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January 26, 2012

Alameda County Department of Environmental Health 1131 Harbor Bay Parkway, 2nd Floor Alameda, CA 94502 5:51 pm, Jan 31, 2012

Alameda County
Environmental Health

Attention: Mark Detterman

Subject: Report of Soil and Groundwater Investigation and

Workplan to Conduct Additional Investigative Activities

3800 San Pablo Avenue, Emeryville, California

ACDEH Fuel Leak Case: RO00002520; Global ID: T06019788682

Ladies and Gentlemen:

Attached please find a copy of the *Soil and Groundwater Investigation Report and Workplan to Conduct Additional Investigative Activities* prepared by Gribi Associates. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Very truly yours,

William H. Banker, Jr.

San Pablo Avenue Venture

William HBankup

c/o Banker, Marks & Kirk 1720 Broadway, Suite 202

Oakland, CA 94612

REPORT OF SOIL AND GROUNDWATER INVESTIGATION AND WORKPLAN TO CONDUCT ADDITIONAL INVESTIGATIVE ACTIVITIES

3800 San Pablo Avenue Emeryville, California ACDEH Fuel Leak Case: RO00002520

Prepared for:

San Pablo Avenue Venture c/o Banker, Marks & Kirk 1721 Broadway, Suite 202 Oakland, CA 94612

January 26, 2012



GEOLOGIC & ENVIRONMENTAL CONSULTING SERVICES



January 26, 2012

Mrs. Elaine Kirk San Pablo Avenue Venture c/o Banker, Marks & Kirk 1721 Broadway, Suite 202 Oakland, CA 94612

Subject: Report of Soil and Groundwater Investigation and

Workplan to Conduct Additional Investigative Activities

3800 San Pablo Avenue, Emeryville, California

ACDEH Fuel Leak Case: RO00002520; Global ID: T06019788682

Dear Mrs. Kirk:

Gribi Associates is pleased to submit this *Soil and Groundwater Investigation Report and Workplan to Conduct Additional Investigative Activities* for the underground storage tank (UST) site located at 3800 San Pablo Avenue in Emeryville, California (Site). This report documents the drilling and sampling of seven investigative borings (B-8 through B-14) on the Site. The primary goal of the investigation has been to attempt to determine the nature and onsite extent of the previously-identified groundwater hydrocarbon plume beneath the northwest (Adeline Street) parking lot.

Based on the results of this investigation, this report also includes a workplan to conduct additional investigative activities at the Site. These activities will include the installation and sampling of four groundwater monitoring wells at the Site and the drilling and sampling of three soil borings on the west side of San Pablo Avenue, approximately 100 feet southwest from the Site.

We appreciate the opportunity to present this report for your review. Please call if you have any questions or require additional information.

Very truly yours,

James E. Gribi Registered Geologist California No. 5843

JEG/ct

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EXECUTIVE SUMMARY

Gribi Associates is pleased to submit this *Soil and Groundwater Investigation Report and Workplan to Conduct Additional Investigative Activities* for the underground storage tank (UST) site located at 3800 San Pablo Avenue in Emeryville, California (Site). This report documents the drilling and sampling of seven investigative borings (B-8 through B-14) on the Site. The primary goal of the investigation has been to attempt to determine the nature and onsite extent of the previously-identified groundwater hydrocarbon plume beneath the northwest (Adeline Street) parking lot.

Investigative borings B-8 through B-14 were drilled and sampled on December 27 and 28, 2011. All activities were conducted in accordance with applicable guidelines and statutes. Soils encountered in the borings generally consisted of clays, with relatively thin discontinuous silty and clayey gravels and sands present in some of the borings. All borings except B-8, encountered no sand or gravel layers down to approximately 22 feet in depth. In borings that extended deeper than 22 feet (B-11 and B-12), a brown silty sand was present from 22 to 23 feet in depth. A clayey sand was present from 13.5 feet to 16.5 feet in B-8, and a gravelly sand was present from 8 feet to 9 feet in boring B-14. A gravelly silt was present from 14 feet to 17 feet in boring B-13. Free groundwater was encountered below 15 feet in depth in the seven borings. Recharge was slow in several of the borings, and groundwater in borings B-12, B-13, and B-14 was sampled after allowing the borings to remain open for almost 24 hours. Slight to moderate hydrocarbon odors were encountered in soils in boring B-8, B-12, and B-13 from approximately 14 to 17 feet in depth. Hydrocarbon odors were also noted in grab groundwater samples from B-12 and B-13.

Soil and grab groundwater samples from the seven borings were analyzed for both gasoline- and diesel-range hydrocarbons. Very low concentrations (below 50 milligrams per kilogram, mg/kg) of diesel-range hydrocarbons were encountered in soil samples below ten feet in depth in borings B-8 and B-11. Very low concentrations (below 5 mg/kg) of gasoline-range hydrocarbons were encountered in soil samples below ten feet in depth in borings B-8, B-12, B-13, and B-14. Low concentrations of gasoline-range hydrocarbons, with no BTEX constituents, were encountered in grab groundwater samples from B-8 and B-14. Moderate levels of gasoline-range hydrocarbons were encountered in grab groundwater samples from borings B-12 and B-13.

Both field and laboratory analytical results from this investigation indicate that the previously-identified groundwater hydrocarbon plume beneath the Adeline Street parking lot is localized and did not originate from elsewhere on the Site. Results from borings B-8 through B-11 and B-14, located in an expected upgradient groundwater flow direction from the Adeline Street parking lot, showed no evidence of significant hydrocarbon impacts. Also, the moderate hydrocarbon levels in groundwater samples from borings B-12 and B-13 are lower than most of the hydrocarbon detections in previous borings in the Adeline Street parking lot itself. Thus, it appears that the source, or sources, of the groundwater hydrocarbon impacts in the Adeline Street parking lot are either the former USTs in the Adeline Street sidewalk (removed in 2002) or perhaps fuel dispensers associated with these former USTs.



Based on the conclusions summarized above, we foresee the following general steps relative to Site investigation and closure, all focused in the Adeline Street parking lot and offsite to the southwest: (1) The installation and monitoring (including groundwater gradient determination) of approximately four groundwater monitoring wells in the Adeline Street parking lot; (2) The drilling and sampling of approximately three soil borings on the west side of San Pablo Avenue, approximately 100 feet southwest from the Adeline Street parking lot; (3) The implementation of remedial measures, such as ozone injection, in the Adeline Street parking lot to reduce groundwater hydrocarbon impacts; and (4) The implementation of verification monitoring to verify remedial effectiveness and lack of significant risk. Note that these possible steps are approximate only and could vary significantly as new data becomes available and/or based on input from Alameda County Department of Environmental Health.

This report includes a workplan to conduct the first two steps summarized above, to include the installation and monitoring of four groundwater monitoring wells in the Adeline Street parking lot and the drilling and sampling of three soil borings on the west side of San Pablo Avenue, approximately 100 feet southwest from the Adeline Street parking lot. The goal of these activities will be to provide the additional site characterization necessary to develop a conceptual site model (CSM) and interim remedial measures for the Site.



1.0 INTRODUCTION

Gribi Associates is pleased to submit this *Soil and Groundwater Investigation Report and Workplan to Conduct Additional Investigative Activities* for the underground storage tank (UST) site located at 3800 San Pablo Avenue in Emeryville, California (see Figure 1 and Figure 2) (Site). This report documents the drilling and sampling of seven investigative borings (B-8 through B-14) on the Site. The primary goal of the investigation has been to attempt to determine the nature and onsite extent of the previously-identified groundwater hydrocarbon plume beneath the northwest (Adeline Street) parking lot.

This report also includes a workplan to conduct additional investigative activities at the Site. These activities will include the installation and sampling of four groundwater monitoring wells at the Site and the drilling and sampling of three soil borings on the west side of San Pablo Avenue, approximately 100 feet southwest from the Site.

1.1 Scope of Work

Gribi Associates was contracted by San Pablo Avenue Venture to conduct the following scope of work.

- Task 1 Conduct prefield activities.
- Task 2 Conduct drilling and sampling activities.
- Task 3 Conduct laboratory analyses.analyses.
- **■** Task 4 Prepare report of findings.

These tasks were conducted in accordance with the approved workplan and with generally accepted sampling guidelines and protocols.

1.2 Limitations

The services provided under this contract as described in this report include professional opinions and judgments based on data collected. These services have been provided according to generally accepted environmental protocol. The opinions and conclusions contained in this report are typically based on information obtained from:

- 1. Observations and measurements made by our field staff.
- 2. Contacts and discussions with regulatory agencies and others.
- 3. Review of available hydrogeologic data.



2.0 SITE BACKGROUND

2.1 General Site Description

The Site is located in a mixed commercial, light industrial, and residential area of southeast Emeryville near the Oakland/Emeryville city border. The Site is bordered to the south by Apgar Street, followed by the West MacArther Boulevard underpass. East from the Site is an auto repair facility, followed by residential properties. The Site is bordered on the west by the Adeline Street and San Pablo Avenue intersection, which extends approximately 100 feet west from the Site. North from the Site are commercial and residential properties. The Site is currently used by the owners for storage.

2.2 General Site Topography and Geologic Setting

According to the USGS Oakland, West, California 7.5-Minute Quadrangle Map, the Site lies on a gently southwest-sloping plain approximately one mile east from San Francisco Bay. The elevation at the Site is approximately 40 feet above mean sea level. Based on site topography and location, we would expect groundwater flow in the site area to generally be to the west towards San Francisco Bay.

Subsurface soils at the site and in the site area generally consist of clays, with occasional thin, discontinuous silts, sands, and gravels. Groundwater at the site is generally encountered at depths below 10 feet below surface grade.

2.3 Summary of Previous Environmental Investigation Activities

The following sections describe previous underground storage tank (UST) removal activities and environmental investigation activities conducted at the Site.

2.3.1 UST Removal Activities

According to previous reports and records, there were previously two separate UST fueling systems on the Site. One system included two 1,000-gallon gasoline USTs and, while the exact location of these USTs is not known, these USTs were most likely located in the parking lot on the northeast side of the Site. The second system included one 1,000-gallon heating oil UST and one 550-gallon heating oil UST, both located in, and adjacent to, the Adeline Street sidewalk on the northwest property boundary.

The gasoline UST system was apparently removed in 1981, and there is no record of environmental sampling during the removal. The two waste oil USTs were removed in May 2002. One soil sample was collected beneath each of the removed USTs at a depth of approximately seven feet in depth. These soil samples showed up to 440 milligrams per kilogram (mg/kg) of Total Petroleum Hydrocarbons as Gasoline (TPH-G). The UST excavation cavities were subsequently overexcavated, and subsequent soil samples collected at approximately ten feet in depth showed relatively low levels of hydrocarbons.



2.3.2 Site Investigation Activities

In May 2007, Enviro Soil Tech Consultants (ESTC) drilled and sampled seven soil borings, B-1 through B-7, in the small parking lot on the northwest (Adeline Street) side of the Site. Soil samples collected at five-foot intervals down to 20 feet in depth showed no significant hydrocarbon detections. Grab groundwater samples from borings B-2, B-4, and B-7, located on the extreme north and south sides of the parking lot, showed no significant hydrocarbon detections. Grab groundwater samples from borings B-1, B-3, B-5, and B-6, located on the middle of the parking lot from the extreme east (building) edge to the southwest (Adeline Street) edge of the lot, showed TPH-G concentrations ranging from 4,500 micrograms per liter (ug/l) to 780,000 ug/l, and Benzene concentrations ranging from 7.5 ug/l to 6,400 ug/l. The configuration of these groundwater hydrocarbon detections seems to point to a southwest aligned groundwater hydrocarbon plume that originated northeast of the small Adeline Street parking lot itself. This conclusion of a northeasterly source is bolstered by the lack of soil hydrocarbon detections or field evidence of shallow soil impacts in the seven soil borings.

2.4 Project Approach

Results from the ESTC investigation seem to indicate significant gasoline hydrocarbon releases from the former gasoline USTs, and not from the former waste oil USTs in the Adeline Street parking lot. The exact location of these USTs is not known; however, it is possible, based on previous investigative results, that the former gasoline USTs were located in the northeast (39th Street) parking lot. A critical first step in addressing this Site will be to attempt to identify the exact location of these USTs, thus allowing for better definition of the nature and extent of hydrocarbon impacts beneath the Site.

In order to proceed with investigation and closure of this site, we recommend a phased approach, with the first phase to be to define the source and configuration of the hydrocarbon impacts on the Site. This will involve: (1) Conducting a review of historical records to attempt to identify the exact location of the former gasoline USTs; and (2) Conducting a soil boring investigation inside the Site building and in the 39th Street parking lot, extending northeast from the ESTC borings with groundwater hydrocarbon impacts. Results of this investigation will be critical in determining the nature and scope of future investigation and (if necessary) remediation activities.

2.5 City Records Review

We reviewed the site file at the City of Emeryville Planning and Building Department. Historical building records for the Site only go back to 1982 and reference the site redevelopment by the current Site owners. Site plans and records included no reference to USTs on the Site.

We also contacted the City of Emeryville Fire Department and they indicated that they do not have historical records for the Site.



3.0 DESCRIPTION OF FIELD ACTIVITIES

Investigative soil borings were cored and sampled by Environmental Control Associates, Inc. (ECA) (C-57 License No. 695970) on Tuesday, December 27, 2011. All activities were conducted in accordance with applicable guidelines and statutes.

3.1 Prefield Activities

Prior to beginning field activities, a drilling permit was obtained from the Alameda County Department of Public Works. Copies of these permits are provided in Appendix A.

