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February 26, 2015

Alameda County Department of Environmental Health 1131 Harbor Bay Parkway, 2nd Floor Alameda, CA 94502

Attention: Mark Detterman

Subject: Report of Additional Site Investigation 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 *Report of Additional Site Investigation 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 H Banket

c/o Banker, Marks & Kirk

1720 Broadway, Suite 202

Oakland, CA 94612



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#### Ladies and Gentlemen:

Gribi Associates is pleased to submit this *Report of Additional Site Investigation Activities* on behalf San Pablo Avenue Venture for the property located at 3800 San Pablo Avenue in Emeryville, California (Site) (see Figure 1, Figure 2, and Figure 3). This report documents: (1) The monitoring and sampling of four Site wells on December 7, 2014 and on January 29, 2015; (2) The attempted collection of vapor samples from five temporary soil gas wells on December 7, 2014 and on January 29, 2015; (3) Conducting a preferential pathways/sensitive receptors survey; and (4) Preparation of groundwater plume delineation maps for the Site.

Note that during soil gas and groundwater sampling on December 7, 2014, it was noted that groundwater was abnormally shallow (5-6 feet bgs), presumably due to a perched water zone which resulted from significant rain events during late November/early December 2014. Thus, sampling of vapor wells yielded water, and not vapor, during the December 7, 2014 sampling. For this reason, soil gas wells and groundwater monitoring wells were sampled again on January 29, 2015.

#### 1.0 SITE BACKGROUND

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 under confining conditions below 15 feet in depth.

# 1.1 Brief Site History

Preliminary Phase I ESA activities were conducted which included a review of historical Sanborn Maps, a city directories abstract, historical aerial photos, and City of Emeryville records for the Site and site vicinity. Results of the historical records review indicate the following relative to Site history and environmental conditions.

- The current Site building was constructed between 1911 and 1939, and was occupied by a GMC truck sales and repair facility from at least 1950 to 1980.
- A former gasoline dispenser kiosk, labeled as "Gas & Oil" was present in the small Adeline Street parking lot directly adjacent to the site building (where the current front door to the building is located). The "Gas & Oil" label is the standard designation on Sanborn Maps for a gas station or gasoline fueling facility. Note that it is possible that the fuel dispenser island extended inside the Site building, immediately adjacent to the outside kiosk.
- The south wing of the GMC truck facility was apparently not used for truck repair activities, but rather was used for offices, parts department, and body shop.

While the GMC truck facility was present, the southeast yard, adjacent to Apgar Street, was either not part of the facility (residences) or was used for truck parking. The northeast yard area, adjacent to 39<sup>th</sup> Street, extended further east to include the current adjacent auto repair facility and was apparently used for storage and auto painting.

# 1.2 Summary of Previous Environmental Investigation Activities

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

### 1.2.1 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 heating 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.

In April 2012, a 1,000-gallon UST was discovered in the Apgar Street sidewalk on the south side of the Site. This UST was removed on August 9, 2012. The tank showed no evidence of leakage, and soils beneath the removed UST exhibited slight to occasionally moderate hydrocarbon odors. Laboratory analytical results from soil samples showed no significant hydrocarbon detections. The only hydrocarbon detection in any of the samples was 0.520 milligrams per kilogram (mg/kg) (detection level = 0.500 mg/kg) of Total Petroleum Hydrocarbons as Gasoline (TPH-G) in the north sidewall soil sample. All of the metals results were relatively low and appear to represent background metals concentrations.

# 1.2.2 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 (see Figures 2) (*Preliminary Investigation and Evaluation Report for 3800 San Pablo Avenue, Emeryville, California,* Enviro Soil Tech Consultants, August 28, 2007). 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 seemed 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 was bolstered by the lack of soil hydrocarbon detections or field evidence of shallow soil impacts in the seven soil borings.

In December 2011, Gribi Associates drilled and sampled seven investigative borings, B-8 through B-14, on the Site (*Report of Soil and Groundwater Investigation and Workplan to Conduct Additional Investigation Activities, 3800 San Pablo Avenue, Emeryville, California*, Gribi Associates, January 26, 2012). 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. 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. Results of this investigation indicated that the previously-identified groundwater hydrocarbon plume beneath the Adeline Street parking lot is localized and did not originate from elsewhere on the Site. Further, it appeared 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. The report for this investigation included a work plan to: (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.

