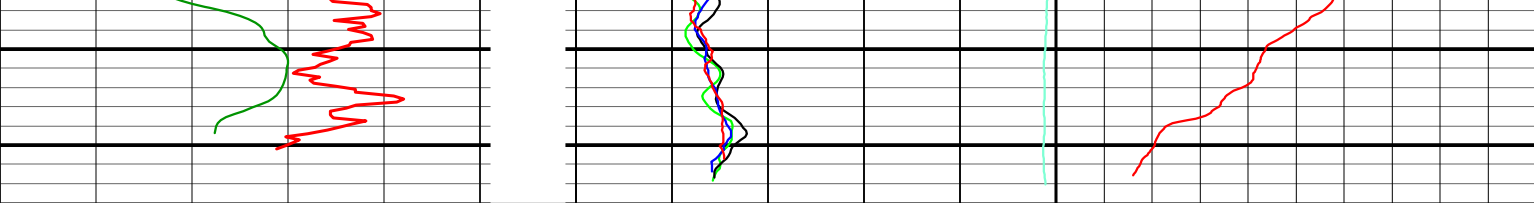
GENERAL DATA

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	81	6	20
RESISTIVITY, SP	2	16	83	26	20
CALIPER	1	20	129	13	20

Comments:









Borehole: WELL B-118

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 05-12-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 26.9" W 99° 09' 54.9"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 540'

Logger T.D. (ft) : 80'

Depth Ref: G.L.

Date Drilled: 04-29-2011

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	150	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 4

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

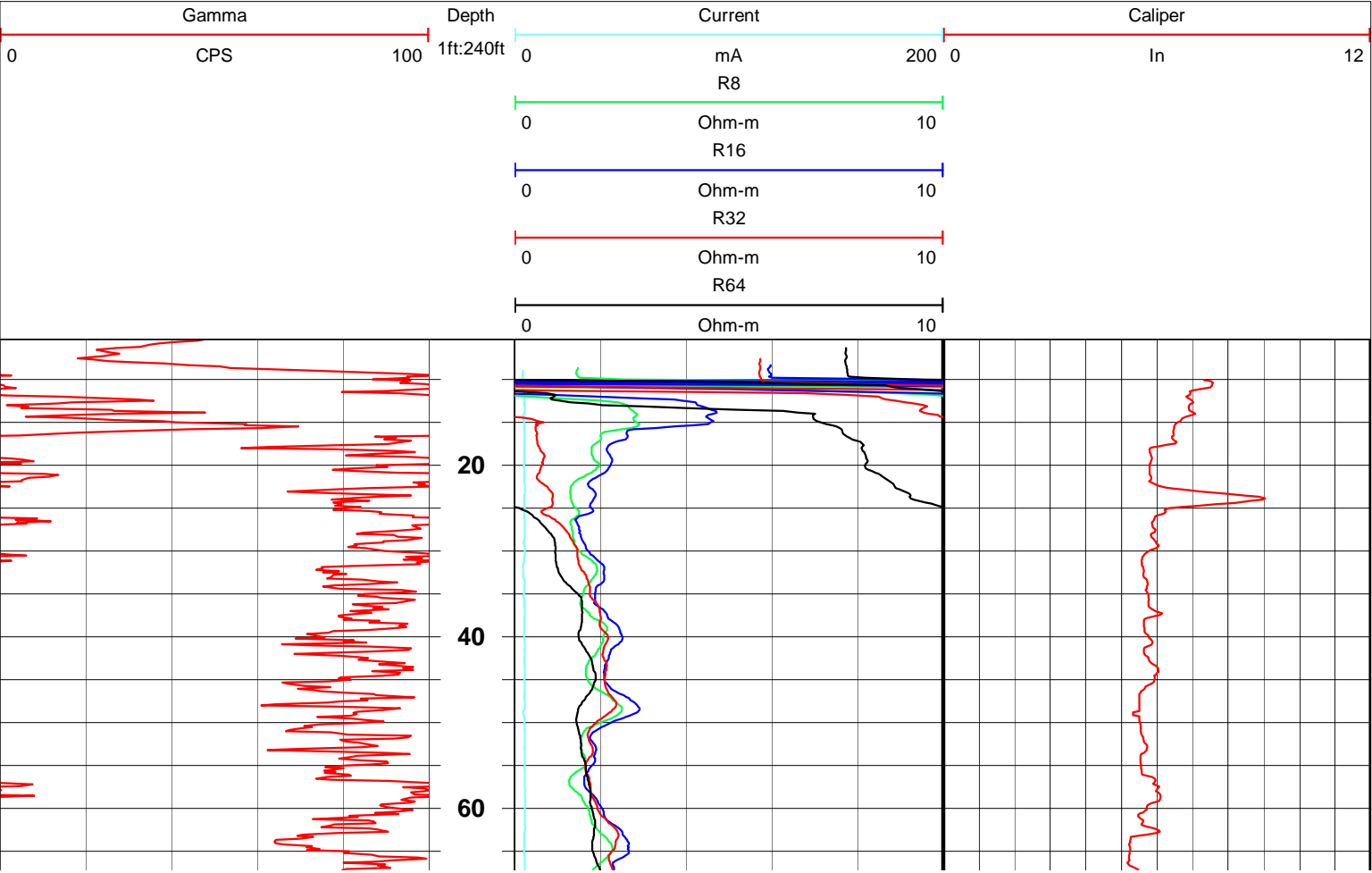
Logged by: Kelly Tuten

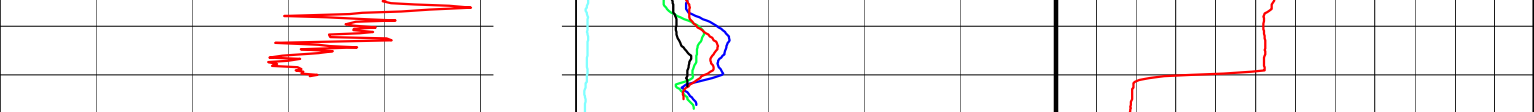
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	75.2	5.3	20
RESISTIVITY, SP	2	16	77.5	7.6	20
CALIPER	1	20	79	10.1	20

Comments:







Borehole: WELL B-124

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 05-12-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 14.5" N 99° 09' 39.9"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 536.9'

Logger T.D. (ft) : 141'

Depth Ref: G.L.

Date Drilled: 05/05-06/2011

BIT RECORD

CASING RECORD

RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	6"	0	150	NONE		
2						
3						

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 3'

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

Logged by: Kelly Tuten

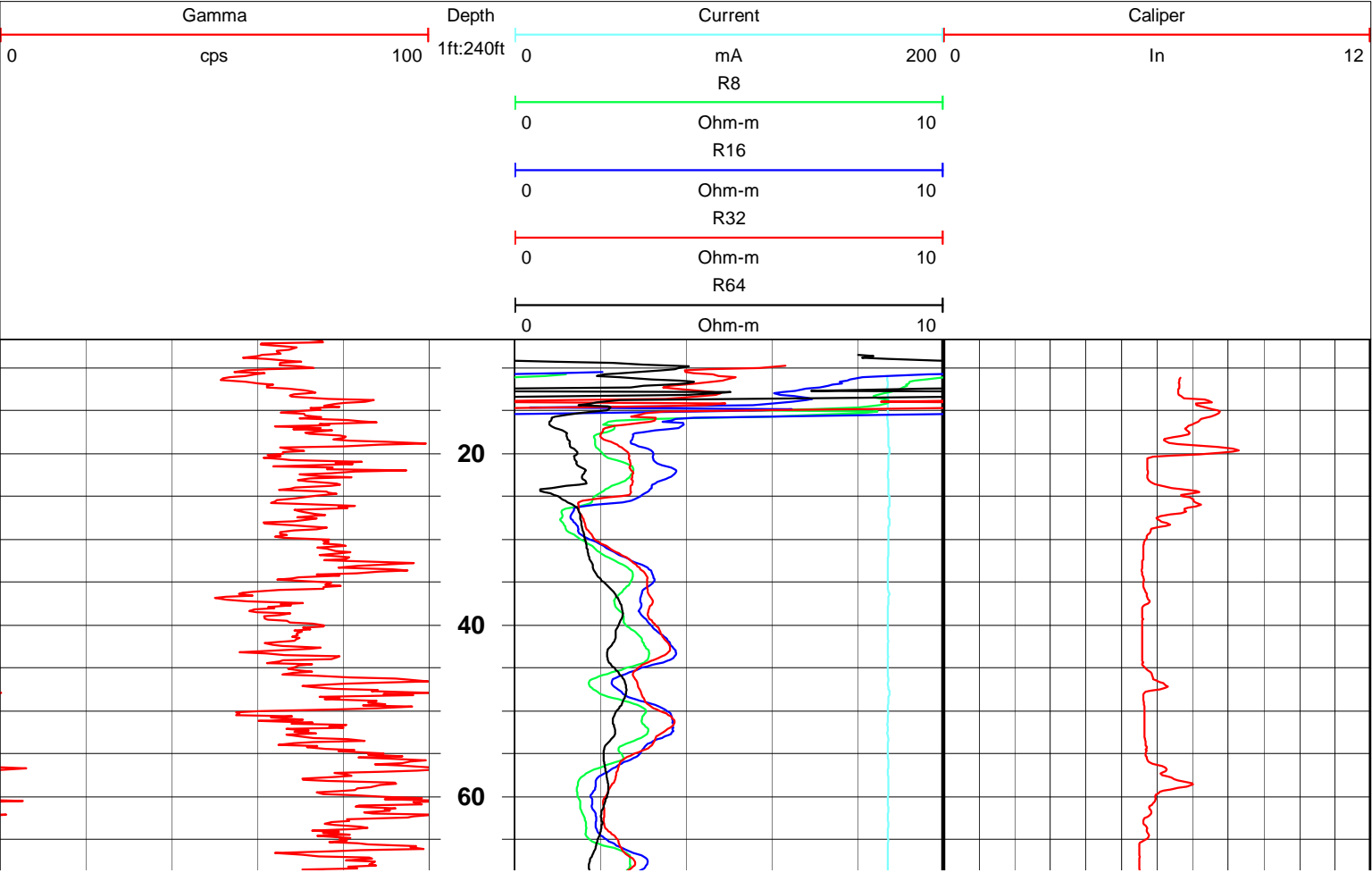
Unit/Truck: 05

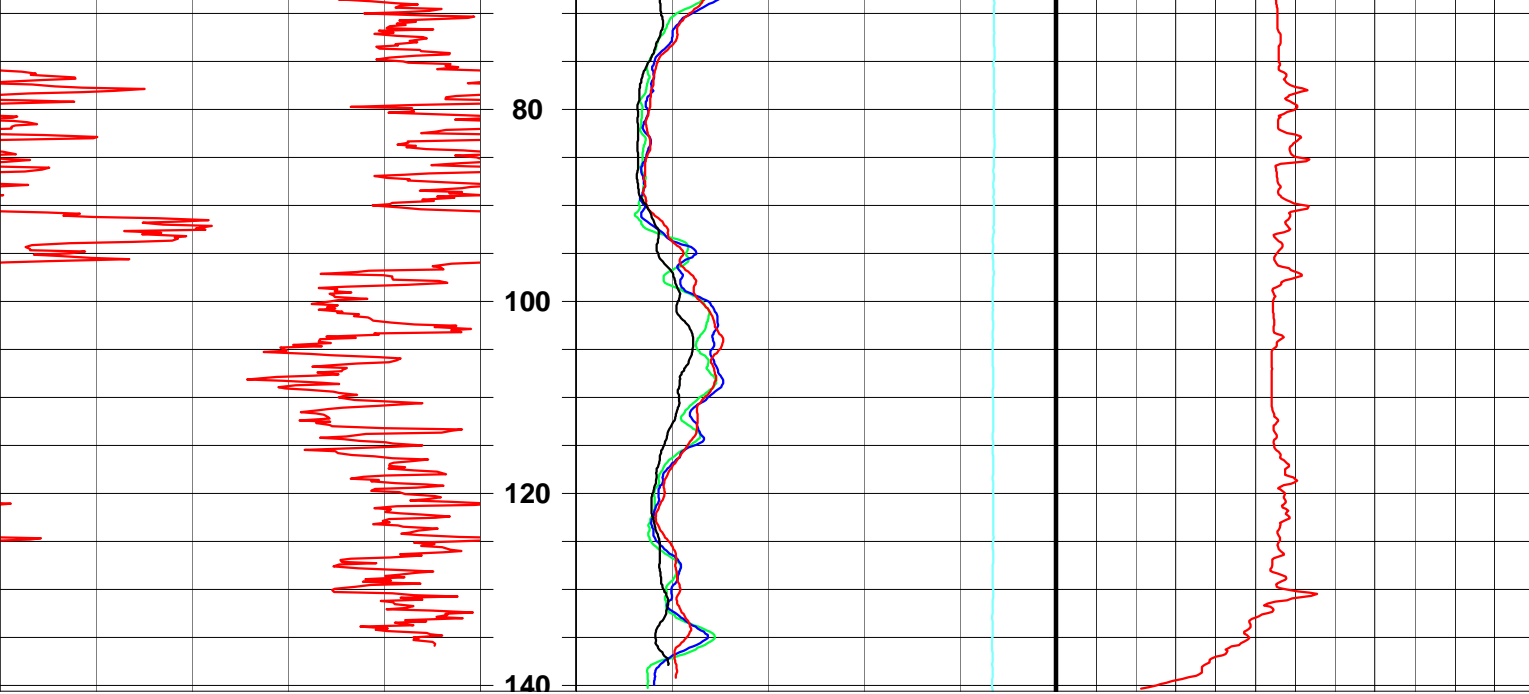
GENERAL DATA

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	135.8	6.7	20
RESISTIVITY, SP	2	16	139.2	9.8	20
CALIPER	1	20	140.3	11.2	20

Comments:







Borehole: WELL B-126

Logs: GAMMA, RESISTIVITY,  
CALIPER

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCH VIEJO SITE

Date: 05-12-11

Client: RABA KISTNER

County: WEBB

Location: N 27° 33' 12.0" W 99° 09' 26.7"

State: TX

BOREHOLE DATA

Drilling Contractor: BOART LONGYEAR

Driller T.D. (ft) : 160'

Elevation: 540.5'

Logger T.D. (ft) : 130'

Depth Ref: T.C.

Date Drilled: 05/06-07/2011

BIT RECORD				CASING RECORD			
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)	
1	6"	0	150	NONE			
2							
3							

Drill Method: SONIC CORE

Weight:

Fluid Level (ft) : 3

Hole Medium:

Mud Type:

Time Since Circ:

Viscosity:

Rm:

at:

Deg C

GENERAL DATA

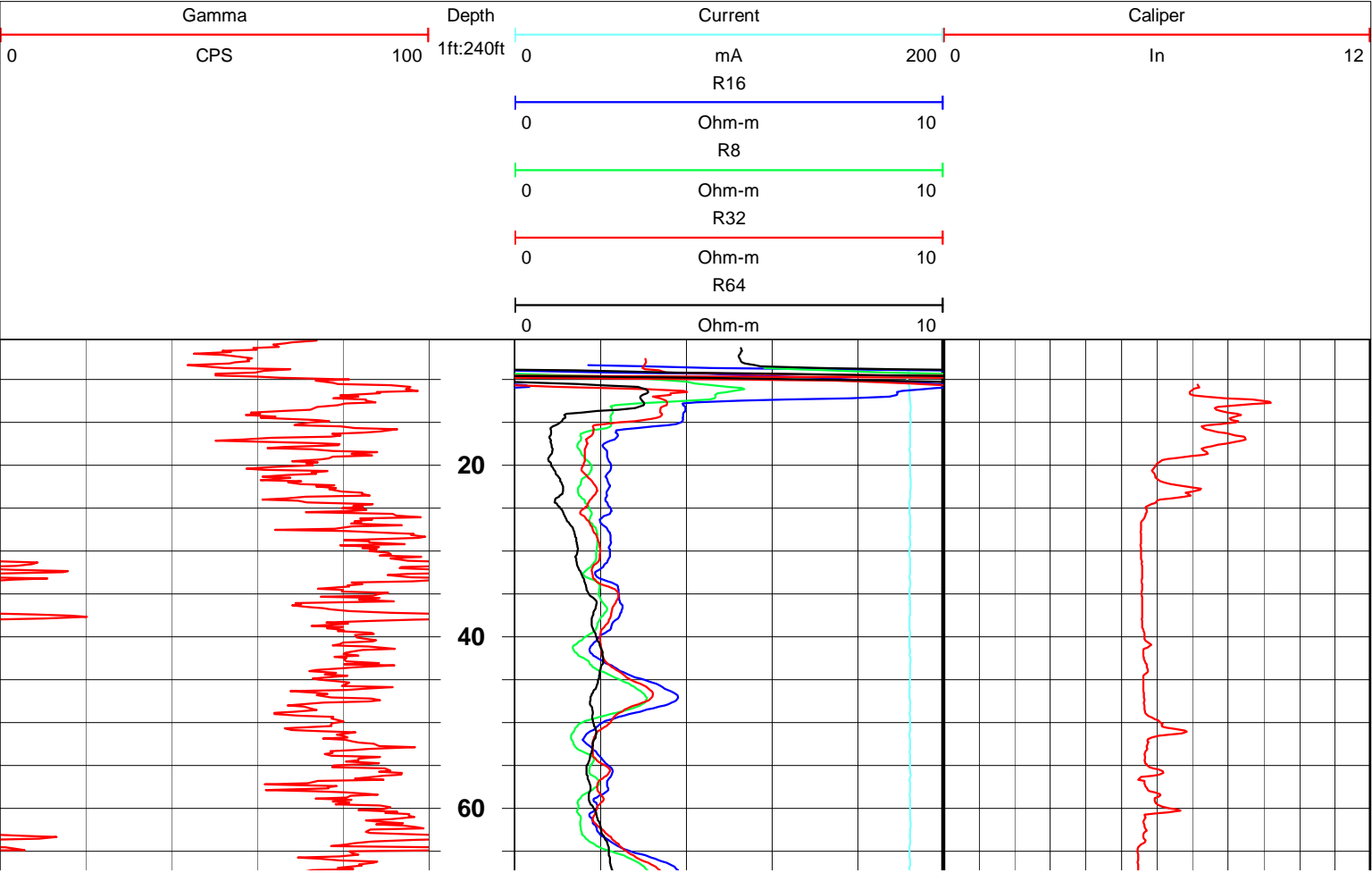
Logged by: Kelly Tuten

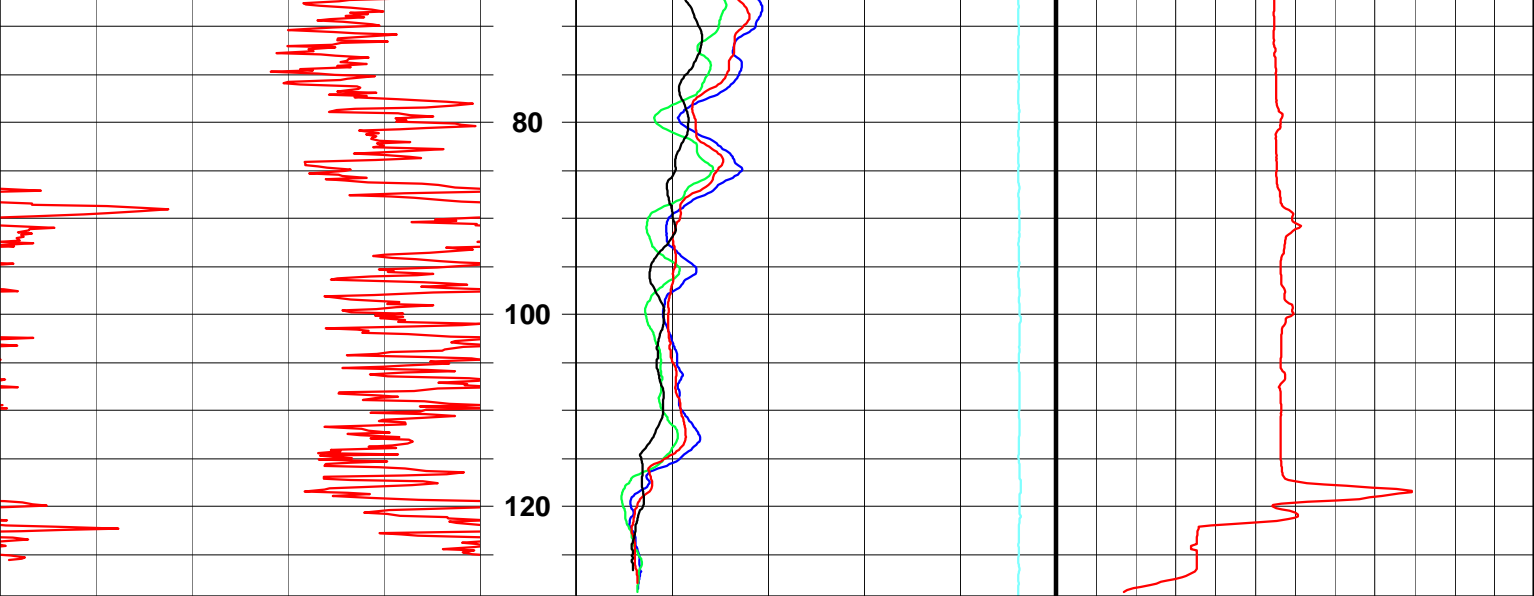
Unit/Truck: 05

Witness:

LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	3	20	125.6	5.3	20
RESISTIVITY, SP	2	16	127.9	7.6	20
CALIPER	1	20	128.8	10.6	20

Comments:







**ONSITE WATER SUPPLY WELL**



Borehole: ON SITE WELL  
Logs: GAMMA, CALIPER, SPR

Water Well Logging & Video Recording Services

Geo Cam, Inc. 126 Palo Duro, San Antonio, TX 210-495-9121

Project: RANCHO VIEJO Date: 07-17-11  
Client: RABA KISTNER County: WEBB  
Location: N 27° 33' 16.8" W 99° 10' 16.9" State: TX

BOREHOLE DATA

Drilling Contractor: NA Driller T.D. (ft) : NA  
Elevation: 534' GPS Logger T.D. (ft) : 1166'  
Depth Ref: T.C. Date Drilled: NA

BIT RECORD				CASING RECORD		
RUN	BIT SIZE (in)	FROM (ft)	TO (ft)	SIZE/WGT/THK	FROM (ft)	TO (ft)
1	NA			4.25" STEEL	+ 1.1	TD
2						
3						

Drill Method: NA Weight: Fluid Level (ft) : 222'  
Hole Medium: Mud Type: Time Since Circ:  
Viscosity: Rm: at: Deg C

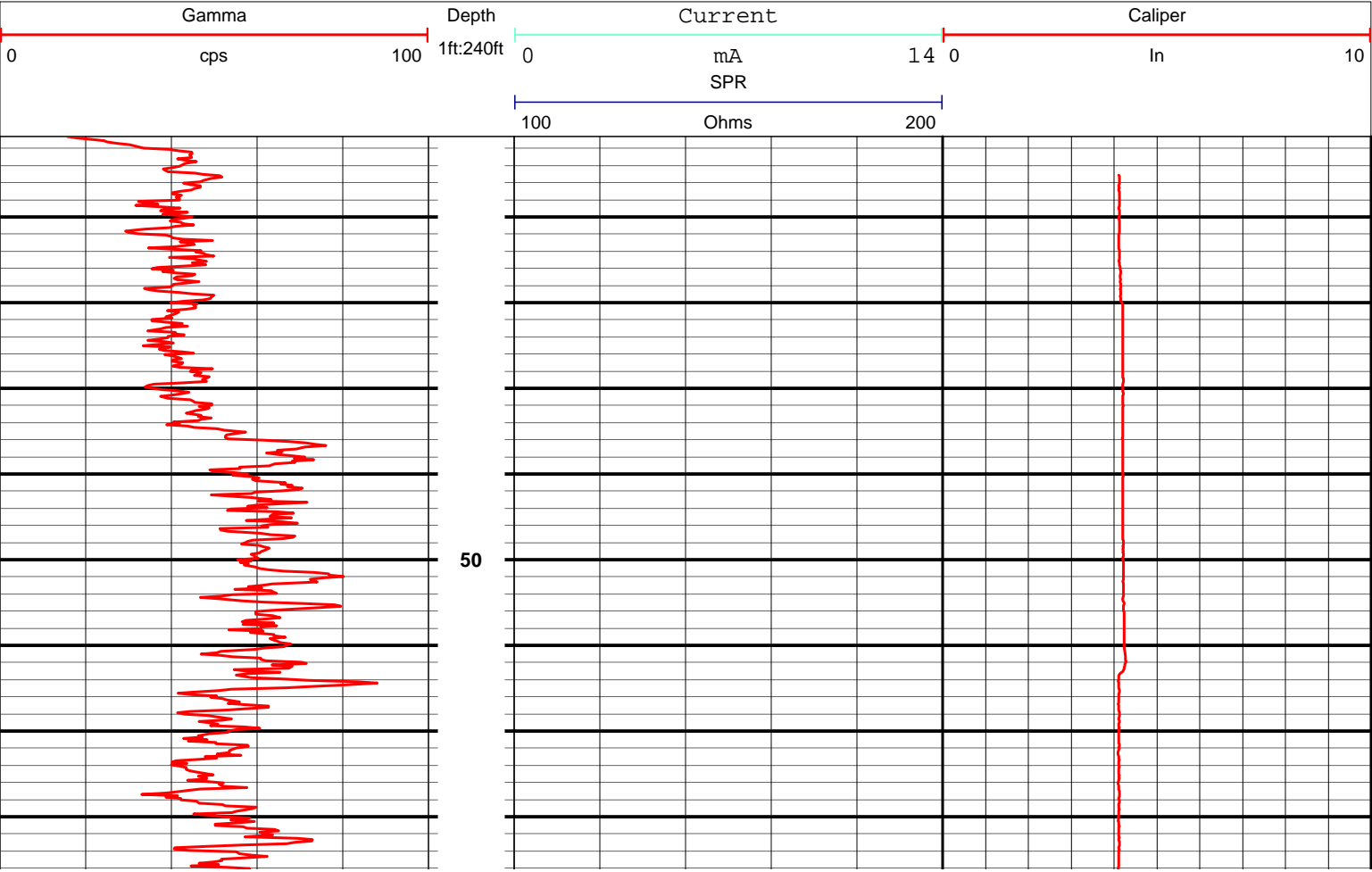
GENERAL DATA

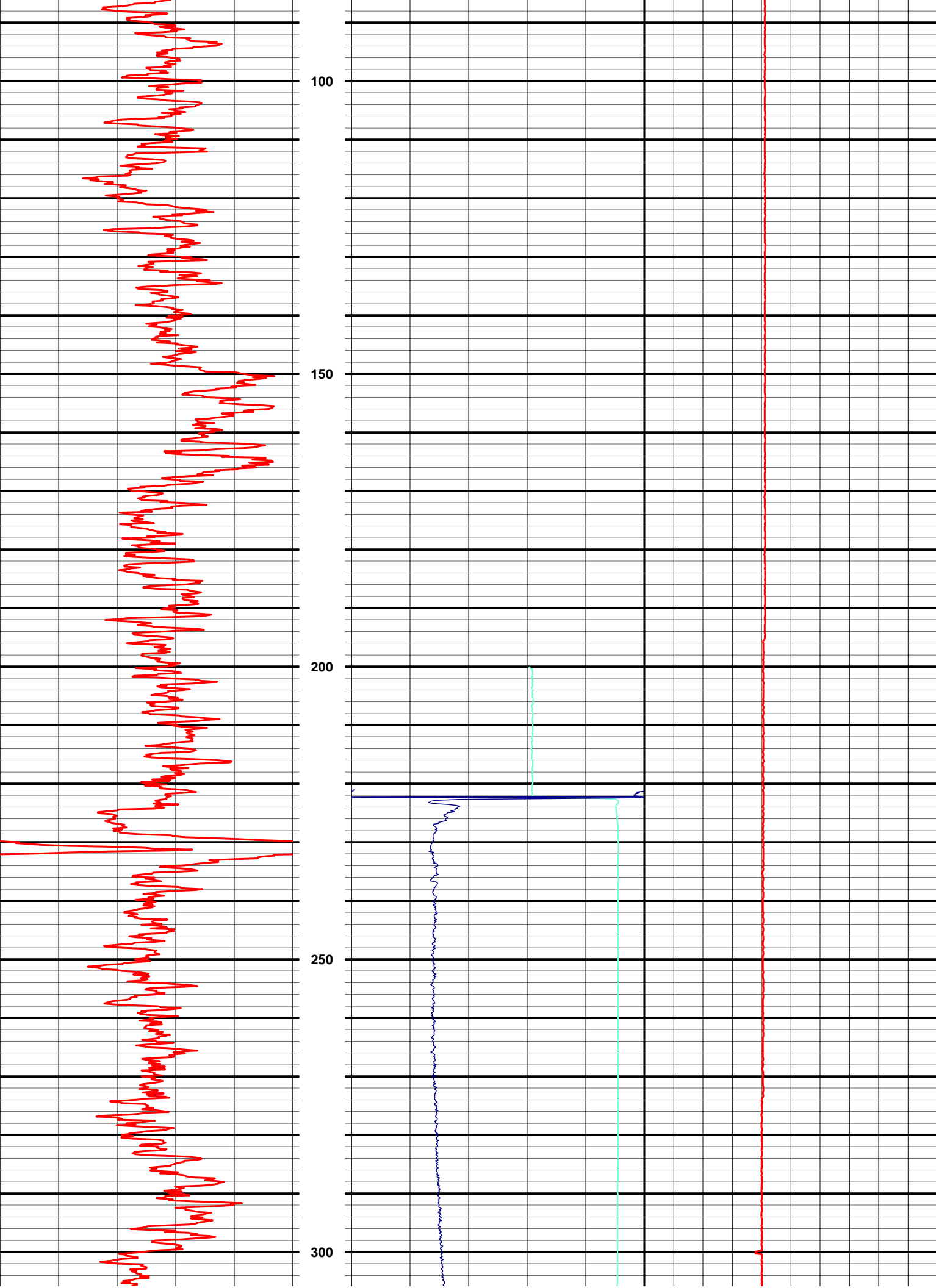
Logged by: Kelly Tuten Unit/Truck: 05

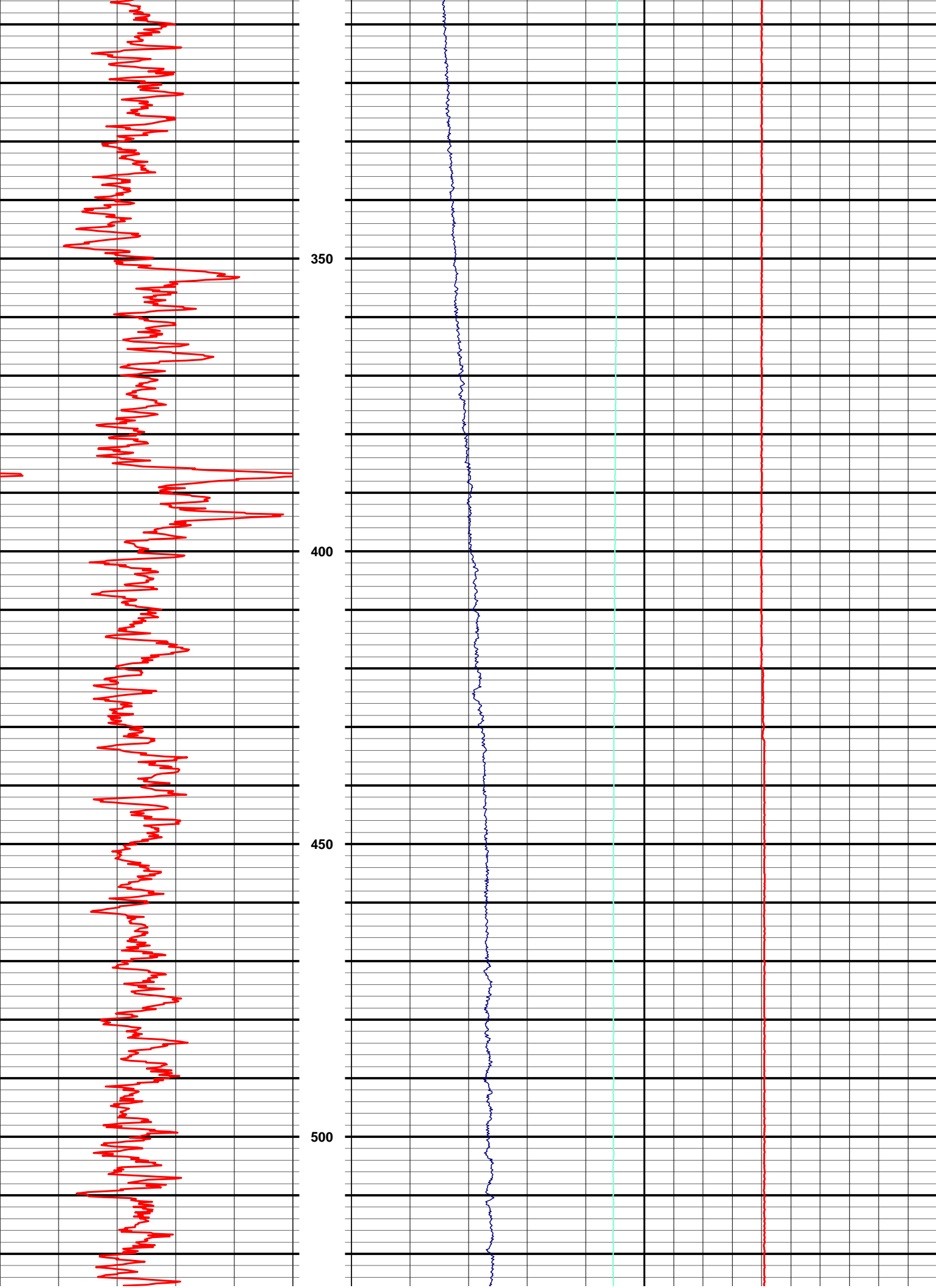
Witness:

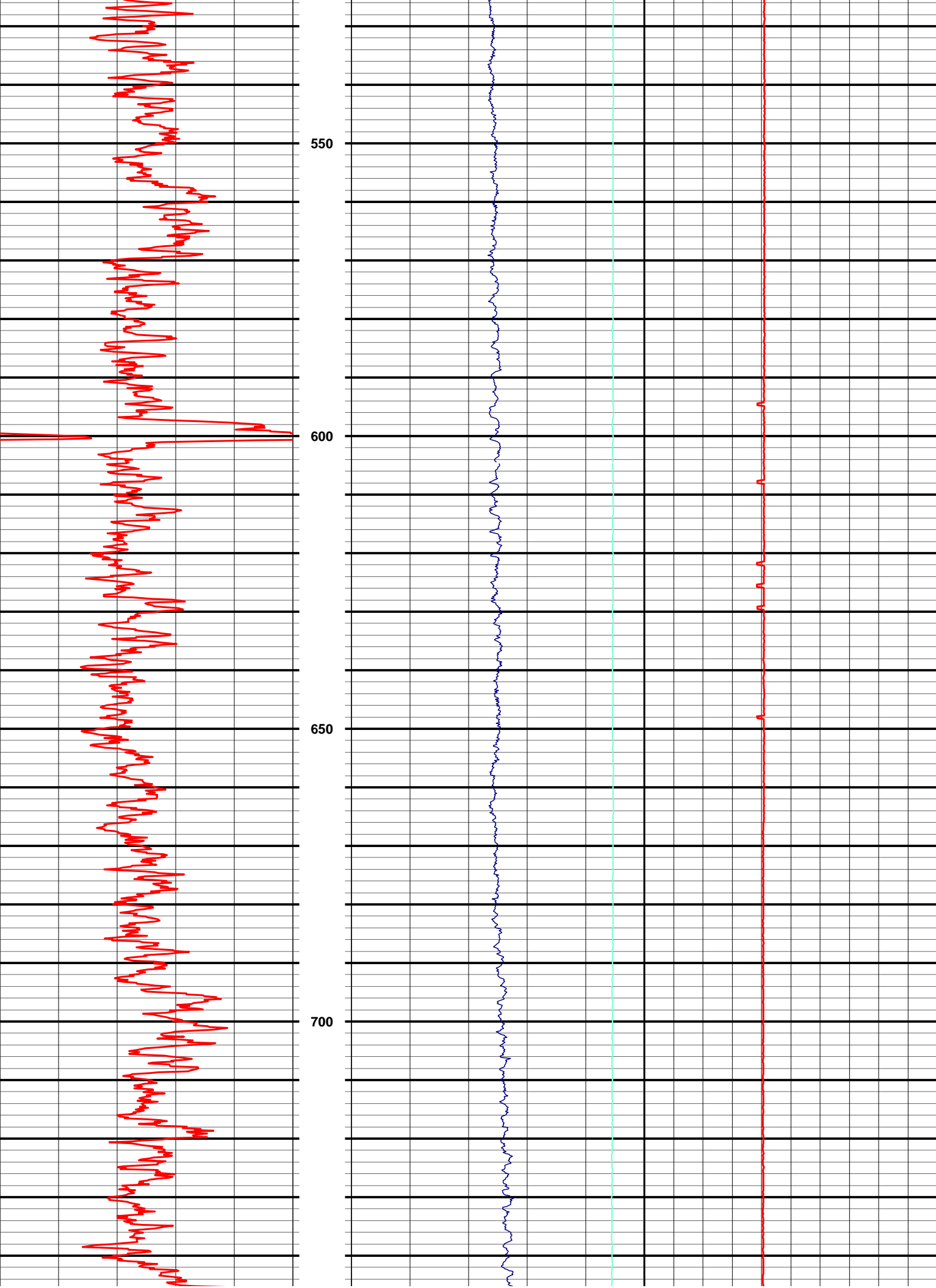
LOG TYPE	RUN NO	SPEED (ft/min)	FROM (ft)	TO (ft)	FT./IN.
GAMMA	1	30	1160	1	20
CALIPER	1	30	1165	5	20
SPR	1	55	1159	222	20