Prior to implementing field activities, all drilling locations were marked with white paint, and Underground Services Alert (USA) was notified at least 48 hours prior to drilling. Also, a private underground utility locator was retained to conducted an independent clearance of the proposed well locations.

Prior to initiating drilling activities, a Site Safety Plan was prepared, and a tailgate safety meeting was conducted with all site workers.

3.2 Location of Borings

The locations of soil boring, B-8 through B-14 are shown on Figure 2. Boring B-8 was sited on the expected upgradient (northeast) side of the Site, immediately adjacent to the offsite east auto repair facility. Borings B-9, B-10, and B-11 were sited north-to-south on the downgradient side of the Site parking lot, immediately northeast from the Site building. Borings B-12, B-13, and B-14 were sited in the Site building immediately northeast from the Adeline Street parking lot

3.3 Drilling and Sampling of Investigative Soil Borings

The seven soil borings, B-8 through B-14, were drilled to depths ranging from 20 feet to 23 feet in depth using direct-push coring equipment. For all borings, continuous soil cores were collected to total boring depth. The continuous soil cores were collected in a clear plastic acetate tube, nested inside a stainless steel core barrel. After each four-foot core barrel was brought, a portion of the soil core contained in the acetate liner was removed for preservation and laboratory analysis. Teflon tape was placed over both ends of the sample core and sealed with plastic end-caps. The samples were then labeled and placed in cold storage pending transport to a laboratory. Following sample collection, the core was sliced lengthwise to expose the soil core, examined, logged, and field screened for hydrocarbons by a qualified geologist using sight, smell and PID. Soil boring logs for the seven soil borings are included in Appendix B.

One grab groundwater sample was collected from each of the borings. Open hole grab groundwater samples were collected by placing 3/4-inch diameter PVC well casing in the boring and allowing groundwater to enter the casing. Groundwater was then sampled using a clean small diameter bailer and poured directly into laboratory-supplied containers. Each sample container was then tightly sealed, labeled, and placed in cold storage for transport to the laboratory under formal chain-of-custody.



All coring and sampling equipment was thoroughly cleaned and decontaminated between each sample collection by triple rinsing first with water, then with dilute liquinox solution, and finally with distilled water. Soil cuttings were contained onsite in sealed drums pending laboratory results. After completion, the three soil borings were grouted to match existing surface grade using a cement\sand slurry.

3.4 Laboratory Analysis of Soil and Water Samples

A total of 24 soil samples were analyzed for the following parameters.

USEPA 8015M Total Petroleum Hydrocarbons ad Gasoline (TPH-G) USEPA 8020 Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and MTBE

In addition, seven grab groundwater samples were analyzed for the following parameters:

USEPA 8260B Total Petroleum Hydrocarbons as Gasoline (TPH-G) USEPA 8260B Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) USEPA 8260B Oxygenates (TBA, MTBE, DIPE, ETBE, and TAME)

Also, approximately three soil and two grab groundwater samples were selected for the following analysis:

USEPA 8015M Total Petroleum Hydrocarbons ad Diesel (TPH-D)

All samples were analyzed by Sunstar Labs, a state-certified laboratory, with standard turn around on laboratory results.

4.0 RESULTS OF INVESTIGATION

4.1 General Subsurface Conditions

Soil boring logs for the seven investigative borings are contained in Appendix B. Soils encountered in the borings generally consisted of clays, with relatively thin discontinuous silty and clayey gravels and sands present in some of the borings. All borings except B-8, encountered no sand or gravel layers down to approximately 22 feet in depth. In borings that extended deeper than 22 feet (B-11 and B-12), a brown silty sand was present from 22 to 23 feet in depth. A clayey sand was present from 13.5 feet to 16.5 feet in B-8, and a gravelly sand was present from 8 feet to 9 feet in boring B-14. A gravelly silt was present from 14 feet to 17 feet in boring B-13.

Free groundwater was encountered below 15 feet in depth in the seven borings. Recharge was slow in several of the borings, and groundwater in borings B-12, B-13, and B-14 was sampled after allowing the borings to remain open for almost 24 hours.

Slight to moderate hydrocarbon odors were encountered in soils in boring B-8, B-12, and B-13 from approximately 14 to 17 feet in depth. Hydrocarbon odors were also noted in grab groundwater samples from B-12 and B-13.



4.2 Results of Laboratory Analyses

Soil and groundwater laboratory analytical results are summarized in Table 1 and on Figure 3 and Figure 4. The laboratory data report and chain of custody records are contained in Appendix C.

Very low concentrations (below 50 milligrams per kilogram, mg/kg) of diesel-range hydrocarbons were encountered in soil samples below ten feet in depth in borings B-8 and B-11. Very low concentrations (below 5 mg/kg) of gasoline-range hydrocarbons were encountered in soil samples below ten feet in depth in borings B-8, B-12, B-13, and B-14.

Low concentrations of gasoline-range hydrocarbons, with no BTEX constituents, were encountered in grab groundwater samples from B-8 and B-14. Moderate levels of gasoline-range hydrocarbons were encountered in grab groundwater samples from borings B-12 and B-13.

5.0 CONCLUSIONS

Both field and laboratory analytical results from this investigation indicate that the previously-identified groundwater hydrocarbon plume beneath the Adeline Street parking lot is localized and did not originate from elsewhere on the Site. Results from borings B-8 through B-11 and B-14, located in an expected upgradient groundwater flow direction from the Adeline Street parking lot, showed no evidence of significant hydrocarbon impacts. Also, the moderate hydrocarbon levels in groundwater samples from borings B-12 and B-13 are lower than most of the hydrocarbon detections in previous borings in the Adeline Street parking lot itself. Thus, it appears that the source, or sources, of the groundwater hydrocarbon impacts in the Adeline Street parking lot are either the former USTs in the Adeline Street sidewalk (removed in 2002) or perhaps fuel dispensers associated with these former USTs.

Based on the conclusions summarized above, we foresee the following general steps relative to Site investigation and closure, all focused in the Adeline Street parking lot and offsite to the southwest: (1) The installation and monitoring (including groundwater gradient determination) of approximately four groundwater monitoring wells in the Adeline Street parking lot; (2) The drilling and sampling of approximately three soil borings on the west side of San Pablo Avenue, approximately 100 feet southwest from the Adeline Street parking lot; (3) The implementation of remedial measures, such as ozone injection, in the Adeline Street parking lot to reduce groundwater hydrocarbon impacts; and (4) The implementation of verification monitoring to verify remedial effectiveness and lack of significant risk. Note that these possible steps are approximate only and could vary significantly as new data becomes available and/or based on input from Alameda County Department of Environmental Health.

6.0 WORKPLAN TO CONDUCT ADDITIONAL INVESTIGATIVE ACTIVITIES

The following workplan proposes: (1) The installation and monitoring of four groundwater monitoring wells in the Adeline Street parking lot; (2) The drilling and sampling of three soil borings on the west side of San Pablo Avenue, approximately 120 feet southwest from the Adeline Street parking lot. The well installation activities will be conducted prior to conducting the offsite soil boring investigation. The goal of these activities will be to provide the additional site characterization necessary to develop a conceptual site model (CSM) and interim remedial



measures for the Site. All activities will be conducted in accordance with the approved workplan and with applicable State and Federal guidelines and statutes.

6.1 Prefield Activities

Prior to implementing this workplan, written approval will be obtained from the Alameda County Department of Environmental Health (ACEH). Also, drilling permits for the soil boring and well installation activities will be obtained from the Alameda County Public Works. In addition, prior to initiating drilling activities, proposed boring and well locations will be marked with white paint and Underground Services Alert (USA) will be notified at least 48 hours prior to drilling. In addition, a private underground utility locator will be contracted to clear proposed boring locations. Prior to drilling, a Site Safety Plan will be prepared, and a tailgate safety meeting will be conducted with all site workers.

6.2 Location of Well, Borings, and Soil Gas Samples

The proposed well and boring locations are shown on Figure 5. Groundwater monitoring wells MW-1 through MW-4 will be sited in the identified groundwater hydrocarbon plume area in the Adeline Street parking lot. These wells will provide representative groundwater quality and groundwater gradient data for the Site. Soil borings B-15, B-16, and B-17 will be sited on the west side of San Pablo Avenue approximately 120 feet southwest, in an expected downgradient groundwater flow direction, from the Adeline Street parking lot. Note that the locations of the three borings could change based on groundwater flow direction determination using the four newly-installed groundwater monitoring wells.

6.3 Installation of Groundwater Monitoring Wells

Well installation activities will be conducted by a State-licensed drilling contractor using hollow stem auger equipment. The well borings will be drilled to a total depth of approximately 23 feet below surface grade (groundwater is expected to be encountered at approximately 15 feet in depth). Soils from the well borings will be placed in closed DOT-approved 55-gallon drums pending laboratory results.

Soil samples will be collected from the well borings at approximately five-foot intervals starting at approximately five feet below surface grade and extending down to total depth. Undisturbed soils will be sampled in advance of the auger as follows: (1) A two-inch inside diameter California-style split spoon sampler will be driven into undisturbed soil ahead of the drill bit; (2) The sampler will be raised quickly to the surface and the brass liners exposed; (3) The brass liner containing the most undisturbed soil will be quickly sealed with aluminum foil and plastic end caps, labeled, and wrapped tightly with tape; and (4) The sealed soil sample will be placed immediately in a cooler with crushed ice for transport to the analytical laboratory under formal chain-of-custody. All sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water. All downhole drilling equipment, including auger and drill bit, will be steam cleaned before and after drilling the well boring. Steam cleaning rinseate will be contained in sealed drums pending laboratory results.



The groundwater monitoring wells will be constructed using 2-inch diameter Schedule 40 threaded PVC casing according to the following specifications: (1) 0.020-inch slotted well casing will be placed from approximately 23 feet to 13 feet in depth (exact screen depths will be determined in the field based on occurrence of first groundwater); (2) No. 3 Lonestar (or equivalent) filter sand will be placed around the casing to a depth of approximately 10 feet below grade; (3) A two-foot bentonite seal will be placed above the filter sand to approximately 8 feet below grade; and (4) The remaining annulus will be grouted using a cement/sand slurry (bentonite less than five percent) to approximate grade. The top of the well will be enclosed in a traffic-rated locking well box set in concrete slightly above surface grade.

6.4 Well Development and Sampling

After allowing the cement seal to cure for at least 48 hours, the four newly-installed wells will be developed by surging and pumping groundwater from the well until pumped groundwater is clear and free of fines. During well development, groundwater will be monitored periodically for pH, specific conductance, temperature, visible clarity, and odor. If possible, at least 10 gallons will be pumped from each well during well development.

At least 48 hours after well development, the newly-installed groundwater monitoring wells will be purged and sampled using either a clean disposable PVC bailer or a clean purge pump. Wells will be purged of at least three well volumes before sampling. During well purging, groundwater will be monitored periodically for pH, specific conductance, temperature, odor, and visible clarity. After these parameters have stabilized, groundwater will be sampled in the following manner: (1) Laboratory supplied containers will be completely filled directly from the bailer or effluent hose with a minimum of agitation; (2) After making sure that no air bubbles are present (when applicable), each container will be tightly sealed; and (3) Each container will be labeled and placed in cold storage for transport to the analytical laboratory under formal chain-of-custody.

All purged groundwater generated during well development and sampling will be stored on site in a sealed container pending groundwater analytical results. All sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing as described above.

6.5 Determination of Groundwater Potentiometric Gradient

Following well installation, the wellhead elevations will be surveyed by a State-licensed land surveyor in accordance with State Geotracker requirements. Prior to purging and sampling, groundwater depths in all Site wells will be measured to the nearest 0.01 foot using an electronic probe. These data will then be used to calculate groundwater potentiometric gradient.

6.6 Drilling and Sampling of Investigative Borings

Boring activities will be conducted by a State-licensed drilling contractor using direct-push coring equipment. The investigative borings will be drilled to approximately 20 feet in depth using direct-push hydraulically-driven soil coring equipment. For each boring, continuos soil cores will be collected to total depth in each boring in a clear plastic acetate tube, nested inside a stainless steel core barrel. After each four-foot core barrel is brought to the surface and exposed,



the core will be sliced lengthwise to expose the soil core, examined, logged, and field screened for hydrocarbons by a qualified geologist using sight, smell, and an organic vapor monitor (OVM). Following completion, the investigative borings will be grouted to match existing grade using a cement\sand slurry. Soil cuttings generated during this investigation will be stored onsite in sealed DOT-approved containers.

Each soil core will first be sliced open lengthwise along the length of the acetate tube, allowing full examination and logging of the soil core prior to sampling. Soil samples will then be collected from specific zones of interest in an acetate liner, which will be cut to the desired length (typically four to six inches), capped with teflon tape and plastic end caps, labeled and placed in cold storage pending transport to a laboratory under formal chain-of-custody. All coring and sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water. Cleaning rinseate will be contained onsite in a sealed drum pending laboratory results.

One grab groundwater sample will be collected from each boring at first encountered groundwater (expected at approximately 15 feet in depth). Each grab groundwater sample will be collected from the open boring by placing 1-1/4-inch diameter well casing in the boring. Groundwater will then be sampled using a clean small diameter bailer, and poured directly into laboratory-supplied containers. Each sample container will then be tightly sealed, labeled, and placed in cold storage for transport to the laboratory under formal chain-of-custody.

6.7 Laboratory Analysis of Soil and Water Samples

Approximately 15 soil samples (three per well boring; one per soil boring) and four groundwater samples will be analyzed for the following parameters.