In May 2012, nine investigative borings (B-15 through B-23) were drilled and four groundwater monitoring wells (MW-1 through MW-4) were installed at the Site (*Report of Remedial Investigation and Workplan to Conduct Interim Remedial Measures, 3800 San Pablo Avenue, Emeryville, California,* Gribi Associates, July 13, 2012). Both field and laboratory analytical results from this investigation indicate a relatively small, concentrated, predominately groundwater only, gasoline-range hydrocarbon plume present beneath the Adeline Street parking lot. The report for this investigation included a Conceptual Site Model and a work plan to conduct interim remedial measures (IRMs) for the Site. The IRM work plan proposed the drilling and sampling of additional borings and the implementation of an ozone injection pilot test on the Site. This work plan was conditionally approved on November 16, 2012.

In February 2013, three soil borings (B-24, B-27, and B-28) and three ozone injection wells (OW-1, OW-2, and OW-3) were installed and sampled. Soil samples from the three investigative borings and three well borings showed relatively low levels of gasoline-range hydrocarbons, with TPH-G concentrations ranging from nondetect to 25 mg/kg, and Benzene concentrations ranging from nondetect to 0.039 mg/kg. Groundwater samples from the three investigative borings showed low to moderate levels of gasoline-range hydrocarbons, with TPH-G concentrations ranging from nondetect to 7,900 ug/L and Benzene concentrations ranging from nondetect to 1,100 ug/L.

Gribi Associates installed an ozone remediation system at the site during the week of September 2, 2013. The ozone system was started on September 9, 2013 and operated continuously until the mid-October 2013. The system required repairs and was re-started on November 7, 2013 and operated continuously until the system was turned off on February 7, 2014. The ozone system was re-started on August 5, 2014 and turned off on October 24, 2014 to assess concentration rebound.



On August 28, 2014, five temporary soil gas wells, SG-1 through SG-5, were installed and sampled. Soil gas well SG-2 was re-sampled on September 15, 2014, and soil gas wells SG-2 and SG-5 were re-sampled on September 25, 2014. Shallow soil samples SS-1 through SS-4 were collected in the southeast Site yard area on September 15, 2014. Soil vapor samples from SG-1, SG-3, and SG-4 showed no detectable concentrations of hydrocarbon constituents. Vapor samples collected at SG-2 on September 15, 2014 and September 25, 2014 showed relatively low concentrations of TPH-G, with no detectable BTEX constituents and low concentrations of Cyclohexane, Hexane, Heptane, and 1,3,4-Trimethylbenzene. The vapor sample collected from SG-5 on August 28, 2014 showed 1,700 micrograms per cubic meter (ug/m^3) OF Benzene, 5,600 ug/m^3 of Toluene, 1,200 ug/m^3 of Ethylbenzene, and 4,570 ug/m^3 of Xylenes. The two duplicate vapor samples from SG-5 collected on September 25, 2014 showed no detectable concentrations of hydrocarbon constituents. All the vapor samples showed no detectable Helium (leak detection compound) and generally high levels (greater than 10 percent) of Oxygen.

Soil and groundwater samples from borings B-29 and B-30 showed no detectable concentrations of hydrocarbon constituents, except for 0.72 micrograms per liter (ug/L) of Toluene in the groundwater sample from B-29. Soil samples at 2.5 feet and 5.0 feet in depth from temporary well borings SG-2 and SG-5 showed no detectable concentrations of hydrocarbon constituents. Shallow soil samples SS-1 through SS-4 showed no detectable concentrations of hydrocarbons and VOCs, and background levels of Metals. Note that the SS-2 sample showed 69 milligrams per kilogram (mg/kg) of Total Lead and 2.6 milligrams per liter (mg/L) of Soluble (STLC) Lead.

# 1.3 Site Conceptual Model

Gribi Associates prepared a Site Conceptual Model (SCM) for the Site which generally included an evaluation of contaminant sources, contaminant impacts, potential environmental and human health receptors, and investigative data gaps. Some of the key elements of the SCM include the following:

- The contaminants of concern are primarily TPH-G and BTEX.
- The contaminant source, or sources, appears to be the former dispenser kiosk located in the Adeline Street parking lot near the west edge of the Site building.
- Contaminant impacts in soil appear to be fairly low, with maximum TPH-G and Benzene concentrations of 69 mg/kg and 0.36 mg/kg, respectively.
- Contaminant impacts in groundwater are limited primarily to the west side of the Site, encompassing an area including the west Adeline Street parking lot and extending a short distance northeast into the site building TPH-G and benzene concentrations in this area are elevated (TPH-G>10,000 ug/L and benzene>1,000 ug/L).