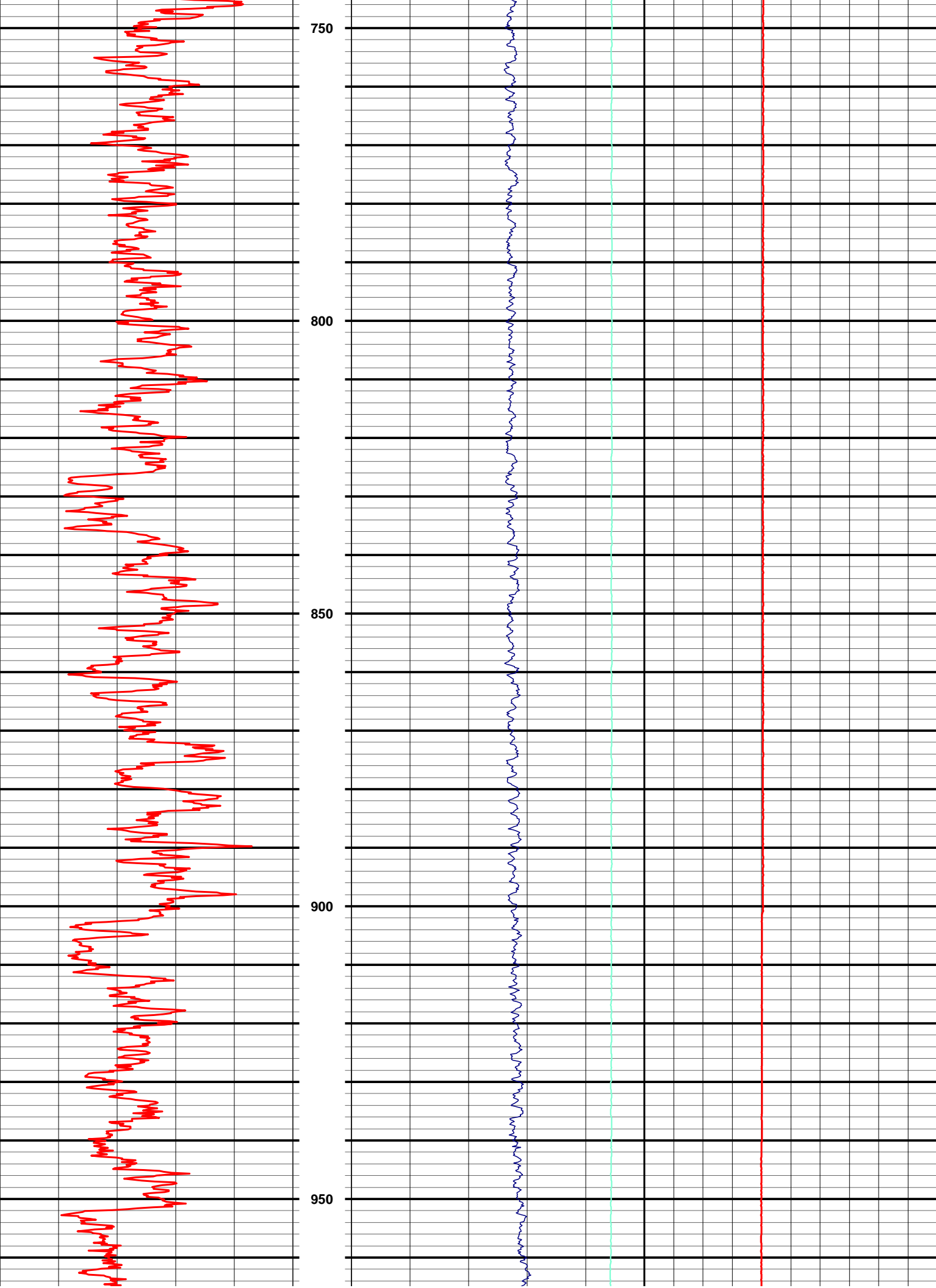
Comments:



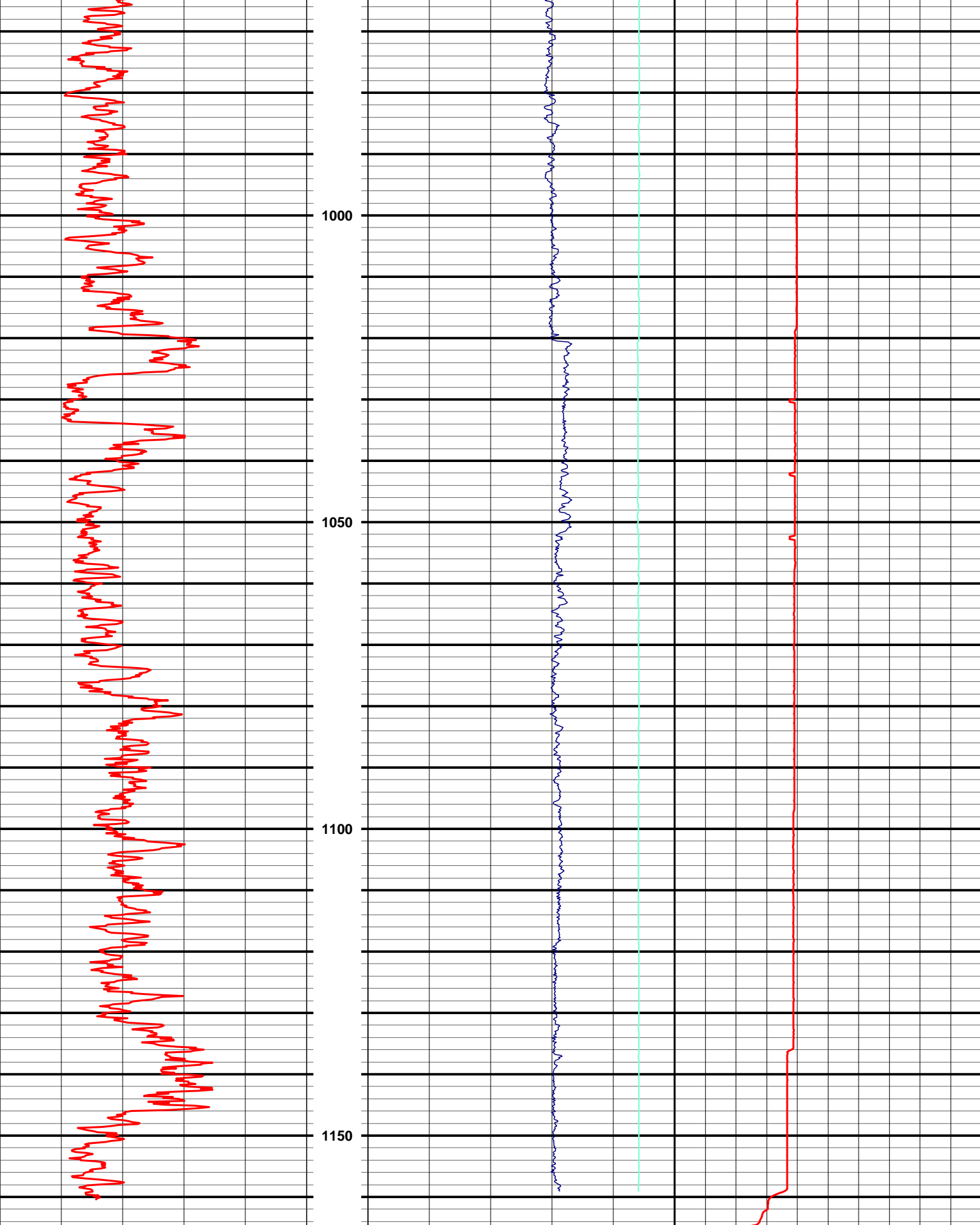








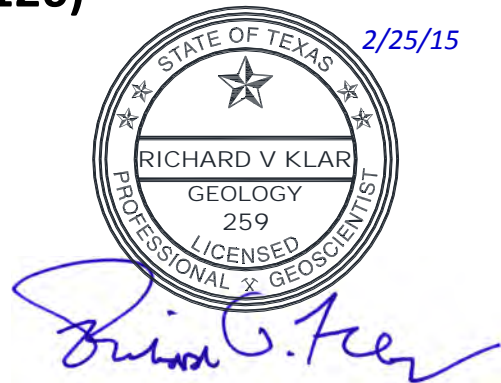




## APPENDIX D

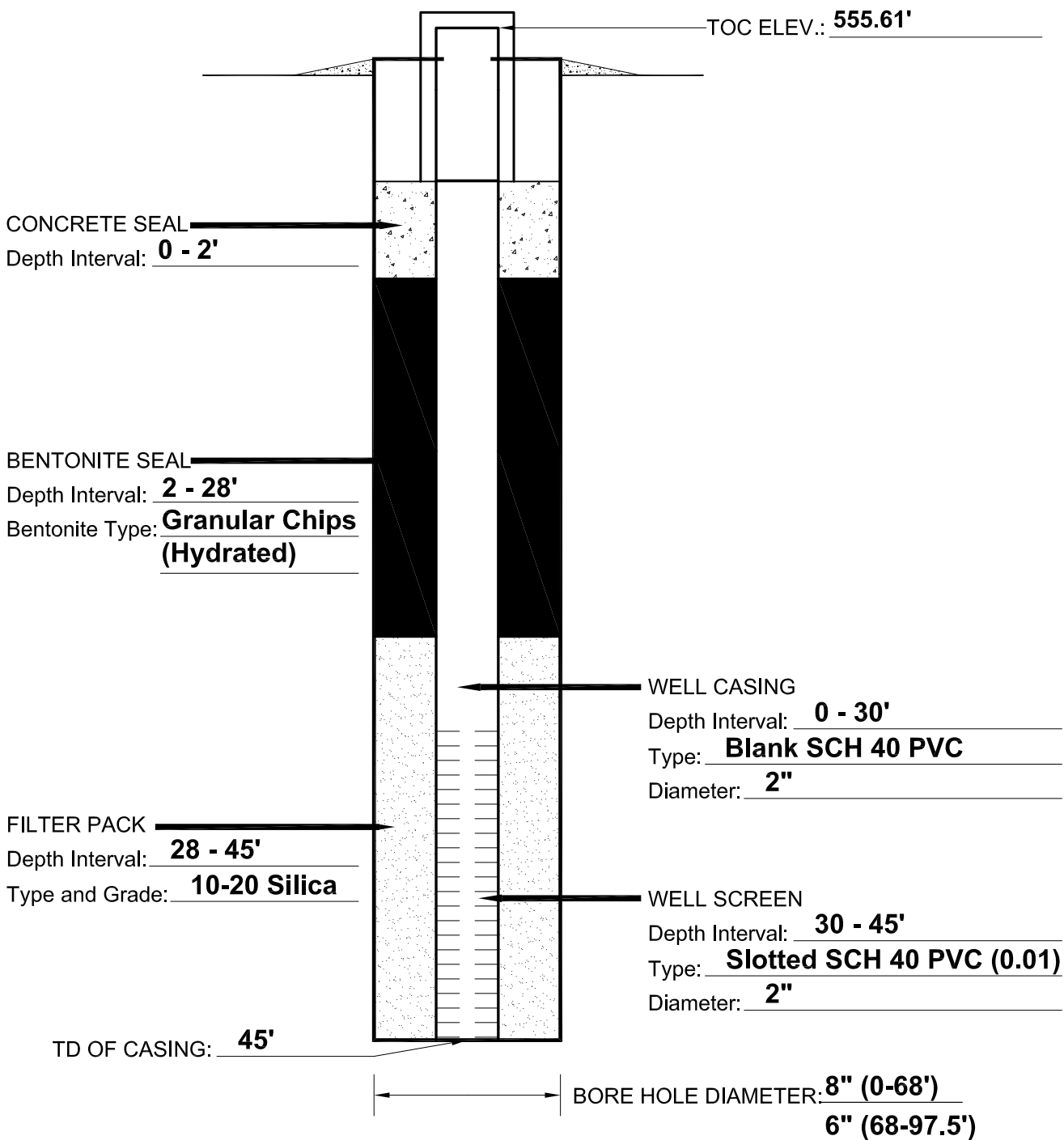
### PIEZOMETER CONSTRUCTION DIAGRAMS

(B-1, B-2, B-6, B-11A, B-13, B-18, B-24, B-26, B-27, B-101,  
B-102, B-106, B-109A, B-114A, B-115, B-118, B-124 AND  
B-126)



# PIEZOMETER CONSTRUCTION DIAGRAM

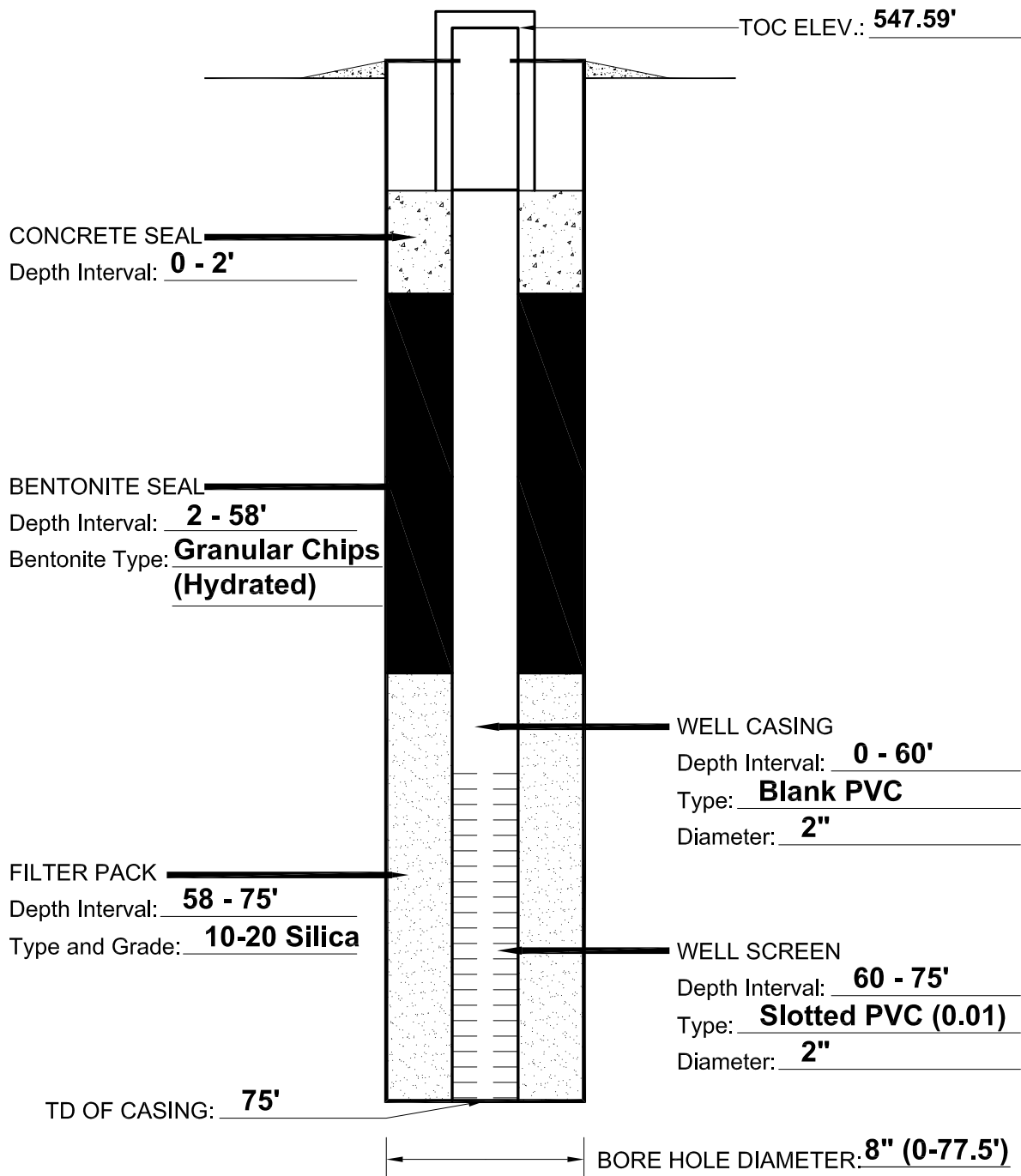
TEMPORARY PIEZOMETER I.D. No. B-1



NOTE: Boring was plugged to 45' using granular bentonite chips (hydrated).

# PIEZOMETER CONSTRUCTION DIAGRAM

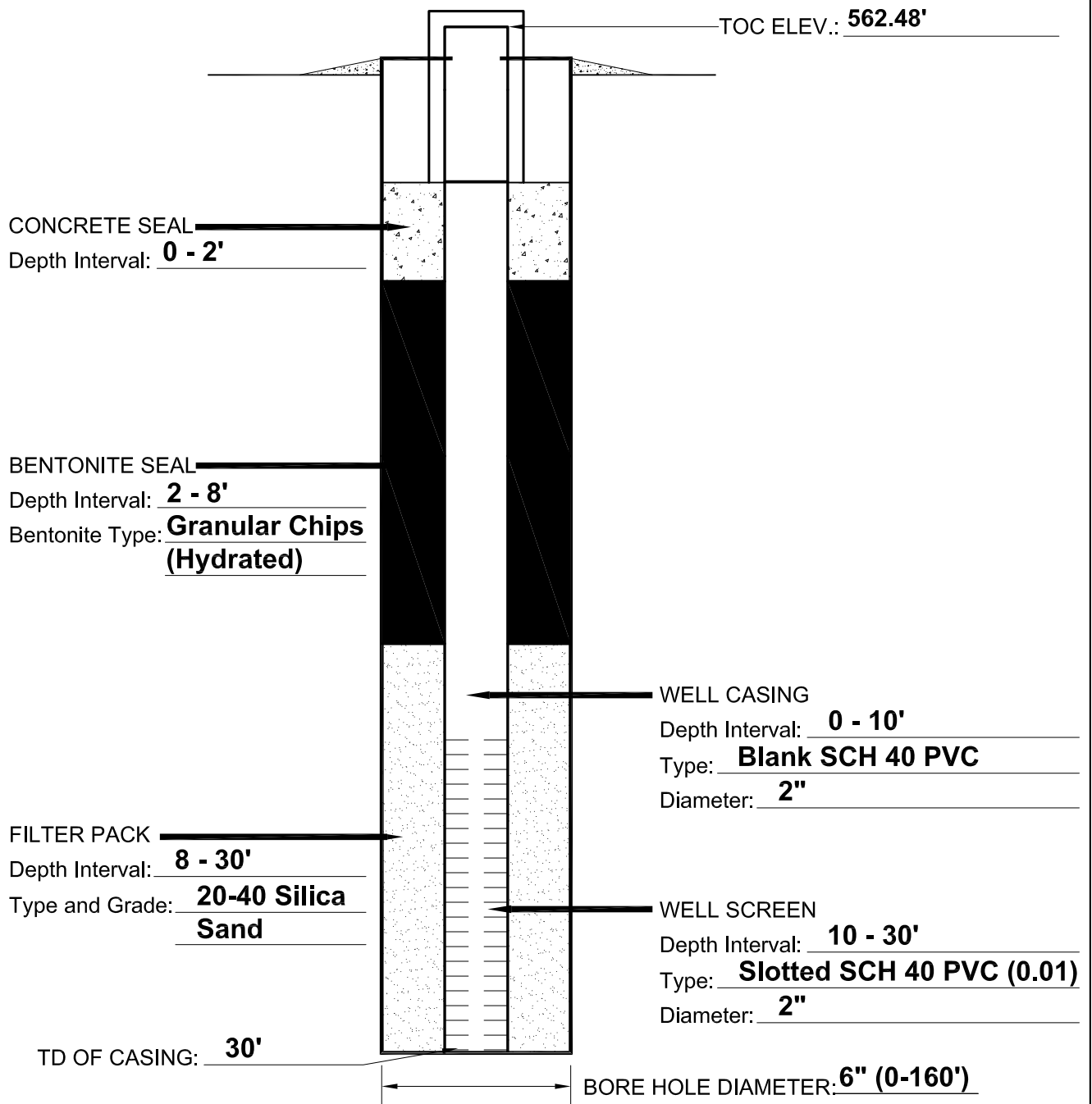
TEMPORARY PIEZOMETER I.D. No. **B-2**



NOTE: Boring was plugged to 75' using granular bentonite chips (hydrated).