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USEPA 8015M Total Petroleum Hydrocarbons ad Gasoline (TPH-G) USEPA 8020 Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and MTBE
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In addition, three grab groundwater samples from the three borings will be analyzed for the following parameters:

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USEPA 8260B Total Petroleum Hydrocarbons as Gasoline (TPH-G) USEPA 8260B Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) USEPA 8260B Oxygenates (TBA, MTBE, DIPE, ETBE, and TAME)
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All samples will be analyzed by a state-certified laboratory with standard turn around on laboratory results.

6.8 Report Preparation

A report summarizing investigative activities and results will be prepared for submittal to ACEH. This report will describe all investigative methods and results, and will include tabulated laboratory results and graphical depictions of result. The report will also include a workplan to conduct Interim Remedial Measures (IRMs) at the Site.



6.9 Management of Investigative Spoils

It is estimated that well drilling, installation, and sampling activities will generate approximately four 55-gallon drums of soil and one 55-gallon drums of purge and rinseate water. If found to be contaminated, these spoils will be disposed of offsite in accordance with all applicable State and Federal guidelines and statutes.

6.10 Project Schedule

Subject to ACEH approval, the proposed well installation activities can be completed within approximately six to eight weeks. The soil boring investigation can then be completed in approximately four to six weeks, and the summary report will follow in approximately four weeks.



TABLES



Table 1 SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL RESULTS Former Maz Glass UST Site

Sample	Sample	Sample			ntrations in 1 r concentrati				
ID	Matrix	Depth	TPH-D/MO	ТРН-G	В	T	E	X	OXY
B-8-6.0	Soil	6.0 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-8-9.0	Soil	9.0 feet	NA	4.0	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-8-14.0	Soil	14.0 feet	2.2 /<10	22	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-8-W	Water	(15-20')	NA	68	<1.0	<1.0	<1.0	<1.0	All ND
B-9-7.5	Soil	7.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-9-11.0	Soil	11.0 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-9-16.0	Soil	16.0 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-9-W	Water	(16-21')	NA	<50	<1.0	<1.0	<1.0	<1.0	All ND
B-10-7.5	Soil	7.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-10-13.5	Soil	13.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-10-20.5	Soil	20.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-10-W	Water	(16-21')	<50	<50	<1.0	<1.0	<1.0	<1.0	All ND
B-11-10.5	Soil	10.5 feet	26/15	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-11-15.0	Soil	15.0 feet	<10/<10	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-11-20.0	Soil	20.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-11-W	Water	(17-22')	NA	<50	<1.0	<1.0	<1.0	<1.0	All ND
B-12-7.5	Soil	7.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-12-10.5	Soil	10.5 feet	NA	1.2	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-12-17.5	Soil	17.5 feet	NA	2.9	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-12-22.0	Soil	22.0 feet	<10	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-12-W	Water	(18-23')	NA	3,200	46	0.96	12	<1.0	All ND
B-13-7.5	Soil	7.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-13-12.5	Soil	12.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-13-14.5	Soil	14.5 feet	NA	2.0	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-13-20.0	Soil	20.0 feet	NA	3.9	< 0.005	< 0.005	0.070	< 0.010	NA
B-13-W	Water	(18-23')	1,400 /<100	9,100	270	4.0	390	52.4	All ND

		SUMMARY O	F SOIL AND GF	Table 1 ROUNDWAT Maz Glass US		ΓICAL RES	ULTS		
Sample	Sample	Sample		Soil1 concen Groundwate					
ID	Matrix	Depth	TPH-D/MO	TPH-G	В	T	E	X	OXY
B-14-8.0	Soil	8.0 feet	NA	<0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-14-12.0	Soil	12.0 feet	NA	1.6	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-14-15.5	Soil	15.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-14-20.5	Soil	20.5 feet	NA	< 0.5	< 0.005	< 0.005	< 0.005	< 0.010	NA
B-14-W	Water	(18-23')	<50/<100	0.094	<1.0	<1.0	<1.0	<1.0	All ND
Shallow Soil ESI	_		83/5,000	83	0.044	2.9	3.3	2.3	Various

100

1.0

40

100/100

Table Notes:

Groundwater ESL.

 $\label{eq:TPH-D/MO} Total petroleum hydrocarbons as diesel/motor oil TPH-G = Total petroleum hydrocarbons as gasoline OXY = Oxygenates, including Ter-Butanol (TBA), Di-isopropyl Ether (DIPE), Methyl Tertiary Butyl Ether (MTBE), Ethyl-t-butyl Ether (ETBE), and Tert-amyl Methyl Ether (TAME) NA = Not analyzed for this analyte.$

<0.5 = Not detected above the expressed detection level.

ND = Not detected above laboratory detection limits

All ND = No detectable concentrations of full list of constituentsESL = Environmental Screening Levels, as contained in Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, San Francisco Bay Regional Water Quality Control Board, Interim Final, May 2008.

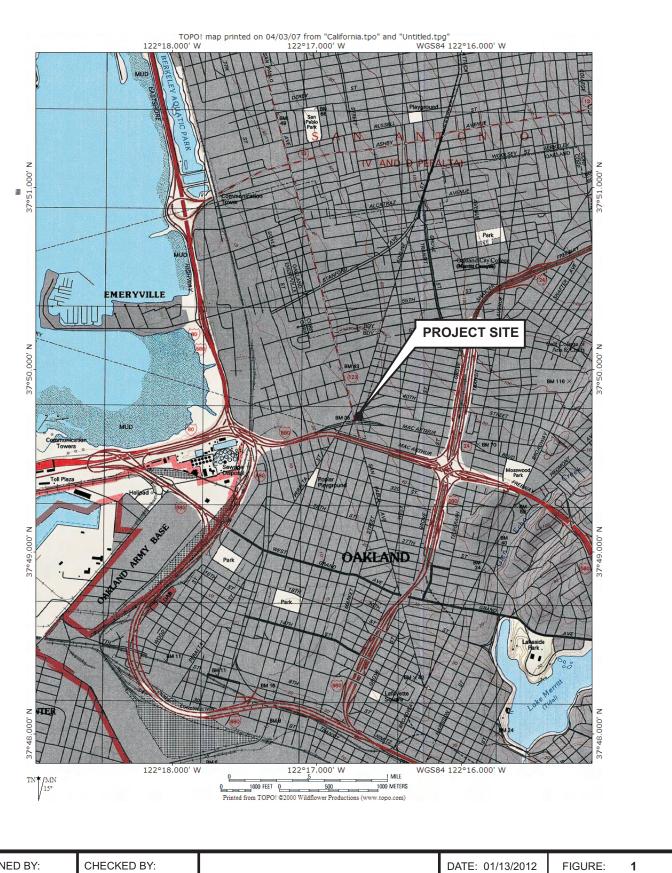
30

20

Various

FIGURES





DESIGNED BY: CHECKED BY:

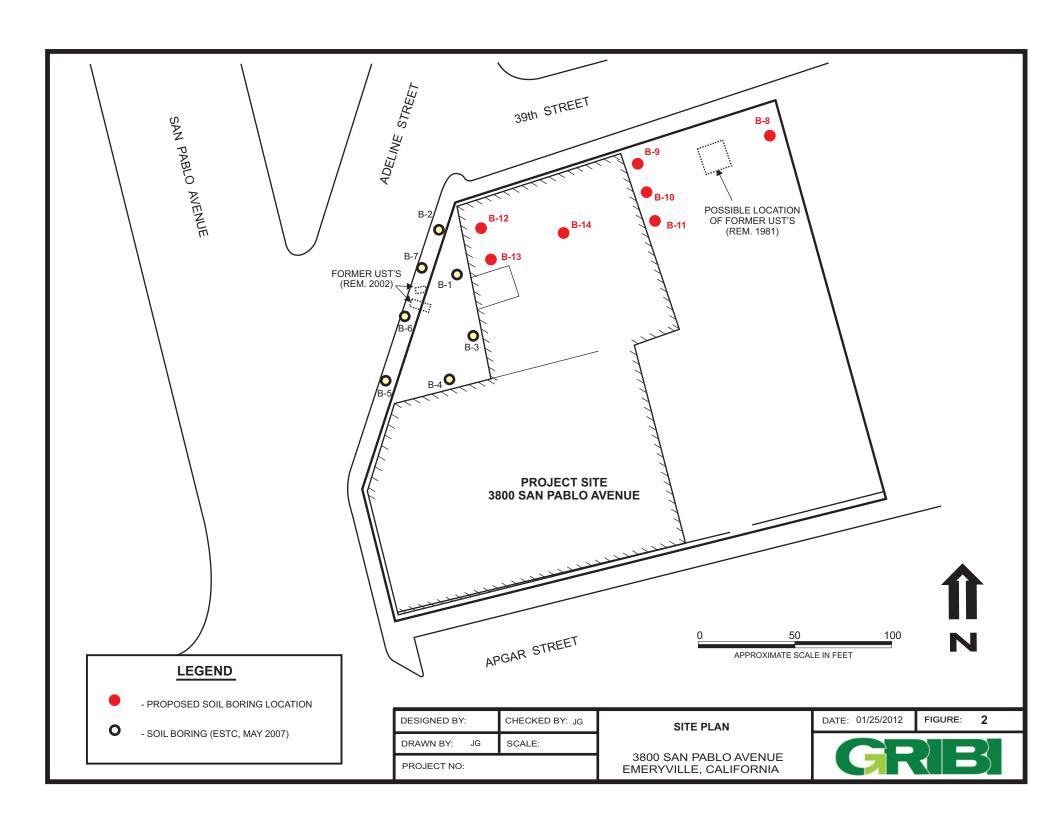
DRAWN BY: JG SCALE:

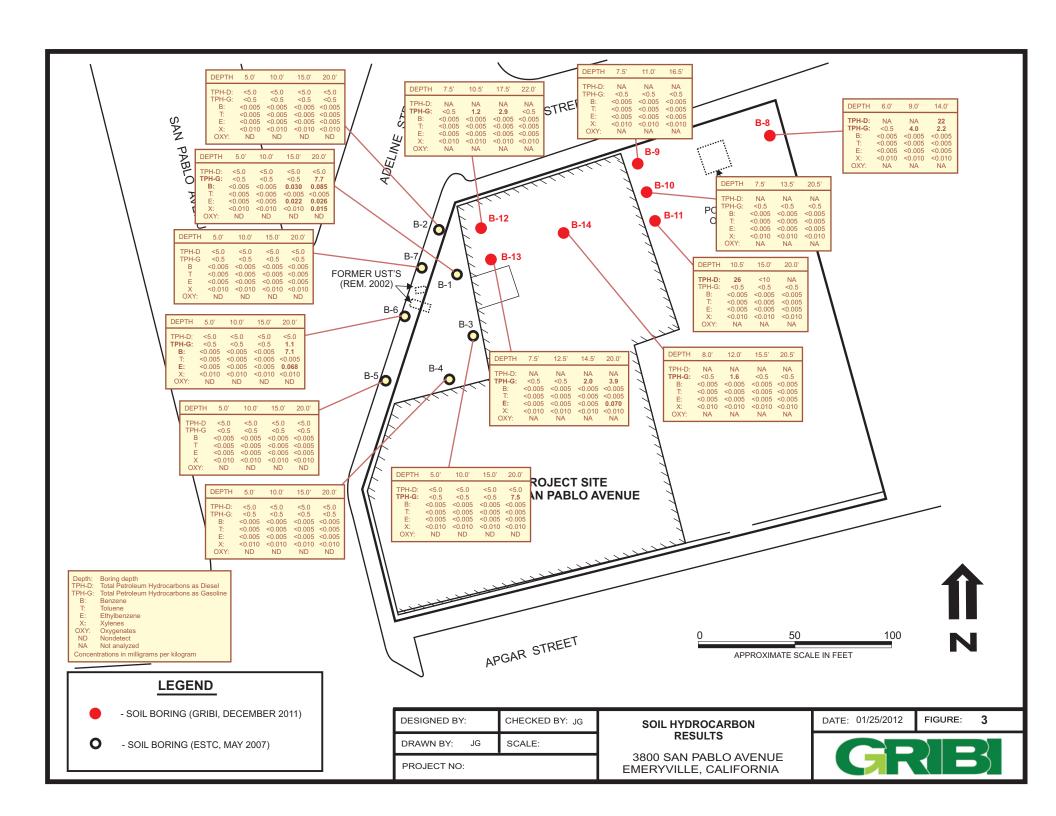
PROJECT NO:

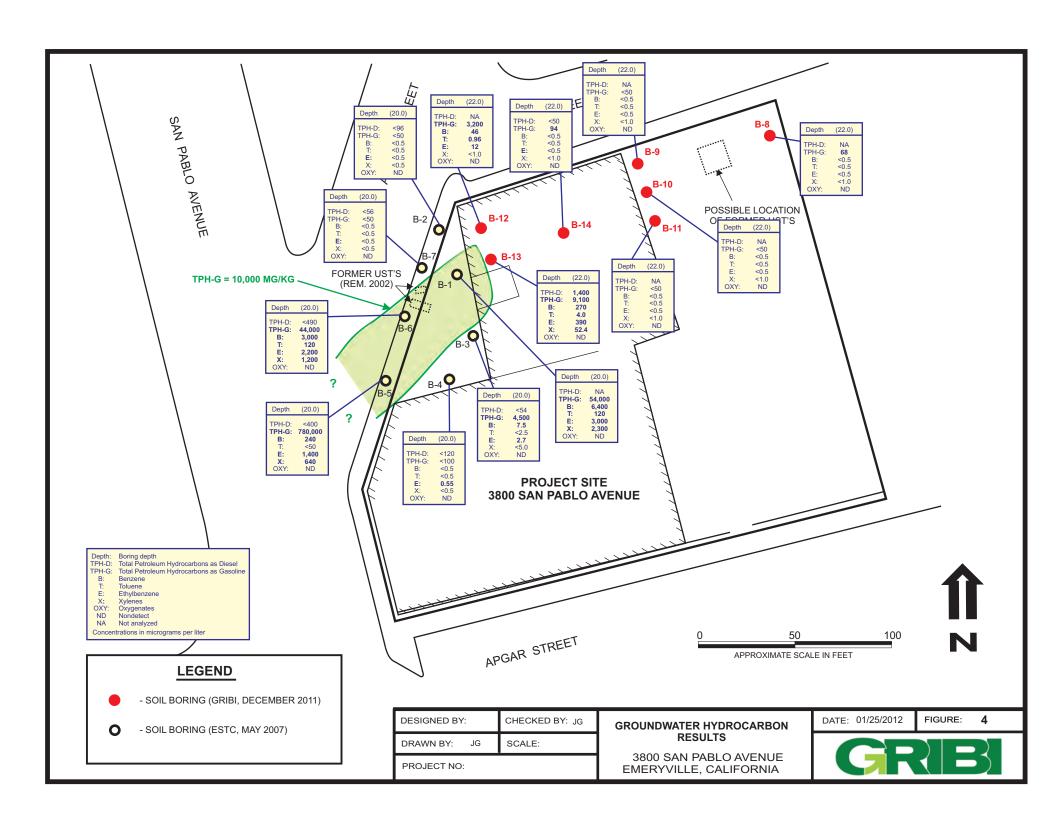
SITE VICINITY MAP

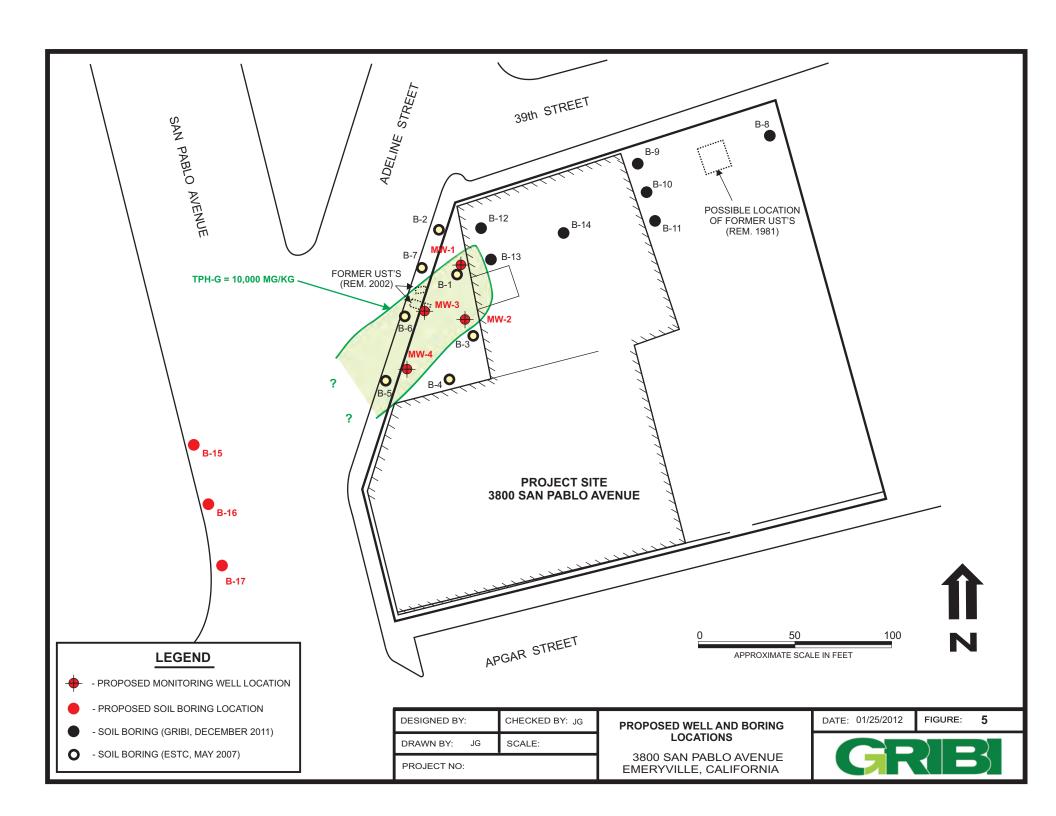
3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA











APPENDIX A DRILLING PERMITS



Alameda County Public Works Agency - Water Resources Well Permit



Application Id:

399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 12/16/2011 By jamesy

1323987690595

Permit Numbers: W2011-0764
Permits Valid from 12/27/2011 to 12/27/2011

City of Project Site: Emeryville

Site Location: 3800 San Pablo Avenue Project Start Date: 12/27/2011

12/27/2011 Completion Date:12/27/2011

Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Applicant: Gribi Associates - Jim Gribi Phone: 707-748-7743

1090 Adams Street, Suite K, Benicia, CA 94510

Property Owner: c/o Marks Management Co. San Pablo Ave **Phone:** 510-271-0600

Venture

505 Sansome Street, Suite 1400, San Francisco, CA 94111

Client: James Gribi Phone: 707-748-7743 1090 Adams Street, Suite K, Benicia, CA 94510

Contact: Jim Gribi **Phone:** 707-747-7743 **Cell:** 707-748-7763

Total Due: \$265.00
Total Amount Paid: \$265.00

Receipt Number: WR2011-0373 Total Amount Paid: \$265.00
Payer Name: Gribi Associates Paid By: MC PAID IN FULL

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 8 Boreholes

Driller: Environmental Control Associates, Inc. - Lic #: 695970 - Method: DP Work Total: \$265.00

Specifications

Permit	Issued Dt	Expire Dt	#	Hole Diam	Max Depth
Number			Boreholes		
W2011-	12/16/2011	03/26/2012	8	2.50 in.	20.00 ft
0764					

Specific Work Permit Conditions

- 1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
- 2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
- 3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
- 4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the

Alameda County Public Works Agency - Water Resources Well Permit

permits and requirements have been approved or obtained.

- 5. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
- 7. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

APPENDIX B SOIL BORING LOGS



BORING NUMBER: B-8

BORING LOCATION: NORTH CORNER OF SITE

BORING TYPE: SOIL BORING

PROJECT NAME: FORMER MAZ GLASS SITE EMERYVILLE, CALIFORNIA

FIELD SCIENTIST: J. GRIBI



START DATE: 12/27/2011

COMPLETION DATE: 12/27/2011

DRILLING CONTRACTOR: ECA, INC. DRILLING METHOD: DIRECT PUSH **BOREHOLE DIAMETER: 2.5 INCHES** COMPLETION METHOD: BORING

BORING TOTAL DEPTH: 20.0 FEET

GROUNDWATER DEPTH: 15.5 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL	
_				- TIIVAL		0.0 - 1.0 ft. Concrete & base gravel.	
-						Clay (CL) Dark grey to black, moist, stiff, slightly silty, no hydrocarbon odors or staining.	
5.0-	B-8-6.0	6.0 FT.			CL	5.0 - 6.5 ft. Gravelly Clay (CL) Grey brown, firm, dense, moist no hydrocarbon odors or staining.	
-					CL CL 	6.5 - 8.5 ft. Clay (CL) Brown, firm, dense, moist, no hydrocarbon odors or staining.	
10 -	B-8-9.0	9.0 FT.			CL	8.5 - 10.5 ft. Silty Clay (CL) Brown with olive-green spots, firm, moist, slight hydrocarbon odor, no staining.	
-						10.5 - 13.5 ft. Clay (CL) Brown, firm, dense, moist, no hydrocarbon odors or staining.	
15 -	B-8-14.0	14.0 FT.			SC	13.5 - 16.5 ft. Clayey Sand (SC) Grey to olive, very fine grained, soft to firm, wet at 15.5 feet, slightly gravely, slight hydrocarbon odors.	
- -						16.5 - 20.0 ft. Clay (CL) Grey brown, firm, dense, moist, no hydrocarbon odors or staining.	
20 -						TOTAL DEPTH: 20.0 FEET COLLECTED GRAB GROUNDWATER SAMPLE B-8-W AT 20 FT BGS, OPEN HOLE WITH SCREEN FROM 15 TO 20 BGS. FT & BLANK CASING TO SURFACE.	
25 -							

BORING NUMBER: B-9

BORING LOCATION:

OUTSIDE, NORTH OF SITE BUILDING

BORING TYPE: SOIL BORING

PROJECT NAME: FORMER MAZ GLASS SITE EMERYVILLE, CALIFORNIA

FIELD SCIENTIST: J. GRIBI



START DATE: 12/27/2011

COMPLETION DATE: 12/27/2011

DRILLING CONTRACTOR: ECA, INC. DRILLING METHOD: DIRECT PUSH **BOREHOLE DIAMETER: 2.5 INCHES** COMPLETION METHOD: BORING

BORING TOTAL DEPTH: 21.0 FEET

GROUNDWATER DEPTH: 18.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL
5.0-						0.0 - 0.5 ft. Concrete & base gravel. 0.5 - 5.0 ft. Clay (CL) Dark grey to black, moist, stiff, slightly silty, no hydrocarbon odors or staining.
10 =	B-9-7.5 B-9-11.0	7.5 FT.				5.0 - 15.0 ft. Clay (CL) brown, locally gravelly, firm, dense, moist no hydrocarbon odors or staining.
15 -	B-9-16.5	16.5 FT.				15.0 - 17.0 ft. Sandy Clay (CL) Brown, silty, soft to firm, moist to wet, no hydrocarbon odors or staining. 17.0 - 21.0 ft. Gravelly Clay (CL)
20 -						Brown, firm, moist, wet in sandy zone from 18.0 to 18.5 ft bgs, no hydrocarbon odors or staining. TOTAL DEPTH: 21.0 FEET COLLECTED GRAB GROUNDWATER SAMPLE B-9-W AT 21 FT BGS, OPEN HOLE WITH SCREEN FROM 16 TO 21 BGS. FT & BLANK CASING TO SURFACE.

BORING NUMBER: B-10

BORING LOCATION:

OUTSIDE, NORTH OF SITE BUILDING

BORING TYPE: SOIL BORING

PROJECT NAME: FORMER MAZ GLASS SITE EMERYVILLE, CALIFORNIA

FIELD SCIENTIST: J. GRIBI



START DATE: 12/27/2011

COMPLETION DATE: 12/27/2011

DRILLING CONTRACTOR: ECA, INC. DRILLING METHOD: DIRECT PUSH **BOREHOLE DIAMETER: 2.5 INCHES** COMPLETION METHOD: BORING

BORING TOTAL DEPTH: 21.0 FEET

GROUNDWATER DEPTH: 15.5 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL
5.0-	B-10-7.5	7.5 FT.				 0.0 - 0.5 ft. Clay (CL) Dark grey to black, moist, stiff, slightly silty, no hydrocarbon odors or staining. 5.0 - 7.0 ft. Clay (CL) Brown, slightly silty, firm, dense, moist no hydrocarbon odors or staining. 7.0 - 8.5 ft. Gravelly Clay (CL) Brown, firm, dense, moist no hydrocarbon odors or staining.
10 -	B-10-13.5	13.5 FT.				8.5 - 13.0 ft. Clay (CL) Brown, firm, dense, moist no hydrocarbon odors or staining. 13.0 - 14.5 ft. Gravelly Clay (CL) Brown, firm, moist, no hydrocarbon odors or staining.
15 -						14.5 - 21.0 ft. Silty Clay (CL) Brown, silty, soft to firm, moist to wet (soft, wet in 2 intervals: 15.5-16.0 ft & 17.5-18.0 ft bgs), no hydrocarbon odors or staining.
25 -	B-10-20.5	20.5 FT.				TOTAL DEPTH: 21.0 FEET COLLECTED GRAB GROUNDWATER SAMPLE B-10-W AT 21 FT BGS, OPEN HOLE WITH SCREEN FROM 16 TO 21 BGS. FT & BLANK CASING TO SURFACE.

BORING NUMBER: B-11

BORING LOCATION:

OUTSIDE, NORTH OF SITE BUILDING

BORING TYPE: SOIL BORING

PROJECT NAME: FORMER MAZ GLASS SITE EMERYVILLE, CALIFORNIA

FIELD SCIENTIST: J. GRIBI



START DATE: 12/27/2011

COMPLETION DATE: 12/27/2011

DRILLING CONTRACTOR: ECA, INC. DRILLING METHOD: DIRECT PUSH **BOREHOLE DIAMETER: 2.5 INCHES** COMPLETION METHOD: BORING

BORING TOTAL DEPTH: 22.0 FEET

GROUNDWATER DEPTH: 16.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL	
_						0.0 - 3.0 ft. Concrete & base gravel.	
5.0-					CL	3.0 - 5.0 ft. Clay (CL) Dark grey to black, moist, stiff, slightly silty, no hydrocarbon odors or staining.	
_					CL 	5.0 - 10.5 ft. Clay (CL) Brown, firm, dense, moist, occasionally gravelly, no hydrocarbon odors or staining.	
10 -					CL 	10.5 - 12.5 ft. Gravelly Clay (CL) Olive grey to grey brown, firm, moist, slight hydrocarbon odor.	
_	B-11-10.5	10.5 FT.					
15 -	B-11-15.0	15.0 FT.			= = 	12.5 - 15.0 ft. Clay (CL) Brown to occasionally olive, firm, moist, no hydrocarbon odors or staining.	
- - -						15.0 - 21.5 ft. Silty Clay (CL) Brown to occasionally olive, soft to firm, occasionally sandy, moist, wet at 16.0-16.5 ft & 20.0-20.5 ft bgs, no hydrocarbon odors or staining.	
20 -	B-11-20.0	20.0 FT.				21.5 - 22.0 ft. Silty Sand (SM) Brown, fine to occasionally coarse grained, loose to firm, moist to wet, no hydrocarbon odors or staining.	
25 -						TOTAL DEPTH: 22.0 FEET COLLECTED GRAB GROUNDWATER SAMPLE B-11-W AT 22 FT BGS, OPEN HOLE WITH SCREEN FROM 17 TO 22 BGS. FT & BLANK CASING TO SURFACE.	

