

**SAN ANTONIO WATER SYSTEM
WATER SYSTEM CONSTRUCTION**

Addendum No. 3

To Specifications For
Alamo at Guenther Ph II – Water and Sewer Siphon Project
SAWS Job No. 12-5046 & 12-5546
Solicitation No. B-13-034-MR

To Bidder of Record:

This addendum, applicable to the work associated with the above referenced Contract, is an amendment to the bidding documents and as such shall be a part of and included in the Contract. The original contract documents and any prior addenda remain in full force except as modified by the following, which shall take precedence over any contrary provisions in prior documents.

Invitation to Bidders:

Change the sealed bids will be received until **10:00 a.m. on Friday, June 7th** rather than 11:00 a.m. on Tuesday, June 4th. The bids will then be publicly opened and read aloud after 10:00 a.m. The location for receiving and readings of the bids are remaining the same.

Table of Contents:

The Table of Contents for the Specifications has been updated to reflect the addition of the Phase II Environmental Site Assessment Report as an Appendix.

Phase II Environmental Site Assessment Report:

The Phase II Environmental Site Assessment Report is added as an appendix to the Alamo at Guenther Phase II – Water and Sewer Siphon Project specifications.

6/03/13



Joseph Cotton, P.E.
Project Manager
RJN Group, Inc.

The undersigned acknowledges receipt of this Addendum No. 1 and the bid submitted herewith is in accordance with the information and stipulation set forth.

Date

Signature of Bidder

END OF ADDENDUM

INVITATION TO BIDDERS

Solicitation No. B-13-034-MR

Sealed bids are requested by the San Antonio Water System for the construction of approximately 450 linear feet of 12 to 16" PVC water main, 420 linear feet of vertically staked dual 54" and 60" steel casings installed by jack & boring at 30'-40' depths, 840 linear feet of 12" to 24" PVC carrier pipe, 180 linear feet of 12" PVC air bypass pipe, 720 linear feet of 12" to 36" PVC sewer main, 870 linear feet of 8" to 30" PVC diversion main, two concrete siphon boxes, two 6' square concrete doghouse manholes, two fiberglass T-base manholes, four standard manholes, by-pass pumping, surface restoration, odor control, contaminated soil and water handling, and all necessary appurtenances for the installation, replacement, adjustment of SAWS facilities for the Alamo at Guenther Ph II – Water & Sewer Siphon Project, SAWS Job Nos. Water: 12-5046 and Sewer: 12-5546.

To view additional project information, as well as obtain the plans and specifications for this project, visit our website located at www.saws.org and click on the Business Center. Then select Bidder, Consultant, and Vendor Registration, which is located on the left-hand side of the screen. Select the Register Now button and proceed with registration. For difficulties downloading plans and specifications, contact the Contracting Department at 210-233-3849.

For questions regarding this solicitation, technical questions or additional information, please contact Marc Ripley, Contract Administrator, in writing via email to: mripley@saws.org or by fax to (210) 233-4609 until **4:00 PM (CT) on May 28, 2013**. Answers to the questions will be posted to the website by **4:00 p.m. (CT) on May 31, 2013** as a separate document or included as part of an addendum.

A **mandatory** pre-bid meeting will be held at **10:30 a.m. on May 24, 2013** at the San Antonio Water System's Tower II Building, 1st floor, Conference Room 145, 2800 U.S. Hwy 281 North, San Antonio, Texas. Please be advised that under no circumstances shall any late or non-attendee(s) to the Mandatory Pre-Bid Meeting be allowed to submit a bid for the project.

Sealed bids will be received by the Contract Administration Division, 2800 U.S. Hwy 281 North, Customer Center Building, Suite 171, San Antonio, Texas 78212, until **10:00 a.m., June 7, 2013**. Bids will then be publicly opened and read aloud in Contract Administration, Suite 169, Customer Center Building, 2800 U.S. Hwy 281 North, San Antonio, Texas. Each bid must be accompanied by a cashier's check, certified check, or bid bond in an amount not less than five percent of the total bid price.

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Project No. ASF11-135-23/24
May 22, 2013

(SUBMITTED VIA ELECTRONIC MAIL)

Ms. Leticia Arzate
Senior Environmental Project Manager
City of San Antonio
Capital Improvements Management Services
Environmental Management Division
111 Soledad, Suite 675
San Antonio, Texas 78205

**RE: Phase II Environmental Site Assessment
South Alamo Roadway and Drainage Improvements
San Antonio, Bexar County, Texas
WBS Number 23-01302-04-04 (COSA CIMS)
WBS Number 23-01302-04-04A (SAWS Sewer)
WBS Number 23-01302-04-04B (SAWS Water)
Environmental Project Code: 01-616E7-467CIP**

Dear Ms. Arzate:

Raba Kistner Environmental, Inc. (RKEI) is pleased to submit the attached Phase II Environmental Site Assessment (ESA-II) report in support of the above referenced project. The project consists of the proposed installation of new storm drain, water, sanitary sewer, and natural gas utilities from the intersection of South Alamo Street and Probandt Street extending east along South Alamo for a distance of approximately 1,428 linear feet. The project is located within City Council District 1 (hereinafter referred to as the SITE). A Site Location Map is provided as **Figure 1**. The broad objectives of the assessment provide for an evaluation of baseline environmental conditions as necessary to support the current project planning effort. The scope of services described herein set forth in our proposal dated August 22, 2012 (*Proposal No. PSF12-264-00 Revised*) was developed based upon the results of previous environmental assessment data (i.e., Phase I Environmental Site Assessment for the project) and subsequent communication with the City of San Antonio Capital Improvements Management Services (CIMS) staff.

Additional assessment data was provided by CLIENT in the form of excerpts from an ESA-II report recently submitted by others in support of City Public Service (CPS) utility improvements in the project vicinity. The data provided was evaluated along with the data obtained in the course of this ESA-II effort, and is discussed collectively herein. Copies of the CLIENT provided data are provided in **Attachment A**.

This report was prepared for CIMS Environmental Management Division (CLIENT) and SAWS and may not contain sufficient information for other parties or other purposes. If other parties wish to rely on this report, they should contact the City of San Antonio (COSA) for a public records request.

BACKGROUND

The SITE (i.e., transportation/drainage corridor) consists of an existing four-lane asphalt paved roadway located in southern San Antonio, Council District 1, Bexar County, Texas. On the basis of information provided by CLIENT, improvements planned for the referenced SITE will include linear trench excavation work associated with the installation of new storm drain, water, sanitary sewer, and gas utilities. A recent Phase I Environmental Site Assessment conducted by **RKEI** on behalf of CIMS (i.e., *RKEI Project No. ASF11-135-07, report dated 4/19/12*) indicates that several environmental concerns exist along the linear extent of the proposed excavation, associated with historical operations and/or conditions on properties adjacent to the planned utilities improvements. Four areas of concern (AOCs) are identified and described as follows:

1. A former industrial area was predominately located at the northeast and southeast quadrant of South Alamo Street and Probandt Street, extending east to the San Antonio River that has a history of land use activities that include a foundry, railroad spur, salvage supply yard, machining, coal and steam/coke yards.
2. A Village Food #2/Citgo convenience store/gasoline station is located at the northwest corner of E. Johnson and S. Alamo, and constitutes an active Petroleum Storage Tank (PST) facility registered with the Texas Commission on Environmental Quality (TCEQ).
3. Two closed Leaking Petroleum Storage Tank (LPST) sites, FDIC Former Braden Oil (LPST No. 108144) and Gustino's (LPST No. 101621), are located immediately adjacent west of the SITE, across the S. Alamo and Probandt Street intersection.
4. A former dry cleaning facility is reported located northwest of the S. Alamo Street /Pereida Street juncture.

The locations of the 4 areas identified as potential sources of environmental impacts are indicated on the Project Layout Map, presented as **Figure 2**, attached. Based on the presence of these AOCs and their proximity to the planned excavation, **RKEI** recommended the performance of intrusive environmental assessment activities to further evaluate the nature and extent of potential impacts. Based on analytical chemistry results reviewed by CLIENT as part of the CPS study, the environmental conditions #2 and #4 listed above were addressed by the CPS study. Therefore, this assessment addressed environmental conditions for items #1 and #3 as described above. As depicted on **Figure 2**, intrusive assessment activities were focused on the southern portion of the transportation corridor or SITE (i.e., from the intersection of S. Alamo and Probandt to the San Antonio River).

PURPOSE AND SCOPE

The broad objectives of the project included a baseline evaluation of soils to be excavated for the installation of storm drain, water and sanitary sewer utility improvements. This assessment was designed, in conjunction with CIMS staff, to assess potential environmental impacts along the linear extent of the project associated with the AOCs identified in the ESA-I and described above. In the event

that contaminants were determined to be present at the SITE, secondary objectives also included: (i) an evaluation of reported contaminant concentrations in soil with respect to protective concentration levels (PCLs) defined by the Texas Commission on Environmental Quality (TCEQ), which are considered protective of human (i.e., construction worker) exposure and the environment; and (ii) development of

recommendations as to whether additional assessment activities or special management of affected soils and/or groundwater is warranted during future phases of construction.

A total of 10 exploratory soil borings were installed as part of the ESA utilizing direct push (8 borings) and hollow-stem auger methods (2 borings) in accordance with standard environmental drilling and sampling protocols. As presented herein, project activities included the screening, sampling, and chemical analysis of up to 2 subsurface samples per direct push boring and 3 samples per deeper, auger drilled borings. The samples collected and tested are considered representative of soil conditions within the construction depth interval. Soil samples were collected continuously at 2.5 foot intervals from ground surface to the total depth of each boring. Specifically, samples submitted for laboratory testing were collected at the following depths: 2.5-5 ft, 5-7.5 ft, 7.5-10 ft, 10-12.5 ft or 12.5-15 ft from the direct push and auger borings. Deeper samples (i.e., 15-17.5 ft and 20-22.5 ft) were also tested at the deeper borings (i.e., B-2 and B-1, respectively). A description of specific assessment activities accomplished as part of this project and discussion of assessment findings is provided in the following paragraphs.

SUBSURFACE ASSESSMENT ACTIVITIES

Environmental drilling and sampling activities at the SITE were conducted in two phases: (i) installation of direct push borings on 08/23/2012 and 08/24/2012 and (ii) installation of hollow stem auger borings on 08/24/2012. Photographic documentation of SITE conditions observed in conjunction with drilling and sampling operations is provided as **Attachment B**. Copies of environmental boring logs in addition to State of Texas Well Reports for environmental borings prepared by VORTEX are provided as **Attachment C**. A discussion of each phase of field activities is presented below:

Direct Push Borings

Direct push boring installation was conducted at the SITE on 08/23/12 and 08/24/12 in accordance with the approved scope of services. As depicted on the attached **Figure 2** and presented in project plan and profile views on **Figure 3A**, a total of 4 primary exploratory borings designated as “GP-1 through GP-4” were installed along the linear extent of the improvement project. Specific boring locations were determined based on environmental concerns and to afford spatial distribution with the borings drilled during the CPS study. Please see the following table for boring locations and areas of concern:

May 22, 2013

BORING DESIGNATION	AREA OF CONCERN/LOCATION
GP-1	Adjacent to existing LPST facility/west of CPS boring B-1
GP-2	Adjacent to existing LPST facility/west of CPS boring B-3
GP-3	Adjacent to Blue Star Facility (Former Industrial Area)/east of CPS boring B-2
GP-4	Adjacent to Blue Star Facility (Former Industrial Area)

Additionally, 4 contingency borings were installed, 2 approximately 10 feet east and west of GP-3, and 2 approximately 10 feet east and west of GP-4, respectively. These contingency borings are designated herein as GP-3 C-1, GP-3 C-2, GP-4 C-3 and GP-4 C-4, respectively. In accordance with CLIENT directives, contingency borings were installed to collect delineation samples, to be analyzed in the event that initial laboratory analyses of environmental samples collected from primary borings GP-3 and/or GP-4 indicated the presence of environmental impacts.

Borings were installed by Vortex Environmental Drilling (VORTEX), an environmental drilling contractor licensed in Texas, in accordance with standard environmental drilling and sampling protocols. Borings were installed to depths ranging from 15 to 20 feet below existing grade in order to evaluate potential impacts to subsurface soil intervals likely to be excavated or disturbed in conjunction with future phases of construction.

During soil boring installation, soil samples were obtained at approximate 5-foot intervals and logged by an **RKEI** environmental professional for composition, color, degree of moisture, and visual/olfactory indications of contamination. Individual soil samples were collected in plastic bags and laboratory supplied glassware at 2.5-foot intervals for field screening and subsequent laboratory analyses, respectively. In this fashion, the entire soil column was sampled from the ground surface to the total depth of the boring. Representative soil samples were screened for the presence of volatile organic constituents (e.g., petroleum hydrocarbons, chlorinated solvents, etc.) using a pre-calibrated photoionization detector (PID) in accordance with standard environmental assessment protocols. Field observations were documented in a field notebook and subsequently used to generate boring logs.

The sampling plan for this project called for analytical laboratory testing of up to 2 samples per boring generally within the upper 15 ft (depth of planned improvements). In the absence of observable impacts and negative field screening data, representative soil samples were collected from soil intervals likely to be excavated or disturbed in conjunction with future phases of construction.

Saturated soil was encountered in one direct push boring (i.e., GP-4 C-3) at 13 feet below ground surface. A soil sample was obtained at the groundwater interface; however, as there was an insufficient accumulation of groundwater within the open boring, no groundwater sample was obtained at this location.

Hollow-Stem Auger Borings

Environmental field investigation activities utilizing hollow-stem auger methods were conducted at the SITE on 08/24/12 in accordance with the approved scope of services. As depicted on the attached Project Layout Map (**Figure 2**) and presented in project plan and profile views in **Figure 3B**, a total of 2 exploratory borings designated as “B-1 and B-2” were installed on South Alamo Street west and east of the bridge spanning the San Antonio River. **RKEI** understands that construction plans require pits be excavated in these areas, to facilitate horizontal drilling beneath the river. Borings were installed in these areas to determine potential impacts to environmental media from historical industrial activities in the area (i.e., northeast and southeast quadrant of S. Alamo Street and Probandt Street, just west/southwest of the San Antonio River).

Borings were installed by VORTEX, in accordance with standard environmental drilling and sampling protocols. Both hollow-stem auger borings were installed to depths on the order of 35 feet below existing grade in order to evaluate potential impacts to subsurface soil intervals likely to be excavated or disturbed in conjunction with future phases of construction, determine the depth to water, and, if possible, obtain a sample of the groundwater for analytical laboratory testing.

During soil boring installation, soil samples were obtained with a split-spoon sampling device at approximate 2.5-foot intervals and logged by an **RKEI** environmental professional for composition, color, degree of moisture, and visual/olfactory indications of contamination. Representative soil samples were screened for the presence of volatile organic constituents (e.g., petroleum hydrocarbons, chlorinated solvents, etc.) using a pre-calibrated photoionization detector (PID) in accordance with standard environmental assessment protocols. Field observations were documented in a field notebook and subsequently used to generate boring logs.

The sampling plan for this project called for analytical laboratory testing of up to 4 samples per drilled boring obtained from the following intervals: near-surface soils (0-10 feet), at the groundwater interface and at the total depth of the boring, in addition to any discrete samples exhibiting visual/olfactory indications of contamination and/or positive field screening results. In the absence of observable impacts, representative soil samples were collected from soil intervals at depths generally corresponding to planned utility installations. Although the scope of services for this project did not include installation of monitoring wells, the sampling plan for this project included grab sampling of groundwater encountered in open borings. Groundwater was encountered in both hollow-stem auger borings B-1 and B-2 at approximately 20 feet below ground surface. Although a saturated interval was observed at boring B-1 (at a depth of 20-22.5 ft), there was no measurable water after the boring had been left open for a period of 4 hours. A sufficient quantity of water accumulated in boring B-2 which allowed collection of a groundwater sample. Results of the analytical testing of this groundwater sample are discussed in more detail in the Analytical Results section of this report.

Waste Management

Upon completion of drilling and sampling activities, direct push borings were plugged to within 2 feet of ground surface utilizing soil cuttings. The upper 2 feet was plugged with concrete. Auger cuttings from borings B-1 and B-2 were placed in sealed drums, labeled and staged in the parking area immediately

west of the San Antonio River. At CLIENT's direction, drummed soils will be utilized during the construction phase of the project. Sample bags, disposable gloves, and other non-reusable sampling equipment were properly disposed as general municipal solid waste following the completion of field efforts.

Chemical Analyses of Soil Samples

Environmental samples were placed in laboratory prepared containers and stored on ice immediately upon collection. Pending analytical assignments, samples were stored in the **RKEI** environmental sample refrigerator prior to transport to San Antonio Testing Laboratory, Inc., the contracted analytical laboratory located in San Antonio, Texas. Based on the approved scope of work, samples were delivered to the analytical laboratory within approximately 24 hours of collection with accompanying chain-of-custody documentation (i.e., within holding times for referenced analyses).

In accordance with the objectives of the ESA, a total of 19 environmental soil samples (i.e., 11 soil samples from the primary and contingency direct push borings and 8 soil samples from the deeper, hollow-stem auger drilled borings (i.e., B-1 and B-2) were submitted for analyses of general suites of environmental contaminants including petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE) and heavy metals constituents (i.e., RCRA 8 Metals including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) as well as volatile organic compounds (VOCs). Referenced general suites of analysis were targeted for assessment to evaluate baseline environmental conditions within fill and/or native soils to be excavated at the SITE and assigned to specific samples to determine the possible presence of contaminants associated with specific recognized environmental concerns described earlier in this report. Initial analytical laboratory results for soil and groundwater are presented in the Summary of Analytical Results - VOCs and TPH presented as **Table 1** and the Summary of Analytical Results – Metals presented as **Table 2**.

Additionally, the scope of services for this project called for the analysis of a subset of soil samples exhibiting maximum heavy metal concentrations in excess of Texas Specific Background (TSB) values in accordance with the Synthetic Process Leaching Procedure (SPLP) method to further evaluate whether reported metals concentrations are potentially leachable to shallow groundwater or storm water. The same subset of soils samples was subjected to analysis by the Toxicity Characteristic Leaching Procedure (TCLP) to evaluate appropriate waste classification for soils in the event that landfill disposal is the only available disposal option. As presented in the Summary of Analytical Results – SPLP and TCLP presented as **Table 3**, a total of 4 soil samples exhibiting maximum heavy metal values were analyzed by the SPLP and TCLP methods, respectively.

ASSESSMENT RESULTS

Field Observations

As mapped in the Geologic Atlas of Texas (Revised 1982) rocks outcropping at the SITE are Quaternary aged fluvial deposits (map designation Qt) deposited by the ancestral San Antonio River and composed primarily of calcareous clays and clastic materials formed by the chemical weathering of older limestone formations. A basal gravel unit is common in these fluvial deposits. Bedrock underlying the fluvial deposits consists of partially indurated marl and claystone of the Cretaceous aged Navarro Group and

was encountered at a depth of 24 feet below ground surface in deep soil borings B-1 and B-2. Per the Soil Survey for Bexar County (Series 1962, No. 12), one soil type (Houston Black clay, terrace) occurs within the areal extent of the utility improvement project. Houston Black soils (map designation HtA) flank both sides of the San Antonio River and are typical of well drained, low relief flood plain soils. These soils are described in the Soil Survey as deep, slow to rapidly draining at the surface, nearly level to gently sloping, clayey soils commonly associated with stream terraces.

As indicated on our attached boring logs, field conditions observed during the ESA are consistent with the published information summarized above in that native soils were observed to be tan gravelly clays with scattered chert gravel.

No significant visual or olfactory impacts to soil (e.g., hydrocarbon/VOCs staining or odors) were noted in conjunction with boring installation efforts. The majority of the field screening measurements reported on boring logs were non-detect for all targeted hydrocarbon/VOC vapor constituents. Readings of 0.1 ppm and 0.3 ppm in boring GP-2 are considered to be consistent with ambient air conditions and not indicative of environmental impacts to soils.

As indicated on the attached boring logs, saturated soil was encountered in exploratory soil borings GP-4 C-3, in an apparently perched in clayey soils. A stable groundwater table, likely in hydraulic communication with the adjacent San Antonio River was observed in borings B-1 and B-2 at an approximate depth of 20 feet below ground surface. A grab sample of the groundwater encountered in boring B-2 was collected for analytical laboratory testing. No visual or olfactory impacts to groundwater were noted in conjunction with groundwater sampling efforts.

Analytical Results

Signed Laboratory Reports of Analysis prepared by the contracted analytical laboratory and accompanying chain-of-custody documentation are provided as **Attachment D**. A summary of analytical sampling data referenced throughout the following discussion is provided in **Tables 1** through **3**. The referenced tables present analytical results and corresponding regulatory action levels for targeted constituents of concern defined for this ESA-II.

Criteria for Evaluating Analytical Data

Analytical results for environmental soil samples were compared to published action levels defined by the TCEQ (June 2012) pursuant to recent guidelines for assessing historical contamination (i.e., Texas Risk Reduction Program [TRRP] rules). Action levels are contaminant-specific, corresponding to maximum contaminant concentrations that can remain in environmental media (e.g., soils and groundwater), and are considered protective of human health and the environment within a residential land use setting. Measurable concentrations were also compared to levels considered protective of human (construction worker) exposure (i.e., $^{Tot}Soil_{Comb}$ values). Reported heavy metal concentrations were also compared to the respective Texas Specific Background (TSB) values, which represent the maximum naturally occurring or background concentration defined for Texas. If the TSB value is greater than Tier 1 Protective Concentration Levels (PCLs), the TSB value is utilized for evaluation of potential metals impact to soils. Results for the groundwater sample obtained from boring B-2 were compared to Tier 1 PCLs for groundwater.

Discussion of Soil Analytical Data

As presented in **Tables 1** and **2**, analytical data do not indicate the presence of TPH or VOCs (including BTEX/MTBE) in any of the samples analyzed. RKEI observed no evidence of hydrocarbon impact in any of the borings installed within the transportation corridor.

Reported heavy metals concentrations for arsenic, barium, lead and mercury exceeded TSB values at scattered depth and boring locations summarized below:

- Arsenic concentrations in soil samples from GP-1 (10.0-12.5), GP-3 (2.5-5.0), and B-1 (7.5-10.0 and 10.0-12.5) exceeded the TSB value of 5.9 mg/kg with reported concentrations of 16.6 mg/kg, 6.73 mg/kg, 14.3 mg/kg and 11.5 mg/kg, respectively.
- The TSB value of 300 mg/kg for barium was exceeded in a single sample from GP-1 (10.0-12.5) which had a reported barium concentration of 379.0 mg/kg.
- Lead concentrations exceeded the TSB value of 15 mg/kg in soil samples from GP-3 (2.5-5.0) and GP-3 C-2 (2.5-5.0) with reported values of 25.1 mg/kg and 31.0 mg/kg, respectively.
- Finally, the TSB value of 0.04 mg/kg for mercury was exceeded or equaled in samples from GP-2 (12.5-15.0), GP-3 (2.5-5.0), B-1 (5.0-7.5, 10.0-12.5 and 20.0-22.5) with reported concentrations of 0.057 mg/kg, 0.076 mg/kg, 0.046 mg/kg, 0.04 mg/kg and 0.04 mg/kg, respectively.

In all samples analyzed, heavy metals concentrations were orders of magnitude below applicable TRRP Tier 1 soil protective concentration levels (PCLs). As further indicated in **Tables 2** and **3**, all reported metals values are below TCEQ-defined PCLs that are considered to be protective of human ingestion, dermal contact, and inhalation exposure (i.e., $^{Tot}Soil_{Comb}$ values). Therefore, reported metals values are protective of construction worker exposure.

Despite TSB exceedances, the isolated low level heavy metals impacts observed are typical in an urbanized setting. Occurrences such as these are likely the result of non-point sources associated with past industrial operations in the project vicinity. Metals impacts are not contiguous laterally or vertically and therefore not considered to represent pervasive contamination associated with a past spill or release of hazardous substances.

In order to further evaluate soil samples with respect to shallow groundwater and human ingestion exposure pathways (i.e., $^{GW}Soil_{Ing}$ values) defined by TCEQ and pursuant to discussions with CLIENT, samples exhibiting maximum concentrations of arsenic, barium, lead and mercury in excess of the action level (in this case, the TSB value) were submitted for additional SPLP testing to further evaluate the potential leachability of metals constituents to stormwater or shallow groundwater. Soil samples exhibiting elevated metals values were also analyzed in accordance with the Toxicity Characteristic Leaching Procedure (TCLP) as is typically performed to evaluate excavated soils (wastes) for landfill disposal purposes. Results of SPLP and TCLP testing are tabulated in **Table 3**. In all instances, the reported SPLP results indicate that soils are essentially inert (i.e., metals are not readily leachable to groundwater) and that leachable levels are well below PCLs defined to be protective of human ingestion (i.e., $^{GW}GW_{Ing}$ values). Based on collective assessment data there are no environmental restrictions associated with the reuse of excavated soils, onsite as part of the current construction project or offsite to support other COSA/SAWS projects.

Discussion of Groundwater Analytical Data

A groundwater sample from boring B-2 was subject to analyses for TPH, VOCs and RCRA 8 metals. A barium concentration of 0.034 mg/L was determined for the groundwater sample. This concentration is 2 orders of magnitude below the Tier 1 residential PCL defined to be protective of human ingestion (consumption) of the groundwater (i.e., ^{GW}GW_{Ing} values). Analytical laboratory results for groundwater are included in **Table 2**. Based on information provided by CLIENT, **RKEI** understands that discharge of groundwater is regulated by the San Antonio River Authority (SARA). Therefore, special procedures have been developed in the construction specification prepared by CLIENT for this project. Although assessment results (discussed herein) do not indicate any groundwater contamination, groundwater near soil areas of impact (discussed in the following section) may have the potential to contain arsenic, lead, or silt contamination. Therefore, Contractor will need to follow procedures set forth in the construction specifications issued by COSA/SAWS.

Areas of Impact

Two areas of impact have been defined in the subsurface soils along the linear extent of the proposed excavation. These areas are depicted on **Figures 3A** and **3B**. The areas were defined based on analytical results for soils that exceeded TSB values for heavy metals. The first area (depicted on **Figure 3A**) starts at the southwestern project limit (i.e., intersection of S. Alamo Street and Probandt Street) and extends along S. Alamo Street approximately 285 ft to the northeast. This area includes sanitary sewer, water, and gas line installations. The second area (depicted on **Figure 3B**) is located immediately adjacent to the San Antonio River and extends approximately 70-75 ft to the southwest. This area includes sanitary sewer, water, and gas line installations. While concentrations present in the soils are considered protective of construction workers at the SITE, special handling is recommended for soils within the referenced areas to ensure their reuse as backfill on this project SITE.

CONCLUSIONS AND RECOMMENDATIONS

On the basis of information obtained as a result of ESA activities described herein, and information supplied by CLIENT, **RKEI** offers the following conclusions and recommendations for CLIENT consideration. Recommendations were developed based upon our understanding of the project at this time and experience with similar projects:

Conclusions

- Soils below the pavement profile at the SITE are consistent with those described in the published sources cited. Flood plain and stream terrace deposits, comprised primarily of calcareous clays containing varying quantities of coarser aggregates are present within the project perimeter.
- No significant visual or olfactory impacts to soil (e.g., hydrocarbon/VOCs staining or odors) were noted in conjunction with soil boring installation. Field screening measurements are considered to be generally consistent with ambient air conditions and not indicative of environmental impacts to soils. Analytical laboratory data corroborate these observations in that no detectable quantities of TPH, BTEX/MTBE and/or VOCs were reported by the analytical laboratory.

- Sampling data indicate the occurrence of slightly elevated concentrations of total heavy metals (i.e., arsenic, barium, lead, and mercury) at scattered depths and boring locations. Heavy metals impacts to the degree reported in soils at the SITE are inferred to be largely the result of non-point sources resulting from anthropogenic activities. On the basis of similar project experience, reported metals concentrations in soils at the SITE are considered to be consistent with levels detected in near surface soils in other urbanized portions of the City. In all instances, reported total metals concentrations are considered to be protective of human health and the environment in a residential land use setting and therefore, protective of construction worker exposure. SPLP testing results indicate that soils are essentially inert and are not readily leachable to groundwater at levels not protective of human ingestion.
- Analytical data generated as the result of this ESA-II effort can be utilized to support classification of excavated soils as unaffected and inert. **RKEI** understands that onsite reuse of all excavated soils is anticipated on this project. In the unlikely event that this is not possible, minimally affected soils (exhibiting metals concentration above TSB values), in areas indicated on **Figures 3A** and **3B**, should have priority in reuse onsite. Outside the areas specified, based on our evaluation of collective assessment data, the offsite reuse of excavated soils on other City construction projects is considered to be an acceptable alternative to landfill disposal. However, if soils had to be transported to a landfill, TCLP data indicate that the soils would likely be classified as a Class 2 non-hazardous waste.
- Shallow groundwater is present beneath the SITE at an approximate depth of 20 feet below ground surface. Saturated soils may be encountered at shallower depths, but these zones are considered perched and transitory in nature and are not considered to be representative of stable groundwater conditions. In accordance with project requirements set forth in the Special Environmental Specifications, any groundwater generated during the project should be managed in accordance with Item 4300 of the referenced specification.

Recommendations

- Based on analytical laboratory results discussed herein, **RKEI** recommends that an Affected Soils Management Plan (ASMP) be prepared to guide and direct Contractor's excavation activities. The plan should identify areas containing minimally affected soils and provide direction for its reuse onsite. Soils outside the designated areas are not subject to any special or management or handling restrictions.
- If possible, drummed soil cuttings from borings B-1 and B-2, currently staged adjacent to the SITE, should be used as backfill in the project excavation, or, at CLIENT discretion, **RKEI** will coordinate drum removal on behalf of COSA. Per analytical laboratory results, these materials do not constitute a waste and no special disposal is required.
- This report and associated documentation should be maintained by COSA in project files as documentation of due diligence in the planning process and of baseline environmental conditions along the subject utility corridor.

LIMITATIONS

The intent and scope of this project was to obtain information regarding the presence of environmental contaminants in subsurface soils to be excavated in conjunction with proposed construction activities at the SITE. The scope of work described herein provided for a limited inquiry into the environmental characteristics of the site that includes an opinion on the existence of regulated environmental contamination (e.g., hazardous substances) by environmental professionals based upon field observations and results of laboratory analyses. Our findings are based upon the limited information obtained, and our past experience and professional judgment in accordance with generally accepted industry practices. The work associated with this project was performed with the degree of skill and care ordinarily exercised under similar conditions by reputable members of the profession practicing in the locality.