# PIEZOMETER CONSTRUCTION DIAGRAM

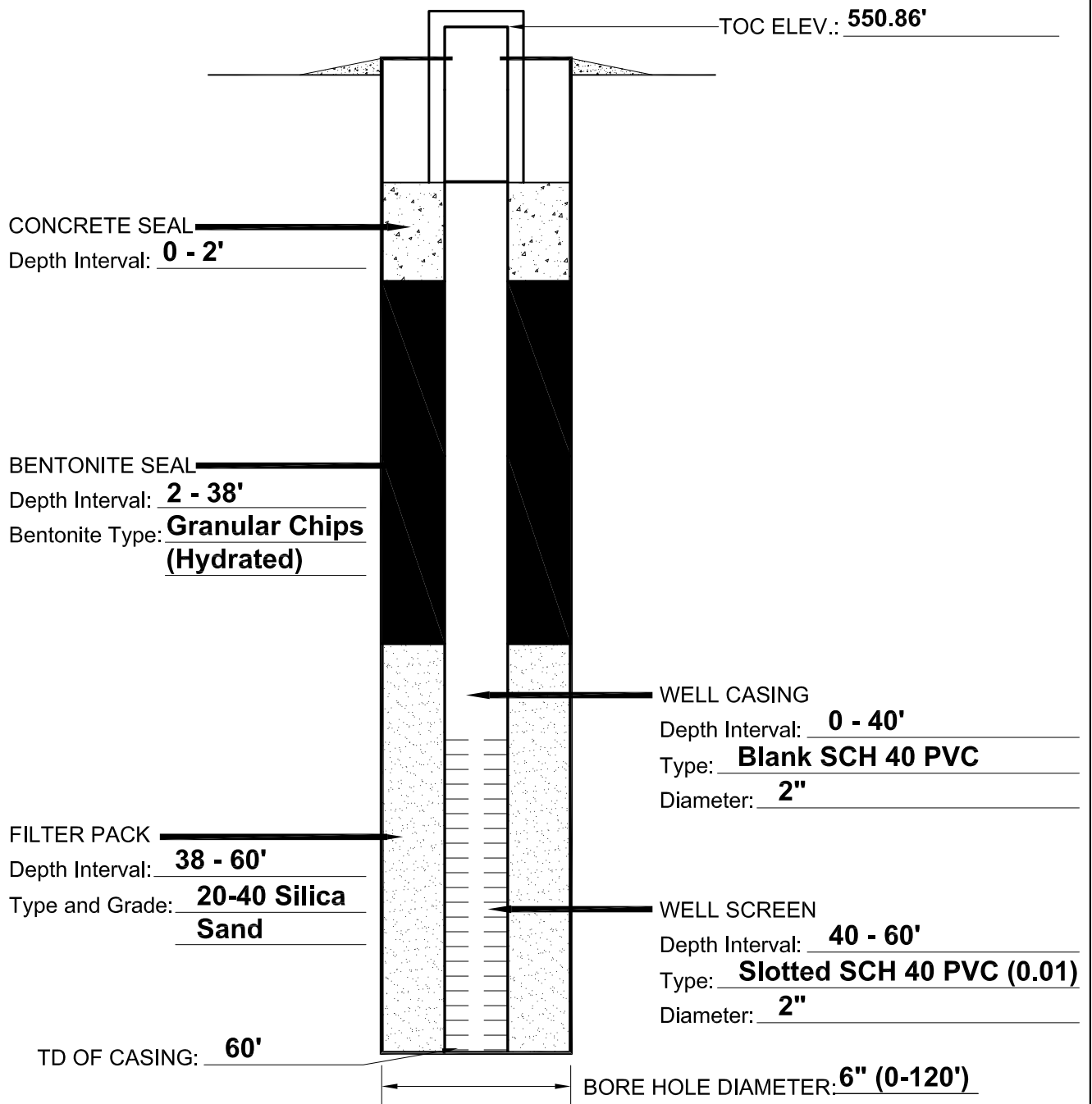
TEMPORARY PIEZOMETER I.D. No. B-6



NOTE: Boring was plugged to 30' using granular bentonite chips (hydrated).

# PIEZOMETER CONSTRUCTION DIAGRAM

TEMPORARY PIEZOMETER I.D. No. B-10

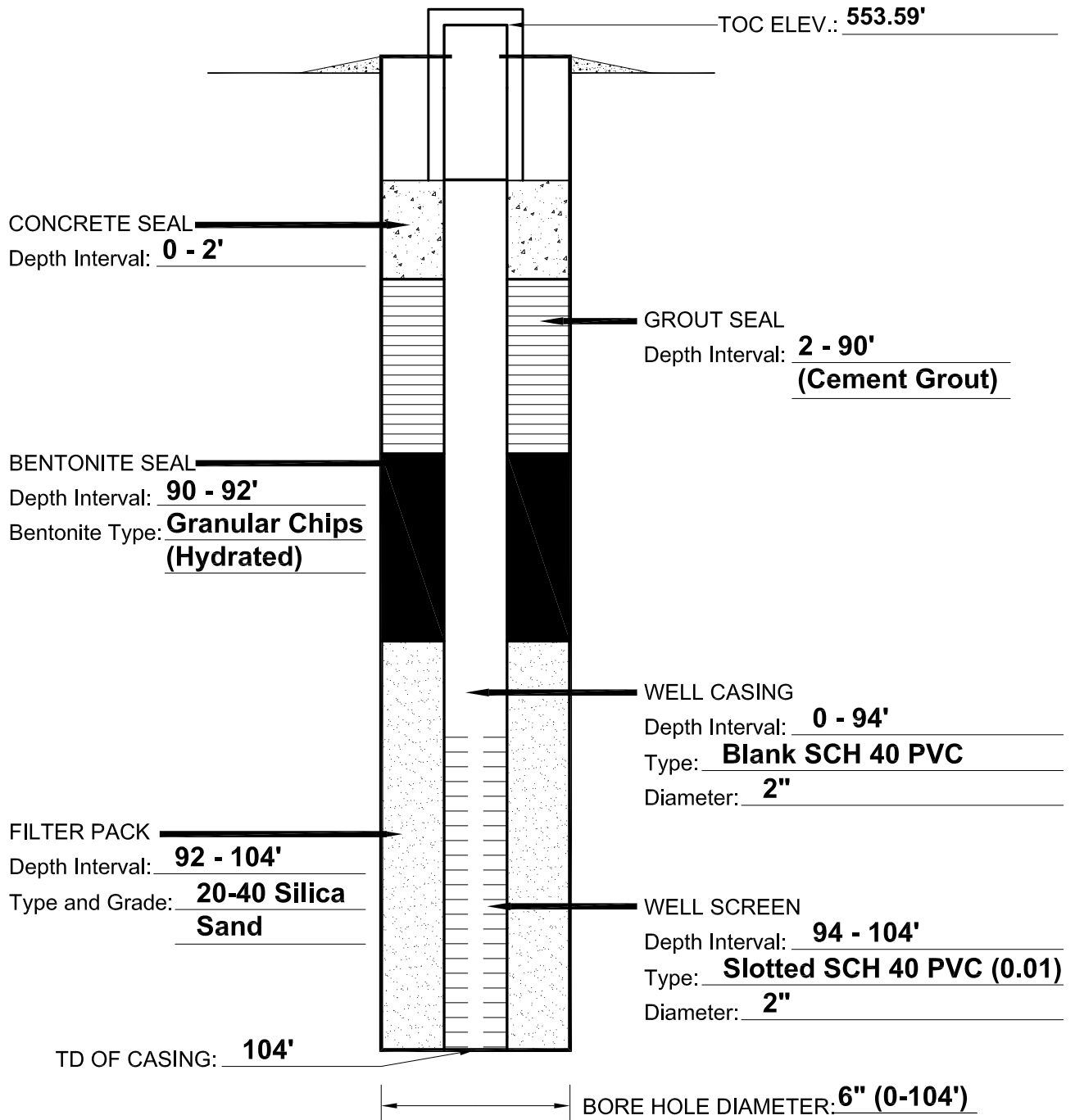


NOTE: Boring was plugged to 60' using granular bentonite chips (hydrated).



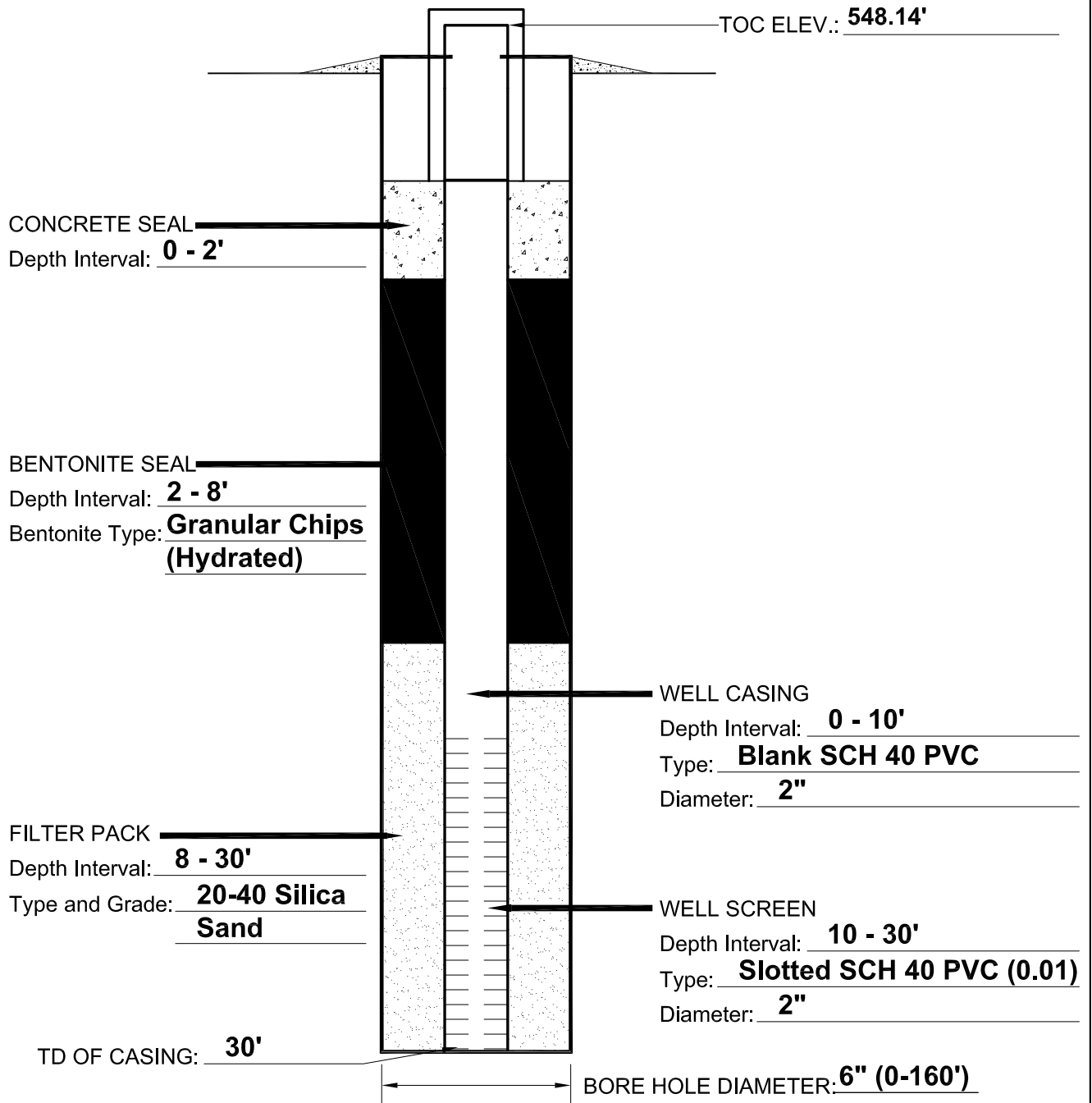
# PIEZOMETER CONSTRUCTION DIAGRAM

TEMPORARY PIEZOMETER I.D. No. B-11A



# PIEZOMETER CONSTRUCTION DIAGRAM

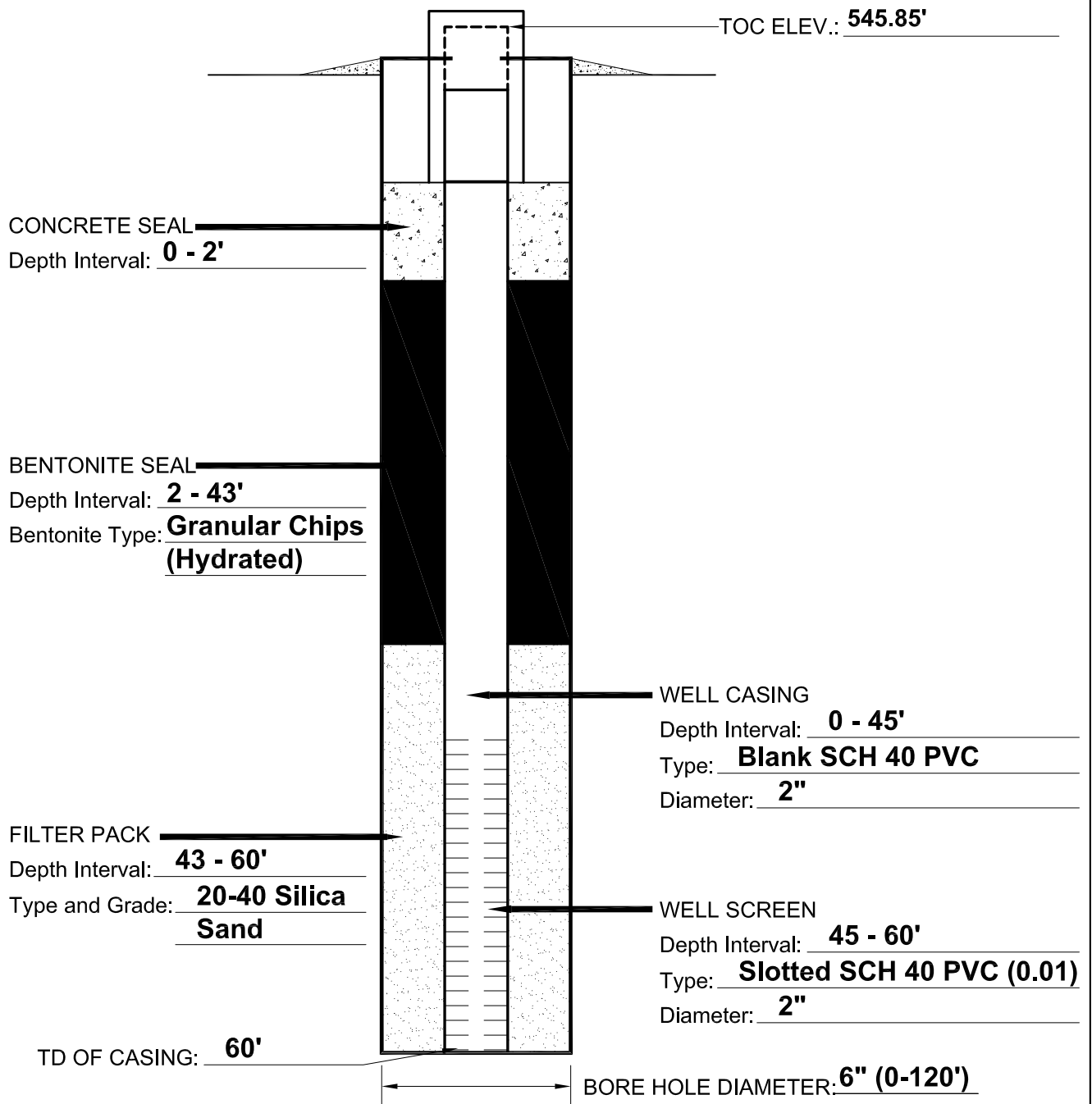
TEMPORARY PIEZOMETER I.D. No. B-13



NOTE: Boring was plugged to 30' using granular bentonite chips (hydrated).