BORING NUMBER: B-12

BORING LOCATION:

INSIDE SITE BUILDING, WEST BORING

BORING TYPE: SOIL BORING

PROJECT NAME: FORMER MAZ GLASS SITE EMERYVILLE, CALIFORNIA

FIELD SCIENTIST: J. GRIBI



START DATE: 12/27/2011

COMPLETION DATE: 12/28/2011

DRILLING CONTRACTOR: ECA, INC. DRILLING METHOD: DIRECT PUSH **BOREHOLE DIAMETER: 2.5 INCHES** COMPLETION METHOD: BORING

BORING TOTAL DEPTH: 23.0 FEET

GROUNDWATER DEPTH: 17.5 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL
_						0.0 - 2.5 ft. Concrete & base gravel.
_					CL CL = =	2.5 - 4.0 ft. Clay (CL) Dark grey to black, moist, stiff, slightly silty, no hydrocarbon odors or staining.
5.0 - -					 	4.0 - 7.5 ft. Clay (CL) Brown, firm, dense, moist, no hydrocarbon odors or staining.
10 -	B-12-7.5 B-12-10.5	7.5 FT. 10.5 FT.				7.5 - 9.5 ft. Gravelly Clay (CL) Olive brown, silty, grades to clayey sandy gravel at 9.0-9.5 ft bgs, moist, no hydrocarbon odors or staining.
15 -						9.5 - 17.0 ft. Clay (CL) Olive grey to olive brown, firm, dense, moist, slight hydrocarbon odors.
20 -	B-12-17.5	17.5 FT.				17.0 - 22.0 ft. Sandy Clay (CL) Brown to olive brown, soft to firm, moist, wet at 17.5-19.0 ft & 19.5-20.0 ft bgs, no hydrocarbon odors or staining.
_	B-12-22.0	22.0 FT.				22.0 - 23.0 ft. Silty Sand (SM) Brown, fine to occasionally coarse grained, loose to firm, moist to wet, no hydrocarbon odors or staining.
25 -						TOTAL DEPTH: 23.0 FEET COLLECTED GRAB GROUNDWATER SAMPLE B-12-W AT 23 FT BGS, OPEN HOLE WITH SCREEN FROM 18 TO 23 BGS. FT & BLANK CASING TO SURFACE.

BORING NUMBER: B-13

BORING LOCATION:

INSIDE SITE BUILDING, EAST BORING

BORING TYPE: SOIL BORING

PROJECT NAME: FORMER MAZ GLASS SITE EMERYVILLE, CALIFORNIA

FIELD SCIENTIST: J. GRIBI



START DATE: 12/27/2011

COMPLETION DATE: 12/28/2011

DRILLING CONTRACTOR: ECA, INC. DRILLING METHOD: DIRECT PUSH **BOREHOLE DIAMETER: 2.5 INCHES** COMPLETION METHOD: BORING

BORING TOTAL DEPTH: 22.0 FEET

GROUNDWATER DEPTH: 16.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING & BLOW COUNTS	USCS	LOG OF MATERIAL
-						0.0 - 1.0 ft. Concrete & base gravel.
5.0-					CL	1.0 - 4.0 ft. Clay (CL) Dark grey, moist, stiff, slightly silty, no hydrocarbon odors or staining.
- -	B-13-7.5	7.5 FT.				4.0 - 7.0 ft. Clay (CL) Grey brown, firm, dense, moist, no hydrocarbon odors or staining.
10 -	B-13-12.5	12.5 FT.				7.0 - 10.0 ft. Clay (CL) Olive grey, slightly sandy, moist, firm, moderate hydrocarbon odors.
- -					E E CL CL E E E E	10.0 - 14.0 ft. Clay (CL) Brown to grey brown, dense, moist, slightly silty, hard, no to slight hydrocarbon odors.
15 - -	B-13-14.5	14.5 FT.			SM	14.0 - 17.0 ft. Gravelly Silt (ML) Olive brown, sandy at base, soft to firm, moist to wet, moderate to strong hydrocarbon odors.
20 -	B-13-22.0	22.0 FT.				17.0 - 22.0 ft. Clay (CL) Brown, firm, dense, moist, slightly silty, no hydrocarbon odors or staining.
25 -						TOTAL DEPTH: 22.0 FEET COLLECTED GRAB GROUNDWATER SAMPLE B-13-W AT 22 FT BGS, OPEN HOLE WITH SCREEN FROM 17 TO 22 BGS. FT & BLANK CASING TO SURFACE.

LOG OF SOIL BORING

BORING NUMBER: B-14

BORING LOCATION:

INSIDE SITE BUILDING, CENTER BORING

BORING TYPE: SOIL BORING

PROJECT NAME: FORMER MAZ GLASS SITE EMERYVILLE, CALIFORNIA

FIELD SCIENTIST: J. GRIBI



START DATE: 12/27/2011

COMPLETION DATE: 12/28/2011

DRILLING CONTRACTOR: ECA, INC. DRILLING METHOD: DIRECT PUSH **BOREHOLE DIAMETER: 2.5 INCHES** COMPLETION METHOD: BORING

BORING TOTAL DEPTH: 22.0 FEET

GROUNDWATER DEPTH: 18.0 FEET

DEPTH SCALE (FEET)	SAMPLE NO.	SAMPLE DEPTH	INTERVAL	PID READING BLOW COUNTS - INITIAL - FINAL	USCS	LOG OF MATERIAL
-				- TIIVAL		0.0 - 1.0 ft. Concrete & base gravel.
5.0						 1.0 - 3.0 ft. Clay (CL) Dark grey to black, moist, stiff, slightly silty, no hydrocarbon odors or staining. 3.0 - 8.0 ft. Clay (CL) Brown, slightly silty, firm, dense, moist no hydrocarbon odors or staining.
10 -	B-14-8.0	8.0 FT.			SP S	8.0 - 9.0 ft. Gravelly Sand (SP) Brown, medium to coarse, loose, moist, slightly clayey, no hydrocarbon odors or staining. 9.0 - 12.0 ft. Clay (CL) Brown, firm, dense, moist, no hydrocarbon odors or staining.
-	B-14-12.0	12.0 FT.				 12.0 - 13.0 ft. Silty Clay (CL) Olive brown, firm, slightly gravelly, moist, slight hydrocarbon odors. 12.0 - 15.0 ft. Clay (CL) Brown, firm, dense, moist, no hydrocarbon odors or staining.
15 -	B-14-15.5	15.5 FT.				15.0 - 21.0 ft. Silty Clay (CL) Brown, soft to firm, moist to wet, no hydrocarbon odors or staining.
20 -	B-14-20.5	20.5 FT.				21.0 - 22.0 ft. Clay (CL) Brown, slightly silty, firm, dense, moist, no hydrocarbon odors or staining.
25 •						TOTAL DEPTH: 22.0 FEET COLLECTED GRAB GROUNDWATER SAMPLE B-14-W AT 22 FT BGS, OPEN HOLE WITH SCREEN FROM 17 TO 22 BGS. FT & BLANK CASING TO SURFACE.

APPENDIX C

LABORATORY DATA REPORTS AND CHAIN OF CUSTODY RECORDS





06 January 2012

Jim Gribi Gribi Associates 1090 Adam Street, Suite K Benicia, CA 94510

RE: Maz Glass

Enclosed are the results of analyses for samples received by the laboratory on 12/29/11 08:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez Project Manager



25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates Project: Maz Glass

1090 Adam Street, Suite K Project Number: [none] Reported:
Benicia CA, 94510 Project Manager: Jim Gribi 01/06/12 15:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-8-6.0	T111994-01	Soil	12/27/11 08:00	12/29/11 08:45
B-8-9.0	T111994-02	Soil	12/27/11 08:05	12/29/11 08:45
B-8-14.0	T111994-03	Soil	12/27/11 08:15	12/29/11 08:45
B-9-7.5	T111994-04	Soil	12/27/11 09:00	12/29/11 08:45
B-9-11.0	T111994-05	Soil	12/27/11 09:05	12/29/11 08:45
B-9-16.5	T111994-06	Soil	12/27/11 09:15	12/29/11 08:45
B-10-7.5	T111994-07	Soil	12/27/11 10:05	12/29/11 08:45
B-10-13.5	T111994-08	Soil	12/27/11 10:15	12/29/11 08:45
B-10-20.5	T111994-09	Soil	12/27/11 10:30	12/29/11 08:45
B-11-10.5	T111994-10	Soil	12/27/11 11:15	12/29/11 08:45
B-11-15.0	T111994-11	Soil	12/27/11 11:30	12/29/11 08:45
B-11-20.0	T111994-12	Soil	12/27/11 11:40	12/29/11 08:45
B-11-W	T111994-13	Water	12/27/11 11:50	12/29/11 08:45
B-9-W	T111994-14	Water	12/27/11 12:00	12/29/11 08:45
B-8-W	T111994-15	Water	12/27/11 12:15	12/29/11 08:45
B-10-W	T111994-16	Water	12/27/11 13:00	12/29/11 08:45
B-13-7.5	T111994-17	Soil	12/27/11 13:45	12/29/11 08:45
B-13-12.5	T111994-18	Soil	12/27/11 14:00	12/29/11 08:45
B-13-14.5	T111994-19	Soil	12/27/11 14:10	12/29/11 08:45
B-13-20.0	T111994-20	Soil	12/27/11 14:20	12/29/11 08:45
B-12-7.5	T111994-21	Soil	12/27/11 14:40	12/29/11 08:45
B-12-10.5	T111994-22	Soil	12/27/11 14:50	12/29/11 08:45
B-12-17.5	T111994-23	Soil	12/27/11 15:00	12/29/11 08:45
B-12-22.0	T111994-24	Soil	12/27/11 15:10	12/29/11 08:45
B-14-8.0	T111994-25	Soil	12/27/11 15:50	12/29/11 08:45
B-14-12.0	T111994-26	Soil	12/27/11 16:00	12/29/11 08:45

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Daniel Chavez, Project Manager

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-14-15.5	T111994-27	Soil	12/27/11 16:10	12/29/11 08:45
B-14-20.5	T111994-28	Soil	12/27/11 16:20	12/29/11 08:45
B-14-W	T111994-29	Water	12/28/11 07:30	12/29/11 08:45
B-12-W	T111994-30	Water	12/28/11 07:45	12/29/11 08:45
B-13-W	T111994-31	Water	12/28/11 08:00	12/29/11 08:45

SunStar Laboratories, Inc.

Analyte

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-8-6.0 T111994-01 (Soil)

Dilution Batch

Prepared Analyzed

Reporting

110 %

	Su	ınStar L	aboratori	es, Inc.					
Purgeable Petroleum Hydrocarbons by EPA 8015C									
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		110 %	72.6-	46	"	"	"	"	
Volatile Organic Compounds by F Benzene	EPA Method 8021B ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"				"	"	
Ethylbenzene	ND	5.0	"				"	"	
m,p-Xylene	ND	10	"				"	"	
o-Xylene	ND	5.0							

73.5-148

SunStar Laboratories, Inc.

Surrogate: 4-Bromofluorobenzene

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Daniel Chavez, Project Manager

Daniel Chavez, Project Manager

SunStar Laboratories, Inc.

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-8-9.0 T111994-02 (Soil)

·									
		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbo	ns by EPA 8015C								
C6-C12 (GRO)	4000	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		86.9 %	72.6-1	46	"	"	"	"	
Volatile Organic Compounds by E	EPA Method 8021B								
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"	"			"		
Ethylbenzene	ND	5.0	"	"			"		
m,p-Xylene	ND	10	"	"			"		
o-Xylene	ND	5.0	"	"			"		
Surrogate: 4-Bromofluorobenzene		76.8 %	73.5-	48	"	"	"	"	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

Page 4 of 41 Daniel Chavez, Pro



25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-8-14.0 T111994-03 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	2200	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		107 %	72.6-	146	"	"	"	"
Extractable Petroleum Hydrocarb	oons by 8015C							
C13-C28 (DRO)	22	10	mg/kg	1	1122903	12/29/11	12/30/11	EPA 8015C
C29-C40 (MORO)	ND	10	"		"	"	"	"
Surrogate: p-Terphenyl		88.8 %	65-1	35	"	"	"	"
Volatile Organic Compounds by E	EPA Method 8021	В						
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"		"		"	"
Ethylbenzene	ND	5.0	"		"		"	"
m,p-Xylene	ND	10	"		"		"	"
o-Xylene	ND	5.0	"				"	"
Surrogate: 4-Bromofluorobenzene		110 %	73.5-	148	"	"	"	"

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager Page 5 of 41



 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-9-7.5 T111994-04 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbo	ns by EPA 8015C								
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		111 %	72.6-	146	"	"	"	"	
Volatile Organic Compounds by E	EPA Method 8021B								
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"	"			"	"	
Ethylbenzene	ND	5.0	"	"			"	"	
m,p-Xylene	ND	10	"	"			"	"	
o-Xylene	ND	5.0	"	"			"	**	
Surrogate: 4-Bromofluorobenzene		109 %	73.5-	148	"	"	"	"	

SunStar Laboratories, Inc.