- Contaminant impacts in soil gas beneath the Site building are relatively low and do not indicate a significant indoor air inhalation risk relative to Site COCs.
- Potential human health receptors include (1) future construction workers, and (2) human exposure to outdoor and indoor volatile contaminant vapors.
- Investigative data gaps include (1) the extent of groundwater contaminant impacts west across San Pablo Avenue, and (2) the nature and extent of vapor contaminant impacts beneath the Site building.

# 2.0 DESCRIPTION OF FIELD ACTIVITIES

Groundwater monitoring and soil gas sampling were conducted on December 23, 2014. Groundwater monitoring was conducted for all seven site wells (MW-1 through MW-6 and IW-1). Also, soil gas sampling was conducted on the shallower well (SG-1-5.0) of a soil gas well pair. An attempt to sample the deeper soil gas well (SG-1-8.0) of the pair resulted in drawing water into the sampling equipment, presumably due to a shallow groundwater table. Field activities were conducted in accordance with generally-accepted sampling protocols and with previous DTSC approvals.

# 2.1 Soil Gas Sampling

On December 7, 2014, sampling of temporary soil gas wells was attempted; however, water, rather than vapor, was extracted from wells SG-1, SG-2, and SG-5, and soil gas sampling was discontinued. On January 29, 2015, soil gas sampling was again attempted. While vapor samples were collected from wells SG-2, SG-4, and SG-5, water was extracted from wells SG-1 and SG-3. Soil gas sampling of SG-2, SG-4, and SG-5 was conducted using the following procedures.

- A "T" valve was placed in line at the ground surface to allow for system purging and for pressure testing of the above ground portion of the sampling train. The sampling tubing was attached to a 200-milliliter per minute maximum flow controller, then a one liter laboratory-supplied Summa Canister™ (evacuated to 29 inches mercury vacuum) with vacuum pressure gauge.
- After allowing the temporary vapor well to equilibrate for at least 15 minutes, the well was purged and sampled. A laboratory supplied purge/pressure test Summa Canister<sup>TM</sup> (evacuated to 29 inches mercury) was used to test vacuum pressure in the above ground portion of the sampling train. During the pressure test, sampling train vacuum pressure was maintained for at least 10 minutes at both locations.



- Approximately one-half liter of vapor was purged from the well using the purge/pressure test Summa Canister.
- The entire probe and sampling train was placed under a shroud and a leak test was conducted. Helium from a compressed gas cylinder was pumped into the shroud, and the helium concentration inside the shroud was maintained at approximately 10,000 ppmV (the detection level for the ASTM Method D-1946 is 100 ppmV). Helium monitoring as conducted using a Mark Radiodetection MGD-2002 helium detector with internal pump (or equivalent). For the sampling train leak test, the helium monitor was attached to the purge tube and the T-valve opened. A positive reading of helium by the detector would indicate the presence of helium inside the sample train and, therefore, a leak in the sample train. For all three samples, helium was not detected.
- The vapor sample was then collected by opening the Summa canister and allowing the vapor to fill the canister until the vacuum pressure in the canister reaches approximately 20 percent of initial (approximately 5 to 6 inched mercury). An in-line flow controller was used so that the Summa Canister filled slowly (200 ml per minute or less) to insure a representative soil vapor sample. Prior to, at start time, and during sampling, periodic vacuum measurements were recorded on a field data sheet, and initial and final vacuum pressures were noted on chain-of-custody records.
- The vapor samples (filled Summa canisters) were secured and transported to SunStar Laboratories (a California-certified analytical laboratory) under formal chain-of-custody.

# 2.2 Groundwater Monitoring

Groundwater monitoring of the four site wells, MW-1 through MW-4, was conducted on December 7, 2014 and on January 29, 2015. Groundwater monitoring activities were conducted using the following procedures. Groundwater monitoring field records are included in Appendix A.