# PIEZOMETER CONSTRUCTION DIAGRAM

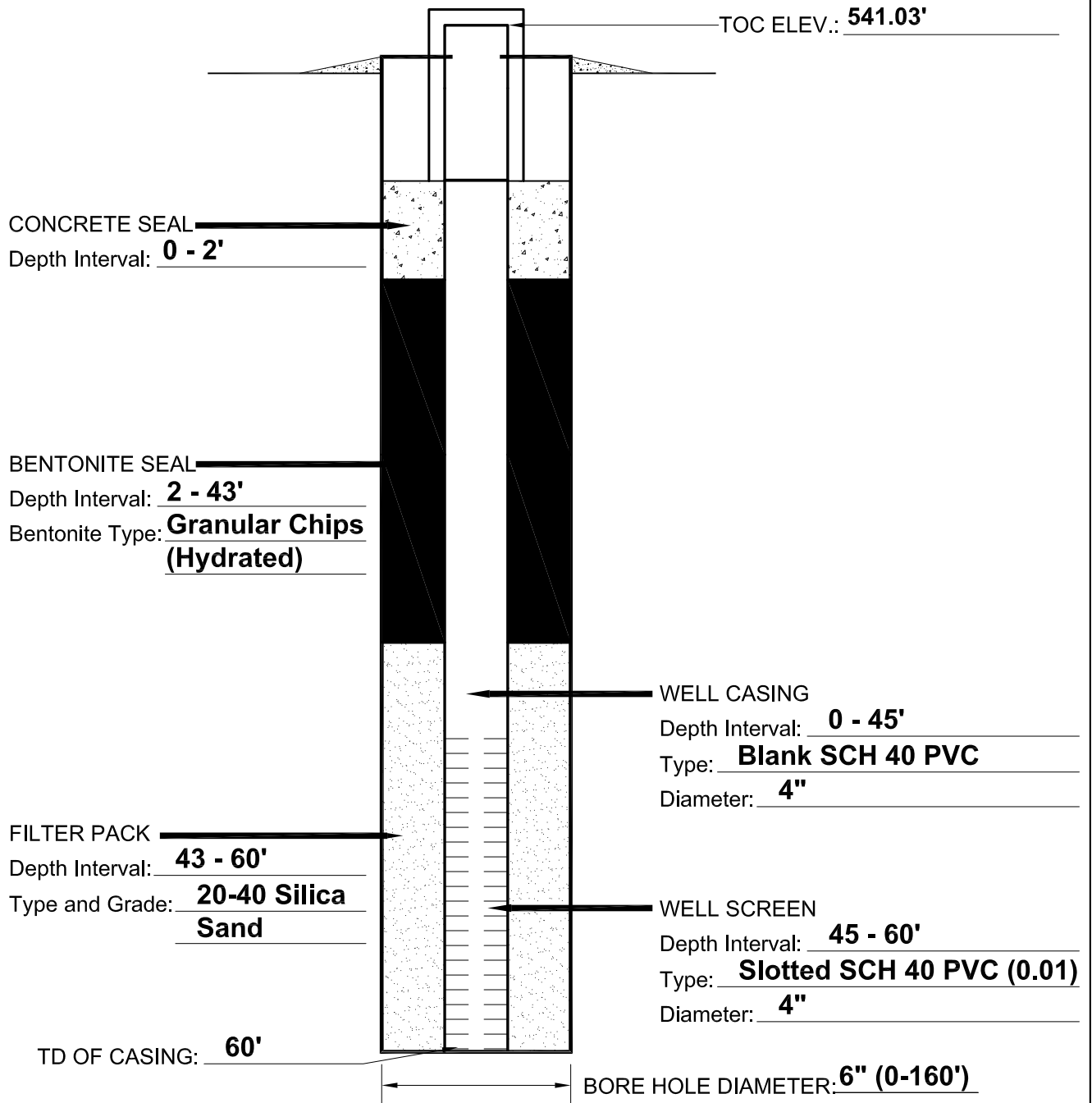
TEMPORARY PIEZOMETER I.D. No. B-18



NOTE: Boring was plugged to 60' using granular bentonite chips (hydrated).

# PIEZOMETER CONSTRUCTION DIAGRAM

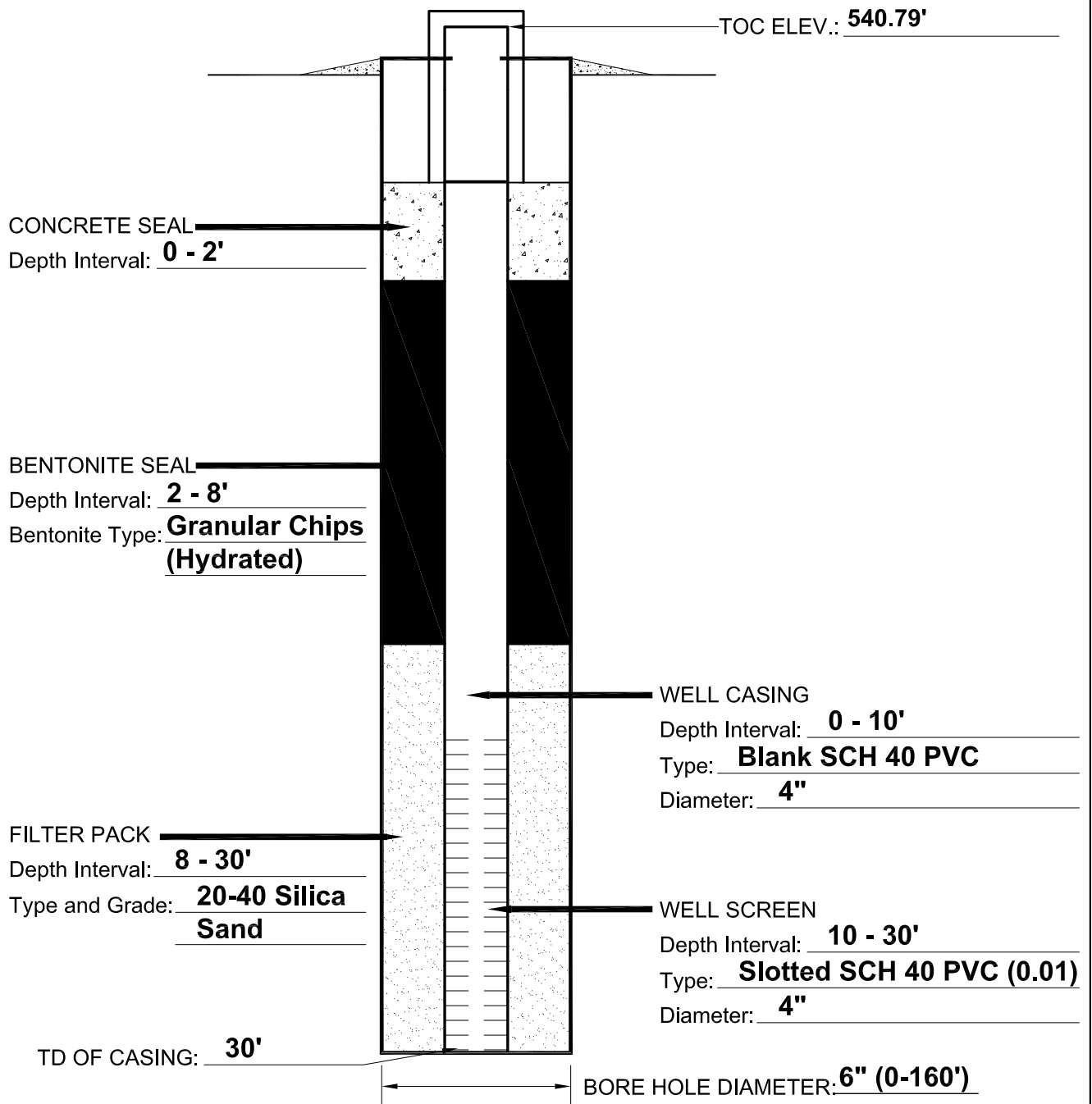
TEMPORARY PIEZOMETER I.D. No. B-24



NOTE: Boring was plugged to 60' using granular bentonite chips (hydrated).

# PIEZOMETER CONSTRUCTION DIAGRAM

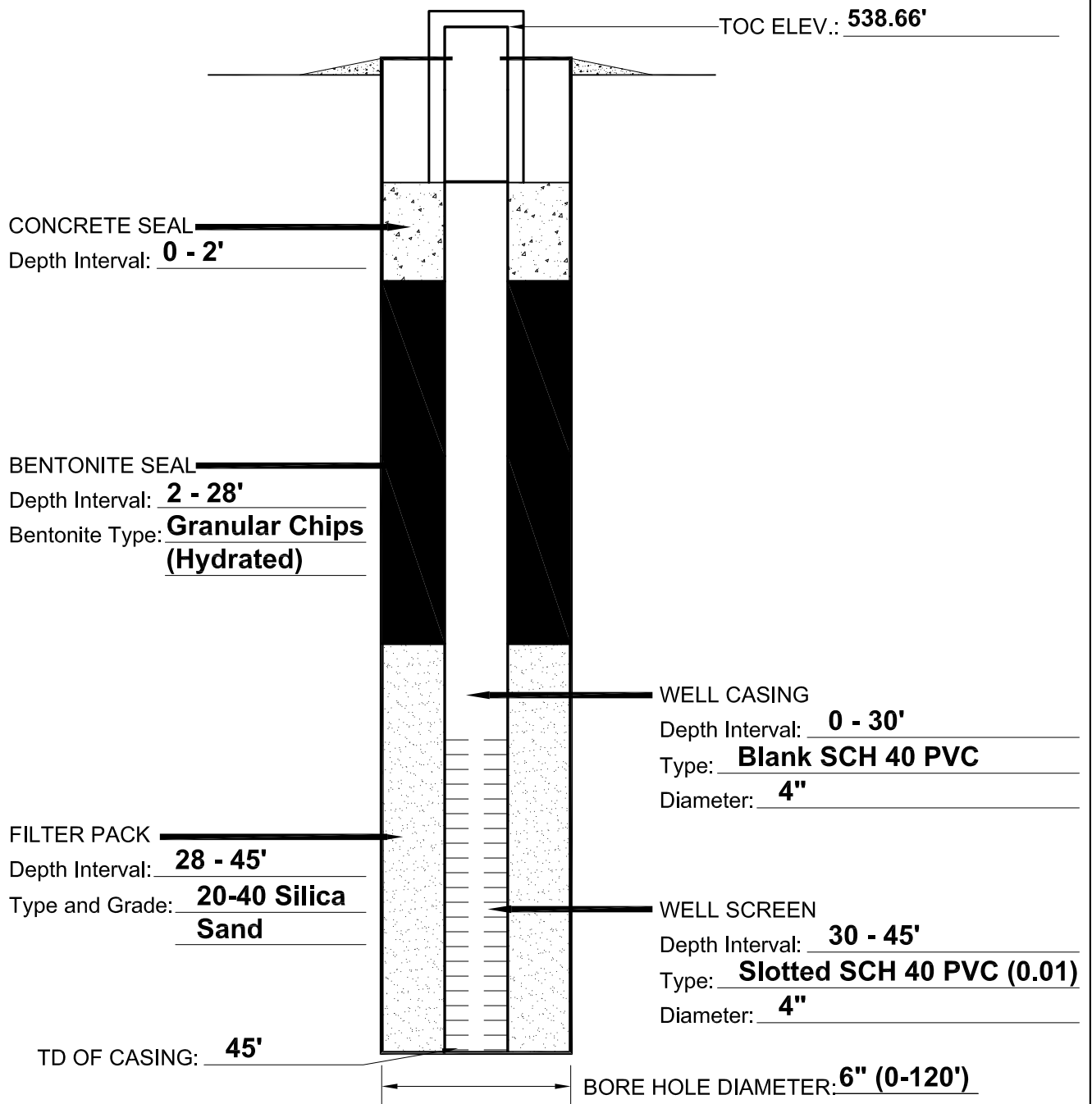
TEMPORARY PIEZOMETER I.D. No. B-26



NOTE: Boring was plugged to 30' using granular bentonite chips (hydrated).

# PIEZOMETER CONSTRUCTION DIAGRAM

TEMPORARY PIEZOMETER I.D. No. B-27

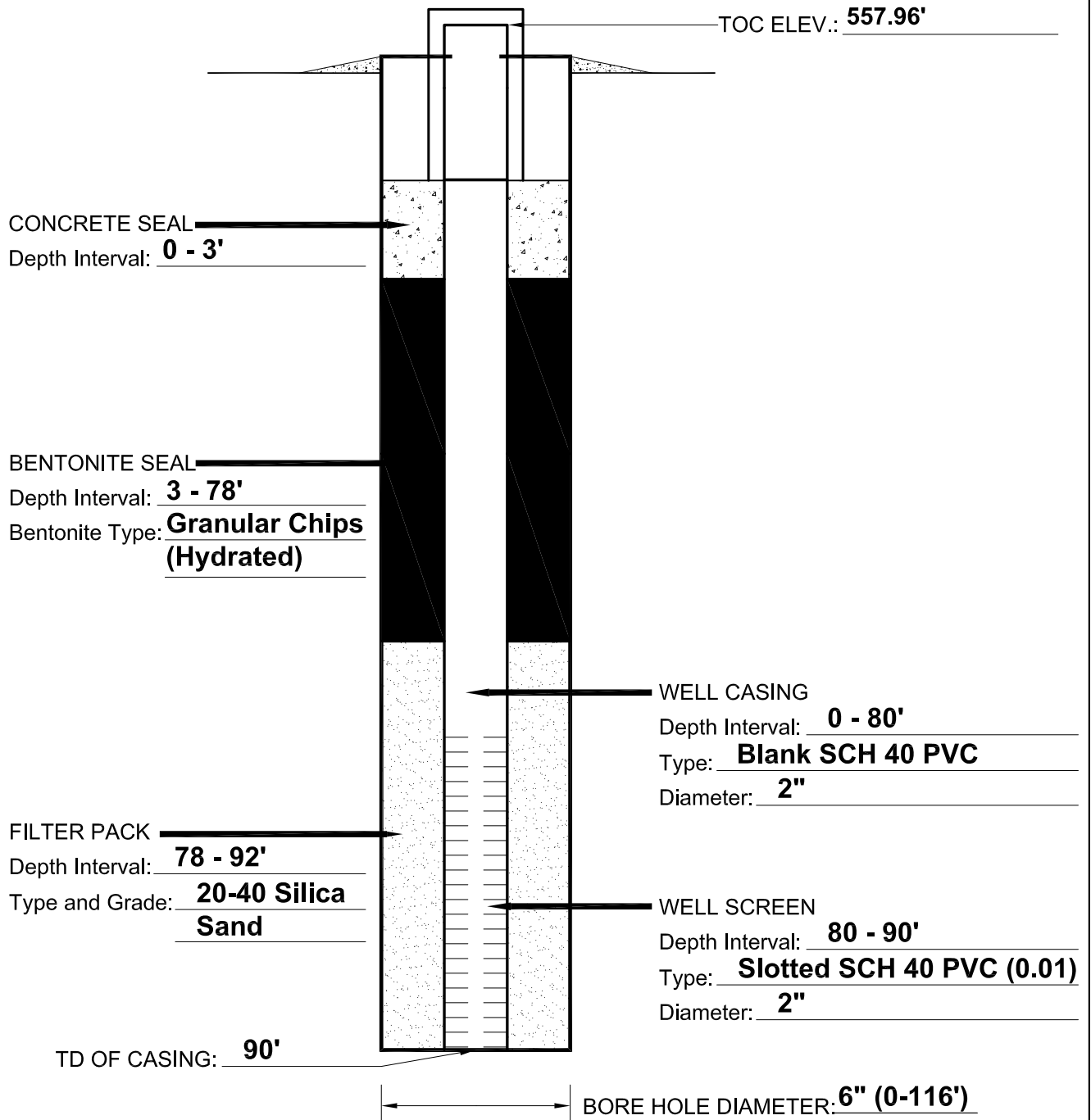


NOTE: Boring was plugged to 45' using granular bentonite chips (hydrated).



# PIEZOMETER CONSTRUCTION DIAGRAM

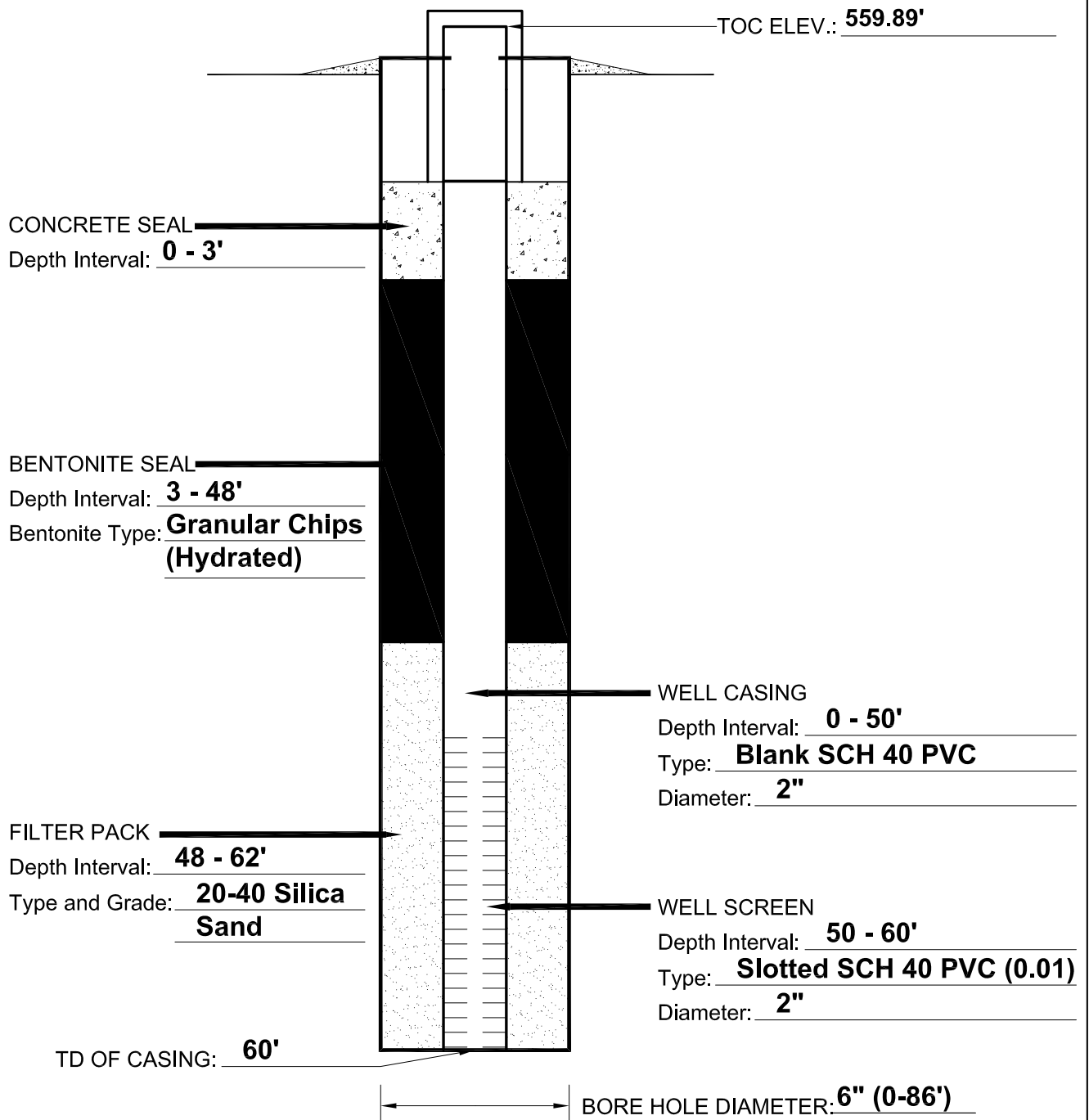
TEMPORARY PIEZOMETER I.D. No. **B-101**



NOTE: Boring was plugged to 92' using granular bentonite chips (hydrated), and from 92' to 90' using 20-40 silica sand.