Saviel & Chivy

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Daniel Chavez, Project Manager



25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-9-11.0 T111994-05 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		112 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by E	PA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"		"	"	"	"
Ethylbenzene	ND	5.0	"		"	"	"	"
m,p-Xylene	ND	10	"		"		"	"
o-Xylene	ND	5.0	"		"		"	"
Surragata: A Promofluorobanzana	-	110 %	73.5	110	"	"	,,	"

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-9-16.5 T111994-06 (Soil)

1										
			Reporting							
	Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbons	by EPA 8015C								
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		114 %	72.6-1	46	"	"	"	"	
Volatile Organic Compounds by EPA	Method 8021B								
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"	"			"	"	
Ethylbenzene	ND	5.0	"	"			"	"	
m,p-Xylene	ND	10	"	"			"	"	
o-Xylene	ND	5.0	"	"				"	
Surrogate: 4-Bromofluorobenzene		113 %	73.5-1	48	"	"	"	"	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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SunStar
Laboratories, Inc.

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-10-7.5 T111994-07 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		107 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by E	PA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021E
Γoluene	ND	5.0	"		"	"	"	"
Ethylbenzene	ND	5.0	"		"		"	"
m,p-Xylene	ND	10	"		"	"	"	"
o-Xylene	ND	5.0	"		"		"	"
Surrogate: 4-Bromofluorobenzene		106 %	73.5-	148	"	"	"	"

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-10-13.5 T111994-08 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbons b	y EPA 8015C								
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		110 %	72.6-1	46	"	"	"	"	
Volatile Organic Compounds by EPA	Method 8021B								
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"	"			"	"	
Ethylbenzene	ND	5.0	"	"			"	"	
m,p-Xylene	ND	10	"	"			"	"	
o-Xylene	ND	5.0	"	"				"	
Surrogate: 4-Bromofluorobenzene		108 %	73.5-1	48	"	"	"	"	

SunStar Laboratories, Inc.

custody document. This and

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Daniel Chavez, Project Manager



25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-10-20.5 T111994-09 (Soil)

			Reporting							
An	alyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		112 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by E	PA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"			"	"	"
Ethylbenzene	ND	5.0	"			"	"	"
m,p-Xylene	ND	10	"			"	"	"
o-Xylene	ND	5.0	"				"	"
Surrogate: 4-Bromofluorobenzene		111 %	73.5-	148	"	"	"	"

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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Analyte

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Notes

 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-11-10.5 T111994-10 (Soil)

Limit Units

Reporting

Result

	Sı	ınStar L	aborator	ies, Inc.								
Purgeable Petroleum Hydrocarbons by EPA 8015C												
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C				
Surrogate: 4-Bromofluorobenzene		108 %	72.6-	146	"	"	"	"				
Extractable Petroleum Hydrocarbons by 80	15C											
C13-C28 (DRO)	26	10	mg/kg	1	1122903	12/29/11	12/30/11	EPA 8015C				
C29-C40 (MORO)	15	10	"	"			"	"				
Surrogate: p-Terphenyl		92.4 %	65-1	35	"	"	"	"				
Volatile Organic Compounds by EPA Metho	od 8021B											
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B				
Toluene	ND	5.0	"	"			"	"				
Ethylbenzene	ND	5.0	"	"								
m,p-Xylene	ND	10	"	"			"	"				
o-Xylene	ND	5.0	"	"			"					

73.5-148

108 %

SunStar Laboratories, Inc.

Surrogate: 4-Bromofluorobenzene

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Dilution Batch Prepared Analyzed Method

Daniel Chavez, Project Manager

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25712 Commercentre Drive Lake Forest, California 92630 949,297.5020 Phone 949,297.5027 Fax

 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-11-15.0 T111994-11 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

	S	unStar L	aboratori	es, Inc.					
Purgeable Petroleum Hydrocarbo	ns by EPA 8015C								
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		111 %	72.6-	146	"	"	"	"	
Extractable Petroleum Hydrocarb	ons by 8015C								
C13-C28 (DRO)	ND	10	mg/kg	1	1122903	12/29/11	12/30/11	EPA 8015C	
C29-C40 (MORO)	ND	10	"				"	"	
Surrogate: p-Terphenyl		90.8 %	65-1.	35	"	"	"	"	
Volatile Organic Compounds by E	PA Method 8021B	1							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"		"		"	"	
Ethylbenzene	ND	5.0	"		"		"	"	
m,p-Xylene	ND	10	"		"		"	"	
o-Xylene	ND	5.0	"		"		"	"	
Surrogate: 4-Bromofluorobenzene		111%	73.5-	148	"	"	"	"	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

Page 13 of 41



 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-11-20.0 T111994-12 (Soil)

1			Paparting							
	Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbons by EPA 8015C												
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C				
Surrogate: 4-Bromofluorobenzene		109 %	72.6-	146	"	"	"	"				
Volatile Organic Compounds by E	PA Method 8021B											
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B				
Toluene	ND	5.0	"	"			"	"				
Ethylbenzene	ND	5.0	"	"			"	"				
m,p-Xylene	ND	10	"	"			"	"				
o-Xylene	ND	5.0	"	"				m .				
Surragate: A-Bromofluorobenzene		100 %	73.5-	148	"	"	"	"				

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-11-W T111994-13 (Water)

- 1										
			Reporting							
	Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Benzene	ND	0.50	ug/l	1	1122905	12/29/11	01/04/12	EPA 8260E
Toluene	ND	0.50	"		"	"	"	"
Ethylbenzene	ND	0.50	"		"	"	"	"
n,p-Xylene	ND	1.0	"		"	"	"	"
o-Xylene	ND	0.50	"		"	"	"	"
Tert-amyl methyl ether	ND	2.0	"		"	"	"	"
Tert-butyl alcohol	ND	10	"		"	"	"	"
Di-isopropyl ether	ND	2.0	"		"	"	"	"
ethyl tert-butyl ether	ND	2.0	"		"	"	"	"
Methyl tert-butyl ether	ND	1.0	"		"	"	"	"
C6-C12 (GRO)	ND	50	"		"	"	"	"
urrogate: Toluene-d8		95.5 %	88.8-	117	"	"	"	"
Gurrogate: 4-Bromofluorobenzene		96.6 %	83.5-	119	"	"	"	"
Surrogate: Dibromofluoromethane		124 %	81.1-	136	"	"	"	"

SunStar Laboratories, Inc.

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.

Daniel Chavez, Project Manager

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Analyte

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Notes

 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-9-W T111994-14 (Water)

Reporting Limit Units

Result

SunStar Laboratories, Inc.												
Volatile Organic Compounds by El	PA Method 8260B	:										
Benzene	ND	0.50	ug/l	1	1122905	12/29/11	01/04/12	EPA 8260B				
Toluene	ND	0.50	"				"	"				
Ethylbenzene	ND	0.50	"				"	"				
m,p-Xylene	ND	1.0	"				"					
o-Xylene	ND	0.50	"				"	"				
Tert-amyl methyl ether	ND	2.0	"				"	"				
Tert-butyl alcohol	ND	10	"				"					
Di-isopropyl ether	ND	2.0	"				"	"				
Ethyl tert-butyl ether	ND	2.0	"				"	"				
Methyl tert-butyl ether	ND	1.0	"				"	"				
C6-C12 (GRO)	ND	50	"	"			"	"				
Surrogate: Toluene-d8	-	99.5 %	88.8-1	17	"	"	"	"				
Surrogate: 4-Bromofluorobenzene		95.8 %	83.5-1	19	"	"	"	"				
Surrogate: Dibromofluoromethane		117 %	81.1-1	36	"	"	"	"				

SunStar Laboratories, Inc.

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Dilution Batch Prepared Analyzed Method

Daniel Chavez, Project Manager

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-8-W T111994-15 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Benzene	ND	0.50	ug/l	1	1122905	12/29/11	01/04/12	EPA 8260B
Toluene	ND	0.50			"		"	"
Ethylbenzene	ND	0.50			"		"	"
m,p-Xylene	ND	1.0			"		"	"
o-Xylene	ND	0.50			"		"	"
Tert-amyl methyl ether	ND	2.0	"		"	"	"	"
Tert-butyl alcohol	ND	10			"		"	"
Di-isopropyl ether	ND	2.0			"		"	"
Ethyl tert-butyl ether	ND	2.0			"		"	"
Methyl tert-butyl ether	ND	1.0	"				"	"
C6-C12 (GRO)	68	50	"		"		"	"
Surrogate: Toluene-d8		96.8 %	88.8-	117	"	"	"	"
Surrogate: 4-Bromofluorobenzene		97.1 %	83.5-	119	"	"	"	"
Surrogate: Dibromofluoromethane		125 %	81.1-	136	"	"	"	"

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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Analyte

Di-isopropyl ether

C6-C12 (GRO)

Ethyl tert-butyl ether

Surrogate: Toluene-d8

 $Surrogate: \ 4\hbox{-}Bromofluor obenzene$

Surrogate: Dibromofluoromethane

Methyl tert-butyl ether

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Notes

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Gribi Associates Project: Maz Glass 1090 Adam Street, Suite K Project Number: [none] Reported: Benicia CA, 94510 Project Manager: Jim Gribi 01/06/12 15:01

B-10-W T111994-16 (Water)

Limit Units

Reporting

Result

ND

ND

ND

ND

	SunStar Laboratories, Inc.										
Volatile Organic Compounds by EPA Method 8260B											
Benzene	ND	0.50	ug/l	1	1122905	12/29/11	01/04/12	EPA 8260B			
Toluene	ND	0.50	"	"			"	"			
Ethylbenzene	ND	0.50	"	"			"	"			
m,p-Xylene	ND	1.0	"	"			"	"			
o-Xylene	ND	0.50	"	"			"	"			
Tert-amyl methyl ether	ND	2.0	"	"			"	"			
Tert-butyl alcohol	ND	10	"	"			"	"			

2.0

2.0

1.0

50

88.8-117 83.5-119

81.1-136

96.5 %

99.5 %

122 %

SunStar Laboratories, Inc.

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Dilution Batch Prepared Analyzed Method

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1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-13-7.5 T111994-17 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		108 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by I	EPA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"		"	"	"	"
Ethylbenzene	ND	5.0	"		"	"	"	"
m,p-Xylene	ND	10	"		"	"	"	"
o-Xylene	ND	5.0	"		"	"	"	"
Surrogate: 4-Bromofluorobenzene		110 %	73.5-	148	"	"	"	"

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-13-12.5 T111994-18 (Soil)

1										
			Reporting							
	Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbo	ns by EPA 8015C								
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		106 %	72.6-1	46	"	"	"	"	
Volatile Organic Compounds by E	EPA Method 8021B								
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"	"				"	
Ethylbenzene	ND	5.0	"	"				"	
m,p-Xylene	ND	10	"	"			"	"	
o-Xylene	ND	5.0	"	"			"	"	
Surrogate: 4-Bromofluorobenzene		108 %	73.5-	48	"	"	"	"	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-13-14.5 T111994-19 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	2000	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		102 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by I	EPA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"	-	"	"	"	"
Ethylbenzene	ND	5.0	"	-	"	"	"	"
m,p-Xylene	ND	10	"				"	"
o-Xylene	ND	5.0	"		"	"	"	"
Surrogate: 4-Bromofluorobenzene		114 %	73.5-	148	"	"	"	"

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-13-20.0 T111994-20 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	3900	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		101 %	72.6-1	46	"	"	"	"
Volatile Organic Compounds by E	PA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"					"
Ethylbenzene	70	5.0	"					"
m,p-Xylene	ND	10	"					"
o-Xylene	ND	5.0	"	"				"
Surrogate: 4-Bromofluorobenzene		99.0%	73 5-1	48	,,	"	"	"

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1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-12-7.5 T111994-21 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		108 %	72.6-146	5	"	"	"	"
Volatile Organic Compounds by E	PA Method 80211	3						
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"			"	"	"
Ethylbenzene	ND	5.0					"	"
m,p-Xylene	ND	10	"				"	
o-Xylene	ND	5.0	"				"	
Surrogate: 4-Bromofluorobenzene		106 %	73.5-148	3	"	"	"	"

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-12-10.5 T111994-22 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	1200	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		106 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by I	EPA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"				"	"
Ethylbenzene	ND	5.0	"				"	"
m,p-Xylene	ND	10	"				"	"
o-Xylene	ND	5.0	"				"	"
Surrogate: 4-Bromofluorobenzene		107 %	73 5-	148	"	"	"	"

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-12-17.5 T111994-23 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbo	ns by EPA 8015C							
C6-C12 (GRO)	2900	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		109 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by E	EPA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"		"	"	"	"
Ethylbenzene	ND	5.0	"		"	"	"	"
m,p-Xylene	ND	10	"		"	"	"	"
o-Xylene	ND	5.0						"

73.5-148

106 %

SunStar Laboratories, Inc.