- Depth to groundwater was measured and each well was checked for the presence of free product.
- Approximately three well volumes were purged while groundwater temperature, pH, and specific conductively was measured and recorded.
- Once these parameters had stabilized, groundwater was sampled directly from the pump discharge hose. Groundwater was poured directly into laboratory-supplied



containers, which were tightly sealed with a minimum of bubbles, labelled, and placed in cold storage for transport to the laboratory under formal chain-of-custody.

■ Water-tight caps were placed back on the wells, and the manhole covers for each well were secured.

# 2.3 Laboratory Analysis of Vapor and Water Samples

Groundwater samples from Site wells from the two monitoring events were analyzed for the following parameters.

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

In addition, vapor samples collected on January 29, 2015 from soil gas wells SG-2, SG-4, and SG-5 were analyzed for the following parameters with appropriate detection levels which are below regulatory screening levels.

- USEPA TO-15 TPH-G and Volatile Organic Compounds (VOCs)
- ASTM Method D-1946 Fixed Gases (Helium, Oxygen, Carbon Dioxide, Nitrogen)
- RSK 175 Methane

All analyses were conducted by either SunStar Laboratories, a California-certified analytical laboratories, with standard turnaround on results.

# 2.4 Preferential Pathways/Sensitive Receptors Survey

On January 23, 2015, a survey of below-ground utilities was conducted by Gribi Associates and ForeSite. The survey involved removing manhole covers and mapping below-ground utility locations, diameters, and invert depths by visual measurement and using electromagnetic instruments.

In order to attempt to identify potential water supply wells in the site vicinity, Gribi Associates requested copies of well records from both Alameda County Public Works Agency and California Department of Water Resources. We have not yet received well records from either of these agencies. In the interim, we obtained a well survey from a nearby site, Former Ambassador Laundry at 3601-3523 Adeline Street. This well survey reviewed county and state well records within a 2,000-foot radius from the Ambassador Laundry site.



# 3.0 RESULTS OF INVESTIGATION ACTIVITIES

# 3.1 Hydrologic Conditions

Groundwater depths in the four Site wells ranged from 5.82 feet (MW-4) to 6.23 feet (MW-3) during the December 7, 2014 monitoring event and from 7.70 feet (MW-4) to 8.63 (MW-2) during the January 29, 2015 monitoring event. Groundwater elevations in the four Site wells ranged from 32.66 feet above mean sea level (amsl) (MW-4) to 32.95 feet amsl (MW-1) during the December 7, 2014 monitoring event and from 29.87 feet amsl (MW-3) to 30.78 feet amsl (MW-4) during the January 29, 2015 monitoring event. Groundwater elevations for the December 7, 2014 and January 29, 2015 monitoring events are shown on Figure 4 and Figure 5, respectively. Groundwater elevation gradient beneath the Site is variable; however, based on hydrocarbon plume configuration, it appears that groundwater flow direction is to the southwest, in keeping with groundwater gradient at other nearby sites.

# 3.2 Laboratory Analytical Results

Groundwater laboratory analytical results for the December 7, 2014 and January 29, 2015 monitoring events are summarized in Table 1 and on Figure 6 and Figure 7, respectively. In addition, groundwater concentration trend graphs for the four Site wells are included in Appendix B. Soil gas laboratory analytical results are summarized in Table 2 and on Figure 8. Laboratory data reports are included in Appendix C.

Groundwater samples from the four Site wells generally showed increases in TPH-G, but minimal increases in BTEX constituents. TPH-G concentrations ranged from 1,900 ug/L (MW-3) to 12,000 ug/L (MW-1) during the December 7, 2014 monitoring event and from 3,100 ug/L (MW-3) to 43,000 ug/L (MW-4) during the January 29, 2015 monitoring event. Benzene concentrations ranged from 28 ug/L (MW-4) to 290 ug/L (MW-3) during the December 7, 2014 monitoring event and from 50 ug/L (MW-4) to 240 ug/L (MW-1) during the January 29, 2015 monitoring event.

The vapor samples from SG-2, SG-4, and SG-5 collected on January 29, 2015 showed detectable concentrations of some VOCs, but no detectable concentrations of BTEX constituents. In addition, oxygen concentrations were relatively low (below 3 percent) and methane concentrations were relatively high during the January 29, 2015 soil gas sampling event.