CLOSING

We appreciate the opportunity to have been of assistance to you on this important project. If you have any questions regarding the information provided in this submittal, please do not hesitate to call.

Very truly yours,

RABA KISTNER ENVIRONMENTAL, INC.

Heather D. Johnson

Heather D. Johnson
Geologist

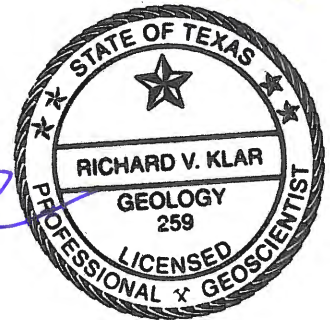
HDJ/RVK/cn

Attachments

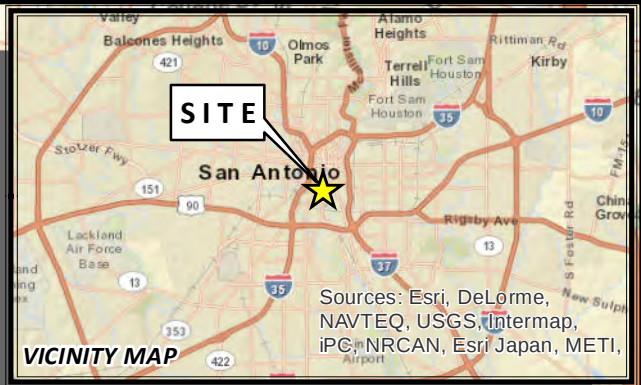
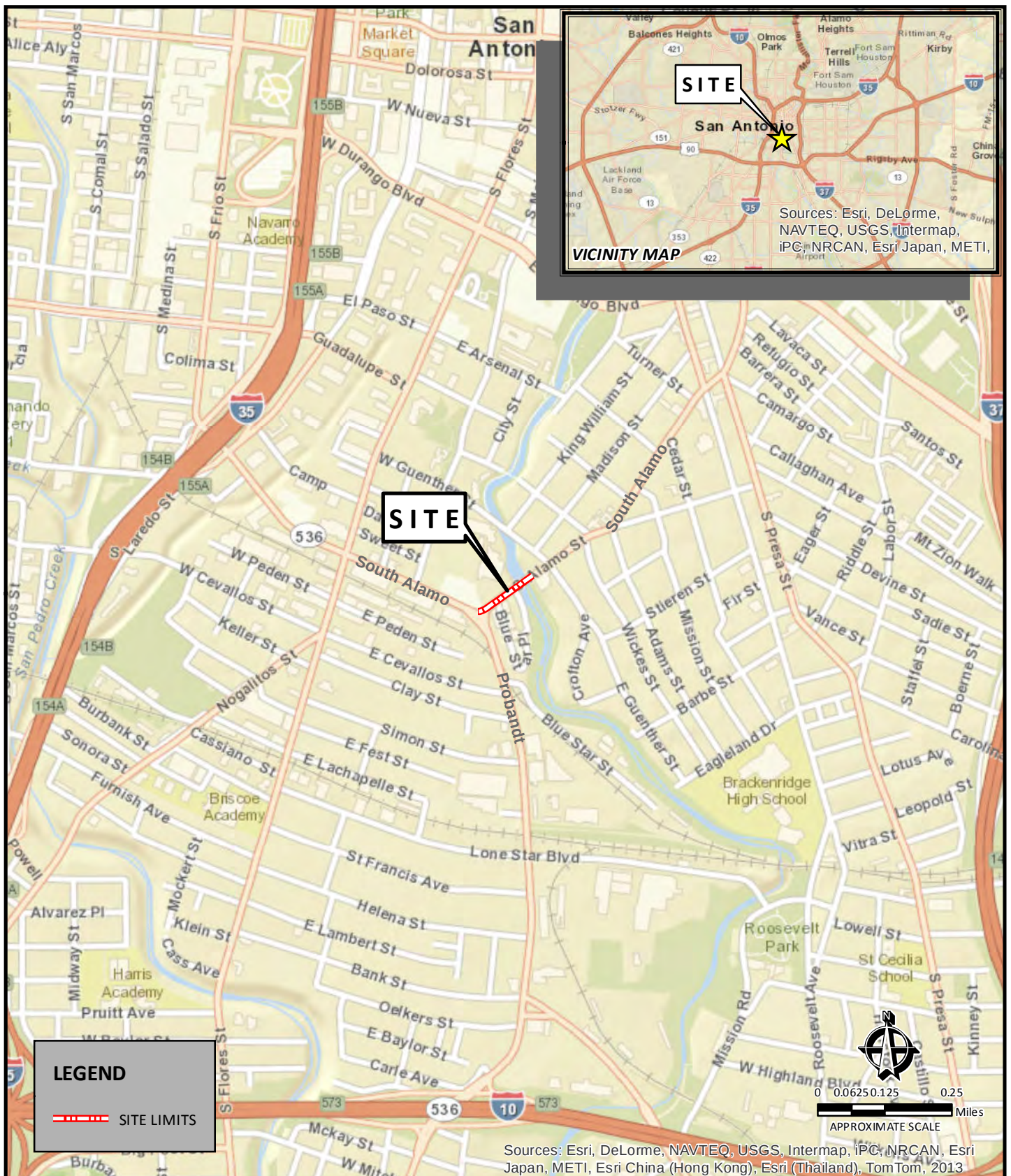
Copies Submitted: (3 originals, 2 CDs)

Richard V. Klar

Richard V. Klar, P.G.
Associate



FIGURES

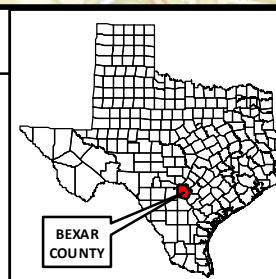


RABA KISTNER ENVIRONMENTAL
 Raba Kistner Environmental, Inc.
 12821 West Golden Lane
 San Antonio, Texas 78249
 www.rkci.com
 P 210 :: 699 :: 9090
 F 210 :: 699 :: 6426
 TBPE Firm F-3257

SOURCE: Environmental Systems Research Institute (ESRI),
 (Basemap: Streets).

SITE LOCATION MAP

PHASE II ESA - SOUTH ALAMO ROADWAY
 SAN ANTONIO, BEXAR COUNTY, TEXAS
 WBS Nos: 23-01302-04-04 (COSA CIMS) &
 23-01302-04-04A (SAWS SEWER)
 EPC: 01-616E7-467CIP



PROJECT No.:
 ASF11-135-23/24

ISSUE DATE:	05-22-13
DRAWN BY:	LAW
CHECKED BY:	MH
REVIEWED BY:	RVK

FIGURE 1



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

PROJECT LAYOUT MAP
PHASE II ESA

SOUTH ALAMO ROADWAY: DRAINAGE IMPROVEMENTS
SAN ANTONIO, BEXAR COUNTY, TEXAS
WBS Nos: 23-01302-04-04 (COSA CIMS) &
23-01302-04-04A (SAWS SEWER)
EPC: 01-616E7-467CIP

REVISIONS:		
No.	DATE	DESCRIPTION

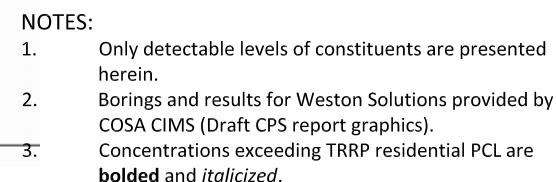
PROJECT No.: ASF11-135-23/24	
ISSUE DATE:	05-22-13
DRAWN BY:	LAW
CHECKED BY:	MH/HDJ
REVIEWED BY:	RVK

FIGURE

2

EPC: 01-616E7-467CIP

3A



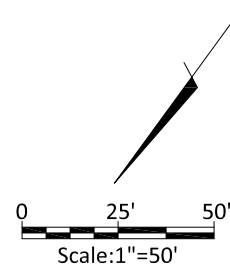
PHASE II ESA
SOUTH ALAMO ROADWAY: DRAINAGE IMPROVEMENTS
SAN ANTONIO, BEXAR COUNTY, TEXAS
WBS #: 23-01302-04-02
EPC: 01-616E7-467C1P

3B

VICINITY MAP
NOT TO SCALE

Sb	ANTIMONY
Ar	ARSENIC
Ba	BARIUM
Be	BERYLLIUM
Cd	CADMIUM
Cr	CHROMIUM
Pb	LEAD
Hg	MERCURY
Ni	NICKEL
Se	SELENIUM

- Only detectable levels of constituents are presented herein.
- Borings and results for Weston Solutions provided by COSA CIMS (Draft CPS report graphics).
- Concentrations exceeding TRRP residential PCL are **bolded** and *italicized*.



TABLES

SUMMARY OF ANALYTICAL RESULTS - SOIL

Phase II ESA

South Alamo Roadway Drainage Improvements

San Antonio, Bexar County, Texas

WBS: 23-01302-04-04; EPC: 01-616E7-467CIP

SAMPLE DESIGNATION	SAMPLE DATE	SAMPLE DEPTH (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	BTEX/MTBE ⁽³⁾ (mg/kg)	TPH ⁽⁴⁾ (C ₆ -C ₃₅) (mg/kg)
Texas-Specific Background⁽¹⁾ :												
			5.9	300	----	30	15	0.04	0.3	----	----	----
Tier 1 Residential (^{GW} Soil_{Ing})⁽²⁾ :			5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48	----	65
Tier 1 Residential (^{Tot} Soil_{Comb})⁽²⁾ :			24	8,100	52	33,000	500	3.6	310	97	----	1,600
GEOPROBE SAMPLING STATIONS												
GP-1	8/23/2012	2.5-5.0	2.01	81.4	<0.50	5.15	1.85	<0.04	<0.30	<0.48	ND	ND
		7.5-10.0	1.32	63.0	<0.50	3.46	<1.0	<0.04	<0.30	<0.48	NA	NA
		10.0-12.5	16.6	379.0	1.18	8.08	4.66	<0.04	<0.30	<0.48	ND	ND
GP-2	8/23/2012	7.5-10.0	1.73	63.0	<0.50	2.45	1.07	<0.04	<0.30	<0.48	ND	ND
		12.5-15.0	4.77	60.3	<0.50	3.42	1.35	0.057	<0.30	<0.48	ND	ND
GP-3	8/23/2012	2.5-5.0	6.73	68.8	1.04	9.58	25.1	0.076	<0.30	<0.48	NA	NA
		5.0-7.5	1.03	81.4	<0.50	3.71	2.66	<0.04	<0.30	<0.48	NA	NA
		7.5-10.0	3.11	64.1	<0.50	4.34	1.86	<0.04	<0.30	<0.48	NA	NA
GP-3 C-2	8/24/2012	2.5-5.0	4.72	NA	NA	NA	31.0	NA	NA	NA	NA	NA
GP-4	8/23/2012	2.5-5.0	1.60	63.7	<0.50	5.42	2.43	<0.04	<0.30	<0.48	NA	NA
		10.0-12.5	1.04	77.7	<0.50	3.58	1.58	<0.04	<0.30	<0.48	NA	NA

NOTES:

- 1.) Background concentrations were taken from Figure: 30 \$TAC 350.51 (m), Texas Risk Reduction Program Rule (March 19, 2007).
- 2.) Protective Concentration Levels (PCLs) presented herein for various human health and/or groundwater exposure pathways, using a 0.5-acre source area, were taken from Tables accompanying the Texas Risk Reduction Program Rule (June 29, 2012).
- 3.) BTEX/MTBE = benzene, toluene, ethylbenzene, xylenes / methyl-tert-butyl-ether (method 8260B)
- 4.) TPH = total petroleum aromatic hydrocarbons (method TX-1005)
- 5.) NA = not analyzed
- 6.) ND = not detected

SUMMARY OF ANALYTICAL RESULTS - SOIL AND GROUNDWATER

Phase II ESA

South Alamo Roadway Drainage Improvements

San Antonio, Bexar County, Texas

WBS: 23-01302-04-04A; EPC: 01-616E7-467CIP

SAMPLE DESIGNATION	SAMPLE DATE	SAMPLE DEPTH (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	VOCs ⁽³⁾ (mg/kg)	TPH ⁽⁴⁾ (C ₆ -C ₃₅) (mg/kg)
Texas-Specific Background ⁽¹⁾ :			5.9	300	----	30	15	0.04	0.3	----	----	----
Tier 1 Residential (^{GW} Soil _{Ing}) ⁽²⁾ :			5.0	440	1.5	2400	3.0	0.0078	2.3	0.48	----	----
Tier 1 Residential (^{Tot} Soil _{Comb}) ⁽²⁾ :			24	8100	52	33000	500	3.6	310	97	----	----
BORINGS												
B-1	8/24/2012	2.5-5.0	4.85	105	0.504	4.70	3.43	<0.04	<0.30	<0.48	NA	ND
		5.0-7.5	5.38	90.9	0.681	6.24	4.83	0.046	<0.30	<0.48	NA	NA
		7.5-10.0	14.3	159	0.950	6.52	5.43	<0.04	<0.30	<0.48	NA	ND
		10.0-12.5	11.5	132	1.02	6.31	3.98	0.04	<0.30	<0.48	NA	NA
		20.0-22.5	5.09	66.8	0.856	7.47	6.58	0.04	<0.30	<0.48	ND	ND
B-2	8/24/2012	2.5-5.0	4.86	11.8	<0.50	3.50	1.62	<0.04	<0.30	<0.48	NA	ND
		7.5-10.0	3.89	11.4	<0.50	3.11	1.52	<0.04	<0.30	<0.48	NA	ND
		15.0-17.5	2.82	70.9	0.659	10.0	6.26	<0.04	<0.30	<0.48	ND	ND
GROUNDWATER												
			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Tier 1 Residential (^{GW} GW _{Ing}) ⁽²⁾ :			0.01	2.0	0.005	0.10	0.015	0.002	0.05	0.12	----	----
B-2 (GW Grab)	8/24/2012	----	<0.01	0.034	<0.005	<0.01	<0.01	<0.0002	<0.01	<0.05	ND	ND

NOTES:

- 1.) Background concentrations were taken from Figure: 30 §TAC 350.51 (m), Texas Risk Reduction Program Rule (March 19, 2007).
- 2.) Protective Concentration Levels (PCLs) presented herein for various human health and/or groundwater exposure pathways, using a 0.5-acre source area, were taken from Tables accompanying the Texas Risk Reduction Program Rule (June 29, 2012).
- 3.) VOCs = volatile organic compounds (method 8260B)
- 4.) TPH = total petroleum aromatic hydrocarbons (method TX-1005)
- 5.) NA = not analyzed
- 6.) ND = not detected

SUMMARY OF ANALYTICAL RESULTS - SOIL (SPLP/TCLP METALS)

Phase II ESA

South Alamo Roadway Drainage Improvements

San Antonio, Bexar County, Texas

WBS: 23-01302-04-04/23-01302-04-04A; EPC: 01-616E7-467CIP

SAMPLE DESIGNATION	SAMPLE DATE	SAMPLE DEPTH (ft)	S P L P ⁽³⁾				T C L P ⁽⁴⁾			
			Arsenic (mg/L)	Barium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Lead (mg/L)	Mercury (mg/L)
Tier 1 Residential (^{GW} GW _{Ing}) ⁽¹⁾ :							----	----	----	----
Class 1 Waste Classification ⁽²⁾ :							5.0	100	5.0	0.2
GP-1	8/23/2012	10.0-12.5	<0.01	0.015	NA	NA	<0.10	0.567	NA	NA
GP-2	8/23/2012	12.5-15.0	NA	NA	NA	<0.0002	NA	NA	NA	<0.002
GP-3	8/24/2012	2.5-5.0	<0.01	NA	0.011	NA	<0.10	NA	<0.10	NA
B-1	8/24/2012	7.5-10.0	<0.01	NA	NA	NA	<0.10	NA	NA	NA

NOTES:

- 1.) Protective Concentration Levels (PCLs) presented herein for various human health and/or groundwater exposure pathways, using a 0.5-acre source area, were taken from Tables accompanying the Texas Risk Reduction Program Rule (June 29, 2012).
- 2.) Waste classification levels were taken from Class 1 Toxic Constituents' Maximum Leachable Concentrations table (Appendix C) accompanying the Guidelines for the Classification and Coding of Industrial and Hazardous Wastes, RG-022, Rev. February 2005.
- 3.) SPLP = synthetic precipitation leaching procedure
- 4.) TCLP = toxicity characteristic leaching procedure
- 5.) NA = not analyzed

ATTACHMENT A

CLIENT PROVIDED DATA

**ANALYTICAL RESULTS AND SOIL BORING LOCATION
MAP EXCERPTED FROM A REPORT PREPARED BY
WESTON SOLUTIONS ON BEHALF OF CITY PUBLIC
SERVICE**

DRAFT

TABLE 1
SUMMARY OF ANALYTICAL RESULTS - SOIL
TPH, VOCs, BTEX/MTBE
South Alamo Roadway and Drainage Improvements
San Antonio, Texas

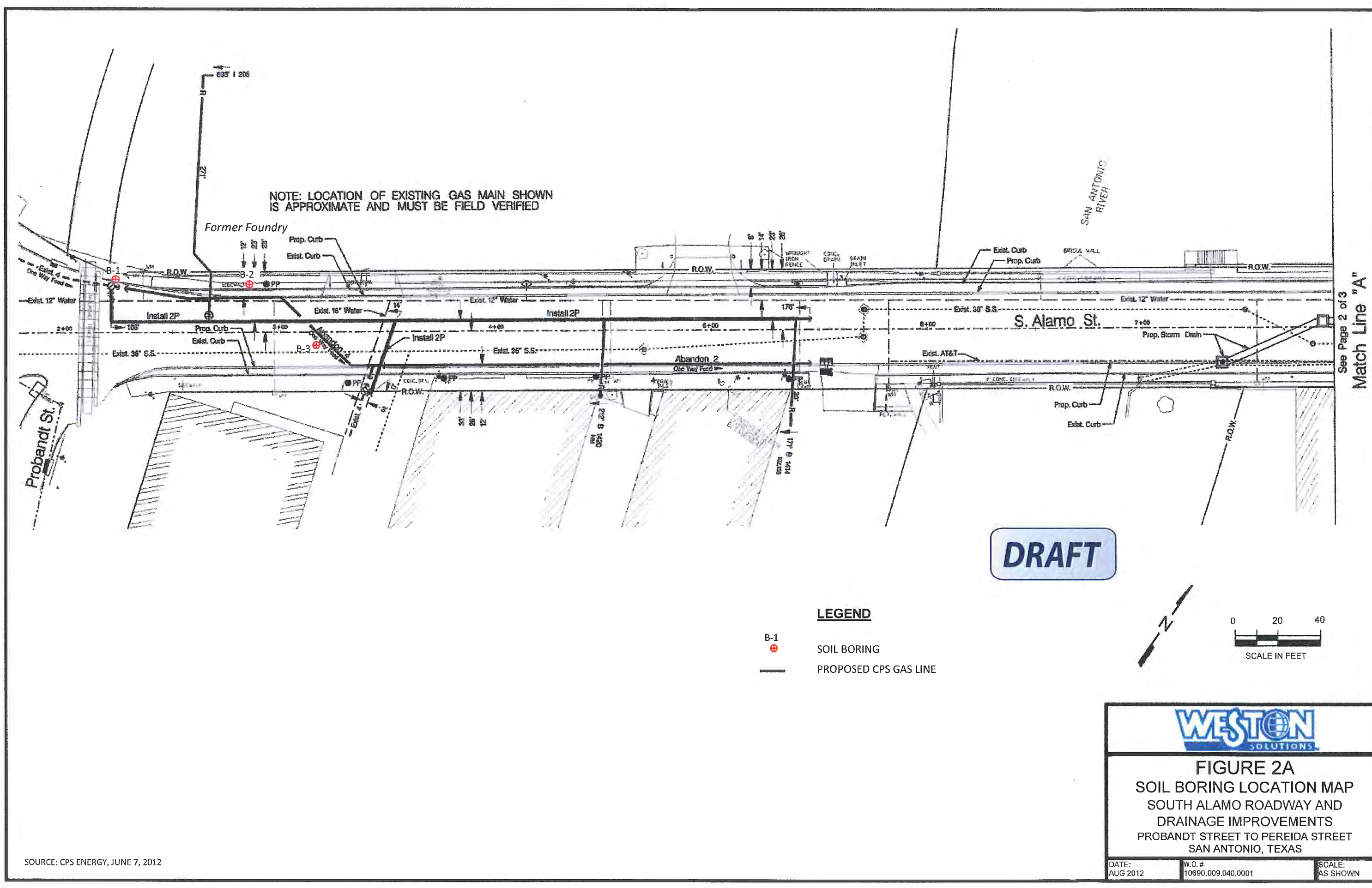
Parameter					TPH TX 1005				VOCs	BTEX / MTBE				
					C ₆ -C ₁₂	C ₁₂ -C ₂₈	C ₂₈ -C ₃₅	C ₆ -C ₃₅		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Residential Tier 1 ^{GW} Soil _{Ing} PCL					65	200	200	----	----	0.026	8.2	7.6	110	0.62
Residential Tier 1 ^{Tot} Soil _{Comb} PCL					1,600	2,300	2,300	----	----	120	5900	6400	8900	800
Units					(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
REC	Sample ID/ Location	Date	Depth (feet bgs)	Field Readings (PID-ppm)										
Former LPST sites, coal and steam/coke yard, railroad spur, salvage supply yard, and foundry	B-1	7/30/2012	3-4	1.2	<58.1	<58.1	<58.1	<58.1	ND	<0.00574	<0.00574	<0.00574	<0.00574	<0.00574
			5.5-6	0.4	<56.6	<56.6	<56.6	<56.6	ND	<0.00549	<0.00549	<0.00549	<0.00549	<0.00549
			9-10	1.6	<72.4	<72.4	<72.4	<72.4	ND	<0.00707	<0.00707	<0.00707	<0.00707	<0.00707
	B-2	7/30/2012	1.5-2	0.9	<57.7	<57.7	<57.7	<57.7	ND	<0.00557	<0.00557	<0.00557	<0.00557	<0.00557
			5.5-6	1.0	<54.1	<54.1	<54.1	<54.1	ND	<0.00536	<0.00536	<0.00536	<0.00536	<0.00536
			9-10	0.8	<56.8	<56.8	<56.8	<56.8	ND	<0.00553	<0.00553	<0.00553	<0.00553	<0.00553
	B-3	7/30/2012	3-3.5	0.8	<55.2	<55.2	<55.2	<55.2	ND	<0.00541	<0.00541	<0.00541	<0.00541	<0.00541
			5.5-6	1.6	<60.0	<60.0	<60.0	<60.0	ND	<0.00590	<0.00590	<0.00590	<0.00590	<0.00590
			9-10	1.3	<54.5	<54.5	<54.5	<54.5	ND	<0.00528	<0.00528	<0.00528	<0.00528	<0.00528
Existing Fueling Station	B-4	7/30/2012	2.5-3	1.4	<58.0	<58.0	<58.0	<58.0	----	<0.00111	<0.00111	<0.00111	<0.00111	<0.00557
			5.5-6	0.6	<59.1	<59.1	<59.1	<59.1	----	<0.00111	<0.00111	<0.00111	<0.00111	<0.00557
			9-10	1.6	<56.0	<56.0	<56.0	<56.0	----	<0.00110	<0.00110	<0.00110	<0.00110	<0.00559
	B-5	7/30/2012	2-2.5	0.6	<66.6	<66.6	<66.6	<66.6	----	<0.00128	<0.00128	<0.00128	<0.00128	<0.00638
			5.5-6	1.7	<58.5	<58.5	<58.5	<58.5	----	<0.00116	<0.00116	<0.00116	<0.00116	<0.00582
			9-10	2.0	<54.6	<54.6	<54.6	<54.6	----	<0.00104	<0.00104	<0.00104	<0.00104	<0.00520
	B-6	7/30/2012	2-2.5	0.7	<61.8	<61.8	<61.8	<61.8	----	<0.00121	<0.00121	<0.00121	<0.00121	<0.00605
			5.5-6	2.3	<59.0	<59.0	<59.0	<59.0	----	<0.00114	<0.00114	<0.00114	<0.00114	<0.00569
			9-10	1.7	<52.2	<52.2	<52.2	<52.2	----	<0.00102	<0.00102	<0.00102	<0.00102	<0.00510
Former Dry Cleaners	B-7	7/30/2012	1.5-2	0.7	----	----	----	----	ND	<0.00603	<0.00603	<0.00603	<0.00603	<0.00603
			5.5-6	1.7	----	----	----	----	ND	<0.00528	<0.00528	<0.00528	<0.00528	<0.00528
			9-10	1.9	----	----	----	----	ND	<0.00572	<0.00572	<0.00572	<0.00572	<0.00572
	B-8	7/30/2012	1.3-2	1.3	----	----	----	----	ND	<0.00642	<0.00642	<0.00642	<0.00642	<0.00642
			5.5-6	1.0	----	----	----	----	ND	<0.00558	<0.00558	<0.00558	<0.00558	<0.00558
			9-10	1.2	----	----	----	----	ND	<0.00544	<0.00544	<0.00544	<0.00544	<0.00544
	B-9	7/30/2012	1-2	1.4	----	----	----	----	ND	<0.00604	<0.00604	<0.00604	<0.00604	<0.00604
			5.5-6	1.8	----	----	----	----	ND	<0.00560	<0.00560	<0.00560	<0.00560	<0.00560
			9-10	2.3	----	----	----	----	ND	<0.00539	<0.00539	<0.00539	<0.00539	<0.00539
TRRP - Texas Risk Reduction Program					bgs - below ground surface					BTEX - benzene, toluene, ethylbenzene, and total xylenes				
REC - Recognized Environmental Condition					PID - photoionization detector					MTBE - methyl tert-butyl ether				
PCL - protective concentration level					ND - not detected					VOCs - volatile organic compounds				
---- - not analyzed / not applicable					mg/kg - milligrams per kilogram					TPH - total petroleum hydrocarbons				
^{GW} Soil _{Ing} PCL - TRRP Tier 1 PCL that is protective of groundwater					ppm - parts per million					LPST - leaking petroleum storage tank				
^{Tot} Soil _{Comb} PCL - TRRP Tier 1 human health PCL by exposure pathways that include inhalation, ingestion, dermal contact, and vegetable consumption														

DRAFT

DRAFT

TABLE 2
SUMMARY OF ANALYTICAL RESULTS - SOIL METALS
South Alamo Roadway and Drainage Improvements
San Antonio, Texas

Parameter					Metals												SPLP			
					Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Lead	Mercury			
Residential Tier 1 ^{GW} Soil _{Ing} PCL					5.4	5.0	440	1.8	1.5	2,400	3.0	0.0078	160	2.3	0.48	----	----			
Residential Tier 1 ^{Tot} Soil _{Comb} PCL					15	24	8,000	38	52	33,000	500	3.6	840	31	96	----	----			
Residential Tier 1 ^{GW} GW _{Ing} PCL					----	----	----	----	----	----	----	----	----	----	----	0.015	0.002			
Background Concentration					1.00	5.90	300	1.50	----	30	15	0.04	10	0.30	----	----	----			
Units					(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)			
REC	Sample ID/ Location	Date	Depth (feet bgs)	Field Readings (PID-ppm)																
Former LPST sites, coal and steam/coke yard, railroad spur, salvage supply yard, and foundry	B-1	7/30/2012	3-4	1.2	2.18	2.79	101	0.547	0.477	15.0	11.7	<0.0110	11.2	<0.468	<0.468	----	----			
			5.5-6	0.4	<0.840	<0.840	98.0	<0.210	<0.210	4.70	2.73	<0.0103	8.09	0.825	<0.420	----	----			
			9-10	1.6	<1.09	4.44	72.4	<0.274	<0.274	2.94	3.18	<0.0142	9.00	1.42	<0.547	----	----			
	B-2	7/30/2012	1.5-2	0.9	<0.926	2.71	77.6	0.343	0.345	10.2	37.4	<0.0116	9.13	<0.463	<0.463	<0.0100	----			
			5.5-6	1.0	<0.869	1.35	107	<0.217	<0.217	6.18	4.17	<0.0104	7.55	1.43	<0.435	----	----			
			9-10	0.8	<0.896	5.58	96.9	<0.224	<0.224	4.21	2.99	<0.0104	8.45	1.54	<0.448	----	----			
	B-3	7/30/2012	3-3.5	0.8	<0.850	2.27	39.1	<0.212	<0.212	8.31	3.22	<0.0106	7.13	1.42	<0.425	----	----			
			5.5-6	1.6	<0.927	<0.927	70.3	<0.232	0.436	4.55	3.91	0.113	5.94	1.62	<0.464	----	<0.00100			
			9-10	1.3	<0.877	2.89	63.5	<0.219	<0.219	4.19	2.25	0.0124	9.68	1.77	<0.438	----	----			
	Existing Fueling Station	7/30/2012	2.5-3	1.4	----	----	----	----	----	----	----	----	----	----	----	----	----			
			5.5-6	0.6	----	----	----	----	----	----	----	----	----	----	----	----	----			
			9-10	1.6	----	----	----	----	----	----	----	----	----	----	----	----	----			
B-5		7/30/2012	2-2.5	0.6	----	----	----	----	----	----	----	----	----	----	----	----	----			
			5.5-6	1.7	----	----	----	----	----	----	----	----	----	----	----	----	----			
			9-10	2.0	----	----	----	----	----	----	----	----	----	----	----	----	----			
Former Dry Cleaners	B-7	7/30/2012	1.5-2	0.7	----	----	----	----	----	----	----	----	----	----	----	----				
			5.5-6	1.7	----	----	----	----	----	----	----	----	----	----	----	----	----			
			9-10	1.9	----	----	----	----	----	----	----	----	----	----	----	----	----			
	B-8	7/30/2012	1.3-2	1.3	----	----	----	----	----	----	----	----	----	----	----	----	----			
			5.5-6	1.0	----	----	----	----	----	----	----	----	----	----	----	----	----			
			9-10	1.2	----	----	----	----	----	----	----	----	----	----	----	----	----			
B-9	7/30/2012	1-2	1.4	----	----	----	----	----	----	----	----	----	----	----	----	----				
		5.5-6	1.8	----	----	----	----	----	----	----	----	----	----	----	----	----				
		9-10	2.3	----	----	----	----	----	----	----	----	----	----	----	----	----				
Bolted values exceed the sample detection limit					PCL - Protective Concentration Level												SPLP - Synthetic Precipitation Leaching Procedure		bgs - below ground surface	
Shaded values exceed Tier 1 Residential PCLs					PID - photoionization detector												----		ppm -parts per million	
TRRP - Texas Risk Reduction Program					mg/kg - milligrams per kilogram												LPST - leaking petroleum storage tank		mg/L - milligrams per liter	
REC - Recognized Environmental Condition					^{GW} GW _{Ing} PCL - TRRP Tier 1 PCL that is protective of groundwater via groundwater pathway															
^{GW} Soil _{Ing} PCL - TRRP Tier 1 PCL that is protective of groundwater					^{Tot} Soil _{Comb} PCL - TRRP Tier 1 human health PCL by exposure pathways that include inhalation, ingestion, dermal contact, and vegetable consumption															



SOURCE: CPS ENERGY, JUNE 7, 2012

DATE: AUG 2012	W.O. # 10690.009.040.0001	SCALE: AS SHOWN
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ATTACHMENT B

PHOTOGRAPHIC DOCUMENTATION



Photo 1. GP-1. View to the north. Photograph taken by RKEI on 8/24/12.