Surrogate: 4-Bromofluorobenzene

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-12-22.0 T111994-24 (Soil)

1										
			Reporting							
	Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbons by EPA 8015C												
C6-C12 (GRO)	ND	500	ug/kg	1	1122907	12/29/11	12/30/11	EPA 8015C				
Surrogate: 4-Bromofluorobenzene		109 %	109 % 72.6-146		"	"	"	"				
Volatile Organic Compounds by E	EPA Method 8021B											
Benzene	ND	5.0	ug/kg	1	1122913	12/29/11	12/30/11	EPA 8021B				
Toluene	ND	5.0	"				"					
Ethylbenzene	ND	5.0	"				"					
m,p-Xylene	ND	10	"				"					
o-Xylene	ND	5.0	"	"			"					
Surrogate: 4-Bromofluorobenzene		107 %	73.5-1	48	"	"	"	"				

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Daniel Chavez, Project Manager



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1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-14-8.0 T111994-25 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	ND	500	ug/kg	1	1122912	12/29/11	12/30/11	EPA 80150
Surrogate: 4-Bromofluorobenzene		106 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by E	PA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122915	12/29/11	12/30/11	EPA 8021E
Γoluene	ND	5.0	"		"	"	"	"
Ethylbenzene	ND	5.0	"		"		"	"
m,p-Xylene	ND	10	"		"		"	"
o-Xylene	ND	5.0	"		"	"	"	"
Surrogate: 4-Bromofluorobenzene		108 %	73.5-	148	"	"	"	"

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Gribi Associates Project: Maz Glass 1090 Adam Street, Suite K Project Number: [none] Reported: Benicia CA, 94510 Project Manager: Jim Gribi 01/06/12 15:01

B-14-12.0 T111994-26 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

110 % 72.6-146 " " " " " "									
C6-C12 (GRO)	1600	500	ug/kg	1	1122912	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		110 %	72.6-1	46	"	"	"	"	
Volatile Organic Compounds by E	EPA Method 8021B								
Benzene	ND	5.0	ug/kg	1	1122915	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"	"			"	"	
Ethylbenzene	ND	5.0	"	"			"	"	
m,p-Xylene	ND	10	"	"			"	"	
o-Xylene	ND	5.0	"	"			"	"	
Surrogate: 4-Bromofluorobenzene		110 %	73.5-1	48	"	"	"	"	

SunStar Laboratories, Inc.

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B-14-15.5 T111994-27 (Soil)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

C6-C12 (GRO)	ND	500	ug/kg	1	1122912	12/29/11	12/30/11	EPA 8015C
Surrogate: 4-Bromofluorobenzene		101 %	72.6-	146	"	"	"	"
Volatile Organic Compounds by E	PA Method 8021B							
Benzene	ND	5.0	ug/kg	1	1122915	12/29/11	12/30/11	EPA 8021B
Toluene	ND	5.0	"			"	"	"
Ethylbenzene	ND	5.0	"			"	"	"
m,p-Xylene	ND	10	"			"	"	"
o-Xylene	ND	5.0	"		"	"	"	"
Surrogate: 4-Bromofluorobenzene		101 %	73.5-	148	"	"	"	"

SunStar Laboratories, Inc.

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-14-20.5 T111994-28 (Soil)

Γ										
-			Reporting							
L	Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Purgeable Petroleum Hydrocarbons by EPA 8015C C6-C12 (GRO) ND 500 ug/kg 1 1122912 12/29/11 12/30/11 EPA 8015C 103 % 72.6-14/5 " " " " " ND 5.0 ug/kg 1 1122915 12/29/11 12/30/11 EPA 8021B Benzene ND 5.0 "									
C6-C12 (GRO)	ND	500	ug/kg	1	1122912	12/29/11	12/30/11	EPA 8015C	
Surrogate: 4-Bromofluorobenzene		103 %	72.6-	146	"	"	"	"	
Volatile Organic Compounds by E	PA Method 8021B								
Benzene	ND	5.0	ug/kg	1	1122915	12/29/11	12/30/11	EPA 8021B	
Toluene	ND	5.0	"	"			"		
Ethylbenzene	ND	5.0	"	"			"		
m,p-Xylene	ND	10	"	"				"	
o-Xylene	ND	5.0	"	"			"	"	
Surrogate: 4-Bromofluorobenzene		103 %	73.5-	148	"	"	"	"	

SunStar Laboratories, Inc.

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Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-14-W T111994-29 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries, Inc.					
SunStar Laboratories SunStar Laboratories									
C13-C28 (DRO)	ND	0.050	mg/l	1	1122906	12/29/11	12/30/11	EPA 8015C	
C29-C40 (MORO)	ND	0.10			"		"	"	
Surrogate: p-Terphenyl		86.4 %	65-	135	"	"	"	"	
Volatile Organic Compounds by E	EPA Method 8260	В							
Benzene	ND	0.50	ug/l	1	1122905	12/29/11	01/04/12	EPA 8260B	
Toluene	ND	0.50					"	"	
Ethylbenzene	ND	0.50					"	"	
m,p-Xylene	ND	1.0					"	"	
o-Xylene	ND	0.50			"		"	"	
Tert-amyl methyl ether	ND	2.0			"		"	"	
Tert-butyl alcohol	ND	10					"	"	
Di-isopropyl ether	ND	2.0					"	"	
Ethyl tert-butyl ether	ND	2.0					"	"	
Methyl tert-butyl ether	ND	1.0					"	"	
C6-C12 (GRO)	94	50					"	"	
Surrogate: Toluene-d8		94.1 %	88.8	-117	"	"	"	"	
Surrogate: 4-Bromofluorohenzene		98 9 %	83.5	-119	"	"	"	"	

128 %

81.1-136

SunStar Laboratories, Inc.

Surrogate: Dibromofluoromethane

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 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

B-12-W T111994-30 (Water)

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Reporting							

Volatile Organic Compounds by E	PA Method 8260	В						
Benzene	46	0.50	ug/l	1	1122905	12/29/11	01/04/12	EPA 8260B
Toluene	0.96	0.50	"	"			"	
Ethylbenzene	12	0.50	"	"			"	
m,p-Xylene	ND	1.0	"	"			"	
o-Xylene	ND	0.50	"				"	"
Tert-amyl methyl ether	ND	2.0	"	"			"	"
Tert-butyl alcohol	ND	10	"				"	"
Di-isopropyl ether	ND	2.0	"				"	"
Ethyl tert-butyl ether	ND	2.0	"				"	"
Methyl tert-butyl ether	ND	1.0	"					"
C6-C12 (GRO)	3200	50	"	"			"	"
Surrogate: Toluene-d8		95.4 %	88.8-	117	"	"	"	"
Surrogate: 4-Bromofluorobenzene		90.5 %	83.5-	119	"	"	"	"
Surrogate: Dibromofluoromethane		121 %	81.1-	136	"	"	"	"

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Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

B-13-W T111994-31 (Water)

Reporting

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries, Inc.					
Note Prepared Pr									
C13-C28 (DRO)	1.4	0.050	mg/l	1	1122906	12/29/11	12/30/11	EPA 8015C	
C29-C40 (MORO)	ND	0.10	"		"	"	"	"	
Surrogate: p-Terphenyl		94.3 %	65-	135	"	"	"	"	
Volatile Organic Compounds by E	PA Method 8260	В							
Benzene	270	2.5	ug/l	5	1122905	12/29/11	01/04/12	EPA 8260B	
Toluene	4.0	0.50	"	1	"	"	"	"	
Ethylbenzene	390	2.5	"	5	"		"	"	
m,p-Xylene	51	1.0	"	1	"	"	"	"	
o-Xylene	1.4	0.50	"		"		"	"	
Tert-amyl methyl ether	ND	2.0	"		"		"	"	
Tert-butyl alcohol	ND	10	"				"	"	
Di-isopropyl ether	ND	2.0	"				"	"	
Ethyl tert-butyl ether	ND	2.0	"		"		"	"	
Methyl tert-butyl ether	ND	1.0	"				"	"	
C6-C12 (GRO)	9100	250		5			"	"	
Surrogate: Toluene-d8		97.9 %	88.8	3-117	"	"	"	"	
Surrogate: 4-Bromofluorohenzene		98 5 %	83.5	-119	"	"	,,	"	

110 %

81.1-136

SunStar Laboratories, Inc.

Surrogate: Dibromofluoromethane

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.

Daniel Chavez, Project Manager

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Gribi Associates Project: Maz Glass 1090 Adam Street, Suite K Project Number: [none] Reported: Benicia CA, 94510 Project Manager: Jim Gribi 01/06/12 15:01

Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1122907 - EPA 5030 GC										
Blank (1122907-BLK1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C6-C12 (GRO)	ND	500	ug/kg							
Surrogate: 4-Bromofluorobenzene	267		"	250		107	72.6-146			
LCS (1122907-BS1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C6-C12 (GRO)	10500	500	ug/kg	13800		76.2	75-125			
Surrogate: 4-Bromofluorobenzene	250		"	250		100	72.6-146			
Matrix Spike (1122907-MS1)	So	urce: T11199	94-01	Prepared:	12/29/11	Analyzed	1: 12/30/11			
C6-C12 (GRO)	9970	500	ug/kg	13800	97.5	71.8	65-135			
Surrogate: 4-Bromofluorobenzene	259		"	250		104	72.6-146			
Matrix Spike Dup (1122907-MSD1)	So	urce: T11199	94-01	Prepared:	12/29/11	Analyzed	1: 12/30/11			
C6-C12 (GRO)	10500	500	ug/kg	13800	97.5	75.5	65-135	5.01	20	
Surrogate: 4-Bromofluorobenzene	260		"	250		104	72.6-146			
Batch 1122912 - EPA 5030 GC										
Blank (1122912-BLK1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C6-C12 (GRO)	ND	500	ug/kg							
Surrogate: 4-Bromofluorobenzene	258		"	250		103	72.6-146			
LCS (1122912-BS1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C6-C12 (GRO)	12300	500	ug/kg	13800		89.1	75-125			
Surrogate: 4-Bromofluorobenzene	243		"	250		97.1	72.6-146			
Matrix Spike (1122912-MS1)	So	urce: T11199	93-01	Prepared:	12/29/11	Analyzed	1: 12/30/11			
C6-C12 (GRO)	11000	500	ug/kg	13800	110	79.3	65-135			
Surrogate: 4-Bromofluorobenzene	246		"	250		98.3	72.6-146			

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Project: Maz Glass Gribi Associates 1090 Adam Street, Suite K Project Number: [none] Reported: Benicia CA, 94510 Project Manager: Jim Gribi 01/06/12 15:01

Purgeable Petroleum Hydrocarbons by EPA 8015C - Quality Control

SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1122912 - EPA 5030 GC

Matrix Spike Dup (1122912-MSD1)	Source	e: T11199	3-01	Prepared:	12/29/11					
C6-C12 (GRO)	11500	500	ug/kg	13800	110	83.0	65-135	4.48	20	
Surrogate: 4-Bromofluorobenzene	246		"	250		98.4	72.6-146			

SunStar Laboratories, Inc.

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Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

Extractable Petroleum Hydrocarbons by 8015C - Quality Control SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1122903 - EPA 3550B GC										
Blank (1122903-BLK1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C13-C28 (DRO)	ND	10	mg/kg							
C29-C40 (MORO)	ND	10	"							
Surrogate: p-Terphenyl	84.5		"	100		84.5	65-135			
LCS (1122903-BS1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C13-C28 (DRO)	490	10	mg/kg	500		97.0	75-125			
Surrogate: p-Terphenyl	89.2		"	100		89.2	65-135			
LCS Dup (1122903-BSD1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C13-C28 (DRO)	500	10	mg/kg	500		101	75-125	3.88	20	
Surrogate: p-Terphenyl	91.2		"	100		91.2	65-135			
Batch 1122906 - EPA 3510C GC										
Blank (1122906-BLK1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C13-C28 (DRO)	ND	0.050	mg/l							
C29-C40 (MORO)	ND	0.10	"							
Surrogate: p-Terphenyl	4.18		"	4.00		105	65-135			
LCS (1122906-BS1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
C13-C28 (DRO)	23.0	0.050	mg/l	20.0		115	75-125			
Surrogate: p-Terphenyl	3.97		"	4.00		99.3	65-135			
Matrix Spike (1122906-MS1)	So	urce: T11199	94-29	Prepared:	12/29/11	Analyzed	1: 12/30/11			
C13-C28 (DRO)	22.9	0.050	mg/l	20.0	ND	115	75-125			
Surrogate: p-Terphenyl	4.17		"	4.00		104	65-135			

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

 Gribi Associates
 Project: Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

Extractable Petroleum Hydrocarbons by 8015C - Quality Control

SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1122906 - EPA 3510C GC

Matrix Spike Dup (1122906-MSD1)															
C13-C28 (DRO)	22.5	0.050	mg/l	20.0	ND	112	75-125	1.98	20						
Surrogate: n-Ternhenyl	4 40		"	4.00		110	65-135								

SunStar Laboratories, Inc.