# PIEZOMETER CONSTRUCTION DIAGRAM

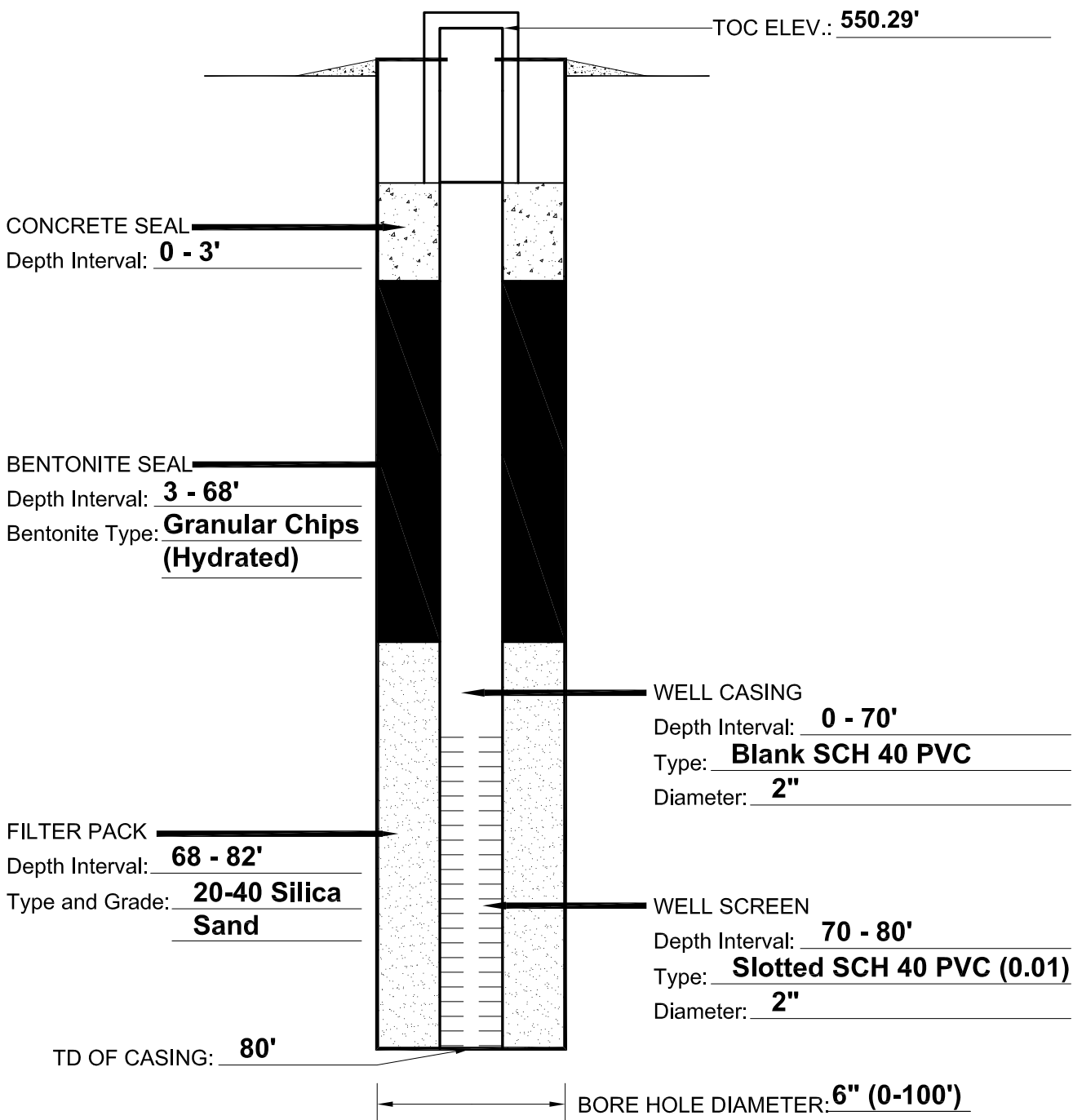
TEMPORARY PIEZOMETER I.D. No. **B-102**



NOTE: Boring was plugged to 62' using granular bentonite chips (hydrated), and from 62' to 60' using 20-40 silica sand.

# PIEZOMETER CONSTRUCTION DIAGRAM

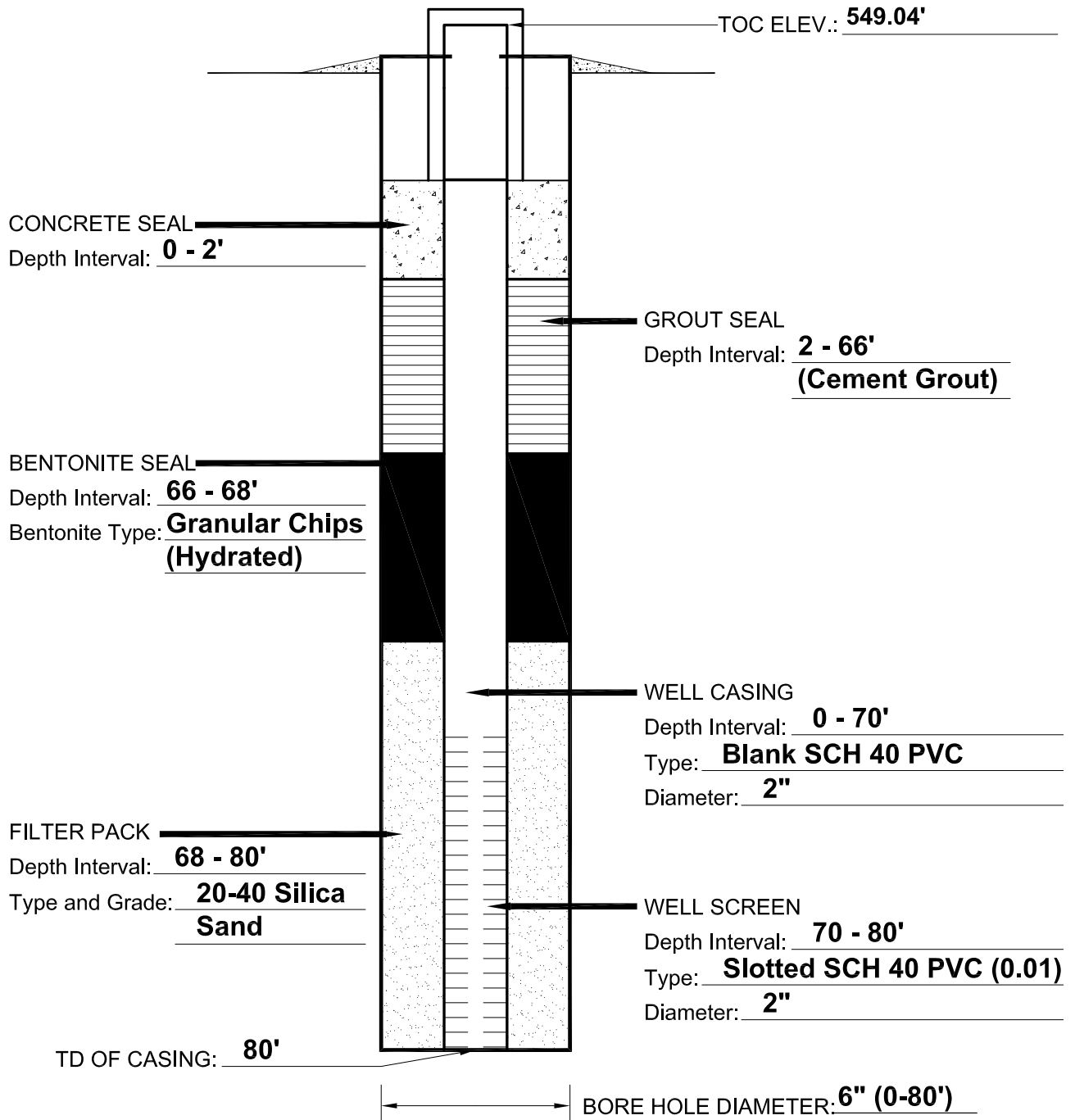
TEMPORARY PIEZOMETER I.D. No. **B-106**



NOTE: Boring was plugged to 82' using granular bentonite chips (hydrated), and from 82' to 80' using 20-40 silica sand.

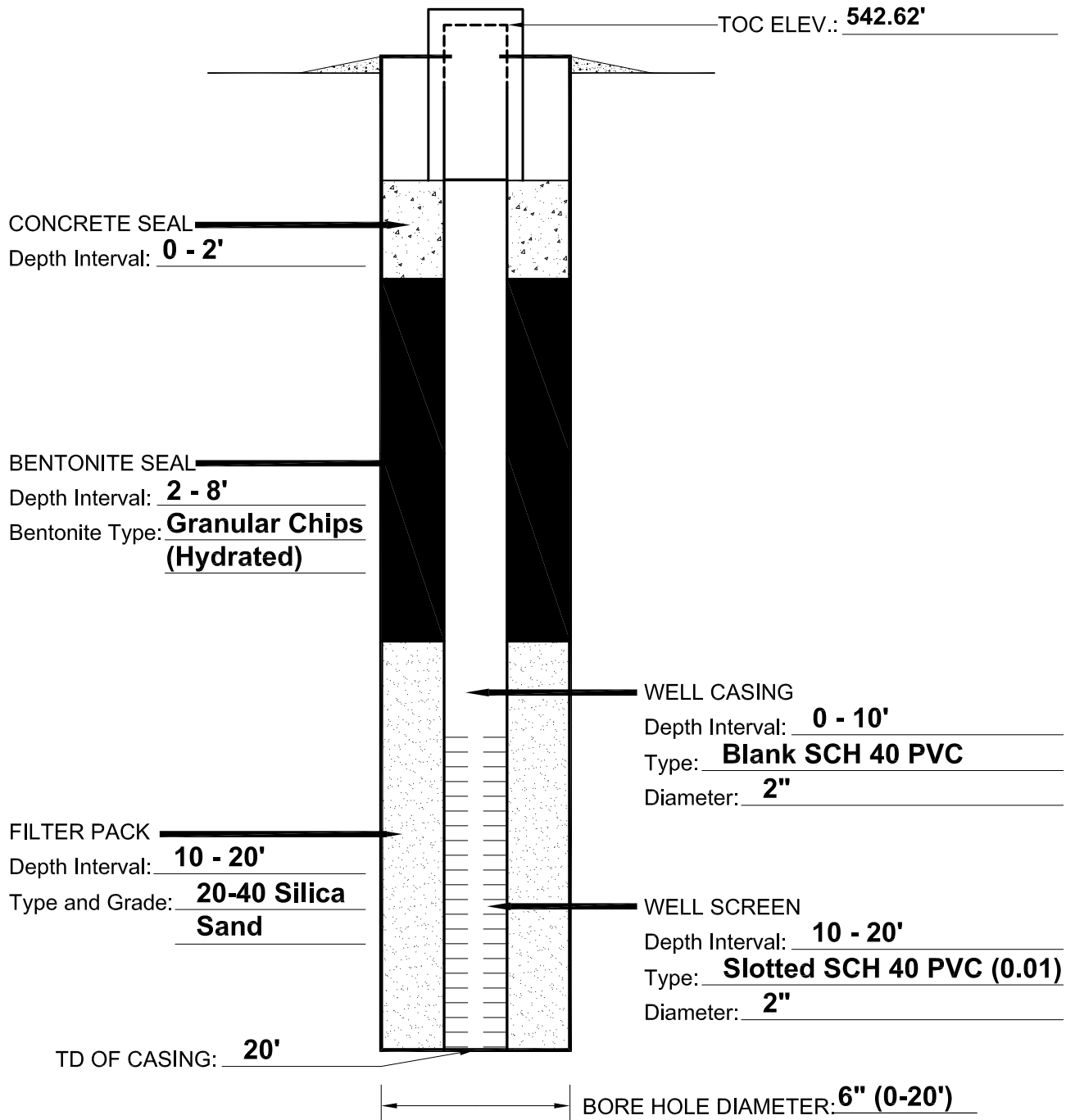
# PIEZOMETER CONSTRUCTION DIAGRAM

TEMPORARY PIEZOMETER I.D. No. **B-109A**



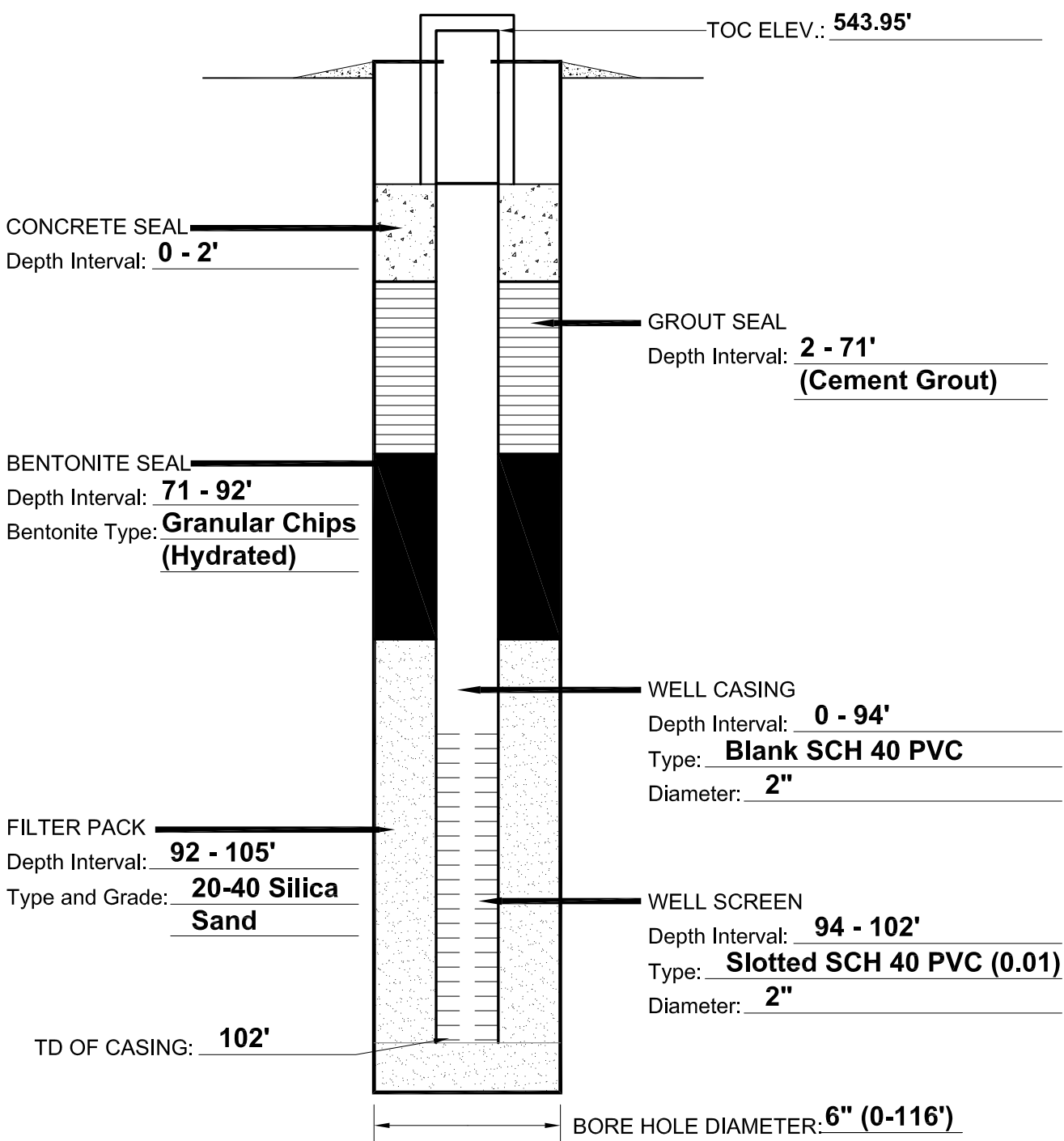
# PIEZOMETER CONSTRUCTION DIAGRAM

TEMPORARY PIEZOMETER I.D. No. **B-114A**



# PIEZOMETER CONSTRUCTION DIAGRAM

TEMPORARY PIEZOMETER I.D. No. **B-115**

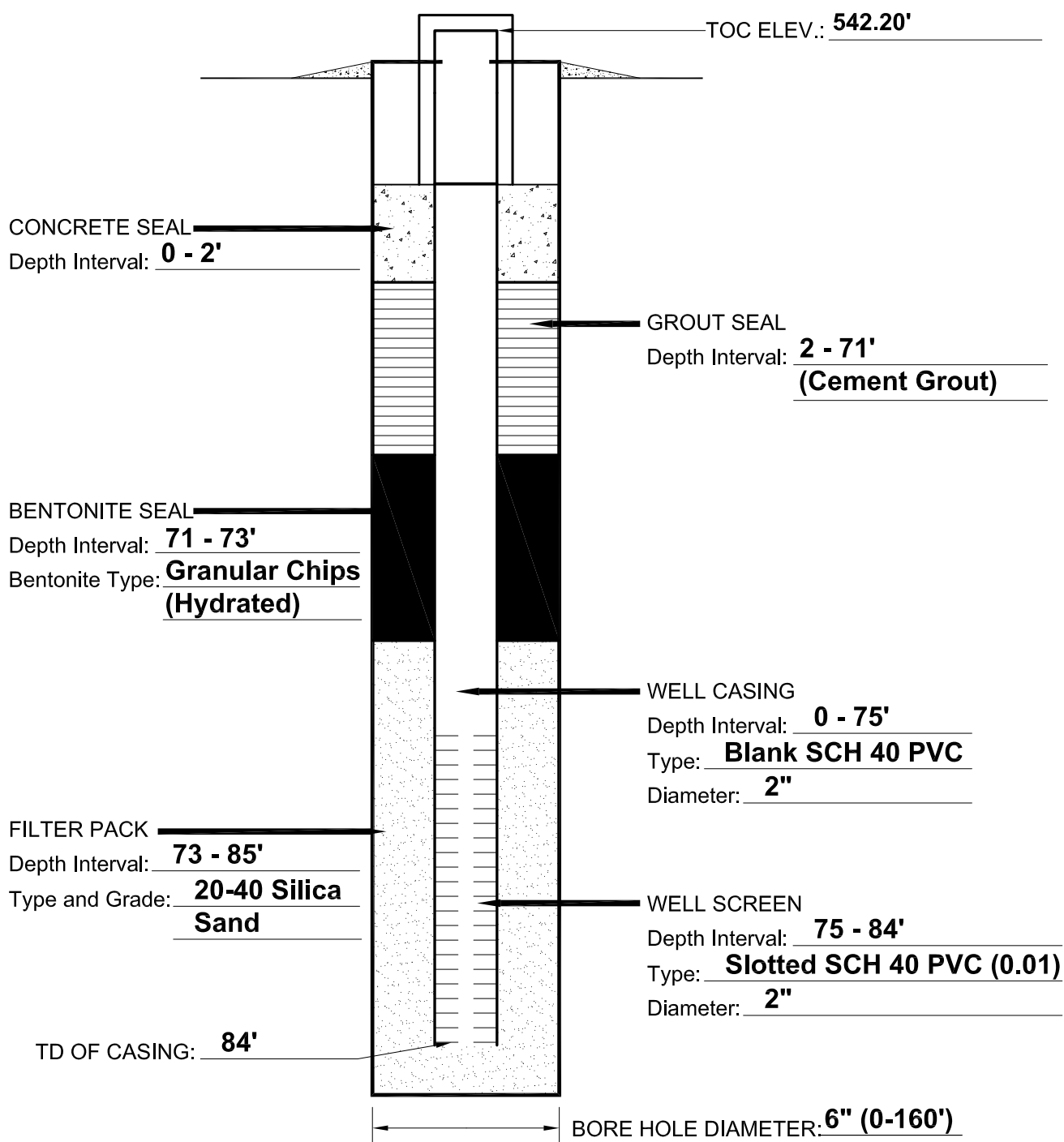


NOTE: Boring was plugged to 105' using granular bentonite chips (hydrated).  
and from 105' to 102' using 20-40 silica sand.