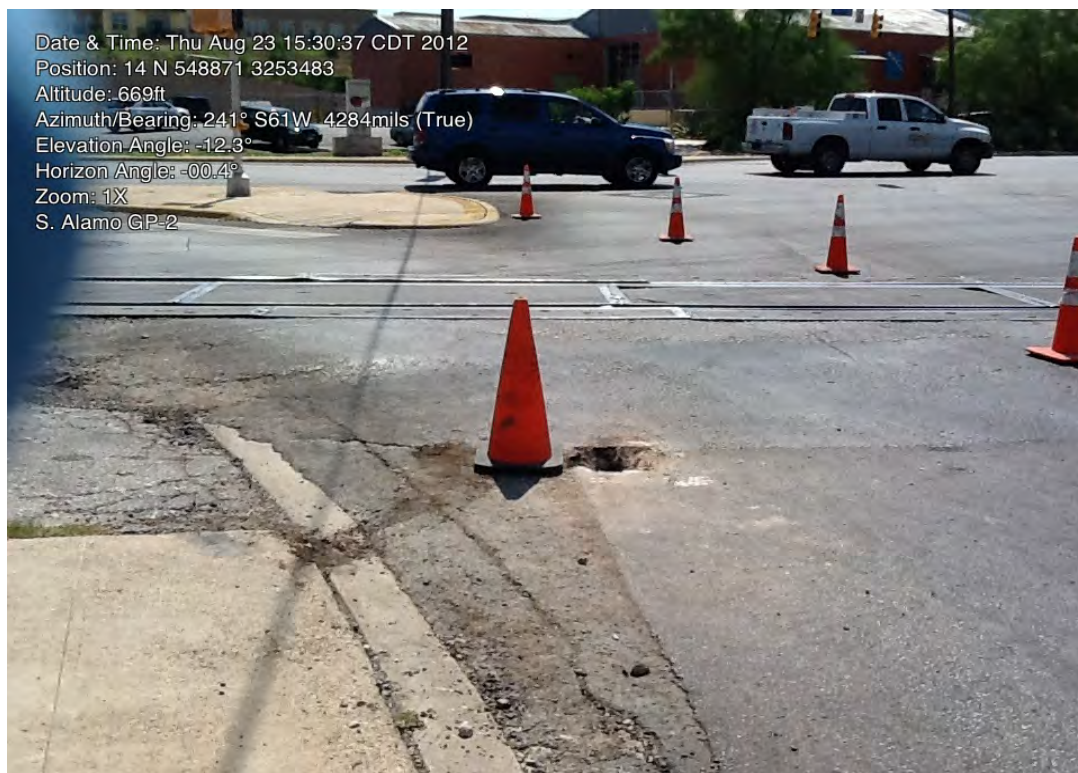


Photo 2. GP-2. View to the southwest. Photograph taken by RKEI on 8/23/12.



Photo 3. Plugging of GP-2. Photograph taken by RKEI on 8/23/12.



Photo 4. GP-3. View to the northeast. Photograph taken by RKEI on 8/24/12.



Photo 5. GP-4 C-4. Photograph taken by RKEI on 8/23/12.



Photo 6. GP-4 C-3 and GP-4 C-4, plugged. Photograph taken by RKEI on 8/23/12.



Photo 7. Drilling activities at B-1. Photograph taken by RKEI on 8/24/12.



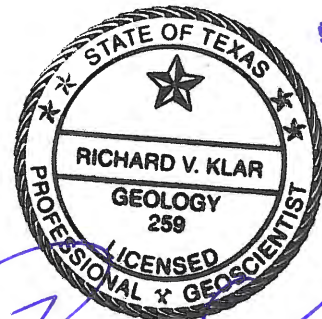
Photo 8. Plugging B-1. Photograph taken by RKEI on 8/24/12.



Photo 9. Hand digging B-2. Photograph taken by RKEI on 8/24/12.

ATTACHMENT C

ENVIRONMENTAL BORING LOGS STATE OF TEXAS WELL REPORTS



5-22-17

Richard V. Klar

LOG OF BORING NO. B-1

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Hollow Stem Auger

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			ASPHALT (6")									
			BASE COURSE MATERIAL (12")									
			CLAY, Sandy, Soft to Firm, Light Tan, Moist, with silt and scattered gravel			0						
5						0						
						0						
						0						
10						0						
			- coarse-grained sand, abundant cherty gravel and ferrous staining from 11' to 13'			0						
						0						
15						0						
						0						
						0						
20			- saturated from 20' to 22.5'			0	ND	ND	ND	ND	ND	
						0						
25			CLAY, Stiff to Hard, Tan and Gray, Moist			0						
						0						
						0						
30						0						
						0						
35			Boring terminated at 35.0 ft.									
40												
DEPTH DRILLED: 35.0 ft			DEPTH TO WATER: 20 ft			PROJ. No.: ASF11-135-23/24						
DATE DRILLED: 8/24/2012			DATE MEASURED: 8/24/2012									

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

RABA
KISTNER
TBPE Firm Registration No. F-3257

TBPE Firm Registration No. F-3257

DRILLING

LOCATION: See FIGURE 2

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

LOG OF BORING NO. GP-1

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Direct-Push

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			CONCRETE (4")									
			CLAY, Sandy, Silty, Soft, Light Tan, Moist			0						
						0	ND	ND	ND	ND	ND	
5			CLAY, Sandy, Soft to Firm, Light Tan, Moist, with silt			0						
						0						
						0						
10						0	ND	ND	ND	ND	ND	
						0						
			- with cherty gravel and ferrous staining from 13' to 20'			0						
15						0						
						0						
						0						
20			Boring terminated at 20.0 ft.									
25												
30												
35												
40												
DEPTH DRILLED: 20.0 ft			DEPTH TO WATER: Dry			PROJ. No.:			ASF11-135-23/24			
DATE DRILLED: 8/23/2012			DATE MEASURED: 8/23/2012									

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

LOG OF BORING NO. GP-2

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Direct-Push

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			ASPHALT (14")									
			BASE COURSE MATERIAL (4")									
			CLAY, Sandy, Silty, Soft to Firm, Light Tan, Moist			0.1						
5						0						
			- with cherty gravel from 8' to 20'			0	ND	ND	ND	ND	ND	
10						0						
			- very moist from 13' to 15'			0	ND	ND	ND	ND	ND	
15						0.3						
						0						
20			CLAY, Firm, Tan and Gray, Moist									
			Boring terminated at 20.0 ft.									
25												
30												
35												
40												
DEPTH DRILLED: 20.0 ft			DEPTH TO WATER: Dry			PROJ. No.: ASF11-135-23/24						
DATE DRILLED: 8/23/2012			DATE MEASURED: 8/23/2012									

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

LOG OF BORING NO. GP-3

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Direct-Push

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			ASPHALT (8")			0						
			CLAY, Firm, Gray, Moist, with scattered gravel			0	ND	ND	ND	ND	ND	
5						0						
			CLAY, Sandy, Silty, Soft to Firm, Light Tan, Moist			0						
						0						
10			- with coarse-grained sand from 10' to 17'			0						
						0						
			- with cherty gravel and ferrous staining from 13' to 20'			0						
15						0						
						0						
			Refusal at 17.0 ft.									
20												
25												
30												
35												
40												
DEPTH DRILLED: 17.0 ft			DEPTH TO WATER: Dry			PROJ. No.: ASF11-135-23/24						
DATE DRILLED: 8/24/2012			DATE MEASURED: 8/24/2012									

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

LOG OF BORING NO. GP-3 C-1

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Direct-Push

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			ASPHALT (8")			0						
			BASE COURSE MATERIAL (6")			0						
			CLAY, Sandy, Soft to Firm, Light Tan, Moist, with cherty gravel and ferrous staining			0						
5						0						
						0						
10						0						
						0						
15						0						
						0						
			Boring terminated at 17.0 ft.			0						
20												
25												
30												
35												
40												
DEPTH DRILLED: 17.0 ft			DEPTH TO WATER: Dry			PROJ. No.: ASF11-135-23/24						
DATE DRILLED: 8/24/2012			DATE MEASURED: 8/24/2012									

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

LOG OF BORING NO. GP-3 C-2

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Direct-Push

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			ASPHALT (10")			0						
			CLAY, Firm, Brown, Moist, with scattered cherty gravel			0						
5						0						
			CLAY, Sandy, Silty, Soft to Firm, Light Tan, Moist, with cherty gravel			0						
10						0						
						0						
15						0						
			Refusal at 15.0 ft.									
20												
25												
30												
35												
40												
DEPTH DRILLED: 15.0 ft			DEPTH TO WATER: Dry			PROJ. No.: ASF11-135-23/24						
DATE DRILLED: 8/24/2012			DATE MEASURED: 8/24/2012									

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

LOG OF BORING NO. GP-4

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Direct-Push

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			ASPHALT (14")			0						
			BASE COURSE MATERIAL (4")			0						
			CLAY, Firm, Gray, Moist			0						
5			CLAY, Sandy, Silty, Soft to Firm, Light Tan, Moist			0						
						0						
						0						
10						0						
						0						
			- with ferrous staining from 13' to 15'			0						
15						0						
						0						
			Refusal at 17.0 ft.									
20												
25												
30												
35												
40												
DEPTH DRILLED: 17.0 ft			DEPTH TO WATER: Dry			PROJ. No.: ASF11-135-23/24						
DATE DRILLED: 8/23/2012			DATE MEASURED: 8/23/2012									

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

LOG OF BORING NO. GP-4 C-3

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Direct-Push

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			ASPHALT (10")			0						
			BASE COURSE MATERIAL (4")			0						
			CLAY, Sandy, Silty, Soft to Firm, Light Tan, Moist to Wet			0						
5						0						
						0						
						0						
10			- with coarse-grained sand from 10' to 15'			0						
						0						
			- wet from 13' to 15'			0						
15						0						
			Boring terminated at 15.0 ft.									
20												
25												
30												
35												
40												
DEPTH DRILLED: 15.0 ft			DEPTH TO WATER: 13 ft			PROJ. No.: ASF11-135-23/24						
DATE DRILLED: 8/23/2012			DATE MEASURED: 8/23/2012									

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

LOG OF BORING NO. GP-4 C-4

Phase II ESA - South Alamo Roadway
San Antonio, Bexar County, Texas



WBS Nos: 23-01302-04-04 (COSA CIMS) & 23-01302-04-04A (SAWS Sewer) - EPC: 01-616E7-467CIP

DRILLING

METHOD: Direct-Push

LOCATION: See FIGURE 2

DEPTH, FT	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	FORMATION	PLUGGING INFORMATION	OVA (ppm)	LABORATORY ANALYSES (ppm)					% -200
							B	T	E	X	TPH	
			ASPHALT (16")			0						
			BASE COURSE MATERIAL (4")			0						
5			CLAY, Sandy, Silty, Soft to Firm, Light Tan, Moist			0						
			- with scattered small gravel from 6' to 18'			0						
10						0						
			- with ferrous staining from 13' to 18'			0						
15						0						
			CLAY, Firm, Tan and Gray, Moist			0						
20			Boring terminated at 20.0 ft.			0						
25												
30												
35												
40												
DEPTH DRILLED: 20.0 ft			DEPTH TO WATER: Dry			PROJ. No.: ASF11-135-23/24						
DATE DRILLED: 8/23/2012			DATE MEASURED: 8/23/2012									

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

STATE OF TEXAS WELL REPORT for Tracking #298304

Owner:	COSA-CIMS	Owner Well #:	GP-1
Address:	111 Soledad, Ste. 675 San Antonio , TX 78210	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/23/2012**
Completed: **8/23/2012**

Diameter of Hole: Diameter: **3 in From Surface To 20 ft**

Drilling Method: **Driven**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 0.15 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 20 ft with 1.25 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: **Alternative Procedure Used**

Water Level: Static level: **No Data**
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: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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

completion and resubmittal.

Company Information: **Vortex Drilling, Inc.
4412 Bluemel Road
San Antonio , TX 78240**

Driller License Number: **58200**

Licensed Well Driller Signature: **Martin Casarez**

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 #298304) 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 - 4" Concrete
4" - 5' Clay,sandy,silty,soft,lt.tan,moist
5 - 20 Clay,sandy,soft/firm,lt.tan,moist w/silt,
@13'-20' cherty gravel and ferrous staining

Dia. New/Used Type Setting From/To
N/A

STATE OF TEXAS WELL REPORT for Tracking #298306

Owner:	COSA-CIMS	Owner Well #:	GP-2
Address:	111 Soledad, Ste. 675 San Antonio , TX 78210	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/23/2012**
Completed: **8/23/2012**

Diameter of Hole: Diameter: **3 in From Surface To 20 ft**

Drilling Method: **Driven**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 0.15 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 20 ft with 1.25 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: **Alternative Procedure Used**

Water Level: Static level: **No Data**
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: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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

completion and resubmittal.

Company Information: **Vortex Drilling, Inc.
4412 Bluemel Road
San Antonio , TX 78240**

Driller License Number: **58200**

Licensed Well Driller Signature: **Martin Casarez**

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 #298306) 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 - 14" Asphalt
14" - 18" Base coarse material
18" - 19' Clay,sandy,silty,soft/firm,lt.tan,moist,
@8'-20'cherty gravel,@13'-15' v.moist
19 - 20 Clay,firm,tan and gray,moist

Dia. New/Used Type Setting From/To
N/A

STATE OF TEXAS WELL REPORT for Tracking #298301

Owner:	COSA-CIMS	Owner Well #:	GP-3
Address:	111 Soledad, Ste. 675 San Antonio , TX 78205	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/24/2012**
Completed: **8/24/2012**

Diameter of Hole: Diameter: **3 in From Surface To 17 ft**

Drilling Method: **Driven**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 0.15 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 17 ft with 1 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: **Alternative Procedure Used**

Water Level: Static level: **No Data**
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: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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

completion and resubmittal.

Company Information: **Vortex Drilling, Inc.
4412 Bluemel Road
San Antonio , TX 78240**

Driller License Number: **53420**

Licensed Well Driller Signature: **William A. Clayton**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #**298301**) 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 - 8" Asphalt
8" - 6' Clay,firm,gray,moist w/scattered gravel
6 - 17 Clay,sandy,silty,soft/firm,lt.tan,moist,
@10'-17' coarse grained sand,@13'-20' cherty
gravel and ferrous staining

Dia. New/Used Type Setting From/To
N/A

STATE OF TEXAS WELL REPORT for Tracking #298302

Owner:	COSA-CIMS	Owner Well #:	GP-3 C-1
Address:	111 Soledad, Ste. 675 San Antonio , TX 78205	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/24/2012**
Completed: **8/24/2012**

Diameter of Hole: Diameter: **3 in From Surface To 17 ft**

Drilling Method: **Driven**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 0.15 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 17 ft with 1 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: **Alternative Procedure Used**

Water Level: Static level: **No Data**
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: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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

completion and resubmittal.

Company Information: **Vortex Drilling, Inc.
4412 Bluemel Road
San Antonio , TX 78240**

Driller License Number: **53420**

Licensed Well Driller Signature: **William A. Clayton**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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**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 - 8" Asphalt
8" - 14" Base coarse material
14" - 17' Clay,sandy,soft/firm,lt.tan,moist w/cherty gravel and ferrous staining

Dia. New/Used Type Setting From/To
N/A

STATE OF TEXAS WELL REPORT for Tracking #298303

Owner:	COSA-CIMS	Owner Well #:	GP-3 C-2
Address:	111 Soledad, Ste. 675 San Antonio , TX 78205	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/24/2012**
Completed: **8/24/2012**

Diameter of Hole: Diameter: **3 in From Surface To 15 ft**

Drilling Method: **Driven**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 0.15 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 15 ft with 1 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: **Alternative Procedure Used**

Water Level: Static level: **No Data**
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: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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

completion and resubmittal.

Company Information: **Vortex Drilling, Inc.
4412 Bluemel Road
San Antonio , TX 78240**

Driller License Number: **53420**

Licensed Well Driller Signature: **William A. Clayton**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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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	10"	Asphalt
10"	6'	Clay,firm,brw.,moist w/scattered cherty gravel
6	15	Clay,sandy,silty,soft/firm,lt.tan,moist w/cherty gravel

Dia.	New/Used	Type	Setting From/To
N/A			

STATE OF TEXAS WELL REPORT for Tracking #298307

Owner:	COSA-CIMS	Owner Well #:	GP-4
Address:	111 Soledad, Ste. 675 San Antonio , TX 78210	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/23/2012**
Completed: **8/23/2012**

Diameter of Hole: Diameter: **3 in From Surface To 17 ft**

Drilling Method: **Driven**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 0.15 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 17 ft with 1 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: **Alternative Procedure Used**

Water Level: Static level: **No Data**
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: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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

completion and resubmittal.

Company Information: **Vortex Drilling, Inc.
4412 Bluemel Road
San Antonio , TX 78240**

Driller License Number: **58200**

Licensed Well Driller Signature: **Martin Casarez**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #298307) 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 - 14" Asphalt
14" - 18" Base coarse material
18" - 2' Clay,firm,gray,moist
2 - 17 Clay,sandy,silty,soft/firm,lt.tan,moist,
@13'-15' ferrous staining

Dia. New/Used Type Setting From/To
N/A

STATE OF TEXAS WELL REPORT for Tracking #298309

Owner:	COSA-CIMS	Owner Well #:	GP-4 C-3
Address:	111 Soledad, Ste. 675 San Antonio , TX 78210	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/23/2012**
Completed: **8/23/2012**

Diameter of Hole: Diameter: **3 in From Surface To 15 ft**

Drilling Method: **Driven**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 0.15 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 15 ft with 1 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: **Alternative Procedure Used**

Water Level: Static level: **13 ft. below land surface on 8/23/2012**
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: **13 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: **58200**

Licensed Well Driller Signature: **Martin Casarez**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #298309) on your written request.

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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 - 10" Asphalt
10" - 14" Base coarse material
14" - 15' Clay,sandy,silty,soft/firm,lt.tan,moist/wet,
@10'-15' coarse grained sand,@13'-15' wet

Dia. New/Used Type Setting From/To
N/A

STATE OF TEXAS WELL REPORT for Tracking #298310

Owner:	COSA-CIMS	Owner Well #:	GP-4 C-4
Address:	111 Soledad, Ste. 675 San Antonio , TX 78210	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/23/2012**
Completed: **8/23/2012**

Diameter of Hole: Diameter: **3 in From Surface To 20 ft**

Drilling Method: **Driven**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 0.15 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 20 ft with 1.25 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: **Alternative Procedure Used**

Water Level: Static level: **No Data**
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: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No Data**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**

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

completion and resubmittal.

Company Information: **Vortex Drilling, Inc.
4412 Bluemel Road
San Antonio , TX 78240**

Driller License Number: **58200**

Licensed Well Driller Signature: **Martin Casarez**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #298310) 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 - 16" Asphalt
16" - 20" Base coarse material
20" - 18' Clay,sandy,silty,soft/firm,lt.tan,moist,
@6'-18' scattered small gravel
18 - 20 Clay,firm,tan and gray,moist

Dia. New/Used Type Setting From/To
N/A

STATE OF TEXAS WELL REPORT for Tracking #298311

Owner:	COSA-CIMS	Owner Well #:	B-1
Address:	111 Soledad, Ste. 675 San Antonio , TX 78210	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/24/2012**
Completed: **8/24/2012**

Diameter of Hole: Diameter: **8 in From Surface To 35 ft**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 35 ft with 16.5 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: **Alternative Procedure Used**

Water Level: Static level: **20 ft. below land surface on 8/24/2012**
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: **20 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: **58200**

Licensed Well Driller Signature: **Martin Casarez**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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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	6"	Asphalt
6"	18"	Base coarse material
18"	24'	Clay,sandy,soft/firm,lt.tan,moist w/silt and scattered gravel,@11'-13' coarse grained sand,abundant cherty gravel and ferrous staining, @20'-22.5' saturated
24	35	Clay,stiff/hard,tan and gray,moist

Dia.	New/Used	Type	Setting From/To
N/A			

STATE OF TEXAS WELL REPORT for Tracking #298312

Owner:	COSA-CIMS	Owner Well #:	B-2
Address:	111 Soledad, Ste. 675 San Antonio , TX 78210	Grid #:	68-37-7
Well Location:	South Alamo Roadway,between Probandt and E. Guenther San Antonio , TX 78210	Latitude:	29° 24' 32" N
Well County:	Bexar	Longitude:	098° 29' 45" W
Elevation:	No Data	GPS Brand Used:	Google Earth
Type of Work: New Well		Proposed Use: Environmental Soil Boring	

Drilling Date: Started: **8/24/2012**
Completed: **8/24/2012**

Diameter of Hole: Diameter: **8 in From Surface To 35 ft**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: Other: **Plugged**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 Cement (#sacks and material)**
2nd Interval: **From 2 ft to 35 ft with 16.5 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: **Alternative Procedure Used**

Water Level: Static level: **20 ft. below land surface on 8/24/2012**
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: **20 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: **58200**

Licensed Well Driller Signature: **Martin Casarez**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking number (Tracking #298312) on your written request.

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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 - 12" Concrete
12" - 24' Clay,firm,lt.tan,moist w/scattered gravel,
@5'-24' sandy,increased moisture,@20'-22.5'
saturated
24 - 35 Clay,stiff/hard,tan and gray,moist

Dia.	New/Used	Type	Setting From/To
N/A			

ATTACHMENT D

SIGNED ANALYTICAL REPORT CHAIN-OF-CUSTODY DOCUMENTATION

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Sample ID #: GP-1 (2.5'-5')

Sampling Method:

Lab Sample ID #: 1208374-01

Sample Matrix: Solid

Date/Time Collected: 08/23/12 15:20

Analyte	Result	Units	PQL	RMCLL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	87.4	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	2.01	mg/kg dry	1.00		3050B	B235086	08/29/12 15:39	6010	ID	
Barium *	81.4	mg/kg dry	1.00		3050B	B235086	08/29/12 15:39	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 15:39	6010	ID	
Chromium *	5.15	mg/kg dry	1.00		3050B	B235086	08/29/12 15:39	6010	ID	
Lead *	1.85	mg/kg dry	1.00		3050B	B235086	08/29/12 15:39	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 15:39	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 15:39	6010	ID	
Volatile Organic Compounds by GC/MS										
Benzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 20:46	8260B	HH	
Toluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 20:46	8260B	HH	
Ethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 20:46	8260B	HH	
Total Xylenes *	<0.075	mg/kg	0.075		5035	B235080	08/28/12 20:46	8260B	HH	
Methyl-tert-Butyl Ether *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 20:46	8260B	HH	
Surrogate: Toluene-d8	99 %	60-166			5035	B235080	08/28/12 20:46	8260B	HH	
Surrogate: 4-Bromofluorobenzene	85 %	56-160			5035	B235080	08/28/12 20:46	8260B	HH	
Surrogate: Dibromofluoromethane	104 %	47-144			5035	B235080	08/28/12 20:46	8260B	HH	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:25	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:25	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:25	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:25	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	73 %	53-150			TX-1005S	B235083	08/28/12 18:25	TX-1005	HH	
Surrogate: 1-Chlorooctane	87 %	40-121			TX-1005S	B235083	08/28/12 18:25	TX-1005	HH	



Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements
Project Number: ASF11-135-23, ASF11-135-24
Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
6. 8/31/12

Reported:
09/12/12 14:38
Received:
08/24/12 07:34

Report No. 1208374

Sample ID #: GP-1 (7.5'-10')

Sampling Method:

Lab Sample ID #: 1208374-02

Sample Matrix: Solid

Date/Time Collected: 08/23/12 15:25

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	83.4	% by Weight	1.00		% Solids	B236089	09/06/12 16:03	% Calc	AK	
Total Metals										
Arsenic *	1.32	mg/kg dry	1.00		3050B	B236092	09/06/12 14:46	6010	ID	
Barium *	63.0	mg/kg dry	1.00		3050B	B236092	09/06/12 14:46	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B236092	09/06/12 14:46	6010	ID	
Chromium *	3.46	mg/kg dry	1.00		3050B	B236092	09/06/12 14:46	6010	ID	
Lead *	<1.00	mg/kg dry	1.00		3050B	B236092	09/06/12 14:46	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B236098	09/05/12 14:11	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B236092	09/06/12 14:46	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B236092	09/06/12 14:46	6010	ID	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:
 09/12/12 14:38

Received:
 08/24/12 07:34

Report No. 1208374

Sample ID #: GP-1 (10'-12.5')

Sampling Method:

Lab Sample ID #: 1208374-03

Sample Matrix: Solid

Date/Time Collected: 08/23/12 15:28

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
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General Chemistry

% Solids	85.8	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	16.6	mg/kg dry	1.00		3050B	B235086	08/29/12 15:55	6010	ID	
Barium *	379	mg/kg dry	1.00		3050B	B235086	08/29/12 15:55	6010	ID	
Cadmium *	1.18	mg/kg dry	0.500		3050B	B235086	08/29/12 15:55	6010	ID	
Chromium *	8.08	mg/kg dry	1.00		3050B	B235086	08/29/12 15:55	6010	ID	
Lead *	4.66	mg/kg dry	1.00		3050B	B235086	08/29/12 15:55	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 15:55	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 15:55	6010	ID	

Volatile Organic Compounds by GC/MS

Benzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 21:14	8260B	HH	
Toluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 21:14	8260B	HH	
Ethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 21:14	8260B	HH	
Total Xylenes *	<0.075	mg/kg	0.075		5035	B235080	08/28/12 21:14	8260B	HH	
Methyl-tert-Butyl Ether *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 21:14	8260B	HH	
Surrogate: Toluene-d8	100 %	60-166			5035	B235080	08/28/12 21:14	8260B	HH	
Surrogate: 4-Bromofluorobenzene	84 %	56-160			5035	B235080	08/28/12 21:14	8260B	HH	
Surrogate: Dibromofluoromethane	9 %	47-144			5035	B235080	08/28/12 21:14	8260B	HH	SurrL

Total Petroleum Hydrocarbons by GC

C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:35	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:35	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:35	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:35	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	81 %	53-150			TX-1005S	B235083	08/28/12 18:35	TX-1005	HH	
Surrogate: 1-Chlorooctane	91 %	40-121			TX-1005S	B235083	08/28/12 18:35	TX-1005	HH	

Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374
Sample ID #: GP-1 (10'-12.5')
Sampling Method:
Lab Sample ID #: 1208374-03
Sample Matrix: Solid
Date/Time Collected: 08/23/12 15:28

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Total Metals by TCLP (EPA 1311)										
Arsenic *	<0.100	mg/L	0.100	5	3010A	B236095	09/06/12 16:12	1311/200.7	ID	
Barium *	0.567	mg/L	0.100	100	3010A	B236095	09/06/12 16:12	1311/200.7	ID	
Total Metals by SPLP (EPA 1312)										
Arsenic *	<0.010	mg/L	0.010		3010A	B236095	09/06/12 16:34	1312/200.7	ID	
Barium *	0.015	mg/L	0.010		3010A	B236095	09/06/12 16:34	1312/200.7	ID	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:
 09/12/12 14:38

Received:
 08/24/12 07:34

Report No. 1208374

Sample ID #: GP-2 (7.5'-10')

Sampling Method:

Lab Sample ID #: 1208374-05

Sample Matrix: Solid

Date/Time Collected: 08/23/12 10:35

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	74.6	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	1.73	mg/kg dry	1.00		3050B	B235086	08/29/12 16:00	6010	ID	
Barium *	63.0	mg/kg dry	1.00		3050B	B235086	08/29/12 16:00	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 16:00	6010	ID	
Chromium *	2.45	mg/kg dry	1.00		3050B	B235086	08/29/12 16:00	6010	ID	
Lead *	1.07	mg/kg dry	1.00		3050B	B235086	08/29/12 16:00	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:00	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:00	6010	ID	
Volatile Organic Compounds by GC/MS										
Benzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 21:43	8260B	HH	
Toluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 21:43	8260B	HH	
Ethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 21:43	8260B	HH	
Total Xylenes *	<0.075	mg/kg	0.075		5035	B235080	08/28/12 21:43	8260B	HH	
Methyl-tert-Butyl Ether *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 21:43	8260B	HH	
Surrogate: Toluene-d8	102 %	60-166			5035	B235080	08/28/12 21:43	8260B	HH	
Surrogate: 4-Bromofluorobenzene	83 %	56-160			5035	B235080	08/28/12 21:43	8260B	HH	
Surrogate: Dibromofluoromethane	107 %	47-144			5035	B235080	08/28/12 21:43	8260B	HH	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:45	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:45	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:45	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:45	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	80 %	53-150			TX-1005S	B235083	08/28/12 18:45	TX-1005	HH	
Surrogate: 1-Chlorooctane	90 %	40-121			TX-1005S	B235083	08/28/12 18:45	TX-1005	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:
 09/12/12 14:38

Received:
 08/24/12 07:34

Report No. 1208374

Sample ID #: GP-2 (12.5'-15')

Sampling Method:

Lab Sample ID #: 1208374-06

Sample Matrix: Solid

Date/Time Collected: 08/23/12 10:40

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	90.6	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	4.77	mg/kg dry	1.00		3050B	B235086	08/29/12 16:05	6010	ID	
Barium *	60.3	mg/kg dry	1.00		3050B	B235086	08/29/12 16:05	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 16:05	6010	ID	
Chromium *	3.42	mg/kg dry	1.00		3050B	B235086	08/29/12 16:05	6010	ID	
Lead *	1.35	mg/kg dry	1.00		3050B	B235086	08/29/12 16:05	6010	ID	
Mercury *	0.057	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:05	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:05	6010	ID	
Volatile Organic Compounds by GC/MS										
Benzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:12	8260B	HH	
Toluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:12	8260B	HH	
Ethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:12	8260B	HH	
Total Xylenes *	<0.075	mg/kg	0.075		5035	B235080	08/28/12 22:12	8260B	HH	
Methyl-tert-Butyl Ether *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:12	8260B	HH	
Surrogate: Toluene-d8	103 %	60-166			5035	B235080	08/28/12 22:12	8260B	HH	
Surrogate: 4-Bromofluorobenzene	82 %	56-160			5035	B235080	08/28/12 22:12	8260B	HH	
Surrogate: Dibromofluoromethane	108 %	47-144			5035	B235080	08/28/12 22:12	8260B	HH	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:55	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:55	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:55	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 18:55	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	80 %	53-150			TX-1005S	B235083	08/28/12 18:55	TX-1005	HH	
Surrogate: 1-Chlorooctane	90 %	40-121			TX-1005S	B235083	08/28/12 18:55	TX-1005	HH	

Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Sample ID #: GP-2 (12.5'-15')

Sampling Method:

Lab Sample ID #: 1208374-06

Sample Matrix: Solid

Date/Time Collected: 08/23/12 10:40

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Total Metals by TCLP (EPA 1311)										
Mercury *	<0.002	mg/L	0.002	0.2	7470A	B236099	09/06/12 15:21	1311/245.1	AK	
Total Metals by SPLP (EPA 1312)										
Mercury *	<0.0002	mg/L	0.0002		7470A	B236099	09/06/12 15:21	1312/245.1	AK	

Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Sample ID #: GP-4 (2.5'-5')

Sampling Method:

Lab Sample ID #: 1208374-07

Sample Matrix: Solid

Date/Time Collected: 08/23/12 10:55

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	74.2	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	1.60	mg/kg dry	1.00		3050B	B235086	08/29/12 16:11	6010	ID	
Barium *	63.7	mg/kg dry	1.00		3050B	B235086	08/29/12 16:11	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 16:11	6010	ID	
Chromium *	5.42	mg/kg dry	1.00		3050B	B235086	08/29/12 16:11	6010	ID	
Lead *	2.43	mg/kg dry	1.00		3050B	B235086	08/29/12 16:11	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:11	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:11	6010	ID	



Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
6. 8/31/12

Reported:
09/12/12 14:38

Received:
08/24/12 07:34

Report No. 1208374

Sample ID #: GP-4 (10'-12.5')

Sampling Method:

Lab Sample ID #: 1208374-09

Sample Matrix: Solid

Date/Time Collected: 08/23/12 11:08

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	82.8	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	1.04	mg/kg dry	1.00		3050B	B235086	08/29/12 16:30	6010	ID	
Barium *	77.7	mg/kg dry	1.00		3050B	B235086	08/29/12 16:30	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 16:30	6010	ID	
Chromium *	3.58	mg/kg dry	1.00		3050B	B235086	08/29/12 16:30	6010	ID	
Lead *	1.58	mg/kg dry	1.00		3050B	B235086	08/29/12 16:30	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:30	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:30	6010	ID	



Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements
Project Number: ASF11-135-23, ASF11-135-24
Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
6. 8/31/12

Reported:
09/12/12 14:38
Received:
08/24/12 07:34

Report No. 1208374**Total Metals - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235086 - 3050B									
Blank (B235086-BLK1)									
				Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:24					
Arsenic	<1.00	1.00	mg/kg wet						
Barium	1.26	1.00	mg/kg wet						LC
Cadmium	<0.500	0.500	mg/kg wet						
Chromium	<1.00	1.00	mg/kg wet						
Lead	<1.00	1.00	mg/kg wet						
Selenium	<0.300	0.300	mg/kg wet						
Silver	<0.480	0.480	mg/kg wet						CCVL
LCS (B235086-BS1)									
				Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:29					
Arsenic	95.3	1.00	mg/kg wet	99.0		96	80-120		
Barium	93.6	1.00	mg/kg wet	99.0		95	80-120		
Cadmium	97.6	0.500	mg/kg wet	99.0		99	80-120		
Chromium	91.3	1.00	mg/kg wet	99.0		92	80-120		
Lead	97.3	1.00	mg/kg wet	99.0		98	80-120		
Selenium	92.3	0.300	mg/kg wet	99.0		93	80-120		
Silver	47.4	0.480	mg/kg wet	49.5		96	80-120		
LCS Dup (B235086-BSD1)									
				Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:34					
Arsenic	96.4	1.00	mg/kg wet	99.8		97	80-120	1	30
Barium	95.5	1.00	mg/kg wet	99.8		96	80-120	2	30
Cadmium	98.9	0.500	mg/kg wet	99.8		99	80-120	1	30
Chromium	92.0	1.00	mg/kg wet	99.8		92	80-120	0.7	30
Lead	98.5	1.00	mg/kg wet	99.8		99	80-120	1	30
Selenium	93.4	0.300	mg/kg wet	99.8		94	80-120	1	30
Silver	47.8	0.480	mg/kg wet	49.9		96	80-120	0.8	30
Matrix Spike (B235086-MS1)									
			Source: 1208374-01		Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:44				
Arsenic	124	1.00	mg/kg dry	115	2.01	106	75-125		
Barium	196	1.00	mg/kg dry	115	81.4	100	75-125		
Cadmium	96.8	0.500	mg/kg dry	115	0.384	84	75-125		
Chromium	99.1	1.00	mg/kg dry	115	5.15	81	75-125		
Lead	91.9	1.00	mg/kg dry	115	1.85	78	75-125		
Selenium	116	0.300	mg/kg dry	115	<0.300	101	75-125		
Silver	61.9	0.480	mg/kg dry	57.7	<0.480	107	75-125		
Matrix Spike Dup (B235086-MSD1)									
			Source: 1208374-01		Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:49				
Arsenic	122	1.00	mg/kg dry	113	2.01	106	75-125	2	30
Barium	193	1.00	mg/kg dry	113	81.4	98	75-125	2	30

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235086 - 3050B

Matrix Spike Dup (B235086-MSD1)		Source: 1208374-01		Prepared: 08/29/12 08:30		Analyzed: 08/29/12 15:49			
Cadmium	94.4	0.500	mg/kg dry	113	0.384	83	75-125	3	30
Chromium	97.6	1.00	mg/kg dry	113	5.15	82	75-125	2	30
Lead	89.7	1.00	mg/kg dry	113	1.85	78	75-125	2	30
Selenium	114	0.300	mg/kg dry	113	<0.300	100	75-125	2	30
Silver	61.1	0.480	mg/kg dry	56.6	<0.480	108	75-125	1	30

Batch B235088 - 7471B

Blank (B235088-BLK1)				Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	<0.040	0.040	mg/kg wet						ICVH
LCS (B235088-BS1)				Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	0.822	0.040	mg/kg wet	0.833		99	85-115		
LCS Dup (B235088-BSD1)				Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	0.822	0.040	mg/kg wet	0.833		99	85-115	0	25
Matrix Spike (B235088-MS1)		Source: 1208374-01		Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	0.972	0.040	mg/kg dry	0.935	<0.040	104	75-125		
Matrix Spike Dup (B235088-MSD1)		Source: 1208374-01		Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	0.974	0.040	mg/kg dry	0.957	<0.040	102	75-125	0.2	25

Batch B236092 - 3050B

Blank (B236092-BLK1)				Prepared: 09/06/12 08:55		Analyzed: 09/06/12 14:16			
Arsenic	<1.00	1.00	mg/kg wet						
Barium	<1.00	1.00	mg/kg wet						
Cadmium	<0.500	0.500	mg/kg wet						
Chromium	<1.00	1.00	mg/kg wet						
Lead	<1.00	1.00	mg/kg wet						
Selenium	<0.300	0.300	mg/kg wet						ICVH
Silver	<0.480	0.480	mg/kg wet						
LCS (B236092-BS1)				Prepared: 09/06/12 08:55		Analyzed: 09/06/12 14:21			
Arsenic	104	1.00	mg/kg wet	101		104	80-120		
Barium	110	1.00	mg/kg wet	101		110	80-120		
Cadmium	104	0.500	mg/kg wet	101		104	80-120		
Chromium	103	1.00	mg/kg wet	101		102	80-120		
Lead	103	1.00	mg/kg wet	101		103	80-120		



Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements
Project Number: ASF11-135-23, ASF11-135-24
Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
6. 8/31/12

Reported:
09/12/12 14:38
Received:
08/24/12 07:34

Report No. 1208374**Total Metals - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit
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Batch B236092 - 3050B**LCS (B236092-BS1)**

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:21

Selenium	102	0.300	mg/kg wet	101		102	80-120		
Silver	51.7	0.480	mg/kg wet	50.3		103	80-120		

LCS Dup (B236092-BSD1)

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:40

Arsenic	103	1.00	mg/kg wet	100		103	80-120	0.8	30
Barium	109	1.00	mg/kg wet	100		108	80-120	1	30
Cadmium	103	0.500	mg/kg wet	100		103	80-120	0.9	30
Chromium	103	1.00	mg/kg wet	100		103	80-120	0.3	30
Lead	102	1.00	mg/kg wet	100		102	80-120	0.9	30
Selenium	102	0.300	mg/kg wet	100		102	80-120	0.5	30
Silver	51.1	0.480	mg/kg wet	50.1		102	80-120	1	30

Matrix Spike (B236092-MS1)

Source: 1208374-02

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:51

Arsenic	137	1.00	mg/kg dry	120	1.32	113	75-125		
Barium	196	1.00	mg/kg dry	120	63.0	111	75-125		
Cadmium	101	0.500	mg/kg dry	120	0.263	84	75-125		
Chromium	108	1.00	mg/kg dry	120	3.46	87	75-125		
Lead	95.9	1.00	mg/kg dry	120	0.580	80	75-125		
Selenium	133	0.300	mg/kg dry	120	0.0598	111	75-125		
Silver	67.9	0.480	mg/kg dry	59.8	<0.480	114	75-125		

Matrix Spike Dup (B236092-MSD1)

Source: 1208374-02

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:56

Arsenic	138	1.00	mg/kg dry	119	1.32	115	75-125	0.8	30
Barium	198	1.00	mg/kg dry	119	63.0	114	75-125	1	30
Cadmium	103	0.500	mg/kg dry	119	0.263	86	75-125	2	30
Chromium	109	1.00	mg/kg dry	119	3.46	89	75-125	1	30
Lead	97.4	1.00	mg/kg dry	119	0.580	81	75-125	2	30
Selenium	134	0.300	mg/kg dry	119	0.0598	113	75-125	1	30
Silver	69.1	0.480	mg/kg dry	59.5	<0.480	116	75-125	2	30

Batch B236098 - 7471B**Blank (B236098-BLK1)**

Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11

Mercury	<0.040	0.040	mg/kg wet						ICVH
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Blank (B236098-BLK2)

Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11

Mercury	<0.040	0.040	mg/kg wet						ICVH
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LCS (B236098-BS1)

Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B236098 - 7471B									
LCS (B236098-BS1)					Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11				
Mercury	0.865	0.040	mg/kg wet	0.833		104	85-115		
LCS (B236098-BS2)					Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11				
Mercury	0.842	0.040	mg/kg wet	0.833		101	85-115		
LCS Dup (B236098-BSD1)					Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11				
Mercury	0.812	0.040	mg/kg wet	0.833		97	85-115	6	25
LCS Dup (B236098-BSD2)					Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11				
Mercury	0.818	0.040	mg/kg wet	0.833		98	85-115	3	25
Matrix Spike (B236098-MS1)					Source: 1208475-01 Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11				
Mercury	1.26	0.040	mg/kg dry	1.07	0.163	102	75-125		
Matrix Spike (B236098-MS2)					Source: 1208475-30 Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11				
Mercury	0.962	0.040	mg/kg dry	0.943	0.0155	100	75-125		
Matrix Spike Dup (B236098-MSD1)					Source: 1208475-01 Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11				
Mercury	1.37	0.040	mg/kg dry	1.07	0.163	113	75-125	8	25
Matrix Spike Dup (B236098-MSD2)					Source: 1208475-30 Prepared: 09/05/12 08:10 Analyzed: 09/05/12 14:11				
Mercury	0.933	0.040	mg/kg dry	0.943	0.0155	97	75-125	3	25

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
Blank (B235080-BLK1)					Prepared: 08/28/12 15:00 Analyzed: 08/28/12 19:20				
Benzene	<0.025	0.025	mg/kg						
Toluene	<0.025	0.025	mg/kg						
Ethylbenzene	<0.025	0.025	mg/kg						
Total Xylenes	<0.075	0.075	mg/kg						
Methyl-tert-Butyl Ether	<0.025	0.025	mg/kg						
Surrogate: Toluene-d8	0.248		mg/kg	0.250		99	60-166		
Surrogate: 4-Bromofluorobenzene	0.216		mg/kg	0.250		86	56-160		
Surrogate: Dibromofluoromethane	0.266		mg/kg	0.250		106	47-144		

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Project Manager: Rick Klar

 Client added Total TCLP and SPLP metals to samples 2, 3, and
 6. 8/31/12

Reported:
 09/12/12 14:38

Received:
 08/24/12 07:34

Report No. 1208374
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit
Batch B235080 - 5035									
Blank (B235080-BLK1)					Prepared: 08/28/12 15:00 Analyzed: 08/28/12 19:20				
LCS (B235080-BS1)					Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:22				
Benzene	0.240	0.025	mg/kg	0.250		96	55-115		
Toluene	0.250	0.025	mg/kg	0.250		100	65-125		
Ethylbenzene	0.235	0.025	mg/kg	0.250		94	69-129		
Total Xylenes	0.714	0.075	mg/kg	0.750		95	65-135		
Methyl-tert-Butyl Ether	0.213	0.025	mg/kg	0.250		85	53-113		
Surrogate: Toluene-d8	0.254		mg/kg	0.250		101	60-166		
Surrogate: 4-Bromofluorobenzene	0.231		mg/kg	0.250		92	56-160		
Surrogate: Dibromofluoromethane	0.254		mg/kg	0.250		102	47-144		
LCS Dup (B235080-BS1)					Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:51				
Benzene	0.243	0.025	mg/kg	0.250		97	55-115	1	30
Toluene	0.255	0.025	mg/kg	0.250		102	65-125	2	30
Ethylbenzene	0.236	0.025	mg/kg	0.250		94	69-129	0.3	30
Total Xylenes	0.728	0.075	mg/kg	0.750		97	65-135	2	30
Methyl-tert-Butyl Ether	0.222	0.025	mg/kg	0.250		89	53-113	4	30
Surrogate: Toluene-d8	0.252		mg/kg	0.250		101	60-166		
Surrogate: 4-Bromofluorobenzene	0.231		mg/kg	0.250		93	56-160		
Surrogate: Dibromofluoromethane	0.251		mg/kg	0.250		100	47-144		
Matrix Spike (B235080-MS1)					Source: 1208374-01	Prepared: 08/28/12 15:00 Analyzed: 08/28/12 19:49			
Benzene	0.249	0.025	mg/kg	0.250	<0.025	100	55-115		
Toluene	0.253	0.025	mg/kg	0.250	<0.025	101	65-125		
Ethylbenzene	0.251	0.025	mg/kg	0.250	<0.025	100	69-129		
Total Xylenes	0.777	0.075	mg/kg	0.750	<0.075	104	65-135		
Methyl-tert-Butyl Ether	0.213	0.025	mg/kg	0.250	<0.025	85	53-113		
Surrogate: Toluene-d8	0.256		mg/kg	0.250		103	60-166		
Surrogate: 4-Bromofluorobenzene	0.242		mg/kg	0.250		97	56-160		
Surrogate: Dibromofluoromethane	0.254		mg/kg	0.250		101	47-144		
Matrix Spike Dup (B235080-MSD1)					Source: 1208374-01	Prepared: 08/28/12 15:00 Analyzed: 08/28/12 20:17			
Benzene	0.250	0.025	mg/kg	0.250	<0.025	100	55-115	0.2	30
Toluene	0.259	0.025	mg/kg	0.250	<0.025	104	65-125	2	30
Ethylbenzene	0.254	0.025	mg/kg	0.250	<0.025	102	69-129	1	30
Total Xylenes	0.790	0.075	mg/kg	0.750	<0.075	105	65-135	2	30
Methyl-tert-Butyl Ether	0.217	0.025	mg/kg	0.250	<0.025	87	53-113	2	30

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Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235080 - 5035

Matrix Spike Dup (B235080-MSD1) Source: 1208374-01 Prepared: 08/28/12 15:00 Analyzed: 08/28/12 20:17

Surrogate: Toluene-d8	0.257		mg/kg	0.250		103	60-166		
Surrogate: 4-Bromofluorobenzene	0.246		mg/kg	0.250		98	56-160		
Surrogate: Dibromofluoromethane	0.254		mg/kg	0.250		101	47-144		

Total Petroleum Hydrocarbons by GC - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235083 - TX-1005S

Blank (B235083-BLK1) Prepared: 08/28/12 15:00 Analyzed: 08/28/12 17:31

C6-C35 Hydrocarbons	<50.0	50.0	mg/kg						
Surrogate: 1-Chlorooctadecane	34.4		mg/kg	50.0		69	53-150		
Surrogate: 1-Chlorooctane	41.5		mg/kg	50.0		83	40-121		

LCS (B235083-BS1) Prepared: 08/28/12 15:00 Analyzed: 08/28/12 17:42

C6-C35 Hydrocarbons	1120	50.0	mg/kg	1000		112	75-125		
Surrogate: 1-Chlorooctadecane	49.0		mg/kg	50.0		98	53-150		
Surrogate: 1-Chlorooctane	57.9		mg/kg	50.0		116	40-121		

LCS Dup (B235083-BSD1) Prepared: 08/28/12 15:00 Analyzed: 08/28/12 17:53

C6-C35 Hydrocarbons	990	50.0	mg/kg	1000		99	75-125	12	30
Surrogate: 1-Chlorooctadecane	44.3		mg/kg	50.0		89	53-150		
Surrogate: 1-Chlorooctane	54.3		mg/kg	50.0		109	40-121		

Matrix Spike (B235083-MS1) Source: 1208374-01 Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:04

C6-C35 Hydrocarbons	1080	50.0	mg/kg	1000	<50.0	108	75-125		
Surrogate: 1-Chlorooctadecane	57.1		mg/kg	50.0		114	53-150		
Surrogate: 1-Chlorooctane	54.9		mg/kg	50.0		110	40-121		

Matrix Spike Dup (B235083-MSD1) Source: 1208374-01 Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:14

C6-C35 Hydrocarbons	1050	50.0	mg/kg	1000	<50.0	105	75-125	3	30
Surrogate: 1-Chlorooctadecane	59.4		mg/kg	50.0		119	53-150		
Surrogate: 1-Chlorooctane	57.1		mg/kg	50.0		114	40-121		

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Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Total Metals by TCLP (EPA 1311) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B236095 - 3010A

Blank (B236095-BLK1)				Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:27					
Arsenic	<0.100	0.100	mg/L						
Barium	<0.100	0.100	mg/L						CCVH

LCS (B236095-BS1)				Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:46					
Arsenic	2.16	0.100	mg/L	2.00		108	80-120		
Barium	2.21	0.100	mg/L	2.00		110	80-120		

LCS Dup (B236095-BSD1)				Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:52					
Arsenic	2.10	0.100	mg/L	2.00		105	80-120	3	20
Barium	2.17	0.100	mg/L	2.00		109	80-120	2	20

Matrix Spike (B236095-MS1)				Source: 1208362-02		Prepared: 09/05/12 16:50 Analyzed: 09/06/12 16:02			
Arsenic	2.39	0.100	mg/L	2.00		119	75-125		
Barium	6.71	0.100	mg/L	2.00		336	75-125		

Matrix Spike Dup (B236095-MSD1)				Source: 1208362-02		Prepared: 09/05/12 16:50 Analyzed: 09/06/12 16:07			
Arsenic	2.39	0.100	mg/L	2.00		120	75-125	0.2	20
Barium	6.64	0.100	mg/L	2.00		332	75-125	1	20

Batch B236099 - 7470A

Blank (B236099-BLK1)				Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21					
Mercury	<0.002	0.002	mg/L						ICVH

LCS (B236099-BS1)				Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21					
Mercury	0.0116	0.002	mg/L	0.0100		116	85-115		LCSH

LCS Dup (B236099-BSD1)				Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21					
Mercury	0.0105	0.002	mg/L	0.0100		105	85-115	10	25

Matrix Spike (B236099-MS1)				Source: 1208374-06		Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21			
Mercury	0.0118	0.002	mg/L	0.0100	<0.002	118	75-125		

Matrix Spike Dup (B236099-MSD1)				Source: 1208374-06		Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21			
Mercury	0.0110	0.002	mg/L	0.0100	<0.002	110	75-125	7	25

Total Metals by SPLP (EPA 1312) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
6. 8/31/12

Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Total Metals by SPLP (EPA 1312) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit
Batch B236095 - 3010A									
Blank (B236095-BLK1)				Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:27					
Arsenic	<0.010	0.010	mg/L						
Barium	<0.010	0.010	mg/L						CCVH
LCS (B236095-BS1)				Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:46					
Arsenic	2.16	0.010	mg/L	2.00		108	80-120		
Barium	2.21	0.010	mg/L	2.00		110	80-120		
LCS Dup (B236095-BSD1)				Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:52					
Arsenic	2.10	0.010	mg/L	2.00		105	80-120	3	20
Barium	2.17	0.010	mg/L	2.00		109	80-120	2	20
Matrix Spike (B236095-MS1)				Source: 1208362-02		Prepared: 09/05/12 16:50 Analyzed: 09/06/12 16:02			
Arsenic	2.39	0.010	mg/L	2.00		119	75-125		
Barium	6.71	0.010	mg/L	2.00		336	75-125		
Matrix Spike Dup (B236095-MSD1)				Source: 1208362-02		Prepared: 09/05/12 16:50 Analyzed: 09/06/12 16:07			
Arsenic	2.39	0.010	mg/L	2.00		120	75-125	0.2	20
Barium	6.64	0.010	mg/L	2.00		332	75-125	1	20
Batch B236099 - 7470A									
Blank (B236099-BLK1)				Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21					
Mercury	<0.0002	0.0002	mg/L						ICVH
LCS (B236099-BS1)				Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21					
Mercury	0.0116	0.0002	mg/L	0.0100		116	85-115		LCSH
LCS Dup (B236099-BSD1)				Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21					
Mercury	0.0105	0.0002	mg/L	0.0100		105	85-115	10	25
Matrix Spike (B236099-MS1)				Source: 1208374-06		Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21			
Mercury	0.0118	0.0002	mg/L	0.0100	<0.0002	118	75-125		
Matrix Spike Dup (B236099-MSD1)				Source: 1208374-06		Prepared: 09/06/12 08:15 Analyzed: 09/06/12 15:21			
Mercury	0.0110	0.0002	mg/L	0.0100	<0.0002	110	75-125	7	25

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total TCLP and SPLP metals to samples 2, 3, and
6. 8/31/12

Reported:

09/12/12 14:38

Received:

08/24/12 07:34

Report No. 1208374

Definitions and Notes

All quality control samples and checks are within acceptance limits unless otherwise indicated.

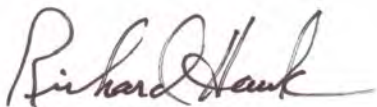
Test results pertain only to those items tested.

All samples were in good condition when received by the laboratory unless otherwise noted.

SurrL	Surrogate recovery was low due to matrix interference
LCSH	LCS recovery is outside QC limits, the results may have a slight high bias.
LC	Lab Contamination.
ICVH	ICV recovery is outside QC limits, the results may have a slight high bias.
CCVL	CCV recovery is outside QC limits, the results may have a slight low bias.
CCVH	CCV recovery is outside QC limits, the results may have a slight high bias.
PQL	Practical Quantitation Limit
MCL	Maximum Contaminant Level
mg/Kg	Milligrams per Kilogram (Parts per Million)
mg/L	Milligrams per Liter (Parts per Million)
PPM	Parts per Million
F/NF	Found / Not Found
*	TNI / NELAC accredited analyte
RMCL	Recommended Maximum Concentration of Contaminants Level
μR/hr	MicroRoentgens per hour (Measure of Radioactivity Level)
Test Methods	Standard Methods for the Examination of Water and Wastewater, 20th Edition 1998 Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, Rev. March 1983 EPA SW Test Methods for the Examination of Solid Waste, SW-846, 1996

Sandra Felix For Marcela Gracia Hawk, President For

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Richard Hawk, General Manager

RABA-KISTNER CONSULTANTS, INC.
12821 W Golden Lane - San Antonio, Texas 78249
FAX: (210) 699-6426
Phone: (210) 699-9090

1208374

Chain of Custody Record and Analysis Request

Lab Name San Antonio Testing		Address 1610 S. Laredo		Phone 210-699-9090 Fax 210-699-6426		ANALYSIS REQUESTED										CUSTODY RECORD					
Site Location South Alamo Improvements		Project Number ASF11-135-23, ASF11-135-24		P.O. Number 144178		Report Results to: rklar@rkci.com												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
SAMPLING		DATE		TIME		AMOUNT SAMPLED												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
R-KCI #		SAMPLE ID		DATE		TIME		AMOUNT SAMPLED												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM	
1 GP-1 (2.5'-5')		08/23/12		1520		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
2 GP 1 (7.5'-10')		08/23/12		1525		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
3 GP-1 (10'-12.5')		08/23/12		1528		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
4 GP-2 (2.5'-5')		08/23/12		1032		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
5 GP-2 (7.5'-10')		08/23/12		1035		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
6 GP-2 (12.5'-15')		08/23/12		1040		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
7 GP-4 (2.5'-5')		08/23/12		1055		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
8 GP-4 (7.5'-10')		08/23/12		1105		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
9 GP-4 (10'-12.5')		08/23/12		1108		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
10 GP-4 (13'-14')		08/23/12		1110		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
11 GP-4 C-3 (2.5'-5')		08/23/12		1432		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
12 GP-4 C-3 (5'-7.5')		08/23/12		1435		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
13 GP-4 C-3 (7.5'-10')		08/23/12		1440		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
14 GP-4 C-3 (10'-12.5')		08/23/12		1443		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
15 GP-4 C-4 (2.5'-5')		08/23/12		1455		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
16 GP-4 C-4 (5'-7.5')		08/23/12		1500		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
17 GP-4 C-4 (10'-12.5')		08/23/12		1511		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
18 GP-4 C-4 (13'-15')		08/23/12		1515		8 oz												Received By: <i>Raula Tilly</i> Date: 08-24-12 07:34 AM			
TURNAROUND TIME REQUESTED RUSH 1 day RUSH 2 day RUSH 3 day XXX Standard 3 day PROVIDE RESULTS BY:		SPECIFY Special detection limits: TRRP Reporting Limits Special reporting requirements: <i>iced, temp 1.90C</i>																			
COMMENTS:																					

Samples OK
 Temp 4 C Min
 Custody Seals Intact
 Head Space in VOA
 PH adjusted

Sample Receipt Report
 Y Y Y Y Y
 Y Y Y Y Y

SAtesting

From: Heather D. Johnson [HJOHNSON@rkci.com]
Sent: Monday, August 27, 2012 3:52 PM
To: SAtesting
Cc: Sairam Abburu; Rick Sample; Rick Klar; Lisa Judson
Subject: Analysis for Report Nos. 1208374 and 1208400
Importance: High
Attachments: SAlamoCOC.pdf

Aimee or Sandra,

Please find attached the assignments for the referenced project numbers. Please call myself or Rick Klar with any questions regarding the sample assignment.

Sai – Can you please have them filter the water sample for the metals? The water was turbid when sampled. It has settled, but we want to make sure that the sedimentation doesn't interfere with the metals results, especially.

Thank you.

HEATHER D. JOHNSON
GEOLOGIST
P 210 :: 699 :: 9090 • F 210 :: 699 :: 6426 • hjohnson@rkci.com • www.rkci.com



Raba Kistner, Inc.
12821 W. Golden Lane • San Antonio, TX 78249

TBPE Firm F-3257

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8/27/2012



SAN ANTONIO TESTING LABORATORY, INC.

Sample Receipt Checklist

Client: Raba

Report Number: 1208374

Project Name: _____

Date Received: 8-24-12

Shipped via: ☐ FedEx ☐ UPS ☐ Lonestar ☐ Hand Delivered ☐ DHL ☐ SATL ☐ Other

Date Due: 8-29-12

Rush: ☐ Specify: ☒ 3 ☐ 2 ☐ 1

Items to be checked upon Receipt: [Yes, No, N/A]

1. Custody Seals present?	Yes	No	NA	If NA-reason:
2. Custody Seals intact?	Yes	No	NA	If NA-reason:
3. Air Bill included in folder, if received?	Yes	No	NA	If NA-reason:
4. Is COC included with samples?	Yes	No	NA	If NA-reason:
5. Is COC signed and dated by client?	Yes	No	NA	If NA-reason:
6. Sample temperature: Thermal preservation between >0°- 6° C? (Samples that are delivered to the laboratory on the same day that they are collected may not meet this criterion, but are acceptable if they arrive on ice.)	Yes	No	NA	Temp: <u>19</u> °C
7. Samples received with ice ☒ ice packs ☐ other cooling ☐	Yes	No	NA	If NA-reason:
8. Is the COC filled out correctly, and completely?	Yes	No	NA	If NA-reason:
9. Information on the COC matches the samples?	Yes	No	NA	If NA-reason:
10. Samples received within holding time?	Yes	No	NA	If NA-reason:
11. Samples properly labeled?	Yes	No	NA	If NA-reason:
12. Samples submitted with chemical preservation? (e.g. pH adjusted, or sodium thiosulfate added for microbiological tests)	Yes	No	NA	If NA-reason:
13. Proper sample containers used?	Yes	No	NA	If NA-reason:
14. All samples received intact, containers not damaged or leaking?	Yes	No	NA	If NA-reason:
15. VOA vials (requesting BTEX/VOC analysis) received with no air bubbles? Bubbles acceptable on VOA vials for TPH.	Yes	No	NA	If NA-reason:
16. Sample volume sufficient for requested analysis?	Yes	No	NA	If NA-reason:
17. Subcontracted Samples: [if Yes, complete the next section]	Yes	No	NA	If NA-reason:

Analyses Subcontracted Out: _____ No. of Samples _____

Samples sent to: _____ Sent By: _____

Date samples sent: _____ Samples shipped via: _____

TAT Requested: _____

Tracking number [if any]: _____

Comments:

Received By: [Signature]

Date: 8-24-12

Labeled By: [Signature]

Date: _____

Logged into LIMS By: [Signature]

Date: _____

Logged into RF By: _____

Date: _____

SAtesting

From: Rick Klar [rklar@rkci.com]
Sent: Friday, August 31, 2012 5:00 PM
To: SAtesting
Cc: Sairam Abburu; Lisa Judson; Heather D. Johnson
Subject: RE: South Alamo Improvements
Importance: High

Please assign the following additional testing for the referenced project:

Report 1208374

GP-1 (7.5-10 ft): RCRA 8 Metals
GP-1 (10-12.5 ft): SPLP and TCLP analysis for arsenic and barium
GP-2 (12.5-15 ft): SPLP and TCLP analysis for mercury

Report 1208400

GP-3 (2.5-5.0 ft) SPLP and TCLP analysis for arsenic and lead
B-1 (7.5-10 ft) SPLP and TCLP analysis for arsenic
B-1 (5-7.5 ft) RCRA 8 Metals
B-1 (10-12.5 ft) RCRA 8 Metals
GP-3 C-2 (2.5-5.0 ft) Total lead and arsenic

Please call me with any questions.