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Gribi Associates Project: Maz Glass 1090 Adam Street, Suite K Project Number: [none] Reported: Benicia CA, 94510 Project Manager: Jim Gribi 01/06/12 15:01

Volatile Organic Compounds by EPA Method 8021B - Quality Control SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	%REC Limits	RPD	Limit	Notes
Batch 1122913 - EPA 5030 GC										
Blank (1122913-BLK1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
Benzene	ND	5.0	ug/kg							
Toluene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	10	"							
o-Xylene	ND	5.0	"							
Surrogate: 4-Bromofluorobenzene	278		"	250		111	73.5-148			
LCS (1122913-BS1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
Benzene	220	5.0	ug/kg	250		87.8	70-130			
Toluene	222	5.0	-,, -	250		88.7	70-130			
Ethylbenzene	227	5.0	"	250		90.7	70-130			
m,p-Xylene	405	10		500		81.0	70-130			
o-Xylene	216	5.0		250		86.6	70-130			
Surrogate: 4-Bromofluorobenzene	271		"	250		108	73.5-148			
Matrix Spike (1122913-MS1)	So	urce: T11199	04-01	Prepared:	12/29/11	Analyzed	1: 12/30/11			
Benzene	219	5.0	ug/kg	250	ND	87.4	70-130			
Toluene	213	5.0	"	250	ND	85.3	70-130			
Ethylbenzene	218	5.0	"	250	ND	87.3	70-130			
m,p-Xylene	392	10	"	500	ND	78.4	70-130			
o-Xylene	232	5.0	"	250	ND	92.9	70-130			
Surrogate: 4-Bromofluorobenzene	277		"	250		111	73.5-148			
Matrix Spike Dup (1122913-MSD1)	So	urce: T11199	04-01	Prepared:	12/29/11	Analyzed	1: 12/30/11			
Benzene	227	5.0	ug/kg	250	ND	90.6	70-130	3.57	20	
Toluene	218	5.0	"	250	ND	87.3	70-130	2.31	20	
Ethylbenzene	218	5.0	"	250	ND	87.3	70-130	0.0183	20	
m,p-Xylene	420	10	"	500	ND	84.0	70-130	6.95	20	
o-Xylene	238	5.0	"	250	ND	95.3	70-130	2.60	20	
Surrogate: 4-Bromofluorobenzene	263		"	250		105	73.5-148			

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone 949.297.5027 Fax

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	01/06/12 15:01

Volatile Organic Compounds by EPA Method 8021B - Quality Control SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1122915 - EPA 5030 GC									<u> </u>	
Blank (1122915-BLK1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
Benzene	ND	5.0	ug/kg							
Toluene	ND	5.0								
Ethylbenzene	ND	5.0								
m,p-Xylene	ND	10								
o-Xylene	ND	5.0								
Surrogate: 4-Bromofluorobenzene	255		"	250		102	73.5-148			
LCS (1122915-BS1)				Prepared:	12/29/11	Analyzed	1: 12/30/11			
Benzene	263	5.0	ug/kg	250		105	70-130			
Toluene	267	5.0	"	250		107	70-130			
Ethylbenzene	246	5.0		250		98.4	70-130			
m,p-Xylene	541	10		500		108	70-130			
o-Xylene	249	5.0		250		99.5	70-130			
Surrogate: 4-Bromofluorobenzene	254		"	250		101	73.5-148			
Matrix Spike (1122915-MS1)	So	urce: T11199	4-25	Prepared:	12/29/11	Analyzed	1: 12/30/11			
Benzene	222	5.0	ug/kg	250	ND	88.8	70-130			
Toluene	246	5.0		250	ND	98.3	70-130			
Ethylbenzene	234	5.0		250	ND	93.7	70-130			
m,p-Xylene	466	10		500	ND	93.3	70-130			
o-Xylene	237	5.0	-	250	ND	94.7	70-130			
Surrogate: 4-Bromofluorobenzene	254		"	250		102	73.5-148			
Matrix Spike Dup (1122915-MSD1)	So	urce: T11199	4-25	Prepared:	12/29/11	Analyzed	1: 12/30/11			
Benzene	228	5.0	ug/kg	250	ND	91.1	70-130	2.56	20	
Toluene	238	5.0		250	ND	95.1	70-130	3.32	20	
Ethylbenzene	226	5.0		250	ND	90.6	70-130	3.45	20	
m,p-Xylene	450	10		500	ND	89.9	70-130	3.64	20	
o-Xylene	223	5.0		250	ND	89.2	70-130	5.96	20	
Surrogate: 4-Bromofluorobenzene	271		"	250		108	73.5-148			

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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Gribi Associates Project: Maz Glass 1090 Adam Street, Suite K Project Number: [none] Benicia CA, 94510 Project Manager: Jim Gribi

Reported: 01/06/12 15:01

Volatile Organic Compounds by EPA Method 8260B - Quality Control SunStar Laboratories, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Blank (1122905-BLK1)				Prepared: 12/2	29/11 Analyze	d: 01/04/12			
Benzene	ND	0.50	ug/l						
Toluene	ND	0.50	"						
Ethylbenzene	ND	0.50	"						
m,p-Xylene	ND	1.0	"						
o-Xylene	ND	0.50	"						
Tert-amyl methyl ether	ND	2.0	"						
Tert-butyl alcohol	ND	10	"						
Di-isopropyl ether	ND	2.0	"						
Ethyl tert-butyl ether	ND	2.0	"						
Methyl tert-butyl ether	ND	1.0	"						
C6-C12 (GRO)	ND	50	"						
Surrogate: Toluene-d8	7.87		"	8.00	98.4	88.8-117			
Surrogate: 4-Bromofluorobenzene	7.56		"	8.00	94.5	83.5-119			
Surrogate: Dibromofluoromethane	8.71		"	8.00	109	81.1-136			
LCS (1122905-BS1)				Prepared: 12/2	29/11 Analyze	d: 01/04/12			
Chlorobenzene	18.5	1.0	ug/l	20.0	92.5	75-125			
1,1-Dichloroethene	21.1	1.0	"	20.0	106	75-125			
Trichloroethene	19.9	1.0	"	20.0	99.6	75-125			
Benzene	19.8	0.50	"	20.0	99.1	75-125			
Toluene	17.6	0.50	"	20.0	88.0	75-125			
Surrogate: Toluene-d8	7.83		"	8.00	97.9	88.8-117			
Surrogate: 4-Bromofluorobenzene	7.18		"	8.00	89.8	83.5-119			
Surrogate: Dibromofluoromethane	10.2		"	8.00	128	81.1-136			
LCS Dup (1122905-BSD1)				Prepared: 12/2	29/11 Analyze	d: 01/04/12			
Chlorobenzene	18.4	1.0	ug/l	20.0	92.0	75-125	0.488	20	
1,1-Dichloroethene	22.6	1.0		20.0	113	75-125	6.73	20	
Trichloroethene	20.7	1.0	"	20.0	103	75-125	3.74	20	
Benzene	21.0	0.50	"	20.0	105	75-125	5.83	20	
Toluene	18.4	0.50	"	20.0	92.2	75-125	4.66	20	
Surrogate: Toluene-d8	7.76		"	8.00	97.0	88.8-117			
Surrogate: 4-Bromofluorobenzene	7.23		"	8.00	90.4	83.5-119			
Surrogate: Dibromofluoromethane	10.9		"	8.00	136	81.1-136			

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25712 Commercentre Drive Lake Forest, California 92630 949,297.5020 Phone 949,297.5027 Fax

 Gribi Associates
 Project.
 Maz Glass

 1090 Adam Street, Suite K
 Project Number: [none]
 Reported:

 Benicia CA, 94510
 Project Manager: Jim Gribi
 01/06/12 15:01

Notes and Definitions

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

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Chain of Custody Record

\$**~**

Project Name	Project Name		Relinquished by: (signature)		Relinguished by: (signature	Control of Dy (signature)) E	3-14-5	2-14-20,5	5-14-15.5	200000000000000000000000000000000000000	カーケーへんら	3-12-175	5-12-10-5	8-12-75		2-11-8-8		B-13-7.5		Sample ID		Project Manager:	Address:	
Project Name: Collector: See Dy (signature) Date / Time B260 8260 + OXY 8260 BTEX, OXY DAY TYP + O 8270 8021 BTEX 8015M (gasoline) + STE 8015M (gasoline) + STE 8015M (diesel) + MO 8015M (diesel) + MO	Collector: A Companier Containing Contai			12:24	Date /	124	11.62.14	7=				000	1500	いまり	الما	1420	1410	(S) 411					71		
8260 8260 + OXY 8260 BTEX, OXY ONLY TOPH-C 8270 8270 8021 BTEX 8015M (gasoline) + 5TeX 8015M (diesell) + MO	Batch # Time Date Time Date Time Chain of Custody seals Nava of Contain Seals in act Ward Seals Ward		Received by: (signatur	1	Received by (signature			3	23	=) ===	T			1		=	٧٠	3	Sample				
	## Received good condition/cook		Date	H		7		1	<											X	8260 + OXY 8260 BTEX, OXY onl y +172 1 8270 8021 BTEX	4	Batch #:	Project N	
		Turn around time				Chain of Custody's	-	×	X	X	X	\}	4			Χ,	X.	X	X -		8015M (diesel) † M <i>O</i> 8015M Ext./Carbon Chain		. °	بلاح	-
nents/Preservative				22			+	+	+	╁		-	12	+	t	+	╀	-	H	-	Total # of containers	-		1	

Sample ID

8-8-4.0

8-8-11.0

8-9-11.5

8-9-11.5

8-10-1.5

8-11-10.5

8-11-10.5

8-11-10.5

8-11-10.5

8-11-20.0

8-11-20.0

8-11-20.0

8-11-20.0

8-11-20.0

8-11-20.0 SunStar Laboratories, Inc. 25712 Commercentre Dr Lake Forest, CA 92630 949-297-5020 Phone: Client: Project Manager: $\frac{GSO}{}$ Relinquished by: (signature) Grub 1 12 2711 Gribi 12-29-11 P:48 Date / Time Assectes Fax: Mater 4 1045 Received by: (signature) Container Type Sleeup **Chain of Custody Record** 8260 8260 + OXY Date / Time Date / Time 8260 BTEX, OXY only TPH G Project Name: MAZ GL Collector: Scrib J 8270 8021 BTEX 8015M (gasoline) ナ BT巴 12/28/11 Chain of 8015M (diesel) Received good condition/cold 8015M Ext./Carbon Chain 4661111 6010/7000 Title 22 Metals f Custody seale WN/NA Seals intact? WN/NA Glass EDF# Client Project #: Page: STD. TAT Notes Q B Total # of containers

mple disposal Instructions:

Disposal @ \$2.00 each

Relincustred by: (aignatura) Relincustred by: (signatura) Relincustred by: (signatura)	Sample ID 多~ [3~ん]	Project Manager:	Phone:	Client Grub)	SunStar Laboratories, Inc 25712 Commercentre Dr Lake Forest, CA 92630 949-297-5020
Date / Time (2) Date / Time Date / Time (2) 29./ P. 45 (2) 29./ Date / Time (3) 29./ Date / Time	Date Sampled Time	(arip)	Fax:	and Associates	· · · · · ·
Received by signature) Received by signature) Received by signature)	Sample Container Type Type 6 Vo As				Cha
		 	 		Chain of Custody Record
7 0 1	8021 BTEX 8015M (gasoline) 8015M (diesel) + M 0 8015M Ext./Carbon Chain	Batch #: 7/// 994	Collector: J Grib	Date: 12)26 11	y Record
Total # of containers Chain of Custody seals () ANNA Seals intact? () ANNA Received good condition/cold 3£ Turn around time: ATA	6010/7000 Title 22 Metals	1 1 1	191	2 PAA	
d 3 8	Laboratory ID #	EDF #.	_Client Project #:	Page: \(\mathcal{O} \)	
No ED F	Comments/Preservative		ect #:	S W	
	Total # of containers]		ı	

SunStar Laboratories, In	
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Page 1 of 2

SAMPLE RECEIVING REVIEW SHEET

BATCH #			
Client Name: <u>Graver Associates</u> Project:	Maz	GLASS.	
Received by: Sumy Date/Time Re	ceived:	12.29	4/ 8:45
Delivered by: Client SunStar Courier GSO FedEx	Other		
Total number of coolers received Temp criteria = 6°C	> 0°C (no	rozen c	ontainers)
Temperature: cooler #1°C +/- the CF (- 0.2°C) =°C corrections	cted temperate	re	
cooler #2°C +/- the CF (- 0.2°C) =°C correction	cted temperati	re	
cooler #3°C +/- the CF (- 0.2°C) =°C correct	cted temperati	are .	
Samples outside temp. but received on ice, w/in 6 hours of final sampling.	∑Yes	□No*	□N/A
Custody Seals Intact on Cooler/Sample	Yes	□No*	□N/A
Sample Containers Intact	Yes	□No	
Sample labels match COC ID's	Yes	□No	
Total number of containers received match COC	Yes	□No	
Proper containers received for analyses requested on COC	∑Yes	□No	
Proper preservative indicated on COC/containers for analyses requested	Yes	□No	□N/A
Complete shipment received in good condition with correct temperatures, or preservatives and within method specified holding times. Yes No.		bels, vol	umes
* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample R	eview - Initi	is and da	e SLº 12.29.11
Comments:			



Page 2 of _2_

SAMPLE NON-CONFORMANCE SHEET

COOLERS						•]	ABEL	S	1				
☐ Not Receiv	ed (receiv	ed CO	C only)						sampl	е Пр	/ info	o as on	the COC
☐ Leaking/Da								nplete I					
☐ Other:								ings/Inf					
CUSTODY SEALS						SAMPL		"					
□ None							☐ Samp	les NO	T REC	CEIV	ED I	but list	ed on CO
□ Not Intact													D on COC
TEMPERATU	IRE (SPI	CS 6	- 0°C)				∃ Logg	ed base	ion L	abel l	Infor	mation	and not C
☐ Cooler/San			· 0 C)										l not COC
☐ Temperatu								ed in, O					
CHAIN OF C			C.					ficient o					
□ Not relinqu				/time rel	inauish	ed		oper cor				•	
☐ Incomplete				,				beled a				vatives	, etc.
□ COC not re													D and tes
CONTAINER								reserve					
☐ Leaking		Broker	n										containers
_							☐ Othe						
□ Extra	L	Missin											
OMMENTS:	p: 8-,			obes s	not m	atih	on.	the	ر ما	ate		<u> </u>	
OMMENTS: Sample 1	p: B-,	/3-/4	. <u>.5 </u>							_			han one c
DMMENTS: Sample 1 Till 994 - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			nan one c
OMMENTS: Sample Turggy - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			
OMMENTS: Sample 1 Till 994 - fractioning only	p: B-,	/3-/4	. <u>.5 </u>							_			
OMMENTS: Sample Turggy - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			
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OMMENTS: Sample Turggy - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			
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OMMENTS: Sample Tul994 - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			
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OMMENTS: Innale Tut 1994 - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			
OMMENTS: Innale Tut 1994 - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			
OMMENTS: Innale Tut 1994 - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			
OMMENTS: Sample Tut994 - fractioning onl	p: B-,	/3-/4	. <u>.5 </u>							_			