# PIEZOMETER CONSTRUCTION DIAGRAM

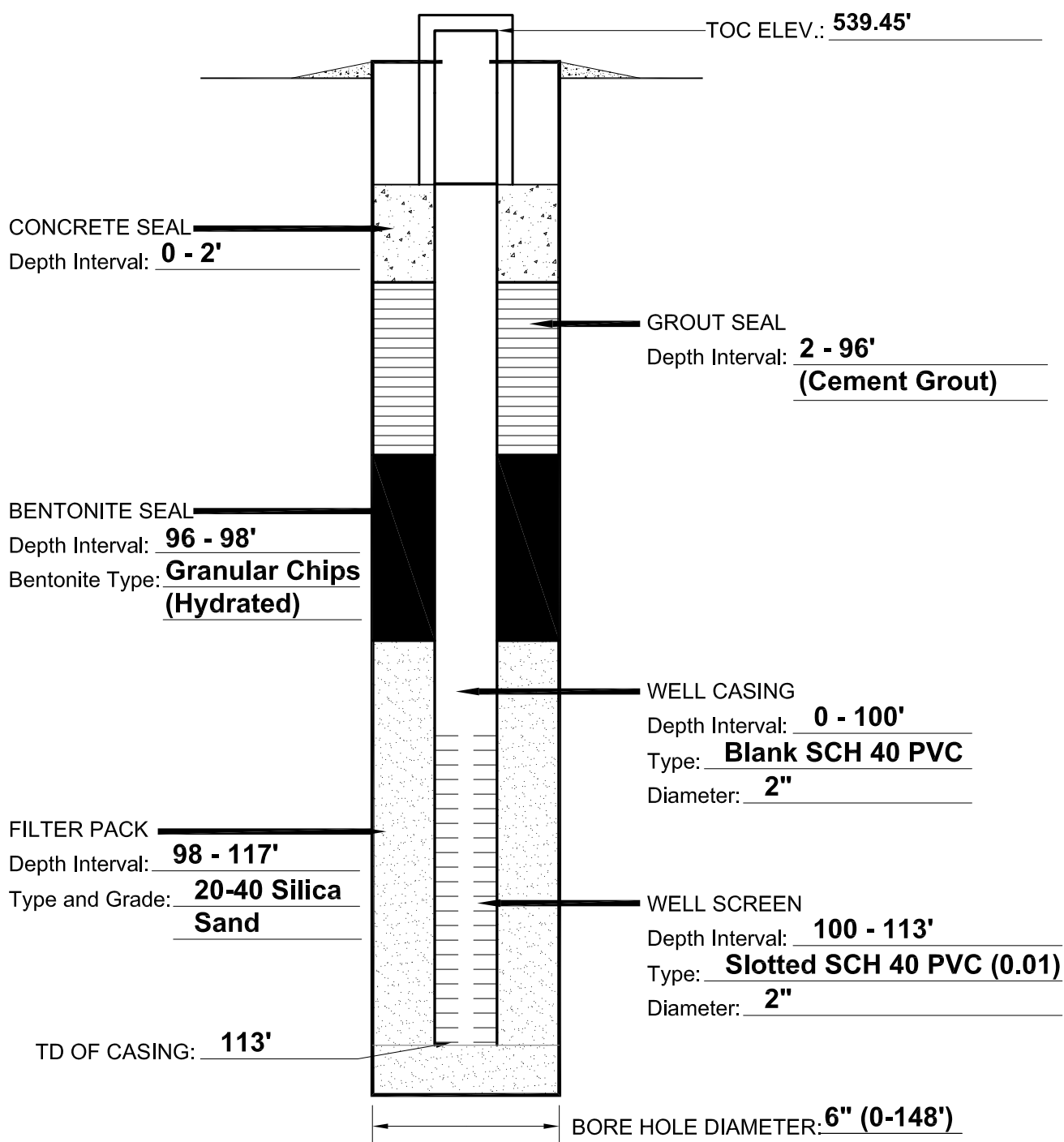
TEMPORARY PIEZOMETER I.D. No. **B-118**



NOTE: Boring was plugged to 85' using granular bentonite chips (hydrated).  
and from 85' to 84' using 20-40 silica sand.

# PIEZOMETER CONSTRUCTION DIAGRAM

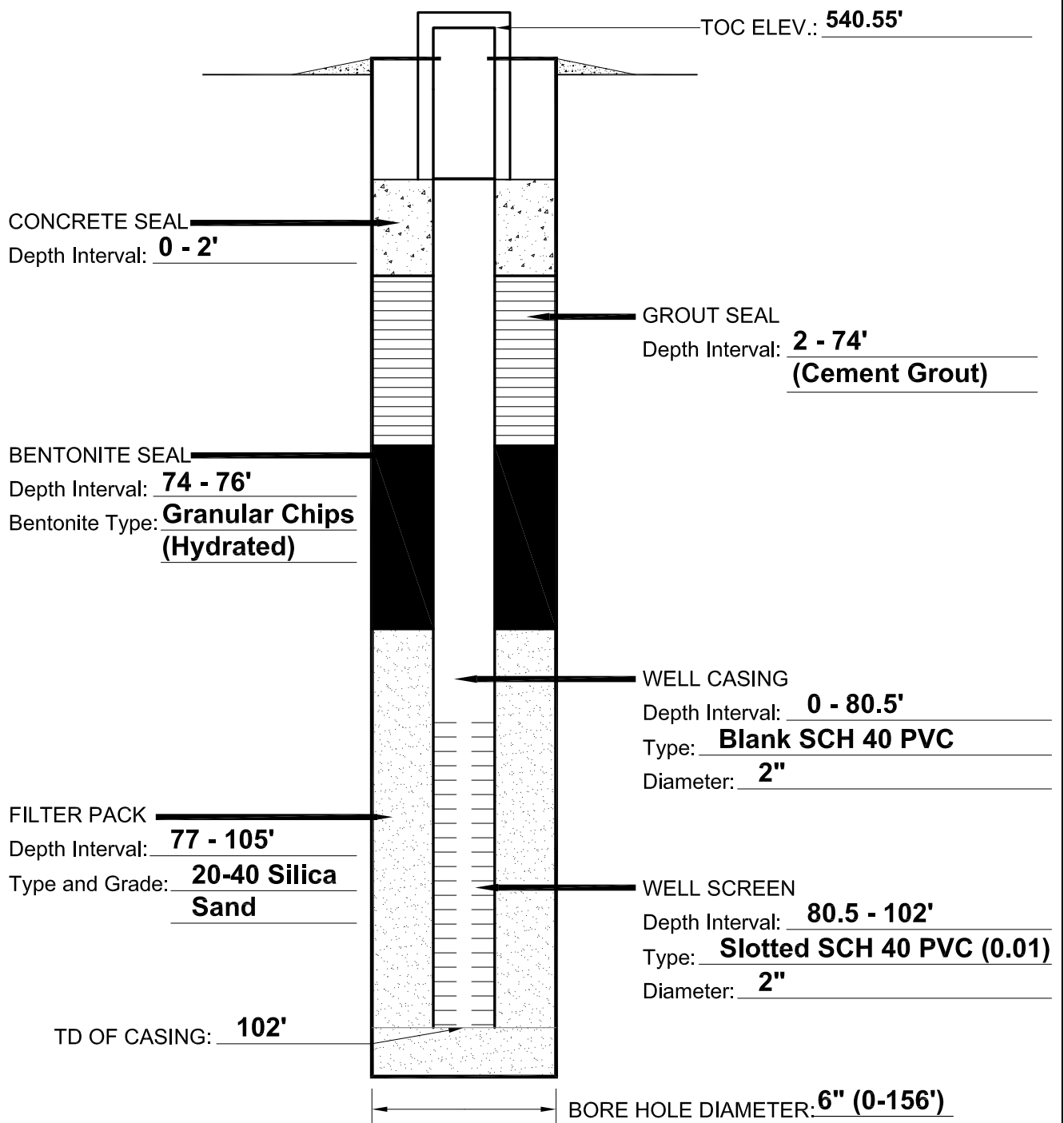
TEMPORARY PIEZOMETER I.D. No. **B-124**



NOTE: Boring was plugged to 117' using granular bentonite chips (hydrated).  
and from 117' to 113' using 20-40 silica sand.

# PIEZOMETER CONSTRUCTION DIAGRAM

TEMPORARY PIEZOMETER I.D. No. **B-126**



NOTE: Boring was plugged to 105' using granular bentonite chips (hydrated).  
and from 105' to 102' using 20-40 silica sand.

**APPENDIX E**

**STATE OF TEXAS WELL REPORTS**

## STATE OF TEXAS WELL REPORT for Tracking #199949

Owner:	<b>TRC Environmental Corporation</b>	Owner Well #:	<b>B-1</b>
Address:	<b>505 East Huntland Dr.,Ste. 250 Austin , TX 78752</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>20 Miles East of Laredo Laredo , TX 78043</b>	Latitude:	<b>27° 33' 54" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 36" W</b>
Elevation:	<b>No Data</b>	GPS Brand Used:	<b>Google Earth</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **11/10/2009**  
Completed: **11/10/2009**

Diameter of Hole: Diameter: **8 in From Surface To 68 ft**  
Diameter: **6 in From 68 ft To 97.5 ft**

Drilling Method: **Air Rotary Hollow Stem Auger**

Borehole Completion: Gravel Packed From: **45 ft to 28 ft**  
Gravel Pack Size: **10/20**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 Cement (#sacks and material)**  
2nd Interval: **From 2 ft to 28 ft with 13 Bentonite (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **Hand Mixed**  
Cemented By: **Vortex Drilling, Inc.**  
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: **70 ft. below land surface on 11/10/2009**  
Artesian flow: **No Data**

Packers: **N/A**

Plugging Info: Casing left in well: Cement/Bentonite left in well:  
From (ft) To (ft) From (ft) To (ft) Cem/Bent Sacks Used  
**N/A**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality: Type of Water: **Non-Potable**  
Depth of Strata: **70 ft.**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company **Vortex Drilling, Inc.**

Information: **4412 Bluemel Road  
San Antonio , TX 78240**

Driller License Number: **3256**

Licensed Well Driller Signature: **Gary T. May**

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 #199949) on your written request.

**Texas Department of Licensing & Regulation  
P.O. Box 12157  
Austin, TX 78711  
(512) 463-7880**

**DESC. & COLOR OF FORMATION MATERIAL**

**CASING, BLANK PIPE & WELL SCREEN DATA**

From (ft) To (ft) Description  
**0 - 3 Clay,sandy,soft,plastic.,tan/brw.,moist**  
**3 - 5 Lt.brw. below 3'**  
**5 - 7.5 Scattered sm.caliche pockets,widely scattered pebbles,decreasing sand below 5'**  
**7.5 - 20 Clay,silty,blocky,bentonitic,v.firm,tan/lt. brw.,moist,trace carbonaceous material,@7.5'-8.2' increasing plastic. w/scattered green/gray sandy inclusions,soft from 8.2'-10', below 10' widely scattered gypsum crystals,@10.6',13.3',and 16.4' slightly sandy w/sandy partings,below 12.5' iron staining**  
**20 - 30 Clay,midly calcar.,brw.,moist,laminated below 25'**  
**30 - 38.6 Siltstone,massive lt.gray,fractures @30.4',32.4', and 32.7',v.hard,cross-bedded w/ white sandstone inclusions and widely scattered organic matter below 35',@38.6' gray to green**  
**38.6 - 40 Clay shale,silty,soft,gray/green,ground-water @38.9'**  
**40 - 53 Sandstone,fine grained,gray w/alternating beds of v.fine grained sandstone/mudstone, increasing clay below 43.8',decreasing grain size w/depth**  
**53 - 60 Clay,sandy,blocky,tan/lt.green,w/thin sandstone lenses,less indurated w/sm.pink sandstone,inclusions @54'**  
**60 - 70 Sandstone,clayey,partially indurated,**

Dia. New/Used Type Setting From/To  
**2 New Schedule 40 PVC .010 45 - 30 Screen**  
**2 New Schedule 40 PVC 30 - 0 Riser**  
**2 New Top Cap**  
**2 New Bottom Cap**



groundwater @70'

70 - 97.5 Clay, silty, gray, saturated w/interbedded  
indurated siltstone, below 75' increasing indurated  
siltstone layers, below 80' pebble inclusions, widely  
scattered chert fragments, below 85' moist, w/  
glauconitic inclusions, decreasing chert, ground-  
water @95', plastic, blocky, chocolate brw./reddish  
brw. w/thin gray mottling below 95'

## STATE OF TEXAS WELL REPORT for Tracking #199953

Owner:	<b>TRC Environmental Corporation</b>	Owner Well #:	<b>B-2</b>
Address:	<b>505 East Huntland Dr., Ste. 250 Austin , TX 78752</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>20 Miles East of Laredo Laredo , TX 78043</b>	Latitude:	<b>27° 33' 54" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 36" W</b>
Elevation:	<b>No Data</b>	GPS Brand Used:	<b>Google Earth</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **11/9/2009**  
Completed: **11/9/2009**

Diameter of Hole: Diameter: **8 in From Surface To 75 ft**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: Gravel Packed From: **75 ft to 58 ft**  
Gravel Pack Size: **10/20**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 Cement (#sacks and material)**  
2nd Interval: **From 2 ft to 58 ft with 28 Bentonite (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **Hand Mixed**  
Cemented By: **Vortex Drilling, Inc.**  
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: **38.5 ft. below land surface on 11/9/2009**  
Artesian flow: **No Data**

Packers: **N/A**

Plugging Info: Casing left in well: Cement/Bentonite left in well:  
From (ft) To (ft) From (ft) To (ft) Cem/Bent Sacks Used  
**N/A**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality: Type of Water: **Non-Potable**  
Depth of Strata: **38.5 ft.**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Vortex Drilling, Inc.**  
**4412 Bluemel Road**

**San Antonio , TX 78240**

Driller License Number: **3256**

Licensed Well Driller Signature: **Gary T. May**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #199953) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description

**0 - 3 Clay,dk.gray/brw.**

**3 - 5 Tan/lt.brw. below 3'**

**5 - 35 Fat,firm,moist below 5',slightly sandy plastic.,tan w/gypsum crystals below 12.5', increasing sand below 22.5',gray/green w/idurated layers interbedded w/clay below 25'**

**35 - 38.5 Clay,silty,gray/green,moist/wet,ground-water @ 38.5'**

**38.5 - 45 Clay,sandy,silty,gray/green,moist, decreasing moisture below 41.5',reddish tan w/ interbedded moe indurated clay layers below 42.5'**

**45 - 60 Siltstone,sandy,reddish gray,gray inclusions below 50',gray,more indurated below 55'**

**60 - 70 Clay,gray,moist to wet,groundwater @70'**

**70 - 75 Siltstone,gray/green,slightly moist**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
2	New	Schedule 40 PVC	.010 75 - 60 Screen
2	New	Schedule 40 PVC	60 - 0 Riser
2	New	Top Cap	
2	New	Bottom Cap	

## STATE OF TEXAS WELL REPORT for Tracking #260540

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-6</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 34' 27" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 48" W</b>
Elevation:	<b>559 ft.</b>	GPS Brand Used:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **6/13/2011**  
Completed: **6/13/2011**

Diameter of Hole: Diameter: **6 in From Surface To 30 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **30 ft to 8 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 8 ft to 2 ft with 2 bgs bentonite (#sacks and material)**  
2nd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **No Data**  
Cemented By: **No Data**  
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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4' X 4' surface pad installed  
Amended 12/28/11 Ref.# 9918**

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Please include the report's Tracking number (Tracking #**260540**) on your written request.

**Texas Department of Licensing & Regulation  
P.O. Box 12157  
Austin, TX 78711  
(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-30' Moist, brown to gray, stiff Clay, some sand**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
2"	New	PVC Sch 40 Casing	10'-0'
2"	New	PVC Sch 40 .010 slot Screen	30-10'

## STATE OF TEXAS WELL REPORT for Tracking #260538

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-10</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 34' 16" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 32" W</b>
Elevation:	<b>547 ft.</b>	GPS Brand Used:	<b>No Data</b>

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Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>
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Drilling Date: Started: **7/14/2011**  
Completed: **7/14/2011**

Diameter of Hole: Diameter: **6 in From Surface To 60 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **60 ft to 38 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 38 ft to 2 ft with 8 bgs bent chps (#sacks and material)**  
2nd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **No Data**  
Cemented By: **No Data**  
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**

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

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**



Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4' X 4' surface pad installed**  
**Amended 11/1/11 Ref.# 9598**  
**Amended 12/28/11 Ref.# 9917**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**260538**) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-60' Moist, brown to gray, stiff Clay, some sand**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
<b>2"</b>	<b>New,</b>	<b>PVC Sch 40 Casing</b>	<b>40'-0'</b>
<b>2"</b>	<b>New,</b>	<b>PVC Sch 40 .010 slot Screen</b>	<b>60-40'</b>

## STATE OF TEXAS WELL REPORT for Tracking #260531

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-11A</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 34' 17" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 15" W</b>
Elevation:	<b>553 ft.</b>	GPS Brand Used:	<b>No Data</b>

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Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>
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Drilling Date: Started: **6/25/2011**  
Completed: **6/25/2011**

Diameter of Hole: Diameter: **6 in From Surface To 104 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **104 ft to 92 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 92 ft to 90 ft with 2 bgs bent chip (#sacks and material)**  
2nd Interval: **From 90 ft to 2 ft with 18 bgs cement (#sacks and material)**  
3rd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
Method Used: **Grout-Tremmy Pipe**  
Cemented By: **Self**  
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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4'X4' pad installed**  
**Amended 11/1/11 Ref.#9597**  
**Amended 12/28/11 Ref.# 9916**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #260531) 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'-45' Moist, brown to gray, stiff Clay.**  
**45'-50' Gray claystone**  
**50'-85' Brown stiff clay**  
**85'-104' Sandstone**

**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
2"	New,	PVC Sch 40 Casing	94'-0'
2"	New,	PVC Sch 40 .010 slot Screen	104-94'

## STATE OF TEXAS WELL REPORT for Tracking #259897

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-13</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-25-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 34' 44" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 53' 46" W</b>
Elevation:	<b>544 ft.</b>	GPS Brand Used:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **6/11/2011**  
Completed: **6/12/2011**

Diameter of Hole: Diameter: **6 in From Surface To 30 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **30 ft to 8 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 8 ft to 2 ft with 3 bg bent chp (#sacks and material)**  
2nd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **from surface**  
Cemented By: **self**  
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: **12 ft. below land surface on (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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85345**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4'X4' pad installed  
Amended 11/1/11 Ref.# 9596**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**259897**) on your written request.