Thanks.

RICHARD V. KLAR, P.G.
ASSOCIATE
P 210 :: 699 :: 9090 • F 210 :: 699 :: 6426 • rklar@rkci.com • www.rkci.com



Raba Kistner Environmental, Inc.
12821 W. Golden Lane • San Antonio, TX 78249

TBPE Firm F-3257

This electronic communication and its attachments contain confidential information. They are forwarded to you without passing through our standard review process.

Design data and recommendations included herein should not be used for final design. If you have received this information in error, please notify the sender immediately.

From: SAtesting [mailto:SAtesting@satestinglab.com]
Sent: Thursday, August 30, 2012 4:38 PM
To: Rick Klar; Lisa Judson; Heather D. Johnson
Cc: Sairam Abburu
Subject: South Alamo Improvements

9/4/2012

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400

Sample ID #: GP-3 (2.5' - 5')

Sampling Method:

Lab Sample ID #: 1208400-01

Sample Matrix: Solid

Date/Time Collected: 08/24/12 09:35

Analyte	Result	Units	PQL	RMCCCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	87.1	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	6.73	mg/kg dry	1.00		3050B	B235086	08/29/12 16:36	6010	ID	
Barium *	68.8	mg/kg dry	1.00		3050B	B235086	08/29/12 16:36	6010	ID	
Cadmium *	1.04	mg/kg dry	0.500		3050B	B235086	08/29/12 16:36	6010	ID	
Chromium *	9.58	mg/kg dry	1.00		3050B	B235086	08/29/12 16:36	6010	ID	
Lead *	25.1	mg/kg dry	1.00		3050B	B235086	08/29/12 16:36	6010	ID	
Mercury *	0.076	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:36	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:36	6010	ID	
Total Metals by TCLP (EPA 1311)										
Arsenic *	<0.100	mg/L	0.100	5	3010A	B236095	09/06/12 16:23	1311/200.7	ID	
Lead *	<0.100	mg/L	0.100	5	3010A	B236095	09/06/12 16:23	1311/200.7	ID	
Total Metals by SPLP (EPA 1312)										
Arsenic *	<0.010	mg/L	0.010		3010A	B236095	09/06/12 16:58	1312/200.7	ID	
Lead *	0.011	mg/L	0.010		3010A	B236095	09/06/12 16:58	1312/200.7	ID	



Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements
Project Number: ASF11-135-23, ASF11-135-24
Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
14, and 15. 8/31/12

Reported:
09/12/12 14:44
Received:
08/27/12 10:50

Report No. 1208400

Sample ID #: GP-3 (5' - 7.5')

Sampling Method:

Lab Sample ID #: 1208400-02

Sample Matrix: Solid

Date/Time Collected: 08/24/12 09:38

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	90.3	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	1.03	mg/kg dry	1.00		3050B	B235086	08/29/12 16:41	6010	ID	
Barium *	81.4	mg/kg dry	1.00		3050B	B235086	08/29/12 16:41	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 16:41	6010	ID	
Chromium *	3.71	mg/kg dry	1.00		3050B	B235086	08/29/12 16:41	6010	ID	
Lead *	2.66	mg/kg dry	1.00		3050B	B235086	08/29/12 16:41	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:41	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:41	6010	ID	

Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400
Sample ID #: GP-3 (7.5' - 10')
Sampling Method:
Lab Sample ID #: 1208400-03
Sample Matrix: Solid
Date/Time Collected: 08/24/12 09:41

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	88.3	% by Weight	1.00			% Solids B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	3.11	mg/kg dry	1.00		3050B	B235086	08/29/12 16:46	6010	ID	
Barium *	64.1	mg/kg dry	1.00		3050B	B235086	08/29/12 16:46	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 16:46	6010	ID	
Chromium *	4.34	mg/kg dry	1.00		3050B	B235086	08/29/12 16:46	6010	ID	
Lead *	1.86	mg/kg dry	1.00		3050B	B235086	08/29/12 16:46	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:46	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:46	6010	ID	

Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400
Sample ID #: GP-3 C-2
Sampling Method:
Lab Sample ID #: 1208400-08
Sample Matrix: Solid
Date/Time Collected: 08/24/12 09:55

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	87.6	% by Weight	1.00		% Solids	B236089	09/06/12 16:03	% Calc	AK	
Total Metals										
Arsenic *	4.72	mg/kg dry	1.00		3050B	B236092	09/06/12 15:01	6010	ID	
Lead *	31.0	mg/kg dry	1.00		3050B	B236092	09/06/12 15:01	6010	ID	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400

Sample ID #: B-1 (2.5' - 5')

Sampling Method:

Lab Sample ID #: 1208400-12

Sample Matrix: Solid

Date/Time Collected: 08/24/12 09:48

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	87.8	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	4.85	mg/kg dry	1.00		3050B	B235086	08/29/12 16:51	6010	ID	
Barium *	105	mg/kg dry	1.00		3050B	B235086	08/29/12 16:51	6010	ID	
Cadmium *	0.504	mg/kg dry	0.500		3050B	B235086	08/29/12 16:51	6010	ID	
Chromium *	4.70	mg/kg dry	1.00		3050B	B235086	08/29/12 16:51	6010	ID	
Lead *	3.43	mg/kg dry	1.00		3050B	B235086	08/29/12 16:51	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:51	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:51	6010	ID	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:05	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:05	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:05	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:05	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	89 %	53-150			TX-1005S	B235083	08/28/12 19:05	TX-1005	HH	
Surrogate: 1-Chlorooctane	96 %	40-121			TX-1005S	B235083	08/28/12 19:05	TX-1005	HH	



Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-1 (5' - 7.5')

Sampling Method:

Lab Sample ID #: 1208400-13

Sample Matrix: Solid

Date/Time Collected: 08/24/12 09:57

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	86.1	% by Weight	1.00		% Solids	B236089	09/06/12 16:03	% Calc	AK	
Total Metals										
Arsenic *	5.38	mg/kg dry	1.00		3050B	B236092	09/06/12 15:06	6010	ID	
Barium *	90.9	mg/kg dry	1.00		3050B	B236092	09/06/12 15:06	6010	ID	
Cadmium *	0.681	mg/kg dry	0.500		3050B	B236092	09/06/12 15:06	6010	ID	
Chromium *	6.24	mg/kg dry	1.00		3050B	B236092	09/06/12 15:06	6010	ID	
Lead *	4.83	mg/kg dry	1.00		3050B	B236092	09/06/12 15:06	6010	ID	
Mercury *	0.046	mg/kg dry	0.040		7471B	B236098	09/05/12 14:11	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B236092	09/06/12 15:06	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B236092	09/06/12 15:06	6010	ID	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400

Sample ID #: B-1 (7.5' - 10')

Sampling Method:

Lab Sample ID #: 1208400-14

Sample Matrix: Solid

Date/Time Collected: 08/24/12 10:10

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	87.9	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	14.3	mg/kg dry	1.00		3050B	B235086	08/29/12 16:57	6010	ID	
Barium *	159	mg/kg dry	1.00		3050B	B235086	08/29/12 16:57	6010	ID	
Cadmium *	0.950	mg/kg dry	0.500		3050B	B235086	08/29/12 16:57	6010	ID	
Chromium *	6.52	mg/kg dry	1.00		3050B	B235086	08/29/12 16:57	6010	ID	
Lead *	5.43	mg/kg dry	1.00		3050B	B235086	08/29/12 16:57	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 16:57	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 16:57	6010	ID	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:15	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:15	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:15	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:15	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	83 %	53-150			TX-1005S	B235083	08/28/12 19:15	TX-1005	HH	
Surrogate: 1-Chlorooctane	91 %	40-121			TX-1005S	B235083	08/28/12 19:15	TX-1005	HH	
Total Metals by TCLP (EPA 1311)										
Arsenic *	<0.100	mg/L	0.100	5	3010A	B236095	09/06/12 16:28	1311/200.7	ID	
Total Metals by SPLP (EPA 1312)										
Arsenic *	<0.010	mg/L	0.010		3010A	B236095	09/06/12 17:03	1312/200.7	ID	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-1 (10' - 12.5')

Sampling Method:

Lab Sample ID #: 1208400-15

Sample Matrix: Solid

Date/Time Collected: 08/24/12 10:28

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	89.4	% by Weight	1.00		% Solids	B236089	09/06/12 16:03	% Calc	AK	
Total Metals										
Arsenic *	11.5	mg/kg dry	1.00		3050B	B236092	09/06/12 15:12	6010	ID	
Barium *	132	mg/kg dry	1.00		3050B	B236092	09/06/12 15:12	6010	ID	
Cadmium *	1.02	mg/kg dry	0.500		3050B	B236092	09/06/12 15:12	6010	ID	
Chromium *	6.31	mg/kg dry	1.00		3050B	B236092	09/06/12 15:12	6010	ID	
Lead *	3.98	mg/kg dry	1.00		3050B	B236092	09/06/12 15:12	6010	ID	
Mercury *	0.040	mg/kg dry	0.040		7471B	B236098	09/05/12 14:11	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B236092	09/06/12 15:12	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B236092	09/06/12 15:12	6010	ID	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-1 (20' - 22.5')

Sampling Method:

Lab Sample ID #: 1208400-17

Sample Matrix: Solid

Date/Time Collected: 08/24/12 11:00

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	82.7	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	5.09	mg/kg dry	1.00		3050B	B235086	08/29/12 17:02	6010	ID	
Barium *	66.8	mg/kg dry	1.00		3050B	B235086	08/29/12 17:02	6010	ID	
Cadmium *	0.856	mg/kg dry	0.500		3050B	B235086	08/29/12 17:02	6010	ID	
Chromium *	7.47	mg/kg dry	1.00		3050B	B235086	08/29/12 17:02	6010	ID	
Lead *	6.58	mg/kg dry	1.00		3050B	B235086	08/29/12 17:02	6010	ID	
Mercury *	0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 17:02	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 17:02	6010	ID	
Volatile Organic Compounds by GC/MS										
Acetone *	<0.125	mg/kg	0.125		5035	B235080	08/28/12 22:40	8260B	HH	
Acrolein *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Acrylonitrile *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Allyl Chloride (3-Chloropropylene) *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Benzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Bromobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Bromochloromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Tetrachloroethene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Bromodichloromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Bromoform *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Bromomethane *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Trichloroethene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Butylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
sec-Butylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
tert-Butylbenzene *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Carbon disulfide *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Carbon Tetrachloride *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Chlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Chloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
2-Chloroethyl Vinyl Ether *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Chloroform *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Chloromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
2-Chlorotoluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
4-Chlorotoluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Dibromochloromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,2-Dibromo-3-chloropropane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,2-Dibromoethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	

Raba-Kistner Consultants, Inc.

12821 W. Golden Lane

San Antonio TX, 78249

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
14, and 15. 8/31/12

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400
Sample ID #: B-1 (20' - 22.5')
Sampling Method:
Lab Sample ID #: 1208400-17
Sample Matrix: Solid
Date/Time Collected: 08/24/12 11:00

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Volatile Organic Compounds by GC/MS										
Dibromomethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,2-Dichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,3-Dichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,4-Dichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
trans-1,4-Dichloro-2-butene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
cis-1,4-Dichloro-2-butene	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Dichlorodifluoromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,1-Dichloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,2-Dichloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,1-Dichloroethene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
cis-1,2-Dichloroethylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
trans-1,2-Dichloroethylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,2-Dichloropropane *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
1,3-Dichloropropane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
2,2-Dichloropropane *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
1,1-Dichloropropylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
cis-1,3-Dichloropropylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
trans-1,3-Dichloropropylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Ethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Ethyl Methacrylate *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Hexachlorobutadiene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Isopropylbenzene (Cumene) *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Isopropyl alcohol	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
4-Isopropyltoluene *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Methacrylonitrile *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Methyl Butyl Ketone (2-Hexanone) *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Methyl Ethyl Ketone (2-Butanone) *	<0.125	mg/kg	0.125		5035	B235080	08/28/12 22:40	8260B	HH	
Acetonitrile *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Methyl Iodide *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
Methyl Isobutyl Ketone *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Methyl Methacrylate *	<0.125	mg/kg	0.125		5035	B235080	08/28/12 22:40	8260B	HH	
Methyl-tert-Butyl Ether *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Methylene Chloride *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Naphthalene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Propylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Styrene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,1,1,2-Tetrachloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,1,2,2-Tetrachloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	

Raba-Kistner Consultants, Inc.

12821 W. Golden Lane

San Antonio TX, 78249

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
14, and 15. 8/31/12

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400
Sample ID #: B-1 (20' - 22.5')
Sampling Method:
Lab Sample ID #: 1208400-17
Sample Matrix: Solid
Date/Time Collected: 08/24/12 11:00

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Volatile Organic Compounds by GC/MS										
Toluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,2,3-Trichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,2,4-Trichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,1,1-Trichloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,1,2-Trichloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Trichlorofluoromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,2,3-Trichloropropane *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 22:40	8260B	HH	
1,2,4-Trimethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
1,3,5-Trimethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Vinyl acetate *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Vinyl chloride *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
m,p-Xylenes *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
o-Xylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 22:40	8260B	HH	
Surrogate: Dibromofluoromethane	112 %	88-134			5035	B235080	08/28/12 22:40	8260B	HH	
Surrogate: Toluene-d8	101 %	76-138			5035	B235080	08/28/12 22:40	8260B	HH	
Surrogate: 4-Bromofluorobenzene	80 %	79-125			5035	B235080	08/28/12 22:40	8260B	HH	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:25	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:25	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:25	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:25	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	87 %	53-150			TX-1005S	B235083	08/28/12 19:25	TX-1005	HH	
Surrogate: 1-Chlorooctane	94 %	40-121			TX-1005S	B235083	08/28/12 19:25	TX-1005	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-2 (2.5' - 5')

Sampling Method:

Lab Sample ID #: 1208400-19

Sample Matrix: Solid

Date/Time Collected: 08/24/12 14:05

Analyte	Result	Units	PQL	RMCLL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	93.8	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	4.86	mg/kg dry	1.00		3050B	B235086	08/29/12 17:08	6010	ID	
Barium *	11.8	mg/kg dry	1.00		3050B	B235086	08/29/12 17:08	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 17:08	6010	ID	
Chromium *	3.50	mg/kg dry	1.00		3050B	B235086	08/29/12 17:08	6010	ID	
Lead *	1.62	mg/kg dry	1.00		3050B	B235086	08/29/12 17:08	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 17:08	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 17:08	6010	ID	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:35	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:35	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:35	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:35	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	86 %	53-150			TX-1005S	B235083	08/28/12 19:35	TX-1005	HH	
Surrogate: 1-Chlorooctane	94 %	40-121			TX-1005S	B235083	08/28/12 19:35	TX-1005	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-2 (7.5' - 10')

Sampling Method:

Lab Sample ID #: 1208400-21

Sample Matrix: Solid

Date/Time Collected: 08/24/12 14:25

Analyte	Result	Units	PQL	RMCLL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	91.9	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	3.89	mg/kg dry	1.00		3050B	B235086	08/29/12 17:13	6010	ID	
Barium *	11.4	mg/kg dry	1.00		3050B	B235086	08/29/12 17:13	6010	ID	
Cadmium *	<0.500	mg/kg dry	0.500		3050B	B235086	08/29/12 17:13	6010	ID	
Chromium *	3.11	mg/kg dry	1.00		3050B	B235086	08/29/12 17:13	6010	ID	
Lead *	1.52	mg/kg dry	1.00		3050B	B235086	08/29/12 17:13	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 17:13	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 17:13	6010	ID	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:45	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:45	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:45	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:45	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	97 %	53-150			TX-1005S	B235083	08/28/12 19:45	TX-1005	HH	
Surrogate: 1-Chlorooctane	101 %	40-121			TX-1005S	B235083	08/28/12 19:45	TX-1005	HH	

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-2 (15' - 17.5')

Sampling Method:

Lab Sample ID #: 1208400-23

Sample Matrix: Solid

Date/Time Collected: 08/24/12 15:00

Analyte	Result	Units	PQL	RMCLL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
General Chemistry										
% Solids	84.6	% by Weight	1.00		% Solids	B235089	08/30/12 09:29	% Calc	AK	
Total Metals										
Arsenic *	2.82	mg/kg dry	1.00		3050B	B235086	08/29/12 17:18	6010	ID	
Barium *	70.9	mg/kg dry	1.00		3050B	B235086	08/29/12 17:18	6010	ID	
Cadmium *	0.659	mg/kg dry	0.500		3050B	B235086	08/29/12 17:18	6010	ID	
Chromium *	10.0	mg/kg dry	1.00		3050B	B235086	08/29/12 17:18	6010	ID	
Lead *	6.26	mg/kg dry	1.00		3050B	B235086	08/29/12 17:18	6010	ID	
Mercury *	<0.040	mg/kg dry	0.040		7471B	B235088	08/29/12 14:33	7471A	AK	
Selenium *	<0.300	mg/kg dry	0.300		3050B	B235086	08/29/12 17:18	6010	ID	
Silver *	<0.480	mg/kg dry	0.480		3050B	B235086	08/29/12 17:18	6010	ID	
Volatile Organic Compounds by GC/MS										
Acetone *	<0.125	mg/kg	0.125		5035	B235080	08/28/12 23:09	8260B	HH	
Acrolein *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Acrylonitrile *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Allyl Chloride (3-Chloropropylene) *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Benzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Bromobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Bromochloromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Tetrachloroethene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Bromodichloromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Bromoform *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Bromomethane *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Trichloroethene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Butylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
sec-Butylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
tert-Butylbenzene *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Carbon disulfide *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Carbon Tetrachloride *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Chlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Chloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
2-Chloroethyl Vinyl Ether *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Chloroform *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Chloromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
2-Chlorotoluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
4-Chlorotoluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Dibromochloromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,2-Dibromo-3-chloropropane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,2-Dibromoethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-2 (15' - 17.5')

Sampling Method:

Lab Sample ID #: 1208400-23

Sample Matrix: Solid

Date/Time Collected: 08/24/12 15:00

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Volatile Organic Compounds by GC/MS										
Dibromomethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,2-Dichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,3-Dichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,4-Dichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
trans-1,4-Dichloro-2-butene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
cis-1,4-Dichloro-2-butene	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Dichlorodifluoromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,1-Dichloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,2-Dichloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,1-Dichloroethene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
cis-1,2-Dichloroethylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
trans-1,2-Dichloroethylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,2-Dichloropropane *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
1,3-Dichloropropane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
2,2-Dichloropropane *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
1,1-Dichloropropylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
cis-1,3-Dichloropropylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
trans-1,3-Dichloropropylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Ethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Ethyl Methacrylate *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Hexachlorobutadiene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Isopropylbenzene (Cumene) *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Isopropyl alcohol	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
4-Isopropyltoluene *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Methacrylonitrile *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Methyl Butyl Ketone (2-Hexanone) *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Methyl Ethyl Ketone (2-Butanone) *	<0.125	mg/kg	0.125		5035	B235080	08/28/12 23:09	8260B	HH	
Acetonitrile *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Methyl Iodide *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
Methyl Isobutyl Ketone *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Methyl Methacrylate *	<0.125	mg/kg	0.125		5035	B235080	08/28/12 23:09	8260B	HH	
Methyl-tert-Butyl Ether *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Methylene Chloride *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Naphthalene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Propylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Styrene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,1,1,2-Tetrachloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,1,2,2-Tetrachloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-2 (15' - 17.5')

Sampling Method:

Lab Sample ID #: 1208400-23

Sample Matrix: Solid

Date/Time Collected: 08/24/12 15:00

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Volatile Organic Compounds by GC/MS										
Toluene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,2,3-Trichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,2,4-Trichlorobenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,1,1-Trichloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,1,2-Trichloroethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Trichlorofluoromethane *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,2,3-Trichloropropane *	<0.050	mg/kg	0.050		5035	B235080	08/28/12 23:09	8260B	HH	
1,2,4-Trimethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
1,3,5-Trimethylbenzene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Vinyl acetate *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Vinyl chloride *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
m,p-Xylenes *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
o-Xylene *	<0.025	mg/kg	0.025		5035	B235080	08/28/12 23:09	8260B	HH	
Surrogate: Dibromofluoromethane	113 %	88-134			5035	B235080	08/28/12 23:09	8260B	HH	
Surrogate: Toluene-d8	102 %	76-138			5035	B235080	08/28/12 23:09	8260B	HH	
Surrogate: 4-Bromofluorobenzene	79 %	79-125			5035	B235080	08/28/12 23:09	8260B	HH	SurrL
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:55	TX-1005	HH	
>C12-C28 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:55	TX-1005	HH	
>C28-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:55	TX-1005	HH	
C6-C35 Hydrocarbons *	<50.0	mg/kg	50.0		TX-1005S	B235083	08/28/12 19:55	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	81 %	53-150			TX-1005S	B235083	08/28/12 19:55	TX-1005	HH	
Surrogate: 1-Chlorooctane	88 %	40-121			TX-1005S	B235083	08/28/12 19:55	TX-1005	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Sample ID #: B-2 (GW Grab)

Sampling Method:

Lab Sample ID #: 1208400-26

Sample Matrix: Liquid

Date/Time Collected: 08/24/12 15:40

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Total Metals										
Arsenic *	<0.010	mg/L	0.010		200.7	B235061	08/28/12 16:24	200.7	ID	
Barium *	0.034	mg/L	0.010		200.7	B235061	08/28/12 16:24	200.7	ID	
Cadmium *	<0.005	mg/L	0.005		200.7	B235061	08/28/12 16:24	200.7	ID	
Chromium *	<0.010	mg/L	0.010		200.7	B235061	08/28/12 16:24	200.7	ID	
Lead *	<0.01	mg/L	0.01		200.7	B235061	08/28/12 16:24	200.7	ID	
Selenium *	<0.01	mg/L	0.01		200.7	B235061	08/28/12 16:24	200.7	ID	
Silver *	<0.050	mg/L	0.050		200.7	B235061	08/28/12 16:24	200.7	ID	
Mercury *	<0.0002	mg/L	0.0002		245.1	B235113	08/30/12 16:06	245.1	AK	
Volatile Organic Compounds by GC/MS										
Acetone *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Acrolein *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Acrylonitrile *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Allyl Chloride (3-Chloropropylene) *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Benzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Bromobenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Bromochloromethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Tetrachloroethene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Bromodichloromethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Bromoform *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Bromomethane *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Trichloroethene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Butylbenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
sec-Butylbenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
tert-Butylbenzene *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Carbon disulfide *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Carbon Tetrachloride *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Chlorobenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Chloroethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
2-Chloroethyl Vinyl Ether *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Chloroform *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Chloromethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
2-Chlorotoluene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
4-Chlorotoluene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Dibromochloromethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,2-Dibromo-3-chloropropane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,2-Dibromoethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Dibromomethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,2-Dichlorobenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400

Sample ID #: B-2 (GW Grab)

Sampling Method:

Lab Sample ID #: 1208400-26

Sample Matrix: Liquid

Date/Time Collected: 08/24/12 15:40

Analyte	Result	Units	PQL	RMCLL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Volatile Organic Compounds by GC/MS										
1,3-Dichlorobenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,4-Dichlorobenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
trans-1,4-Dichloro-2-butene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
cis-1,4-Dichloro-2-butene	<0.025	mg/L	0.025		5030B	B235079	08/28/12 17:54	8260B	HH	
Dichlorodifluoromethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,1-Dichloroethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,2-Dichloroethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,1-Dichloroethene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
cis-1,2-Dichloroethylene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
trans-1,2-Dichloroethylene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,2-Dichloropropane *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
1,3-Dichloropropane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
2,2-Dichloropropane *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
1,1-Dichloropropylene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
cis-1,3-Dichloropropylene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
trans-1,3-Dichloropropylene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Ethylbenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Ethyl Methacrylate *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Hexachlorobutadiene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Isopropylbenzene (Cumene) *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Isopropyl alcohol	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
4-Isopropyltoluene *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Methacrylonitrile *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Methyl Butyl Ketone (2-Hexanone) *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Acetonitrile *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Methyl Ethyl Ketone (2-Butanone) *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Methyl Iodide *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
Methyl Isobutyl Ketone *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Methyl Methacrylate *	<0.025	mg/L	0.025		5030B	B235079	08/28/12 17:54	8260B	HH	
Methyl-tert-Butyl Ether *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Methylene Chloride *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Naphthalene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Propylbenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Styrene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,1,1,2-Tetrachloroethane *	<0.025	mg/L	0.025		5030B	B235079	08/28/12 17:54	8260B	HH	
1,1,2,2-Tetrachloroethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Toluene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,2,3-Trichlorobenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400

Sample ID #: B-2 (GW Grab)

Sampling Method:

Lab Sample ID #: 1208400-26

Sample Matrix: Liquid

Date/Time Collected: 08/24/12 15:40

Analyte	Result	Units	PQL	RMCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
Volatile Organic Compounds by GC/MS										
1,2,4-Trichlorobenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,1,1-Trichloroethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,1,2-Trichloroethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Trichlorofluoromethane *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,2,3-Trichloropropane *	<0.010	mg/L	0.010		5030B	B235079	08/28/12 17:54	8260B	HH	
1,2,4-Trimethylbenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
1,3,5-Trimethylbenzene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Vinyl acetate *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Vinyl chloride *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
m,p-Xylenes *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
o-Xylene *	<0.005	mg/L	0.005		5030B	B235079	08/28/12 17:54	8260B	HH	
Surrogate: Toluene-d8	100 %	76-138			5030B	B235079	08/28/12 17:54	8260B	HH	
Surrogate: 4-Bromofluorobenzene	81 %	79-125			5030B	B235079	08/28/12 17:54	8260B	HH	
Surrogate: Dibromofluoromethane	105 %	88-134			5030B	B235079	08/28/12 17:54	8260B	HH	
Total Petroleum Hydrocarbons by GC										
C6-C12 Hydrocarbons *	<5.00	mg/L	5.00		TX-1005L	B235082	08/28/12 17:18	TX-1005	HH	
>C12-C28 Hydrocarbons *	<5.00	mg/L	5.00		TX-1005L	B235082	08/28/12 17:18	TX-1005	HH	
>C28-C35 Hydrocarbons *	<5.00	mg/L	5.00		TX-1005L	B235082	08/28/12 17:18	TX-1005	HH	
C6-C35 Hydrocarbons *	<5.00	mg/L	5.00		TX-1005L	B235082	08/28/12 17:18	TX-1005	HH	
Surrogate: 1-Chlorooctadecane	59 %	54-111			TX-1005L	B235082	08/28/12 17:18	TX-1005	HH	
Surrogate: 1-Chlorooctane	74 %	29-93			TX-1005L	B235082	08/28/12 17:18	TX-1005	HH	

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements
 Project Number: ASF11-135-23, ASF11-135-24
 Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44
Received:
 08/27/12 10:50

Report No. 1208400

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235061 - 200.7

Blank (B235061-BLK1)

Prepared: 08/28/12 08:50 Analyzed: 08/28/12 12:44

Arsenic	<0.010	0.010	mg/L						
Barium	<0.010	0.010	mg/L						
Cadmium	<0.005	0.005	mg/L						
Chromium	<0.010	0.010	mg/L						
Lead	<0.01	0.01	mg/L						ICVH
Selenium	<0.01	0.01	mg/L						ICVH
Silver	<0.050	0.050	mg/L						CCVH, Z

LCS (B235061-BS1)

Prepared: 08/28/12 08:50 Analyzed: 08/28/12 12:49

Arsenic	2.06	0.010	mg/L	2.00		103	80-120		
Barium	2.01	0.010	mg/L	2.00		100	80-120		
Cadmium	2.02	0.005	mg/L	2.00		101	80-120		
Chromium	2.00	0.010	mg/L	2.00		100	80-120		
Lead	2.02	0.01	mg/L	2.00		101	80-120		
Selenium	2.09	0.01	mg/L	2.00		104	80-120		
Silver	0.981	0.050	mg/L	1.00		98	80-120		

LCS Dup (B235061-BSD1)

Prepared: 08/28/12 08:50 Analyzed: 08/28/12 12:54

Arsenic	2.05	0.010	mg/L	2.00		103	80-120	0.6	20
Barium	2.02	0.010	mg/L	2.00		101	80-120	0.4	20
Cadmium	2.02	0.005	mg/L	2.00		101	80-120	0.05	20
Chromium	1.97	0.010	mg/L	2.00		99	80-120	1	20
Lead	2.02	0.01	mg/L	2.00		101	80-120	0.2	20
Selenium	2.07	0.01	mg/L	2.00		104	80-120	0.7	20
Silver	0.904	0.050	mg/L	1.00		90	80-120	8	20

Duplicate (B235061-DUP1)

Source: 1208409-01

Prepared: 08/28/12 08:50 Analyzed: 08/28/12 13:04

Arsenic	<0.010	0.010	mg/L	<0.010					20
Barium	0.0595	0.010	mg/L	0.0612				3	20
Cadmium	<0.005	0.005	mg/L	<0.005					20
Chromium	0.00140	0.010	mg/L	0.00130				7	20
Lead	0.00530	0.01	mg/L	0.00450				16	20
Selenium	<0.01	0.01	mg/L	<0.01					20
Silver	<0.050	0.050	mg/L	0.00860					20

Batch B235086 - 3050B

Blank (B235086-BLK1)

Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:24

Arsenic	<1.00	1.00	mg/kg wet						
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Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235086 - 3050B									
Blank (B235086-BLK1)									
					Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:24				
Barium	1.26	1.00	mg/kg wet						LC
Cadmium	<0.500	0.500	mg/kg wet						
Chromium	<1.00	1.00	mg/kg wet						
Lead	<1.00	1.00	mg/kg wet						
Selenium	<0.300	0.300	mg/kg wet						
Silver	<0.480	0.480	mg/kg wet						CCVL
LCS (B235086-BS1)									
					Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:29				
Arsenic	95.3	1.00	mg/kg wet	99.0		96	80-120		
Barium	93.6	1.00	mg/kg wet	99.0		95	80-120		
Cadmium	97.6	0.500	mg/kg wet	99.0		99	80-120		
Chromium	91.3	1.00	mg/kg wet	99.0		92	80-120		
Lead	97.3	1.00	mg/kg wet	99.0		98	80-120		
Selenium	92.3	0.300	mg/kg wet	99.0		93	80-120		
Silver	47.4	0.480	mg/kg wet	49.5		96	80-120		
LCS Dup (B235086-BSD1)									
					Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:34				
Arsenic	96.4	1.00	mg/kg wet	99.8		97	80-120	1	30
Barium	95.5	1.00	mg/kg wet	99.8		96	80-120	2	30
Cadmium	98.9	0.500	mg/kg wet	99.8		99	80-120	1	30
Chromium	92.0	1.00	mg/kg wet	99.8		92	80-120	0.7	30
Lead	98.5	1.00	mg/kg wet	99.8		99	80-120	1	30
Selenium	93.4	0.300	mg/kg wet	99.8		94	80-120	1	30
Silver	47.8	0.480	mg/kg wet	49.9		96	80-120	0.8	30
Matrix Spike (B235086-MS1)									
			Source: 1208374-01		Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:44				
Arsenic	124	1.00	mg/kg dry	115	2.01	106	75-125		
Barium	196	1.00	mg/kg dry	115	81.4	100	75-125		
Cadmium	96.8	0.500	mg/kg dry	115	0.384	84	75-125		
Chromium	99.1	1.00	mg/kg dry	115	5.15	81	75-125		
Lead	91.9	1.00	mg/kg dry	115	1.85	78	75-125		
Selenium	116	0.300	mg/kg dry	115	<0.300	101	75-125		
Silver	61.9	0.480	mg/kg dry	57.7	<0.480	107	75-125		
Matrix Spike Dup (B235086-MSD1)									
			Source: 1208374-01		Prepared: 08/29/12 08:30 Analyzed: 08/29/12 15:49				
Arsenic	122	1.00	mg/kg dry	113	2.01	106	75-125	2	30
Barium	193	1.00	mg/kg dry	113	81.4	98	75-125	2	30
Cadmium	94.4	0.500	mg/kg dry	113	0.384	83	75-125	3	30

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

 Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400
Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235086 - 3050B

Matrix Spike Dup (B235086-MSD1)		Source: 1208374-01		Prepared: 08/29/12 08:30		Analyzed: 08/29/12 15:49			
Chromium	97.6	1.00	mg/kg dry	113	5.15	82	75-125	2	30
Lead	89.7	1.00	mg/kg dry	113	1.85	78	75-125	2	30
Selenium	114	0.300	mg/kg dry	113	<0.300	100	75-125	2	30
Silver	61.1	0.480	mg/kg dry	56.6	<0.480	108	75-125	1	30

Batch B235088 - 7471B

Blank (B235088-BLK1)				Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	<0.040	0.040	mg/kg wet						ICVH
LCS (B235088-BS1)				Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	0.822	0.040	mg/kg wet	0.833		99	85-115		
LCS Dup (B235088-BSD1)				Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	0.822	0.040	mg/kg wet	0.833		99	85-115	0	25
Matrix Spike (B235088-MS1)		Source: 1208374-01		Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	0.972	0.040	mg/kg dry	0.935	<0.040	104	75-125		
Matrix Spike Dup (B235088-MSD1)		Source: 1208374-01		Prepared: 08/29/12 09:00		Analyzed: 08/29/12 14:33			
Mercury	0.974	0.040	mg/kg dry	0.957	<0.040	102	75-125	0.2	25

Batch B235113 - 245.1

Blank (B235113-BLK1)				Prepared: 08/30/12 09:00		Analyzed: 08/30/12 16:06			
Mercury	<0.0002	0.0002	mg/L						
LCS (B235113-BS1)				Prepared: 08/30/12 09:00		Analyzed: 08/30/12 16:06			
Mercury	0.0103	0.0002	mg/L	0.0100		103	85-115		
LCS Dup (B235113-BSD1)				Prepared: 08/30/12 09:00		Analyzed: 08/30/12 16:06			
Mercury	0.00920	0.0002	mg/L	0.0100		92	85-115	11	25
Duplicate (B235113-DUP1)		Source: 1208436-01		Prepared: 08/30/12 09:00		Analyzed: 08/30/12 16:06			
Mercury	<0.0002	0.0002	mg/L		<0.0002				25
Matrix Spike (B235113-MS1)		Source: 1208436-01		Prepared: 08/30/12 09:00		Analyzed: 08/30/12 16:06			
Mercury	0.0106	0.0002	mg/L	0.0100	<0.0002	106	75-125		

Batch B236092 - 3050B

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

 Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400
Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B236092 - 3050B
Blank (B236092-BLK1)

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:16

Arsenic	<1.00	1.00	mg/kg wet						
Barium	<1.00	1.00	mg/kg wet						
Cadmium	<0.500	0.500	mg/kg wet						
Chromium	<1.00	1.00	mg/kg wet						
Lead	<1.00	1.00	mg/kg wet						
Selenium	<0.300	0.300	mg/kg wet						ICVH
Silver	<0.480	0.480	mg/kg wet						

LCS (B236092-BS1)

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:21

Arsenic	104	1.00	mg/kg wet	101		104	80-120		
Barium	110	1.00	mg/kg wet	101		110	80-120		
Cadmium	104	0.500	mg/kg wet	101		104	80-120		
Chromium	103	1.00	mg/kg wet	101		102	80-120		
Lead	103	1.00	mg/kg wet	101		103	80-120		
Selenium	102	0.300	mg/kg wet	101		102	80-120		
Silver	51.7	0.480	mg/kg wet	50.3		103	80-120		

LCS Dup (B236092-BSD1)

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:40

Arsenic	103	1.00	mg/kg wet	100		103	80-120	0.8	30
Barium	109	1.00	mg/kg wet	100		108	80-120	1	30
Cadmium	103	0.500	mg/kg wet	100		103	80-120	0.9	30
Chromium	103	1.00	mg/kg wet	100		103	80-120	0.3	30
Lead	102	1.00	mg/kg wet	100		102	80-120	0.9	30
Selenium	102	0.300	mg/kg wet	100		102	80-120	0.5	30
Silver	51.1	0.480	mg/kg wet	50.1		102	80-120	1	30

Matrix Spike (B236092-MS1)

Source: 1208374-02

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:51

Arsenic	137	1.00	mg/kg dry	120	1.32	113	75-125		
Barium	196	1.00	mg/kg dry	120	63.0	111	75-125		
Cadmium	101	0.500	mg/kg dry	120	0.263	84	75-125		
Chromium	108	1.00	mg/kg dry	120	3.46	87	75-125		
Lead	95.9	1.00	mg/kg dry	120	0.580	80	75-125		
Selenium	133	0.300	mg/kg dry	120	0.0598	111	75-125		
Silver	67.9	0.480	mg/kg dry	59.8	<0.480	114	75-125		

Matrix Spike Dup (B236092-MSD1)

Source: 1208374-02

Prepared: 09/06/12 08:55 Analyzed: 09/06/12 14:56

Arsenic	138	1.00	mg/kg dry	119	1.32	115	75-125	0.8	30
Barium	198	1.00	mg/kg dry	119	63.0	114	75-125	1	30

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400

Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B236092 - 3050B

Matrix Spike Dup (B236092-MSD1)		Source: 1208374-02		Prepared: 09/06/12 08:55		Analyzed: 09/06/12 14:56			
Cadmium	103	0.500	mg/kg dry	119	0.263	86	75-125	2	30
Chromium	109	1.00	mg/kg dry	119	3.46	89	75-125	1	30
Lead	97.4	1.00	mg/kg dry	119	0.580	81	75-125	2	30
Selenium	134	0.300	mg/kg dry	119	0.0598	113	75-125	1	30
Silver	69.1	0.480	mg/kg dry	59.5	<0.480	116	75-125	2	30

Batch B236098 - 7471B

Blank (B236098-BLK1)				Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	<0.040	0.040	mg/kg wet						ICVH
Blank (B236098-BLK2)				Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	<0.040	0.040	mg/kg wet						ICVH
LCS (B236098-BS1)				Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	0.865	0.040	mg/kg wet	0.833		104	85-115		
LCS (B236098-BS2)				Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	0.842	0.040	mg/kg wet	0.833		101	85-115		
LCS Dup (B236098-BSD1)				Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	0.812	0.040	mg/kg wet	0.833		97	85-115	6	25
LCS Dup (B236098-BSD2)				Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	0.818	0.040	mg/kg wet	0.833		98	85-115	3	25
Matrix Spike (B236098-MS1)		Source: 1208475-01		Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	1.26	0.040	mg/kg dry	1.07	0.163	102	75-125		
Matrix Spike (B236098-MS2)		Source: 1208475-30		Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	0.962	0.040	mg/kg dry	0.943	0.0155	100	75-125		
Matrix Spike Dup (B236098-MSD1)		Source: 1208475-01		Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	1.37	0.040	mg/kg dry	1.07	0.163	113	75-125	8	25
Matrix Spike Dup (B236098-MSD2)		Source: 1208475-30		Prepared: 09/05/12 08:10		Analyzed: 09/05/12 14:11			
Mercury	0.933	0.040	mg/kg dry	0.943	0.0155	97	75-125	3	25

Volatile Organic Compounds by GC/MS - Quality Control



Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
14, and 15. 8/31/12

Reported:
09/12/12 14:44

Received:
08/27/12 10:50

Report No. 1208400

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235079 - 5030B

Blank (B235079-BLK1)

Prepared: 08/28/12 13:00 Analyzed: 08/28/12 15:31

Acetone	<0.010	0.010	mg/L
Acrolein	<0.010	0.010	mg/L
Acrylonitrile	<0.005	0.005	mg/L
Allyl Chloride (3-Chloropropylene)	<0.005	0.005	mg/L
Benzene	<0.005	0.005	mg/L
Bromobenzene	<0.005	0.005	mg/L
Bromochloromethane	<0.005	0.005	mg/L
Tetrachloroethene	<0.005	0.005	mg/L
Bromodichloromethane	<0.005	0.005	mg/L
Bromoform	<0.010	0.010	mg/L
Bromomethane	<0.010	0.010	mg/L
Trichloroethene	<0.005	0.005	mg/L
Butylbenzene	<0.005	0.005	mg/L
sec-Butylbenzene	<0.005	0.005	mg/L
tert-Butylbenzene	<0.010	0.010	mg/L
Carbon disulfide	<0.005	0.005	mg/L
Carbon Tetrachloride	<0.005	0.005	mg/L
Chlorobenzene	<0.005	0.005	mg/L
Chloroethane	<0.005	0.005	mg/L
2-Chloroethyl Vinyl Ether	<0.005	0.005	mg/L
Chloroform	<0.005	0.005	mg/L
Chloromethane	<0.005	0.005	mg/L
2-Chlorotoluene	<0.005	0.005	mg/L
4-Chlorotoluene	<0.005	0.005	mg/L
Dibromochloromethane	<0.005	0.005	mg/L
1,2-Dibromo-3-chloropropane	<0.005	0.005	mg/L
1,2-Dibromoethane	<0.005	0.005	mg/L
Dibromomethane	<0.005	0.005	mg/L
1,2-Dichlorobenzene	<0.005	0.005	mg/L
1,3-Dichlorobenzene	<0.005	0.005	mg/L
1,4-Dichlorobenzene	<0.005	0.005	mg/L
trans-1,4-Dichloro-2-butene	<0.005	0.005	mg/L
cis-1,4-Dichloro-2-butene	<0.025	0.025	mg/L
Dichlorodifluoromethane	<0.005	0.005	mg/L
1,1-Dichloroethane	<0.005	0.005	mg/L
1,2-Dichloroethane	<0.005	0.005	mg/L
1,1-Dichloroethene	<0.005	0.005	mg/L
cis-1,2-Dichloroethylene	<0.005	0.005	mg/L
trans-1,2-Dichloroethylene	<0.005	0.005	mg/L
1,2-Dichloropropane	<0.010	0.010	mg/L
1,3-Dichloropropane	<0.005	0.005	mg/L

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
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Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD
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Batch B235079 - 5030B

Blank (B235079-BLK1)

Prepared: 08/28/12 13:00 Analyzed: 08/28/12 15:31

2,2-Dichloropropane	<0.010	0.010	mg/L
1,1-Dichloropropylene	<0.005	0.005	mg/L
cis-1,3-Dichloropropylene	<0.005	0.005	mg/L
trans-1,3-Dichloropropylene	<0.005	0.005	mg/L
Ethylbenzene	<0.005	0.005	mg/L
Ethyl Methacrylate	<0.010	0.010	mg/L
Hexachlorobutadiene	<0.005	0.005	mg/L
Isopropylbenzene (Cumene)	<0.005	0.005	mg/L
Isopropyl alcohol	<0.005	0.005	mg/L
4-Isopropyltoluene	<0.010	0.010	mg/L
Methacrylonitrile	<0.005	0.005	mg/L
Methyl Butyl Ketone (2-Hexanone)	<0.010	0.010	mg/L
Methyl Ethyl Ketone (2-Butanone)	<0.010	0.010	mg/L
Acetonitrile	<0.010	0.010	mg/L
Methyl Iodide	<0.010	0.010	mg/L
Methyl Isobutyl Ketone	<0.005	0.005	mg/L
Methyl Methacrylate	<0.025	0.025	mg/L
Methyl-tert-Butyl Ether	<0.005	0.005	mg/L
Methylene Chloride	<0.005	0.005	mg/L
Naphthalene	<0.005	0.005	mg/L
Propylbenzene	<0.005	0.005	mg/L
Styrene	<0.005	0.005	mg/L
1,1,1,2-Tetrachloroethane	<0.025	0.025	mg/L
1,1,2,2-Tetrachloroethane	<0.005	0.005	mg/L
Toluene	<0.005	0.005	mg/L
1,2,3-Trichlorobenzene	<0.005	0.005	mg/L
1,2,4-Trichlorobenzene	<0.005	0.005	mg/L
1,1,1-Trichloroethane	<0.005	0.005	mg/L
1,1,2-Trichloroethane	<0.005	0.005	mg/L
Trichlorofluoromethane	<0.005	0.005	mg/L
1,2,3-Trichloropropane	<0.010	0.010	mg/L
1,2,4-Trimethylbenzene	<0.005	0.005	mg/L
1,3,5-Trimethylbenzene	<0.005	0.005	mg/L
Vinyl acetate	<0.005	0.005	mg/L
Vinyl chloride	<0.005	0.005	mg/L
m,p-Xylenes	<0.005	0.005	mg/L
o-Xylene	<0.005	0.005	mg/L

Raba-Kistner Consultants, Inc.

12821 W. Golden Lane

San Antonio TX, 78249

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
14, and 15. 8/31/12

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit
Batch B235079 - 5030B								
Blank (B235079-BLK1)				Prepared: 08/28/12 13:00 Analyzed: 08/28/12 15:31				
Surrogate: Toluene-d8	0.0492		mg/L	0.0500		98	76-138	
Surrogate: 4-Bromofluorobenzene	0.0420		mg/L	0.0500		84	79-125	
Surrogate: Dibromofluoromethane	0.0500		mg/L	0.0500		100	88-134	
LCS (B235079-BS1)				Prepared: 08/28/12 13:00 Analyzed: 08/28/12 14:34				
Acetone	0.0601	0.010	mg/L	0.0500		120	75-129	
Acrolein	0.0430	0.010	mg/L	0.0500		86	73-110	
Acrylonitrile	0.0555	0.005	mg/L	0.0500		111	81-124	
Allyl Chloride (3-Chloropropylene)	0.0519	0.005	mg/L	0.0500		104	89-115	
Benzene	0.0469	0.005	mg/L	0.0500		94	89-117	
Bromobenzene	0.0512	0.005	mg/L	0.0500		102	80-115	
Bromochloromethane	0.0499	0.005	mg/L	0.0500		100	86-116	
Tetrachloroethene	0.0496	0.005	mg/L	0.0500		99	81-155	
Bromodichloromethane	0.0512	0.005	mg/L	0.0500		102	80-117	
Bromoform	0.0387	0.010	mg/L	0.0500		77	80-110	LCSL
Bromomethane	0.0623	0.010	mg/L	0.0500		125	82-163	
Trichloroethene	0.0418	0.005	mg/L	0.0500		84	80-115	
Butylbenzene	0.0486	0.005	mg/L	0.0500		97	91-115	
sec-Butylbenzene	0.0507	0.005	mg/L	0.0500		101	80-121	
tert-Butylbenzene	0.0498	0.010	mg/L	0.0500		100	80-121	
Carbon disulfide	0.0472	0.005	mg/L	0.0500		94	85-116	
Carbon Tetrachloride	0.0471	0.005	mg/L	0.0500		94	88-127	
Chlorobenzene	0.0487	0.005	mg/L	0.0500		97	80-111	
Chloroethane	0.0554	0.005	mg/L	0.0500		111	87-111	
2-Chloroethyl Vinyl Ether	0.0435	0.005	mg/L	0.0500		87	91-108	LCSL
Chloroform	0.0478	0.005	mg/L	0.0500		96	84-118	
Chloromethane	0.0462	0.005	mg/L	0.0500		92	75-130	
2-Chlorotoluene	0.0503	0.005	mg/L	0.0500		101	80-118	
4-Chlorotoluene	0.0487	0.005	mg/L	0.0500		97	80-112	
Dibromochloromethane	0.0430	0.005	mg/L	0.0500		86	80-117	
1,2-Dibromo-3-chloropropane	0.0433	0.005	mg/L	0.0500		87	80-120	
1,2-Dibromoethane	0.0483	0.005	mg/L	0.0500		97	80-110	
Dibromomethane	0.0492	0.005	mg/L	0.0500		98	93-112	
1,2-Dichlorobenzene	0.0489	0.005	mg/L	0.0500		98	80-112	
1,3-Dichlorobenzene	0.0490	0.005	mg/L	0.0500		98	80-111	
1,4-Dichlorobenzene	0.0483	0.005	mg/L	0.0500		97	80-110	
trans-1,4-Dichloro-2-butene	0.0415	0.005	mg/L	0.0500		83	80-122	



Cert. No. T104704360-12-8

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12821 W. Golden Lane
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Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit
Batch B235079 - 5030B								
LCS (B235079-BS1)								
Prepared: 08/28/12 13:00 Analyzed: 08/28/12 14:34								
cis-1,4-Dichloro-2-butene	0.0417	0.025	mg/L	0.0500		83	65-115	
Dichlorodifluoromethane	0.0425	0.005	mg/L	0.0500		85	91-115	LCSL
1,1-Dichloroethane	0.0470	0.005	mg/L	0.0500		94	84-121	
1,2-Dichloroethane	0.0462	0.005	mg/L	0.0500		92	81-120	
1,1-Dichloroethene	0.0396	0.005	mg/L	0.0500		79	85-122	LCSL
cis-1,2-Dichloroethylene	0.0485	0.005	mg/L	0.0500		97	82-121	
trans-1,2-Dichloroethylene	0.0459	0.005	mg/L	0.0500		92	85-121	
1,2-Dichloropropane	0.0482	0.010	mg/L	0.0500		96	94-116	
1,3-Dichloropropane	0.0482	0.005	mg/L	0.0500		96	92-112	
2,2-Dichloropropane	0.0558	0.010	mg/L	0.0500		112	78-113	
1,1-Dichloropropylene	0.0462	0.005	mg/L	0.0500		92	87-120	
cis-1,3-Dichloropropylene	0.0515	0.005	mg/L	0.0500		103	80-116	
trans-1,3-Dichloropropylene	0.0453	0.005	mg/L	0.0500		91	80-117	
Ethylbenzene	0.0484	0.005	mg/L	0.0500		97	80-115	
Ethyl Methacrylate	0.0486	0.010	mg/L	0.0500		97	91-124	
Hexachlorobutadiene	0.0543	0.005	mg/L	0.0500		109	80-120	
Isopropylbenzene (Cumene)	0.0493	0.005	mg/L	0.0500		99	80-118	
4-Isopropyltoluene	0.0487	0.010	mg/L	0.0500		97	80-115	
Methacrylonitrile	0.0494	0.005	mg/L	0.0500		99	72-124	
Methyl Butyl Ketone (2-Hexanone)	0.0451	0.010	mg/L	0.0500		90	83-123	
Methyl Ethyl Ketone (2-Butanone)	0.0453	0.010	mg/L	0.0500		91	67-128	
Acetonitrile	0.0509	0.010	mg/L	0.0500		102	70-130	
Methyl Iodide	0.0391	0.010	mg/L	0.0500		78	87-131	LCSL
Methyl Isobutyl Ketone	0.0460	0.005	mg/L	0.0500		92	90-118	
Methyl Methacrylate	0.0463	0.025	mg/L	0.0500		93	91-122	
Methyl-tert-Butyl Ether	0.0455	0.005	mg/L	0.0500		91	82-122	
Methylene Chloride	0.0498	0.005	mg/L	0.0500		100	81-122	
Naphthalene	0.0600	0.005	mg/L	0.0500		120	80-130	
Propylbenzene	0.0497	0.005	mg/L	0.0500		99	80-118	
Styrene	0.0417	0.005	mg/L	0.0500		83	80-114	
1,1,1,2-Tetrachloroethane	0.0459	0.025	mg/L	0.0500		92	80-114	
1,1,2,2-Tetrachloroethane	0.0467	0.005	mg/L	0.0500		93	90-112	
Toluene	0.0510	0.005	mg/L	0.0500		102	80-114	
1,2,3-Trichlorobenzene	0.0642	0.005	mg/L	0.0500		128	80-130	
1,2,4-Trichlorobenzene	0.0523	0.005	mg/L	0.0500		105	80-120	
1,1,1-Trichloroethane	0.0483	0.005	mg/L	0.0500		97	84-119	
1,1,2-Trichloroethane	0.0488	0.005	mg/L	0.0500		98	93-117	

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Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235079 - 5030B									
LCS (B235079-BS1)									
					Prepared: 08/28/12 13:00 Analyzed: 08/28/12 14:34				
Trichlorofluoromethane	0.0495	0.005	mg/L	0.0500		99	80-120		
1,2,3-Trichloropropane	0.0413	0.010	mg/L	0.0500		83	91-120		LCSL
1,2,4-Trimethylbenzene	0.0508	0.005	mg/L	0.0500		102	80-120		
1,3,5-Trimethylbenzene	0.0498	0.005	mg/L	0.0500		100	80-120		
Vinyl acetate	0.0551	0.005	mg/L	0.0500		110	63-108		LCSH
Vinyl chloride	0.0483	0.005	mg/L	0.0500		97	89-116		
m,p-Xylenes	0.0986	0.005	mg/L	0.100		99	87-126		
o-Xylene	0.0475	0.005	mg/L	0.0500		95	80-116		
Surrogate: Toluene-d8	0.0502		mg/L	0.0500		100	76-138		
Surrogate: 4-Bromofluorobenzene	0.0481		mg/L	0.0500		96	79-125		
Surrogate: Dibromofluoromethane	0.0487		mg/L	0.0500		97	88-134		
LCS Dup (B235079-BSD1)									
					Prepared: 08/28/12 13:00 Analyzed: 08/28/12 15:03				
Acetone	0.0630	0.010	mg/L	0.0500		126	75-129	5	20
Acrolein	0.0434	0.010	mg/L	0.0500		87	73-110	0.9	20
Acrylonitrile	0.0571	0.005	mg/L	0.0500		114	81-124	3	20
Allyl Chloride (3-Chloropropylene)	0.0507	0.005	mg/L	0.0500		101	89-115	2	20
Benzene	0.0475	0.005	mg/L	0.0500		95	89-117	1	20
Bromobenzene	0.0503	0.005	mg/L	0.0500		101	80-115	2	20
Bromochloromethane	0.0504	0.005	mg/L	0.0500		101	86-116	1	20
Tetrachloroethene	0.0489	0.005	mg/L	0.0500		98	81-155	2	20
Bromodichloromethane	0.0518	0.005	mg/L	0.0500		104	80-117	1	20
Bromoform	0.0386	0.010	mg/L	0.0500		77	80-110	0.3	20
Bromomethane	0.0608	0.010	mg/L	0.0500		122	82-163	3	20
Trichloroethene	0.0424	0.005	mg/L	0.0500		85	80-115	2	20
Butylbenzene	0.0485	0.005	mg/L	0.0500		97	91-115	0.1	20
sec-Butylbenzene	0.0500	0.005	mg/L	0.0500		100	80-121	1	20
tert-Butylbenzene	0.0484	0.010	mg/L	0.0500		97	80-121	3	20
Carbon disulfide	0.0469	0.005	mg/L	0.0500		94	85-116	0.7	20
Carbon Tetrachloride	0.0476	0.005	mg/L	0.0500		95	88-127	1	20
Chlorobenzene	0.0480	0.005	mg/L	0.0500		96	80-111	1	20
Chloroethane	0.0527	0.005	mg/L	0.0500		105	87-111	5	20
2-Chloroethyl Vinyl Ether	0.0447	0.005	mg/L	0.0500		89	91-108	3	20
Chloroform	0.0483	0.005	mg/L	0.0500		97	84-118	1	20
Chloromethane	0.0459	0.005	mg/L	0.0500		92	75-130	0.5	20
2-Chlorotoluene	0.0488	0.005	mg/L	0.0500		98	80-118	3	20
4-Chlorotoluene	0.0481	0.005	mg/L	0.0500		96	80-112	1	20

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235079 - 5030B									
LCS Dup (B235079-BSD1)									
					Prepared: 08/28/12 13:00 Analyzed: 08/28/12 15:03				
Dibromochloromethane	0.0430	0.005	mg/L	0.0500		86	80-117	0.02	20
1,2-Dibromo-3-chloropropane	0.0442	0.005	mg/L	0.0500		88	80-120	2	20
1,2-Dibromoethane	0.0484	0.005	mg/L	0.0500		97	80-110	0.2	20
Dibromomethane	0.0501	0.005	mg/L	0.0500		100	93-112	2	20
1,2-Dichlorobenzene	0.0494	0.005	mg/L	0.0500		99	80-112	1	20
1,3-Dichlorobenzene	0.0493	0.005	mg/L	0.0500		99	80-111	0.6	20
1,4-Dichlorobenzene	0.0485	0.005	mg/L	0.0500		97	80-110	0.3	20
trans-1,4-Dichloro-2-butene	0.0411	0.005	mg/L	0.0500		82	80-122	0.9	20
cis-1,4-Dichloro-2-butene	0.0422	0.025	mg/L	0.0500		84	65-115	1	20
Dichlorodifluoromethane	0.0420	0.005	mg/L	0.0500		84	91-115	1	20
1,1-Dichloroethane	0.0471	0.005	mg/L	0.0500		94	84-121	0.3	20
1,2-Dichloroethane	0.0468	0.005	mg/L	0.0500		94	81-120	1	20
1,1-Dichloroethene	0.0397	0.005	mg/L	0.0500		79	85-122	0.3	20
cis-1,2-Dichloroethylene	0.0492	0.005	mg/L	0.0500		98	82-121	1	20
trans-1,2-Dichloroethylene	0.0456	0.005	mg/L	0.0500		91	85-121	0.7	20
1,2-Dichloropropane	0.0482	0.010	mg/L	0.0500		96	94-116	0.04	20
1,3-Dichloropropane	0.0484	0.005	mg/L	0.0500		97	92-112	0.4	20
2,2-Dichloropropane	0.0557	0.010	mg/L	0.0500		111	78-113	0.3	20
1,1-Dichloropropylene	0.0470	0.005	mg/L	0.0500		94	87-120	2	20
cis-1,3-Dichloropropylene	0.0509	0.005	mg/L	0.0500		102	80-116	1	20
trans-1,3-Dichloropropylene	0.0457	0.005	mg/L	0.0500		91	80-117	0.9	20
Ethylbenzene	0.0474	0.005	mg/L	0.0500		95	80-115	2	20
Ethyl Methacrylate	0.0485	0.010	mg/L	0.0500		97	91-124	0.2	20
Hexachlorobutadiene	0.0613	0.005	mg/L	0.0500		123	80-120	12	20
Isopropylbenzene (Cumene)	0.0478	0.005	mg/L	0.0500		96	80-118	3	20
4-Isopropyltoluene	0.0488	0.010	mg/L	0.0500		98	80-115	0.2	20
Methacrylonitrile	0.0505	0.005	mg/L	0.0500		101	72-124	2	20
Methyl Butyl Ketone (2-Hexanone)	0.0462	0.010	mg/L	0.0500		92	83-123	2	20
Acetonitrile	0.0500	0.010	mg/L	0.0500		100	70-130	2	20
Methyl Ethyl Ketone (2-Butanone)	0.0468	0.010	mg/L	0.0500		94	67-128	3	20
Methyl Iodide	0.0425	0.010	mg/L	0.0500		85	87-131	8	20
Methyl Isobutyl Ketone	0.0460	0.005	mg/L	0.0500		92	90-118	0	20
Methyl Methacrylate	0.0473	0.025	mg/L	0.0500		95	91-122	2	20
Methyl-tert-Butyl Ether	0.0460	0.005	mg/L	0.0500		92	82-122	1	20
Methylene Chloride	0.0502	0.005	mg/L	0.0500		100	81-122	0.9	20
Naphthalene	0.0683	0.005	mg/L	0.0500		137	80-130	13	20
Propylbenzene	0.0487	0.005	mg/L	0.0500		97	80-118	2	20