**Texas Department of Licensing & Regulation  
P.O. Box 12157  
Austin, TX 78711  
(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-5'-Moist, soft dark brown clay**  
**5'-30' Moist, silt clay brown to gray**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
<b>2"</b>	<b>New</b>	<b>Sch 40 PVC Casing</b>	<b>10'-0'</b>
<b>2"</b>	<b>New</b>	<b>Sch 40 .010 Slot PVC screen</b>	<b>30'-10'</b>

## STATE OF TEXAS WELL REPORT for Tracking #259898

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-18</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-25-5</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 52" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 56' 31" W</b>
Elevation:	<b>542 ft.</b>	GPS Brand Used:	<b>No Data</b>

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Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>
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Drilling Date: Started: **7/15/2011**  
Completed: **7/17/2011**

Diameter of Hole: Diameter: **6 in From Surface To 60 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **60 ft to 43 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 43 ft to 2 ft with 12 bgs bent chp (#sacks and material)**  
2nd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **No Data**  
Cemented By: **No Data**  
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: **9 ft. below land surface on (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**

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Water Quality: Type of Water: **No Data**  
Depth of Strata: **No Data**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85345**



Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4x4 pad around surface sleeve.**

**Amended Ref# 9599 11/3/11**  
**Ameneded 12/28/11 Ref.# 9915**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**259898**) on your written request.

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**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-5'-Moist, soft dark brown clay**  
**5'-14' Wet brown sand**  
**14'-60' Hard brown to gray clay**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia. New/Used Type Setting From/To  
**2" New Sch 40 PVC Casing 45'-0**  
**2" New Sch 40 .010 Slot PVC screen 60'-45'**

## STATE OF TEXAS WELL REPORT for Tracking #260537

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-24</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 16" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 34" W</b>
Elevation:	<b>538 ft.</b>	GPS Brand Used:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **7/23/2011**  
Completed: **7/23/2011**

Diameter of Hole: Diameter: **6 in From Surface To 60 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **60 ft to 43 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 43 ft to 2 ft with 8 bags bent (#sacks and material)**  
2nd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **No Data**  
Cemented By: **No Data**  
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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4x4 pad poured around surface sleeve.  
Amended Ref3 9602 11/3/11  
Amended 12/28/11 Ref.# 9914**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**260537**) 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'-60' Moist, brown to gray, stiff Clay.**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
4"	New	PVC Sch 40 Casing	45'-0'
4"	New	PVC Sch 40 .010 slot Screen	60-45'

## STATE OF TEXAS WELL REPORT for Tracking #260535

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-26</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 05" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 25" W</b>
Elevation:	<b>538 ft.</b>	GPS Brand Used:	<b>No Data</b>

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Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>
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Drilling Date: Started: **7/22/2011**  
Completed: **7/22/2011**

Diameter of Hole: Diameter: **6 in From Surface To 30 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **30 ft to 8 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 8 ft to 2 ft with 3 bg bent chip (#sacks and material)**  
2nd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **No Data**  
Cemented By: **No Data**  
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**

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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**

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Water Quality: Type of Water: **No Data**  
Depth of Strata: **No Data**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4x4 pad poured around surface sleeve.  
Amended Ref# 9603 11/3/11  
Amended 12/28/11 Ref.# 9913**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**260535**) on your written request.

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P.O. Box 12157  
Austin, TX 78711  
(512) 463-7880**

---

**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-30' Moist, brown to gray, stiff Clay.**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
<b>2"</b>	<b>New,</b>	<b>PVC Sch 40 Casing</b>	<b>10'-0'</b>
<b>2"</b>	<b>New,</b>	<b>PVC Sch 40 .010 slot Screen</b>	<b>30-10'</b>

## STATE OF TEXAS WELL REPORT for Tracking #260532

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-27</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 01" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 37" W</b>
Elevation:	<b>535 ft.</b>	GPS Brand Used:	<b>No Data</b>

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Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>
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Drilling Date: Started: **7/21/2011**  
Completed: **7/22/2011**

Diameter of Hole: Diameter: **6 in From Surface To 45 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **45 ft to 28 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 28 ft to 2 ft with 12 bg bent chip (#sacks and material)**  
2nd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **No Data**  
Cemented By: **No Data**  
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**

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Water Quality: Type of Water: **No Data**  
Depth of Strata: **No Data**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**



Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **Amended 12/28/11 Ref.# 9912**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**260532**) on your written request.

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**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

---

**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-45' Moist, brown to gray, stiff Clay.**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
4"	New	PVC Sch 40 Casing	30'-0'
4"	New	PVC Sch 40 .010 slot Screen	45-30'

## STATE OF TEXAS WELL REPORT for Tracking #261847

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-101</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78043</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>12625 US HWY 59, Units A &amp; B Laredo , TX 78041</b>	Latitude:	<b>27° 34' 37" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 34" W</b>
Elevation:	<b>560 ft.</b>	GPS Brand Used:	<b>Garmin</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **7/5/2011**  
Completed: **7/7/2011**

Diameter of Hole: Diameter: **6 in From Surface To 150 ft**

Drilling Method: **Mud Rotary**

Borehole Completion: Gravel Packed From: **78 ft to 92 ft**  
Gravel Pack Size: **20/40**

Annular Seal Data: 1st Interval: **From 0 ft to 3 ft with 2-cement (#sacks and material)**  
2nd Interval: **From 3 ft to 78 ft with 22.5-bentonite (#sacks and material)**  
3rd Interval: **From 92 ft to 116 ft with 8-bentonite (#sacks and material)**  
Method Used: **Tremie**  
Cemented By: **Evan Schaefer TDLR # 58772**  
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 Slab Installed**

Water Level: Static level: **6.8 ft. below land surface on 7/19/2011**  
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: **Fresh**  
Depth of Strata: **See screen interval ft.**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Geoprojects International, Inc.**  
**8834 Circle Drive**  
**Austin , TX 78736**

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **Borehole collapsed from 150-116 prior to back plugging and well installation. Amended 11/28/11 Ref.# 9717**

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**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 #**261847**) 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 60 Clay, hard, slightly moist, brown and greenish grey, intermittent caliche pockets, siltstone and claystone interbeds**  
**60 to 68 Sandstone, gray**  
**68 to 85 Clay, hard, slightly moist, grayish brown to grayish green, claystone and siltstone interbeds**  
**85 to 90 Sandstone, gray**  
**90 to 146 Clay, hard, slightly moist, brown, siltstone and sandstone interbeds**  
**146 to 150 Sandstone, greenish gray**

**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
2	new	SCH 40 PVC Casing	set from +2.5 to 80
2	new	SCH 40 PVC Mill slotted Screen	set from 80 to 90 with 0.010-inch slot

## STATE OF TEXAS WELL REPORT for Tracking #261849

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-102</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78043</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>12625 US HWY 59, Units A &amp; B Laredo , TX 78041</b>	Latitude:	<b>27° 34' 36" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 14" W</b>
Elevation:	<b>557 ft.</b>	GPS Brand Used:	<b>Garmin</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **7/7/2011**  
Completed: **7/9/2011**

Diameter of Hole: Diameter: **6 in From Surface To 160 ft**

Drilling Method: **Mud Rotary**

Borehole Completion: Gravel Packed From: **48 ft to 62 ft**  
Gravel Pack Size: **20/40**

Annular Seal Data: 1st Interval: **From 0 ft to 3 ft with 2-cement (#sacks and material)**  
2nd Interval: **From 3 ft to 48 ft with 24-bentonite (#sacks and material)**  
3rd Interval: **From 62 ft to 86 ft with 8-bentonite (#sacks and material)**  
Method Used: **Tremie**  
Cemented By: **Evan Schaefer TDLR # 58772**  
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 Slab Installed**

Water Level: Static level: **4.1 ft. below land surface on 7/19/2011**  
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: **Fresh**  
Depth of Strata: **See screen interval ft.**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Geoprojects International, Inc.**  
**8834 Circle Drive**  
**Austin , TX 78736**

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **Borehole collapsed from 160 to 86 prior to back plugging and well installation  
Amended 11/28/11 Ref.# 9718**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**261849**) 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 50 Clay, hard, slightly moist, brown and gray, intermittent caliche pockets**  
**50 to 60 Siltstone and sandstone, light gray**  
**60 to 141 Clay, hard, slightly moist, grayish green and brown, claystone and siltstone interbeds**  
**141 to 145 Sand, dense, slightly moist, grayish green**  
**145 to 160 Clay, hard, slightly moist, grayish brown, claystone and siltstone interbeds**

**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
2	new	SCH 40 PVC Casing	set from +2.5 to 50
2	new	SCH 40 PVC Mill slotted Screen	set from 50 to 60 with 0.010-inch slot

## STATE OF TEXAS WELL REPORT for Tracking #261858

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-106</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78043</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>12625 US HWY 59, Units A &amp; B Laredo , TX 78041</b>	Latitude:	<b>27° 34' 19" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 39" W</b>
Elevation:	<b>550 ft.</b>	GPS Brand Used:	<b>Garmin</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **7/9/2011**  
Completed: **7/10/2011**

Diameter of Hole: Diameter: **6 in From Surface To 120 ft**

Drilling Method: **Mud Rotary**

Borehole Completion: Gravel Packed From: **68 ft to 82 ft**  
Gravel Pack Size: **20/40**

Annular Seal Data: 1st Interval: **From 0 ft to 3 ft with 2-cement (#sacks and material)**  
2nd Interval: **From 3 ft to 68 ft with 44-bentonite (#sacks and material)**  
3rd Interval: **From 82 ft to 100 ft with 6-bentonite (#sacks and material)**  
Method Used: **Tremie**  
Cemented By: **Evan Schaefer TDLR # 58772**  
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 Slab Installed**

Water Level: Static level: **3.2 ft. below land surface on 7/19/2011**  
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: **Fresh**  
Depth of Strata: **See screen interval ft.**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Geoprojects International, Inc.**  
**8834 Circle Drive**  
**Austin , TX 78736**

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **Borehole collapsed from 120 to 100 prior to back plugging and well installation Ameneded 11/28/11 Ref.# 9719**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**261858**) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

**DESC. & COLOR OF FORMATION MATERIAL**

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From (ft) To (ft) Description  
**0 to 25 Clay, hard, slightly moist, brown and gray, intermittent caliche pockets**  
**25 to 40 Sandstone, light gray**  
**40 to 72 Clay, hard, slightly moist, grayish green and reddish brown, claystone and siltstone interbeds**  
**72 to 75 Sandstone, gray**  
**75 to 120 Clay, hard, slightly moist, grayish brown, claystone and siltstone interbeds**

**CASING, BLANK PIPE & WELL SCREEN DATA**

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Dia.	New/Used	Type	Setting From/To
2	new	SCH 40 PVC Casing	set from +2.5 to 70
2	new	SCH 40 PVC Mill slotted Screen	set from 70 to 80 with 0.010-inch slot



## STATE OF TEXAS WELL REPORT for Tracking #260530

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-109A</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 34' 05" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 23" W</b>
Elevation:	<b>547 ft.</b>	GPS Brand Used:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **6/24/2011**  
Completed: **6/25/2011**

Diameter of Hole: Diameter: **7 in From Surface To 80 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **80 ft to 68 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 68 ft to 66 ft with 4 bgs bentonite (#sacks and material)**  
2nd Interval: **From 66 ft to 2 ft with 15 bgs cement (#sacks and material)**  
3rd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
Method Used: **Grout-Tremmy Pipe**  
Cemented By: **Self**  
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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4x4 pad installed around surface sleeve.**

**Amended Ref# 9600 11/3/11**  
**Amended 12/28/11 Ref.# 9911**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**260530**) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-35' Moist, brown to gray, stiff Clay.**  
**35'-40' Brown sandy siltstone**  
**40'-80' Sandstone**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
2"	New,	PVC Sch 40 Casing	70'-0'
2"	New,	PVC Sch 40 .010 slot Screen	80-70'

## STATE OF TEXAS WELL REPORT for Tracking #260529

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-114A</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 42" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 52" W</b>
Elevation:	<b>541 ft.</b>	GPS Brand Used:	<b>No Data</b>

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Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>
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Drilling Date: Started: **6/25/2011**  
Completed: **6/25/2011**

Diameter of Hole: Diameter: **7 in From Surface To 20 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **20 ft to 8 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 8 ft to 2 ft with 4 bgs bentonite (#sacks and material)**  
2nd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
3rd Interval: **No Data**  
Method Used: **No Data**  
Cemented By: **No Data**  
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**

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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**

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Water Quality: Type of Water: **No Data**  
Depth of Strata: **No Data**  
Chemical Analysis Made: **No**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4x4 slab poured around surface sleeve.  
Amended Ref# 9601 11/3/11  
Amended 12/28/11 Ref.# 9910**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**260529**) on your written request.

**Texas Department of Licensing & Regulation  
P.O. Box 12157  
Austin, TX 78711  
(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-20' Moist, brown clay.**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia. New/Used Type Setting From/To  
**2" New, PVC Sch 40 Casing 10'-0'**  
**2" New, PVC Sch 40 .010 slot Screen 20-10'**

## STATE OF TEXAS WELL REPORT for Tracking #260527

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-115</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 37" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 33" W</b>
Elevation:	<b>542 ft.</b>	GPS Brand Used:	<b>No Data</b>

Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>
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Drilling Date: Started: **5/7/2011**  
Completed: **5/9/2011**

Diameter of Hole: Diameter: **7 in From Surface To 102 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **102 ft to 90 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 92 ft to 90 ft with 2 bgs bent chps (#sacks and material)**  
2nd Interval: **From 90 ft to 2 ft with 20 bgs cement (#sacks and material)**  
3rd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
Method Used: **Grout-Tremmy pipe**  
Cemented By: **Self**  
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 Slab 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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4'X4' pad installed**  
**Amended 10/20/11 Ref.# 9569**  
**Amended 12/28/11 Ref.# 9909**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**260527**) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-102' Moist, brown to gray, stiff Clay. Intermediate caliche pockets**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
<b>2"</b>	<b>New,</b>	<b>PVC Sch 40 Casing</b>	<b>94'-0'</b>
<b>2"</b>	<b>New,</b>	<b>PVC Sch 40 .010 slot Screen</b>	<b>102'-94'</b>

## STATE OF TEXAS WELL REPORT for Tracking #260526

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-118</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 26" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 33" W</b>
Elevation:	<b>540 ft.</b>	GPS Brand Used:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **4/27/2011**  
Completed: **4/29/2011**

Diameter of Hole: Diameter: **7 in From Surface To 84 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **84 ft to 73 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 73 ft to 71 ft with 2 bgs bent chps (#sacks and material)**  
2nd Interval: **From 71 ft to 2 ft with 15 bgs cement (#sacks and material)**  
3rd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
Method Used: **Grout-Tremmy pipe**  
Cemented By: **Self**  
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 Slab 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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**



Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4'X4' pad installed**  
**Amended 10/20/11 Ref.# 9570**  
**Amended 12/28/11 Ref.# 9908**

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**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

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Please include the report's Tracking number (Tracking #**260526**) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-84' Moist, brown to gray, stiff Clay. Intermediate caliche pockets**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
<b>2"</b>	<b>New,</b>	<b>PVC Sch 40 Casing</b>	<b>75'-0'</b>
<b>2"</b>	<b>New,</b>	<b>PVC Sch 40 .010 slot Screen</b>	<b>84'-75'</b>

## STATE OF TEXAS WELL REPORT for Tracking #260522

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-124</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 14" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 40" W</b>
Elevation:	<b>537 ft.</b>	GPS Brand Used:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **5/5/2011**  
Completed: **5/6/2011**

Diameter of Hole: Diameter: **7 in From Surface To 113 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **113 ft to 98 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 98 ft to 96 ft with 2 bgs bent chps (#sacks and material)**  
2nd Interval: **From 96 ft to 2 ft with 20 bgs cement (#sacks and material)**  
3rd Interval: **From 2 ft to 0 ft with 12 concrete (#sacks and material)**  
Method Used: **Grout-Tremmy pipe**  
Cemented By: **Self**  
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 Slab 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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **Amended 10/10/11 Ref.# 9514**  
**Amended 10/20/11 Ref.# 9568**  
**4'X4' pad installed**  
**Amended 12/28/11 Ref.# 9907**

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**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 #**260522**) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-113 Moist, brown to gray, stiff Clay. Intermediate caliche pockets**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
2"	New,	PVC Sch 40 Casing	100'-0'
2"	New,	PVC Sch 40 .010 slot Screen	113'-100'

## STATE OF TEXAS WELL REPORT for Tracking #260519

Owner:	<b>Rancho Viejo Waste Management, LLC</b>	Owner Well #:	<b>B-126</b>
Address:	<b>1116 Calle del Norte Laredo , TX 78041</b>	Grid #:	<b>85-31-6</b>
Well Location:	<b>US 59 Laredo , TX 78043</b>	Latitude:	<b>27° 33' 11" N</b>
Well County:	<b>Webb</b>	Longitude:	<b>099° 09' 26" W</b>
Elevation:	<b>540 ft.</b>	GPS Brand Used:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Monitor</b>

Drilling Date: Started: **5/7/2011**  
Completed: **5/7/2011**

Diameter of Hole: Diameter: **7 in From Surface To 102 ft**

Drilling Method: Other: **Sonic**

Borehole Completion: Gravel Packed From: **102 ft to 77 ft**  
Gravel Pack Size: **20-40**

Annular Seal Data: 1st Interval: **From 77 ft to 74 ft with 2 bgs bent chps (#sacks and material)**  
2nd Interval: **From 74 ft to 2 ft with 20 bgs cement (#sacks and material)**  
3rd Interval: **From 2 ft to 0 ft with 12 bgs concrete (#sacks and material)**  
Method Used: **Grout-Tremmy pipe**  
Cemented By: **Self**  
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 Slab 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**  
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

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

Company Information: **Boart Longyear Company  
7773 West Seldon Lane  
Peoria , AZ 85374**

Driller License Number: **58094**

Licensed Well Driller Signature: **Fred Hafner**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **4'X4' pad installed**  
**Amended 10/10/11 Ref.# 9513**  
**Amended 10/20/11 Ref. # 9567**  
**Amended 11/1/11 Ref.#9595**  
**Amended 12/28/11 Ref.# 9906**

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Please include the report's Tracking number (Tracking #**260519**) on your written request.

**Texas Department of Licensing & Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 463-7880**

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**DESC. & COLOR OF FORMATION MATERIAL**

From (ft) To (ft) Description  
**0'-102' Moist, brown to gray, stiff Clay. Intermediate caliche pockets**

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**CASING, BLANK PIPE & WELL SCREEN DATA**

Dia.	New/Used	Type	Setting From/To
2"	New	PVC Sch 40 Casing	80.5'-0'
2"	New	PVC Sch 40 .010 slot Screen	102'-80.5'