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235079 - 5030B									
LCS Dup (B235079-BSD1)									
Prepared: 08/28/12 13:00 Analyzed: 08/28/12 15:03									
Styrene	0.0413	0.005	mg/L	0.0500		83	80-114	1	20
1,1,1,2-Tetrachloroethane	0.0455	0.025	mg/L	0.0500		91	80-114	0.9	20
1,1,2,2-Tetrachloroethane	0.0457	0.005	mg/L	0.0500		91	90-112	2	20
Toluene	0.0499	0.005	mg/L	0.0500		100	80-114	2	20
1,2,3-Trichlorobenzene	0.0755	0.005	mg/L	0.0500		151	80-130	16	20
1,2,4-Trichlorobenzene	0.0541	0.005	mg/L	0.0500		108	80-120	3	20
1,1,1-Trichloroethane	0.0480	0.005	mg/L	0.0500		96	84-119	0.4	20
1,1,2-Trichloroethane	0.0489	0.005	mg/L	0.0500		98	93-117	0.3	20
Trichlorofluoromethane	0.0483	0.005	mg/L	0.0500		97	80-120	2	20
1,2,3-Trichloropropane	0.0414	0.010	mg/L	0.0500		83	91-120	0.2	20
1,2,4-Trimethylbenzene	0.0497	0.005	mg/L	0.0500		99	80-120	2	20
1,3,5-Trimethylbenzene	0.0485	0.005	mg/L	0.0500		97	80-120	3	20
Vinyl acetate	0.0563	0.005	mg/L	0.0500		113	63-108	2	20
Vinyl chloride	0.0475	0.005	mg/L	0.0500		95	89-116	2	20
m,p-Xylenes	0.0981	0.005	mg/L	0.100		98	87-126	0.5	20
o-Xylene	0.0470	0.005	mg/L	0.0500		94	80-116	1	20
Surrogate: Toluene-d8	0.0503		mg/L	0.0500		101	76-138		
Surrogate: 4-Bromofluorobenzene	0.0467		mg/L	0.0500		93	79-125		
Surrogate: Dibromofluoromethane	0.0491		mg/L	0.0500		98	88-134		

Batch B235080 - 5035

Blank (B235080-BLK1)									
Prepared: 08/28/12 15:00 Analyzed: 08/28/12 19:20									
Acetone	<0.125	0.125	mg/kg						
Acrolein	<0.050	0.050	mg/kg						
Acrylonitrile	<0.025	0.025	mg/kg						
Allyl Chloride (3-Chloropropylene)	<0.025	0.025	mg/kg						
Benzene	<0.025	0.025	mg/kg						
Bromobenzene	<0.025	0.025	mg/kg						
Bromochloromethane	<0.025	0.025	mg/kg						
Tetrachloroethene	<0.025	0.025	mg/kg						
Bromodichloromethane	<0.025	0.025	mg/kg						
Bromoform	<0.050	0.050	mg/kg						
Bromomethane	<0.050	0.050	mg/kg						
Trichloroethene	<0.025	0.025	mg/kg						
Butylbenzene	<0.025	0.025	mg/kg						
sec-Butylbenzene	<0.025	0.025	mg/kg						

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 San Antonio TX, 78249

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Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235080 - 5035

Blank (B235080-BLK1)

Prepared: 08/28/12 15:00 Analyzed: 08/28/12 19:20

tert-Butylbenzene	<0.050	0.050	mg/kg
Carbon disulfide	<0.025	0.025	mg/kg
Carbon Tetrachloride	<0.025	0.025	mg/kg
Chlorobenzene	<0.025	0.025	mg/kg
Chloroethane	<0.025	0.025	mg/kg
2-Chloroethyl Vinyl Ether	<0.025	0.025	mg/kg
Chloroform	<0.025	0.025	mg/kg
Chloromethane	<0.025	0.025	mg/kg
2-Chlorotoluene	<0.025	0.025	mg/kg
4-Chlorotoluene	<0.025	0.025	mg/kg
Dibromochloromethane	<0.025	0.025	mg/kg
1,2-Dibromo-3-chloropropane	<0.025	0.025	mg/kg
1,2-Dibromoethane	<0.025	0.025	mg/kg
Dibromomethane	<0.025	0.025	mg/kg
1,2-Dichlorobenzene	<0.025	0.025	mg/kg
1,3-Dichlorobenzene	<0.025	0.025	mg/kg
1,4-Dichlorobenzene	<0.025	0.025	mg/kg
trans-1,4-Dichloro-2-butene	<0.025	0.025	mg/kg
cis-1,4-Dichloro-2-butene	<0.025	0.025	mg/kg
Dichlorodifluoromethane	<0.025	0.025	mg/kg
1,1-Dichloroethane	<0.025	0.025	mg/kg
1,2-Dichloroethane	<0.025	0.025	mg/kg
1,1-Dichloroethene	<0.025	0.025	mg/kg
cis-1,2-Dichloroethylene	<0.025	0.025	mg/kg
trans-1,2-Dichloroethylene	<0.025	0.025	mg/kg
1,2-Dichloropropane	<0.050	0.050	mg/kg
1,3-Dichloropropane	<0.025	0.025	mg/kg
2,2-Dichloropropane	<0.050	0.050	mg/kg
1,1-Dichloropropylene	<0.025	0.025	mg/kg
cis-1,3-Dichloropropylene	<0.025	0.025	mg/kg
trans-1,3-Dichloropropylene	<0.025	0.025	mg/kg
Ethylbenzene	<0.025	0.025	mg/kg
Ethyl Methacrylate	<0.050	0.050	mg/kg
Hexachlorobutadiene	<0.025	0.025	mg/kg
Isopropylbenzene (Cumene)	<0.025	0.025	mg/kg
Isopropyl alcohol	<0.050	0.050	mg/kg
4-Isopropyltoluene	<0.050	0.050	mg/kg

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
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Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235080 - 5035

Blank (B235080-BLK1)

Prepared: 08/28/12 15:00 Analyzed: 08/28/12 19:20

Methacrylonitrile	<0.025	0.025	mg/kg						
Methyl Butyl Ketone (2-Hexanone)	<0.050	0.050	mg/kg						
Methyl Ethyl Ketone (2-Butanone)	<0.125	0.125	mg/kg						
Acetonitrile	<0.050	0.050	mg/kg						
Methyl Iodide	<0.050	0.050	mg/kg						
Methyl Isobutyl Ketone	<0.025	0.025	mg/kg						
Methyl Methacrylate	<0.125	0.125	mg/kg						
Methyl-tert-Butyl Ether	<0.025	0.025	mg/kg						
Methylene Chloride	<0.025	0.025	mg/kg						
Naphthalene	<0.025	0.025	mg/kg						
Propylbenzene	<0.025	0.025	mg/kg						
Styrene	<0.025	0.025	mg/kg						
1,1,1,2-Tetrachloroethane	<0.025	0.025	mg/kg						
1,1,2,2-Tetrachloroethane	<0.025	0.025	mg/kg						
Toluene	<0.025	0.025	mg/kg						
1,2,3-Trichlorobenzene	<0.025	0.025	mg/kg						
1,2,4-Trichlorobenzene	<0.025	0.025	mg/kg						
1,1,1-Trichloroethane	<0.025	0.025	mg/kg						
1,1,2-Trichloroethane	<0.025	0.025	mg/kg						
Trichlorofluoromethane	<0.025	0.025	mg/kg						
1,2,3-Trichloropropane	<0.050	0.050	mg/kg						
1,2,4-Trimethylbenzene	<0.025	0.025	mg/kg						
1,3,5-Trimethylbenzene	<0.025	0.025	mg/kg						
Vinyl acetate	<0.025	0.025	mg/kg						
Vinyl chloride	<0.025	0.025	mg/kg						
m,p-Xylenes	<0.025	0.025	mg/kg						
o-Xylene	<0.025	0.025	mg/kg						
Surrogate: Dibromofluoromethane	0.266		mg/kg	0.250		106	88-134		
Surrogate: Toluene-d8	0.248		mg/kg	0.250		99	76-138		
Surrogate: 4-Bromofluorobenzene	0.216		mg/kg	0.250		86	79-125		

LCS (B235080-BS1)

Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:22

Acetone	0.233	0.125	mg/kg	0.250		93	47-107		
Acrolein	0.228	0.050	mg/kg	0.250		91	44-104		
Acrylonitrile	0.220	0.025	mg/kg	0.250		88	49-109		
Allyl Chloride (3-Chloropropylene)	0.244	0.025	mg/kg	0.250		97	61-121		
Benzene	0.240	0.025	mg/kg	0.250		96	55-115		

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Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
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Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
LCS (B235080-BS1)									
Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:22									
Bromobenzene	0.253	0.025	mg/kg	0.250		101	69-129		
Bromochloromethane	0.259	0.025	mg/kg	0.250		104	56-116		
Tetrachloroethene	0.264	0.025	mg/kg	0.250		106	50-110		
Bromodichloromethane	0.247	0.025	mg/kg	0.250		99	71-131		
Bromoform	0.196	0.050	mg/kg	0.250		78	51-111		
Bromomethane	0.286	0.050	mg/kg	0.250		114	40-100		LCSH
Trichloroethene	0.211	0.025	mg/kg	0.250		84	68-128		
Butylbenzene	0.224	0.025	mg/kg	0.250		90	80-140		
sec-Butylbenzene	0.241	0.025	mg/kg	0.250		96	82-142		
tert-Butylbenzene	0.239	0.050	mg/kg	0.250		96	79-139		
Carbon disulfide	0.215	0.025	mg/kg	0.250		86	57-117		
Carbon Tetrachloride	0.202	0.025	mg/kg	0.250		81	71-131		
Chlorobenzene	0.243	0.025	mg/kg	0.250		97	65-125		
Chloroethane	0.261	0.025	mg/kg	0.250		104	42-102		LCSH
2-Chloroethyl Vinyl Ether	0.205	0.025	mg/kg	0.250		82	46-106		
Chloroform	0.239	0.025	mg/kg	0.250		96	57-117		
Chloromethane	0.236	0.025	mg/kg	0.250		94	51-111		
2-Chlorotoluene	0.240	0.025	mg/kg	0.250		96	71-131		
4-Chlorotoluene	0.234	0.025	mg/kg	0.250		94	68-128		
Dibromochloromethane	0.214	0.025	mg/kg	0.250		86	63-123		
1,2-Dibromo-3-chloropropane	0.201	0.025	mg/kg	0.250		80	50-110		
1,2-Dibromoethane	0.230	0.025	mg/kg	0.250		92	55-115		
Dibromomethane	0.241	0.025	mg/kg	0.250		96	60-120		
1,2-Dichlorobenzene	0.248	0.025	mg/kg	0.250		99	67-127		
1,3-Dichlorobenzene	0.246	0.025	mg/kg	0.250		98	70-130		
1,4-Dichlorobenzene	0.242	0.025	mg/kg	0.250		97	71-131		
trans-1,4-Dichloro-2-butene	0.183	0.025	mg/kg	0.250		73	50-110		
cis-1,4-Dichloro-2-butene	0.185	0.025	mg/kg	0.250		74	80-120		
Dichlorodifluoromethane	0.198	0.025	mg/kg	0.250		79	71-131		
1,1-Dichloroethane	0.234	0.025	mg/kg	0.250		94	55-115		
1,2-Dichloroethane	0.221	0.025	mg/kg	0.250		88	49-109		
1,1-Dichloroethene	0.237	0.025	mg/kg	0.250		95	59-119		
cis-1,2-Dichloroethylene	0.233	0.025	mg/kg	0.250		93	55-115		
trans-1,2-Dichloroethylene	0.224	0.025	mg/kg	0.250		90	61-121		
1,2-Dichloropropane	0.237	0.050	mg/kg	0.250		95	57-117		
1,3-Dichloropropane	0.240	0.025	mg/kg	0.250		96	52-112		
2,2-Dichloropropane	0.222	0.050	mg/kg	0.250		89	63-123		

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Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
LCS (B235080-BS1)									
					Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:22				
1,1-Dichloropropylene	0.231	0.025	mg/kg	0.250		92	57-117		
cis-1,3-Dichloropropylene	0.234	0.025	mg/kg	0.250		94	57-117		
trans-1,3-Dichloropropylene	0.204	0.025	mg/kg	0.250		82	55-115		
Ethylbenzene	0.235	0.025	mg/kg	0.250		94	69-129		
Ethyl Methacrylate	0.230	0.050	mg/kg	0.250		92	46-106		
Hexachlorobutadiene	0.143	0.025	mg/kg	0.250		57	51-111		
Isopropylbenzene (Cumene)	0.243	0.025	mg/kg	0.250		97	74-134		
4-Isopropyltoluene	0.235	0.050	mg/kg	0.250		94	82-142		
Methacrylonitrile	0.228	0.025	mg/kg	0.250		91	52-112		
Methyl Butyl Ketone (2-Hexanone)	0.235	0.050	mg/kg	0.250		94	45-105		
Methyl Ethyl Ketone (2-Butanone)	0.221	0.125	mg/kg	0.250		88	38-98		
Acetonitrile	0.250	0.050	mg/kg	0.250		100	60-120		
Methyl Iodide	0.226	0.050	mg/kg	0.250		90	56-116		
Methyl Isobutyl Ketone	0.225	0.025	mg/kg	0.250		90	43-103		
Methyl Methacrylate	0.221	0.125	mg/kg	0.250		88	41-101		
Methyl-tert-Butyl Ether	0.213	0.025	mg/kg	0.250		85	53-113		
Methylene Chloride	0.248	0.025	mg/kg	0.250		99	57-117		
Naphthalene	0.134	0.025	mg/kg	0.250		53	49-109		
Propylbenzene	0.243	0.025	mg/kg	0.250		97	73-133		
Styrene	0.208	0.025	mg/kg	0.250		83	65-125		
1,1,1,2-Tetrachloroethane	0.218	0.025	mg/kg	0.250		87	65-125		
1,1,2,2-Tetrachloroethane	0.238	0.025	mg/kg	0.250		95	52-112		
Toluene	0.250	0.025	mg/kg	0.250		100	65-125		
1,2,3-Trichlorobenzene	0.121	0.025	mg/kg	0.250		48	64-124		LCSL
1,2,4-Trichlorobenzene	0.167	0.025	mg/kg	0.250		67	69-129		LCSL
1,1,1-Trichloroethane	0.237	0.025	mg/kg	0.250		95	61-121		
1,1,2-Trichloroethane	0.250	0.025	mg/kg	0.250		100	53-113		
Trichlorofluoromethane	0.229	0.025	mg/kg	0.250		91	61-121		
1,2,3-Trichloropropane	0.203	0.050	mg/kg	0.250		81	48-108		
1,2,4-Trimethylbenzene	0.247	0.025	mg/kg	0.250		99	71-131		
1,3,5-Trimethylbenzene	0.240	0.025	mg/kg	0.250		96	75-135		
Vinyl acetate	0.242	0.025	mg/kg	0.250		97	53-113		
Vinyl chloride	0.241	0.025	mg/kg	0.250		96	62-122		
m,p-Xylenes	0.481	0.025	mg/kg	0.500		96	68-128		
o-Xylene	0.233	0.025	mg/kg	0.250		93	66-126		
Surrogate: Dibromofluoromethane	0.254		mg/kg	0.250		102	88-134		
Surrogate: Toluene-d8	0.254		mg/kg	0.250		101	76-138		

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
LCS (B235080-BS1)				Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:22					
Surrogate: 4-Bromofluorobenzene	0.231		mg/kg	0.250		92	79-125		
LCS Dup (B235080-BSD1)				Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:51					
Acetone	0.342	0.125	mg/kg	0.250		137	47-107	38	30 LCSDH, RPD
Acrolein	0.238	0.050	mg/kg	0.250		95	44-104	4	30
Acrylonitrile	0.287	0.025	mg/kg	0.250		115	49-109	27	30 LCSDH
Allyl Chloride (3-Chloropropylene)	0.242	0.025	mg/kg	0.250		97	61-121	0.8	30
Benzene	0.243	0.025	mg/kg	0.250		97	55-115	1	30
Bromobenzene	0.257	0.025	mg/kg	0.250		103	69-129	2	30
Bromochloromethane	0.262	0.025	mg/kg	0.250		105	56-116	0.9	30
Tetrachloroethene	0.267	0.025	mg/kg	0.250		107	50-110	1	30
Bromodichloromethane	0.249	0.025	mg/kg	0.250		99	71-131	0.6	30
Bromoform	0.193	0.050	mg/kg	0.250		77	51-111	1	30
Bromomethane	0.316	0.050	mg/kg	0.250		126	40-100	10	30 LCSDH
Trichloroethene	0.215	0.025	mg/kg	0.250		86	68-128	2	30
Butylbenzene	0.242	0.025	mg/kg	0.250		97	80-140	8	30
sec-Butylbenzene	0.255	0.025	mg/kg	0.250		102	82-142	6	30
tert-Butylbenzene	0.249	0.050	mg/kg	0.250		100	79-139	4	30
Carbon disulfide	0.239	0.025	mg/kg	0.250		96	57-117	11	30
Carbon Tetrachloride	0.206	0.025	mg/kg	0.250		83	71-131	2	30
Chlorobenzene	0.245	0.025	mg/kg	0.250		98	65-125	1	30
Chloroethane	0.285	0.025	mg/kg	0.250		114	42-102	9	30 LCSDH
2-Chloroethyl Vinyl Ether	0.193	0.025	mg/kg	0.250		77	46-106	6	30
Chloroform	0.247	0.025	mg/kg	0.250		99	57-117	3	30
Chloromethane	0.239	0.025	mg/kg	0.250		95	51-111	1	30
2-Chlorotoluene	0.246	0.025	mg/kg	0.250		98	71-131	3	30
4-Chlorotoluene	0.243	0.025	mg/kg	0.250		97	68-128	4	30
Dibromochloromethane	0.217	0.025	mg/kg	0.250		87	63-123	1	30
1,2-Dibromo-3-chloropropane	0.232	0.025	mg/kg	0.250		93	50-110	14	30
1,2-Dibromoethane	0.237	0.025	mg/kg	0.250		95	55-115	3	30
Dibromomethane	0.243	0.025	mg/kg	0.250		97	60-120	0.8	30
1,2-Dichlorobenzene	0.253	0.025	mg/kg	0.250		101	67-127	2	30
1,3-Dichlorobenzene	0.250	0.025	mg/kg	0.250		100	70-130	2	30
1,4-Dichlorobenzene	0.246	0.025	mg/kg	0.250		99	71-131	2	30
trans-1,4-Dichloro-2-butene	0.178	0.025	mg/kg	0.250		71	50-110	3	30
cis-1,4-Dichloro-2-butene	0.165	0.025	mg/kg	0.250		66	80-120	12	30
Dichlorodifluoromethane	0.214	0.025	mg/kg	0.250		85	71-131	8	30

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
LCS Dup (B235080-BSD1)									
Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:51									
1,1-Dichloroethane	0.240	0.025	mg/kg	0.250		96	55-115	3	30
1,2-Dichloroethane	0.226	0.025	mg/kg	0.250		90	49-109	2	30
1,1-Dichloroethene	0.224	0.025	mg/kg	0.250		90	59-119	6	30
cis-1,2-Dichloroethylene	0.238	0.025	mg/kg	0.250		95	55-115	2	30
trans-1,2-Dichloroethylene	0.236	0.025	mg/kg	0.250		94	61-121	5	30
1,2-Dichloropropane	0.246	0.050	mg/kg	0.250		98	57-117	4	30
1,3-Dichloropropane	0.242	0.025	mg/kg	0.250		97	52-112	0.9	30
2,2-Dichloropropane	0.211	0.050	mg/kg	0.250		84	63-123	5	30
1,1-Dichloropropylene	0.237	0.025	mg/kg	0.250		95	57-117	3	30
cis-1,3-Dichloropropylene	0.230	0.025	mg/kg	0.250		92	57-117	2	30
trans-1,3-Dichloropropylene	0.204	0.025	mg/kg	0.250		82	55-115	0.1	30
Ethylbenzene	0.236	0.025	mg/kg	0.250		94	69-129	0.3	30
Ethyl Methacrylate	0.242	0.050	mg/kg	0.250		97	46-106	5	30
Hexachlorobutadiene	0.257	0.025	mg/kg	0.250		103	51-111	57	30
Isopropylbenzene (Cumene)	0.245	0.025	mg/kg	0.250		98	74-134	0.8	30
4-Isopropyltoluene	0.245	0.050	mg/kg	0.250		98	82-142	4	30
Methacrylonitrile	0.265	0.025	mg/kg	0.250		106	52-112	15	30
Methyl Butyl Ketone (2-Hexanone)	0.235	0.050	mg/kg	0.250		94	45-105	0.2	30
Methyl Ethyl Ketone (2-Butanone)	0.239	0.125	mg/kg	0.250		96	38-98	8	30
Acetonitrile	0.249	0.050	mg/kg	0.250		100	60-120	0.3	30
Methyl Iodide	0.234	0.050	mg/kg	0.250		94	56-116	4	30
Methyl Isobutyl Ketone	0.228	0.025	mg/kg	0.250		91	43-103	1	30
Methyl Methacrylate	0.231	0.125	mg/kg	0.250		92	41-101	4	30
Methyl-tert-Butyl Ether	0.222	0.025	mg/kg	0.250		89	53-113	4	30
Methylene Chloride	0.266	0.025	mg/kg	0.250		106	57-117	7	30
Naphthalene	0.345	0.025	mg/kg	0.250		138	49-109	88	30
Propylbenzene	0.246	0.025	mg/kg	0.250		98	73-133	1	30
Styrene	0.212	0.025	mg/kg	0.250		85	65-125	2	30
1,1,1,2-Tetrachloroethane	0.220	0.025	mg/kg	0.250		88	65-125	1	30
1,1,2,2-Tetrachloroethane	0.242	0.025	mg/kg	0.250		97	52-112	2	30
Toluene	0.255	0.025	mg/kg	0.250		102	65-125	2	30
1,2,3-Trichlorobenzene	0.348	0.025	mg/kg	0.250		139	64-124	97	30
1,2,4-Trichlorobenzene	0.272	0.025	mg/kg	0.250		109	69-129	48	30
1,1,1-Trichloroethane	0.239	0.025	mg/kg	0.250		95	61-121	0.5	30
1,1,2-Trichloroethane	0.249	0.025	mg/kg	0.250		100	53-113	0.08	30
Trichlorofluoromethane	0.265	0.025	mg/kg	0.250		106	61-121	15	30

RPD

LCS DH,
RPD

LCS DH,
RPD
RPD

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
LCS Dup (B235080-BSD1)									
Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:51									
1,2,3-Trichloropropane	0.202	0.050	mg/kg	0.250		81	48-108	0.5	30
1,2,4-Trimethylbenzene	0.252	0.025	mg/kg	0.250		101	71-131	2	30
1,3,5-Trimethylbenzene	0.248	0.025	mg/kg	0.250		99	75-135	3	30
Vinyl acetate	0.263	0.025	mg/kg	0.250		105	53-113	9	30
Vinyl chloride	0.249	0.025	mg/kg	0.250		100	62-122	3	30
m,p-Xylenes	0.488	0.025	mg/kg	0.500		98	68-128	2	30
o-Xylene	0.240	0.025	mg/kg	0.250		96	66-126	3	30
Surrogate: Dibromofluoromethane	0.251		mg/kg	0.250		100	88-134		
Surrogate: Toluene-d8	0.252		mg/kg	0.250		101	76-138		
Surrogate: 4-Bromofluorobenzene	0.231		mg/kg	0.250		93	79-125		
Matrix Spike (B235080-MS1)									
Source: 1208374-01 Prepared: 08/28/12 15:00 Analyzed: 08/28/12 19:49									
Acetone	0.260	0.125	mg/kg	0.250	<0.125	104	47-107		
Acrolein	0.125	0.050	mg/kg	0.250	<0.050	50	44-104		
Acrylonitrile	0.195	0.025	mg/kg	0.250	<0.025	78	49-109		
Allyl Chloride (3-Chloropropylene)	0.249	0.025	mg/kg	0.250	<0.025	100	61-121		
Benzene	0.249	0.025	mg/kg	0.250	<0.025	100	55-115		
Bromobenzene	0.265	0.025	mg/kg	0.250	<0.025	106	69-129		
Bromochloromethane	0.260	0.025	mg/kg	0.250	<0.025	104	56-116		
Tetrachloroethene	0.501	0.025	mg/kg	0.250	<0.025	200	50-110		MSH
Bromodichloromethane	0.249	0.025	mg/kg	0.250	<0.025	99	71-131		
Bromoform	0.171	0.050	mg/kg	0.250	<0.050	68	51-111		
Bromomethane	0.311	0.050	mg/kg	0.250	<0.050	124	40-100		MSH
Trichloroethene	0.231	0.025	mg/kg	0.250	<0.025	92	68-128		
Butylbenzene	0.380	0.025	mg/kg	0.250	<0.025	152	80-140		MSH
sec-Butylbenzene	0.460	0.025	mg/kg	0.250	<0.025	184	82-142		MSH
tert-Butylbenzene	0.396	0.050	mg/kg	0.250	<0.050	158	79-139		MSH
Carbon disulfide	0.232	0.025	mg/kg	0.250	<0.025	93	57-117		
Carbon Tetrachloride	0.234	0.025	mg/kg	0.250	<0.025	94	71-131		
Chlorobenzene	0.242	0.025	mg/kg	0.250	<0.025	97	65-125		
Chloroethane	0.272	0.025	mg/kg	0.250	<0.025	109	42-102		MSH
2-Chloroethyl Vinyl Ether	0.174	0.025	mg/kg	0.250	<0.025	69	46-106		
Chloroform	0.249	0.025	mg/kg	0.250	<0.025	100	57-117		
Chloromethane	0.230	0.025	mg/kg	0.250	<0.025	92	51-111		
2-Chlorotoluene	0.301	0.025	mg/kg	0.250	<0.025	120	71-131		
4-Chlorotoluene	0.281	0.025	mg/kg	0.250	<0.025	112	68-128		
Dibromochloromethane	0.210	0.025	mg/kg	0.250	<0.025	84	63-123		

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:

09/12/12 14:44

Received:

08/27/12 10:50

Report No. 1208400

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
Matrix Spike (B235080-MS1)		Source: 1208374-01		Prepared: 08/28/12 15:00		Analyzed: 08/28/12 19:49			
1,2-Dibromo-3-chloropropane	0.180	0.025	mg/kg	0.250	<0.025	72	50-110		
1,2-Dibromoethane	0.212	0.025	mg/kg	0.250	<0.025	85	55-115		
Dibromomethane	0.225	0.025	mg/kg	0.250	<0.025	90	60-120		
1,2-Dichlorobenzene	0.252	0.025	mg/kg	0.250	<0.025	101	67-127		
1,3-Dichlorobenzene	0.253	0.025	mg/kg	0.250	<0.025	101	70-130		
1,4-Dichlorobenzene	0.241	0.025	mg/kg	0.250	<0.025	96	71-131		
trans-1,4-Dichloro-2-butene	0.162	0.025	mg/kg	0.250	<0.025	65	50-110		
cis-1,4-Dichloro-2-butene	0.143	0.025	mg/kg	0.250	<0.025	57	80-120		
Dichlorodifluoromethane	0.202	0.025	mg/kg	0.250	<0.025	81	71-131		
1,1-Dichloroethane	0.238	0.025	mg/kg	0.250	<0.025	95	55-115		
1,2-Dichloroethane	0.228	0.025	mg/kg	0.250	<0.025	91	49-109		
1,1-Dichloroethene	0.208	0.025	mg/kg	0.250	<0.025	83	59-119		
cis-1,2-Dichloroethylene	0.240	0.025	mg/kg	0.250	<0.025	96	55-115		
trans-1,2-Dichloroethylene	0.232	0.025	mg/kg	0.250	<0.025	93	61-121		
1,2-Dichloropropane	0.244	0.050	mg/kg	0.250	<0.050	98	57-117		
1,3-Dichloropropane	0.217	0.025	mg/kg	0.250	<0.025	87	52-112		
2,2-Dichloropropane	0.226	0.050	mg/kg	0.250	<0.050	90	63-123		
1,1-Dichloropropylene	0.240	0.025	mg/kg	0.250	<0.025	96	57-117		
cis-1,3-Dichloropropylene	0.229	0.025	mg/kg	0.250	<0.025	92	57-117		
trans-1,3-Dichloropropylene	0.194	0.025	mg/kg	0.250	<0.025	78	55-115		
Ethylbenzene	0.251	0.025	mg/kg	0.250	<0.025	100	69-129		
Ethyl Methacrylate	0.194	0.050	mg/kg	0.250	<0.050	77	46-106		
Hexachlorobutadiene	0.679	0.025	mg/kg	0.250	<0.025	272	51-111		MSH
Isopropylbenzene (Cumene)	0.316	0.025	mg/kg	0.250	<0.025	127	74-134		
4-Isopropyltoluene	0.352	0.050	mg/kg	0.250	<0.050	141	82-142		
Methacrylonitrile	0.190	0.025	mg/kg	0.250	<0.025	76	52-112		
Methyl Butyl Ketone (2-Hexanone)	0.174	0.050	mg/kg	0.250	<0.050	70	45-105		
Methyl Ethyl Ketone (2-Butanone)	0.180	0.125	mg/kg	0.250	<0.125	72	38-98		
Acetonitrile	0.252	0.050	mg/kg	0.250	<0.050	101	60-120		
Methyl Iodide	0.202	0.050	mg/kg	0.250	<0.050	81	56-116		
Methyl Isobutyl Ketone	0.173	0.025	mg/kg	0.250	<0.025	69	43-103		
Methyl Methacrylate	0.186	0.125	mg/kg	0.250	<0.125	74	41-101		
Methyl-tert-Butyl Ether	0.213	0.025	mg/kg	0.250	<0.025	85	53-113		
Methylene Chloride	0.298	0.025	mg/kg	0.250	0.0594	96	57-117		
Naphthalene	0.511	0.025	mg/kg	0.250	<0.025	204	49-109		MSH
Propylbenzene	0.339	0.025	mg/kg	0.250	<0.025	136	73-133		MSH
Styrene	0.217	0.025	mg/kg	0.250	<0.025	87	65-125		

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

 Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
Matrix Spike (B235080-MS1)		Source: 1208374-01		Prepared: 08/28/12 15:00		Analyzed: 08/28/12 19:49			
1,1,1,2-Tetrachloroethane	0.235	0.025	mg/kg	0.250	<0.025	94	65-125		
1,1,2,2-Tetrachloroethane	0.175	0.025	mg/kg	0.250	<0.025	70	52-112		
Toluene	0.253	0.025	mg/kg	0.250	<0.025	101	65-125		
1,2,3-Trichlorobenzene	0.809	0.025	mg/kg	0.250	<0.025	324	64-124		MSH
1,2,4-Trichlorobenzene	0.475	0.025	mg/kg	0.250	<0.025	190	69-129		MSH
1,1,1-Trichloroethane	0.244	0.025	mg/kg	0.250	<0.025	98	61-121		
1,1,2-Trichloroethane	0.224	0.025	mg/kg	0.250	<0.025	90	53-113		
Trichlorofluoromethane	0.259	0.025	mg/kg	0.250	<0.025	103	61-121		
1,2,3-Trichloropropane	0.171	0.050	mg/kg	0.250	<0.050	68	48-108		
1,2,4-Trimethylbenzene	0.345	0.025	mg/kg	0.250	<0.025	138	71-131		MSH
1,3,5-Trimethylbenzene	0.346	0.025	mg/kg	0.250	<0.025	138	75-135		MSH
Vinyl acetate	0.0716	0.025	mg/kg	0.250	<0.025	29	53-113		MSL
Vinyl chloride	0.236	0.025	mg/kg	0.250	<0.025	94	62-122		
m,p-Xylenes	0.528	0.025	mg/kg	0.500	<0.025	106	68-128		
o-Xylene	0.249	0.025	mg/kg	0.250	<0.025	100	66-126		
Surrogate: Dibromofluoromethane	0.254		mg/kg	0.250		101	88-134		
Surrogate: Toluene-d8	0.256		mg/kg	0.250		103	76-138		
Surrogate: 4-Bromofluorobenzene	0.242		mg/kg	0.250		97	79-125		
Matrix Spike Dup (B235080-MSD1)		Source: 1208374-01		Prepared: 08/28/12 15:00		Analyzed: 08/28/12 20:17			
Acetone	0.259	0.125	mg/kg	0.250	<0.125	104	47-107	0.2	30
Acrolein	0.136	0.050	mg/kg	0.250	<0.050	54	44-104	9	30
Acrylonitrile	0.199	0.025	mg/kg	0.250	<0.025	80	49-109	2	30
Allyl Chloride (3-Chloropropylene)	0.251	0.025	mg/kg	0.250	<0.025	101	61-121	0.9	30
Benzene	0.250	0.025	mg/kg	0.250	<0.025	100	55-115	0.2	30
Bromobenzene	0.267	0.025	mg/kg	0.250	<0.025	107	69-129	0.8	30
Bromochloromethane	0.262	0.025	mg/kg	0.250	<0.025	105	56-116	0.4	30
Tetrachloroethene	0.510	0.025	mg/kg	0.250	<0.025	204	50-110	2	30
Bromodichloromethane	0.253	0.025	mg/kg	0.250	<0.025	101	71-131	2	30
Bromoform	0.176	0.050	mg/kg	0.250	<0.050	70	51-111	3	30
Bromomethane	0.309	0.050	mg/kg	0.250	<0.050	124	40-100	0.5	30
Trichloroethene	0.235	0.025	mg/kg	0.250	<0.025	94	68-128	2	30
Butylbenzene	0.381	0.025	mg/kg	0.250	<0.025	152	80-140	0.4	30
sec-Butylbenzene	0.459	0.025	mg/kg	0.250	<0.025	184	82-142	0.2	30
tert-Butylbenzene	0.399	0.050	mg/kg	0.250	<0.050	160	79-139	0.8	30
Carbon disulfide	0.239	0.025	mg/kg	0.250	<0.025	95	57-117	3	30
Carbon Tetrachloride	0.238	0.025	mg/kg	0.250	<0.025	95	71-131	2	30

Raba-Kistner Consultants, Inc.
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Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

 Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
Matrix Spike Dup (B235080-MSD1)		Source: 1208374-01		Prepared: 08/28/12 15:00 Analyzed: 08/28/12 20:17					
Chlorobenzene	0.245	0.025	mg/kg	0.250	<0.025	98	65-125	1	30
Chloroethane	0.275	0.025	mg/kg	0.250	<0.025	110	42-102	1	30
2-Chloroethyl Vinyl Ether	0.184	0.025	mg/kg	0.250	<0.025	73	46-106	6	30
Chloroform	0.246	0.025	mg/kg	0.250	<0.025	99	57-117	0.9	30
Chloromethane	0.236	0.025	mg/kg	0.250	<0.025	94	51-111	2	30
2-Chlorotoluene	0.308	0.025	mg/kg	0.250	<0.025	123	71-131	2	30
4-Chlorotoluene	0.288	0.025	mg/kg	0.250	<0.025	115	68-128	2	30
Dibromochloromethane	0.216	0.025	mg/kg	0.250	<0.025	86	63-123	3	30
1,2-Dibromo-3-chloropropane	0.186	0.025	mg/kg	0.250	<0.025	75	50-110	3	30
1,2-Dibromoethane	0.213	0.025	mg/kg	0.250	<0.025	85	55-115	0.8	30
Dibromomethane	0.232	0.025	mg/kg	0.250	<0.025	93	60-120	3	30
1,2-Dichlorobenzene	0.254	0.025	mg/kg	0.250	<0.025	102	67-127	0.9	30
1,3-Dichlorobenzene	0.251	0.025	mg/kg	0.250	<0.025	100	70-130	0.8	30
1,4-Dichlorobenzene	0.240	0.025	mg/kg	0.250	<0.025	96	71-131	0.4	30
trans-1,4-Dichloro-2-butene	0.175	0.025	mg/kg	0.250	<0.025	70	50-110	8	30
cis-1,4-Dichloro-2-butene	0.156	0.025	mg/kg	0.250	<0.025	62	80-120	9	30
Dichlorodifluoromethane	0.211	0.025	mg/kg	0.250	<0.025	84	71-131	4	30
1,1-Dichloroethane	0.239	0.025	mg/kg	0.250	<0.025	96	55-115	0.4	30
1,2-Dichloroethane	0.228	0.025	mg/kg	0.250	<0.025	91	49-109	0.2	30
1,1-Dichloroethene	0.208	0.025	mg/kg	0.250	<0.025	83	59-119	0.05	30
cis-1,2-Dichloroethylene	0.244	0.025	mg/kg	0.250	<0.025	97	55-115	2	30
trans-1,2-Dichloroethylene	0.231	0.025	mg/kg	0.250	<0.025	92	61-121	0.6	30
1,2-Dichloropropane	0.243	0.050	mg/kg	0.250	<0.050	97	57-117	0.4	30
1,3-Dichloropropane	0.230	0.025	mg/kg	0.250	<0.025	92	52-112	6	30
2,2-Dichloropropane	0.230	0.050	mg/kg	0.250	<0.050	92	63-123	2	30
1,1-Dichloropropylene	0.244	0.025	mg/kg	0.250	<0.025	98	57-117	2	30
cis-1,3-Dichloropropylene	0.238	0.025	mg/kg	0.250	<0.025	95	57-117	4	30
trans-1,3-Dichloropropylene	0.202	0.025	mg/kg	0.250	<0.025	81	55-115	4	30
Ethylbenzene	0.254	0.025	mg/kg	0.250	<0.025	102	69-129	1	30
Ethyl Methacrylate	0.201	0.050	mg/kg	0.250	<0.050	80	46-106	4	30
Hexachlorobutadiene	0.709	0.025	mg/kg	0.250	<0.025	284	51-111	4	30
Isopropylbenzene (Cumene)	0.323	0.025	mg/kg	0.250	<0.025	129	74-134	2	30
4-Isopropyltoluene	0.355	0.050	mg/kg	0.250	<0.050	142	82-142	0.7	30
Methacrylonitrile	0.200	0.025	mg/kg	0.250	<0.025	80	52-112	5	30
Methyl Butyl Ketone (2-Hexanone)	0.178	0.050	mg/kg	0.250	<0.050	71	45-105	2	30
Methyl Ethyl Ketone (2-Butanone)	0.186	0.125	mg/kg	0.250	<0.125	74	38-98	4	30
Acetonitrile	0.255	0.050	mg/kg	0.250	<0.050	102	60-120	1	30

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 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

 Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400
Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235080 - 5035									
Matrix Spike Dup (B235080-MSD1)		Source: 1208374-01		Prepared: 08/28/12 15:00 Analyzed: 08/28/12 20:17					
Methyl Iodide	0.204	0.050	mg/kg	0.250	<0.050	82	56-116	1	30
Methyl Isobutyl Ketone	0.179	0.025	mg/kg	0.250	<0.025	71	43-103	3	30
Methyl Methacrylate	0.187	0.125	mg/kg	0.250	<0.125	75	41-101	0.6	30
Methyl-tert-Butyl Ether	0.217	0.025	mg/kg	0.250	<0.025	87	53-113	2	30
Methylene Chloride	0.301	0.025	mg/kg	0.250	0.0594	96	57-117	0.7	30
Naphthalene	0.529	0.025	mg/kg	0.250	<0.025	212	49-109	3	30
Propylbenzene	0.348	0.025	mg/kg	0.250	<0.025	139	73-133	3	30
Styrene	0.219	0.025	mg/kg	0.250	<0.025	88	65-125	0.7	30
1,1,1,2-Tetrachloroethane	0.237	0.025	mg/kg	0.250	<0.025	95	65-125	0.6	30
1,1,2,2-Tetrachloroethane	0.177	0.025	mg/kg	0.250	<0.025	71	52-112	0.9	30
Toluene	0.259	0.025	mg/kg	0.250	<0.025	104	65-125	2	30
1,2,3-Trichlorobenzene	0.856	0.025	mg/kg	0.250	<0.025	342	64-124	6	30
1,2,4-Trichlorobenzene	0.502	0.025	mg/kg	0.250	<0.025	201	69-129	6	30
1,1,1-Trichloroethane	0.247	0.025	mg/kg	0.250	<0.025	99	61-121	0.9	30
1,1,2-Trichloroethane	0.230	0.025	mg/kg	0.250	<0.025	92	53-113	2	30
Trichlorofluoromethane	0.255	0.025	mg/kg	0.250	<0.025	102	61-121	1	30
1,2,3-Trichloropropane	0.179	0.050	mg/kg	0.250	<0.050	72	48-108	4	30
1,2,4-Trimethylbenzene	0.351	0.025	mg/kg	0.250	<0.025	141	71-131	2	30
1,3,5-Trimethylbenzene	0.353	0.025	mg/kg	0.250	<0.025	141	75-135	2	30
Vinyl acetate	0.0694	0.025	mg/kg	0.250	<0.025	28	53-113	3	30
Vinyl chloride	0.241	0.025	mg/kg	0.250	<0.025	96	62-122	2	30
m,p-Xylenes	0.534	0.025	mg/kg	0.500	<0.025	107	68-128	1	30
o-Xylene	0.256	0.025	mg/kg	0.250	<0.025	102	66-126	3	30
Surrogate: Dibromofluoromethane	0.254		mg/kg	0.250		101	88-134		
Surrogate: Toluene-d8	0.257		mg/kg	0.250		103	76-138		
Surrogate: 4-Bromofluorobenzene	0.246		mg/kg	0.250		98	79-125		

Total Petroleum Hydrocarbons by GC - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235082 - TX-1005L									
Blank (B235082-BLK1)		Prepared: 08/28/12 15:00 Analyzed: 08/28/12 16:05							
C6-C35 Hydrocarbons	<5.00	5.00	mg/L						

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13, 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

Received:
 08/27/12 10:50

Report No. 1208400

Total Petroleum Hydrocarbons by GC - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B235082 - TX-1005L									
Blank (B235082-BLK1)				Prepared: 08/28/12 15:00 Analyzed: 08/28/12 16:05					
Surrogate: 1-Chlorooctadecane	3.24		mg/L	5.00		65	53-150		
Surrogate: 1-Chlorooctane	4.00		mg/L	5.00		80	40-121		
LCS (B235082-BS1)				Prepared: 08/28/12 15:00 Analyzed: 08/28/12 16:21					
C6-C35 Hydrocarbons	98.5	5.00	mg/L	100		98	75-135		
Surrogate: 1-Chlorooctadecane	4.16		mg/L	5.00		83	53-150		
Surrogate: 1-Chlorooctane	5.22		mg/L	5.00		104	40-121		
LCS Dup (B235082-BSD1)				Prepared: 08/28/12 15:00 Analyzed: 08/28/12 16:47					
C6-C35 Hydrocarbons	108	5.00	mg/L	100		108	75-135	9	20
Surrogate: 1-Chlorooctadecane	4.66		mg/L	5.00		93	53-150		
Surrogate: 1-Chlorooctane	5.70		mg/L	5.00		114	40-121		
Batch B235083 - TX-1005S									
Blank (B235083-BLK1)				Prepared: 08/28/12 15:00 Analyzed: 08/28/12 17:31					
C6-C35 Hydrocarbons	<50.0	50.0	mg/kg						
Surrogate: 1-Chlorooctadecane	34.4		mg/kg	50.0		69	53-150		
Surrogate: 1-Chlorooctane	41.5		mg/kg	50.0		83	40-121		
LCS (B235083-BS1)				Prepared: 08/28/12 15:00 Analyzed: 08/28/12 17:42					
C6-C35 Hydrocarbons	1120	50.0	mg/kg	1000		112	75-125		
Surrogate: 1-Chlorooctadecane	49.0		mg/kg	50.0		98	53-150		
Surrogate: 1-Chlorooctane	57.9		mg/kg	50.0		116	40-121		
LCS Dup (B235083-BSD1)				Prepared: 08/28/12 15:00 Analyzed: 08/28/12 17:53					
C6-C35 Hydrocarbons	990	50.0	mg/kg	1000		99	75-125	12	30
Surrogate: 1-Chlorooctadecane	44.3		mg/kg	50.0		89	53-150		
Surrogate: 1-Chlorooctane	54.3		mg/kg	50.0		109	40-121		
Matrix Spike (B235083-MS1)				Source: 1208374-01		Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:04			
C6-C35 Hydrocarbons	1080	50.0	mg/kg	1000	<50.0	108	75-125		
Surrogate: 1-Chlorooctadecane	57.1		mg/kg	50.0		114	53-150		
Surrogate: 1-Chlorooctane	54.9		mg/kg	50.0		110	40-121		
Matrix Spike Dup (B235083-MSD1)				Source: 1208374-01		Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:14			
C6-C35 Hydrocarbons	1050	50.0	mg/kg	1000	<50.0	105	75-125	3	30

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Reported:
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 08/27/12 10:50

Report No. 1208400

Total Petroleum Hydrocarbons by GC - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B235083 - TX-1005S

Matrix Spike Dup (B235083-MSD1)

Source: 1208374-01

Prepared: 08/28/12 15:00 Analyzed: 08/28/12 18:14

Surrogate: 1-Chlorooctadecane	59.4		mg/kg	50.0		119	53-150		
Surrogate: 1-Chlorooctane	57.1		mg/kg	50.0		114	40-121		

Total Metals by TCLP (EPA 1311) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B236095 - 3010A

Blank (B236095-BLK1)

Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:27

Arsenic	<0.100	0.100	mg/L						
Lead	<0.100	0.100	mg/L						

LCS (B236095-BS1)

Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:46

Arsenic	2.16	0.100	mg/L	2.00		108	80-120		
Lead	2.13	0.100	mg/L	2.00		107	80-120		

LCS Dup (B236095-BSD1)

Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:52

Arsenic	2.10	0.100	mg/L	2.00		105	80-120	3	20
Lead	2.08	0.100	mg/L	2.00		104	80-120	3	20

Matrix Spike (B236095-MS1)

Source: 1208362-02

Prepared: 09/05/12 16:50 Analyzed: 09/06/12 16:02

Arsenic	2.39	0.100	mg/L	2.00		119	75-125		
Lead	1.91	0.100	mg/L	2.00	0.00220	95	75-125		

Matrix Spike Dup (B236095-MSD1)

Source: 1208362-02

Prepared: 09/05/12 16:50 Analyzed: 09/06/12 16:07

Arsenic	2.39	0.100	mg/L	2.00		120	75-125	0.2	20
Lead	1.89	0.100	mg/L	2.00	0.00220	94	75-125	0.8	20

Total Metals by SPLP (EPA 1312) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B236095 - 3010A

Blank (B236095-BLK1)

Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:27

Raba-Kistner Consultants, Inc.
 12821 W. Golden Lane
 San Antonio TX, 78249

Project: South Alamo Improvements

Project Number: ASF11-135-23, ASF11-135-24

Project Manager: Rick Klar

Client added Total, SPLP, and TCLP metals to samples 1, 8, 13,
 14, and 15. 8/31/12

Reported:
 09/12/12 14:44

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 08/27/12 10:50

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Total Metals by SPLP (EPA 1312) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B236095 - 3010A									
Arsenic	<0.010	0.010	mg/L						
Lead	<0.010	0.010	mg/L						
LCS (B236095-BS1)				Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:46					
Arsenic	2.16	0.010	mg/L	2.00		108	80-120		
Lead	2.13	0.010	mg/L	2.00		107	80-120		
LCS Dup (B236095-BSD1)				Prepared: 09/05/12 16:50 Analyzed: 09/06/12 15:52					
Arsenic	2.10	0.010	mg/L	2.00		105	80-120	3	20
Lead	2.08	0.010	mg/L	2.00		104	80-120	3	20
Matrix Spike (B236095-MS1)				Source: 1208362-02		Prepared: 09/05/12 16:50 Analyzed: 09/06/12 16:02			
Arsenic	2.39	0.010	mg/L	2.00		119	75-125		
Lead	1.91	0.010	mg/L	2.00	0.00910	95	75-125		
Matrix Spike Dup (B236095-MSD1)				Source: 1208362-02		Prepared: 09/05/12 16:50 Analyzed: 09/06/12 16:07			
Arsenic	2.39	0.010	mg/L	2.00		120	75-125	0.2	20
Lead	1.89	0.010	mg/L	2.00	0.00910	94	75-125	0.8	20

Definitions and Notes

All quality control samples and checks are within acceptance limits unless otherwise indicated.

Test results pertain only to those items tested.

All samples were in good condition when received by the laboratory unless otherwise noted.

Raba-Kistner Consultants, Inc.
12821 W. Golden Lane
San Antonio TX, 78249

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Z CCB had a high bias.

SurrL Surrogate recovery was low due to matrix interference

RPD RPD is outside QC limits due to possible matrix interferences.

MSL MS recovery is outside QC limits, the results may have a slight low bias due to possible matrix interferences.

MSH MS recovery is outside QC limits, the results may have a slight high bias due to possible matrix interferences.

MSDL MSD recovery is outside QC limits, the results may have a slight low bias due to possible matrix interferences.

MSDH MSD recovery is outside QC limits, the results may have a slight high bias due to possible matrix interferences.

LCSL LCS recovery is outside QC limits, the results may have a slight low bias.

LCSH LCS recovery is outside QC limits, the results may have a slight high bias.

LCSDL LCSD recovery is outside QC limits, the results may have a slight low bias.

LCSDH LCSD recovery is outside QC limits, the results may have a slight high bias.

LC Lab Contamination.

ICVH ICV recovery is outside QC limits, the results may have a slight high bias.

CCVL CCV recovery is outside QC limits, the results may have a slight low bias.

CCVH CCV recovery is outside QC limits, the results may have a slight high bias.

PQL Practical Quantitation Limit

MCL Maximum Contaminant Level

mg/Kg Milligrams per Kilogram (Parts per Million)

mg/L Milligrams per Liter (Parts per Million)

PPM Parts per Million

F/NF Found / Not Found

* TNI / NELAC accredited analyte

RMCCCL Recommended Maximum Concentration of Contaminants Level

μR/hr MicroRoentgens per hour (Measure of Radioactivity Level)

Test Methods Standard Methods for the Examination of Water and Wastewater, 20th Edition 1998
Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, Rev. March 1983
EPA SW Test Methods for the Examination of Solid Waste, SW-846, 1996



Cert. No. T104704360-12-8

Raba-Kistner Consultants, Inc.

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San Antonio TX, 78249

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08/27/12 10:50

Report No. 1208400

Sandra Felix For Marcela Gracia Hawk, President For

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Richard Hawk, General Manager

RABA-KISTNER CONSULTANTS, INC.
 12821 W Golden Lane - San Antonio, Texas 78249
 FAX: (210) 699-6426
 Phone: (210) 699-9090

Chain of Custody Record and Analysis Request

1208400

Lab Name		Address		Phone	210-699-9090	CUSTODY RECORD								
San Antonio Testing		1610 S. Laredo		Fax	210-699-6426									
Site Location	Project Number	P.O. Number	Report Results to:											
South Alamo Improvements	ASF11-135-23, ASF11-135-24	144178	rklat@rkci.com											
R-KCI #	SAMPLE ID	SAMPLING		AMOUNT SAMPLED	Soil	Matrix	Preservative	TPH	BTEX/MTBE	VOCs	RCRA 8 Metals	SPLP Metals	ANALYSIS REQUESTED	CUSTODY RECORD
		DATE	TIME											
1	GP-3 (2.5'-5')	08/24/12	0935	8 oz	X									
2	GP-3 (5'-7.5')	08/24/12	0938	8 oz	X									
3	GP-3 (7.5'-10')	08/24/12	0940	8 oz	X									
4	GP-3 (10'-12.5')	08/24/12	0945	8 oz	X									
5	GP-3 (12.5'-14')	08/24/12	0948	8 oz	X									
6	GP-3 C-1 (2.5'-5')	08/24/12	1020	8 oz	X									
7	GP-3 C-1 (5'-7.5')	08/24/12	1025	8 oz	X									
8	GP-3 C-1 (7.5'-10')	08/24/12	1028	8 oz	X									
9	GP-3 C-1 (10'-12.5')	08/24/12	1030	8 oz	X									
10	GP-3 C-2	08/24/12	0955	8 oz	X									
11	GP-3 C-2 (5'-7.5')	08/24/12	0958	8 oz	X									
12	GP-3 C-2 (7.5'-10')	08/24/12	1000	8 oz	X									
13	GP-3 C-2 (10'-12.5')	08/24/12	1005	8 oz	X									
14	GP-3 C-2 (12.5'-15')	08/24/12	1009	8 oz	X									
15	B-1 (2.5'-5')	08/24/12	0948	8 oz	X									
16	B-1 (5'-7.5')	08/24/12	0957	8 oz	X									
17	B-1 (7.5'-10')	08/24/12	1010	8 oz	X									
18	B-1 (10'-12.5')	08/24/12	1028	8 oz	X									
19	B-1 (15'-17.5')	08/24/12	1039	8 oz	X									
20	B-1 (20'-22.5')	08/24/12	1100	8 oz	X									
21	B-1 (25'-27.5')	08/24/12	1120	8 oz	X									
22	B-1 (30'-32.5')	08/24/12	1142	8 oz	X									
23	B-1 (32.5'-35')	08/24/12	1200	8 oz	X									

TURNAROUND TIME REQUESTED

RUSH 1 day _____

RUSH 2 day _____

RUSH 3 day XXXX

Standard 5 day _____

PROVIDE RESULTS BY: _____

SPECIFY

Special detection limits: TRRP Reporting Limits _____

Special reporting requirements: _____

COMMENTS:

7.82 Feed

Sample Receipt Report

Samples OK _____

Temp 4 C Min _____

Custody Seals Intact _____

Head Space in VOA _____

PH adjusted _____

Relinquished By: _____ **Date:** _____ **Time:** _____

Relinquished By: _____ **Date:** _____ **Time:** _____

Relinquished By: _____ **Date:** _____ **Time:** _____

Chain of Custody Record and Analysis Request

1708400

[illegible]

SAtesting

From: Heather D. Johnson [HJOHNSON@rkci.com]
Sent: Monday, August 27, 2012 3:52 PM
To: SAtesting
Cc: Sairam Abburu; Rick Sample; Rick Klar; Lisa Judson
Subject: Analysis for Report Nos. 1208374 and 1208400
Importance: High
Attachments: SALamoCOC.pdf

Aimee or Sandra,

Please find attached the assignments for the referenced project numbers. Please call myself or Rick Klar with any questions regarding the sample assignment.

Sai – Can you please have them filter the water sample for the metals? The water was turbid when sampled. It has settled, but we want to make sure that the sedimentation doesn't interfere with the metals results, especially.

Thank you.

HEATHER D. JOHNSON
GEOLOGIST

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TBPE Firm F-3257

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Sample Receipt Checklist

Client: Raba Report Number: 1208400
Project Name: South Alamo Improvements Date Received: 8/27/12
Shipped via: ☐ FedEx ☐ UPS ☐ Lonestar ☒ Hand Delivered ☐ DHL ☐ SATL ☐ Other Date Due: _____
Rush: ☒ Specify: ☒ 5 ☐ 2 ☐ 1

Items to be checked upon Receipt: [Yes, No, N/A]

1. Custody Seals present?	Yes	☐	No	☒	NA	☐	If NA-reason:	
2. Custody Seals intact?	Yes	☐	No	☐	NA	☒	If NA-reason:	
3. Air Bill included in folder, if received?	Yes	☐	No	☐	NA	☒	If NA-reason:	
4. Is COC included with samples?	Yes	☒	No	☐	NA	☐	If NA-reason:	
5. Is COC signed and dated by client?	Yes	☒	No	☐	NA	☐	If NA-reason:	
6. Sample temperature: Thermal preservation between >0° - 6° C? (Samples that are delivered to the laboratory on the same day that they are collected may not meet this criterion, but are acceptable if they arrive on ice.)	Yes	☒	No	☐	NA	☐	Temp:	°C
7. Samples received with ice ☒ ice packs ☐ other cooling ☐	Yes	☒	No	☐	NA	☐	If NA-reason:	
8. Is the COC filled out correctly, and completely?	Yes	☒	No	☐	NA	☐	If NA-reason:	
9. Information on the COC matches the samples?	Yes	☒	No	☐	NA	☐	If NA-reason:	
10. Samples received within holding time?	Yes	☒	No	☐	NA	☐	If NA-reason:	
11. Samples properly labeled?	Yes	☒	No	☐	NA	☐	If NA-reason:	
12. Samples submitted with chemical preservation? (e.g. pH adjusted, or sodium thiosulfate added for microbiological tests)	Yes	☐	No	☐	NA	☒	If NA-reason:	Solid
13. Proper sample containers used?	Yes	☒	No	☐	NA	☐	If NA-reason:	
14. All samples received intact, containers not damaged or leaking?	Yes	☒	No	☐	NA	☐	If NA-reason:	
15. VOA vials (requesting BTEX/VOC analysis) received with no air bubbles? Bubbles acceptable on VOA vials for TPH.	Yes	☐	No	☐	NA	☒	If NA-reason:	now a vials
16. Sample volume sufficient for requested analysis?	Yes	☒	No	☐	NA	☐	If NA-reason:	
17. Subcontracted Samples: [if Yes, complete the next section]	Yes	☐	No	☒	NA	☐	If NA-reason:	

Analyses Subcontracted Out: _____ No. of Samples _____

Samples sent to: _____ Sent By: _____

Date samples sent: _____ Samples shipped via: _____

TAT Requested: _____

Tracking number [if any]: _____

Comments:

Received By: [Signature] Date: 8/27/12
Labeled By: _____ Date: _____
Logged into LIMS By: [Signature] Date: _____
Logged into RF By: _____ Date: _____

Chain of Custody Record and Analysis Request

208021

[illegible]

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Chain of Custody Record and Analysis Request

1708400

Lab Name San Antonio Testing				Address 1610 S. Laredo				Phone 210-699-9090 Fax 210-699-6426				ANALYSIS REQUESTED IN				CUSTODY RECORD											
Site Location South Alamo Improvements				Project Number ASF11-135-23, ASF11-135-24				P.O. Number 144178				Report Results to: rkian@rkci.com				Relinquished By: 				Relinquished By: 							
R-KCI #	SAMPLE ID	SAMPLING		AMOUNT SAMPLED	Matrix				Preservative				TPH	BTEX/MTBE	VOCs	RCRA 8 Metals	SPLP Metals	Test Results	Test Results	Test Results	Test Results	Time	Date	Time	Date		
		DATE	TIME		Soil	Water	Ice	Water	Ice																		
19	B-2 (2.5'-5')	08/24/12	1405	8 oz	X				X				X			X											
20	B-2 (5'-7.5')	08/24/12	1410	8 oz	X				X				X			X											
21	B-2 (7.5'-10')	08/24/12	1425	8 oz	X				X				X			X											
22	B-2 (10'-12.5')	08/24/12	1440	8 oz	X				X				X			X											
23	B-2 (15'-17.5')	08/24/12	1500	8 oz	X				X				X			X											
24	B-2 (20'-22.5')	08/24/12	1530	8 oz	X				X				X			X											
25	B-2 (25'-27.5')	08/24/12	1545	8 oz	X				X				X			X											
26	B-2 (GW Grab)	08/24/12	1540						X																		
27	B-2 32.5'-35'	08/24/12	16:00	8 oz																							

TURNAROUND TIME REQUESTED

RUSH 1 day

RUSH 2 day

RUSH 3 day XXX

Standard 5 day

PROVIDE RESULTS BY:

SPECIFY

Special detection limits: TRRP Reporting Limits

Special reporting requirements:

COMMENTS: 2, 30c, 100c

Sample Receipt Report

Samples OK

Temp 4 C Min

Custody Seals Intact

Head Space in VOA

PH adjusted

SAtesting

From: Rick Klar [rklar@rkci.com]
Sent: Friday, August 31, 2012 5:00 PM
To: SAtesting
Cc: Sairam Abburu; Lisa Judson; Heather D. Johnson
Subject: RE: South Alamo Improvements
Importance: High

Please assign the following additional testing for the referenced project:

Report 1208374

GP-1 (7.5-10 ft): RCRA 8 Metals
GP-1 (10-12.5 ft): SPLP and TCLP analysis for arsenic and barium
GP-2 (12.5-15 ft): SPLP and TCLP analysis for mercury

Report 1208400

GP-3 (2.5-5.0 ft) SPLP and TCLP analysis for arsenic and lead
B-1 (7.5-10 ft) SPLP and TCLP analysis for arsenic
B-1 (5-7.5 ft) RCRA 8 Metals
B-1 (10-12.5 ft) RCRA 8 Metals
GP-3 C-2 (2.5-5.0 ft) Total lead and arsenic

Please call me with any questions.

Thanks.

RICHARD V. KLAR, P.G.
ASSOCIATE
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From: SAtesting [mailto:SAtesting@satestinglab.com]
Sent: Thursday, August 30, 2012 4:38 PM
To: Rick Klar; Lisa Judson; Heather D. Johnson
Cc: Sairam Abburu
Subject: South Alamo Improvements

9/4/2012