# 3.3 Results of Preferential Pathways/Sensitive Receptors Survey

Locations and depths of below-ground utilities on the Site and beneath adjacent roadways are shown on Figure 9. Sewer and storm drain pipes are present along the east side of Adeline Street and San Pablo Avenue at invert depths ranging from 7.6 feet to 11.0 feet below ground



surface (bgs). Since groundwater appears to be held under confining pressure below approximately 15 feet in depth, it is unlikely that these below-ground utilities are acting as preferential migratory pathways.

Note that the West MacArthur underpass roadway, located approximately 30 feet south from the Site, is approximately 19.5 feet below surface grade. It is our understanding that because this roadway is below the groundwater table, this underpass includes a pumping system to continually dewater the underpass.

We have submitted well survey requests to both Alameda County Public Works Agency and California Department of Water Resources and have not yet received the requisite well records. In the interim, we obtained a copy of a similar 2013 well survey conduct for the former Ambassador Laundry site, located approximately 400 feet southwest from the Site. A copy of the Ambassador Laundry well survey is included in Appendix D. This well survey included a review of county and state records within a 2,000-foot radius from the Ambassador Laundry site. The well survey map included in the well survey shows no nearby wells downgradient from the Site, and only one nearby crossgradient/upgradient well. This is a well located at 1016 MacArthur Blvd., approximately 80 feet east-southeast from the Site. This is a former UST site where monitoring wells were abandoned and regulatory closure was granted in 1997. A review of the Ambassador Laundry well survey indicates no water supply wells within 1,000 feet from the Site.

In lieu of conducting additional downgradient plume definition relative to the former Apgar Street UST, we prepared a map (see Figure 10) depicting potential maximum and 90<sup>th</sup> percentile groundwater TPH-G plume lengths (855 feet and 413 feet, respectively), based on studies summarized in the LTCP *Technical Justification for Groundwater Media-Specific Criteria*. We have also included the potential maximum groundwater TPH-G plume length (210 feet) for the Adeline Street USTs, which is based on actual groundwater data from onsite and offsite borings and wells.

# 4.0 CONCLUSIONS AND RECOMMENDATIONS

Results of this and previous investigations indicate that:

As depicted on concentrations trend graphs (see Appendix B), groundwater TPH-G
concentrations in the four wells generally increased during the two recent monitoring
events; however, benzene concentrations generally remained similar to previous postremediation sampling events. The increases in TPH-G in groundwater correspond to
shallowing of groundwater that resulted from surface water infiltration during
significant rain events in late November/early December 2014



- 2. The significant rainfall in late November/early December 2014 appears to have resulted in a temporary perched groundwater zone, or zones, that precluded soil gas sampling in Site soil gas wells, screened at about 5.5 feet in depth. Based on groundwater depth history (see Table 1), this groundwater shallowing appears to be anomalous
- 3. The temporary perched groundwater zone caused by November/December 2014 rains likely resulted in the anomalous soil gas VOC and fixed gases results in the three soil gas wells sampled on January 29, 2015. Vapor samples from SG-3 and SG-5 showed elevated levels of methane and low levels of oxygen, and the SG-4 vapor sample showed an elevated level of TPH-G, but no BTEX constituents. It seems likely that the low oxygen/high methane may be due to the introduction of bacteria-laden surface water. We believe that these conditions are anomalous and do not represent an overall trend or ongoing condition relative to vapors beneath the Site.
- 4. The continued lack of BTEX constituents in soil gas samples clearly indicates that indoor air exposure to BTEX, and particularly benzene, is not a significant concern relative to the planned Site redevelopment.
- 5. There appear to be no preferential pathways or sensitive receptors relative to Site hydrocarbon impacts. Below-ground utilities identified on and adjacent to the Site are too shallow to have acted as preferential migratory pathways, and well survey results for the former Ambassador Laundry site clearly indicate no water supply wells in the site vicinity.
- 6. Although complete groundwater hydrocarbon plume definition relative to the former Apgar Street UST has not been determined, we would not expect this plume length to exceed 200 feet. The reasons for this conclusion are: (1) The groundwater hydrocarbon plume associated with the former Adeline Street USTs (which is a larger hydrocarbon release) does not exceed 210 feet in length; (2) The groundwater dewatering system for the immediately south West MacArthur Boulevard underpass would be expected to intercept and halt downgradient (southwest) migration of this plume; and (3) Low-permeability soils beneath the Site and in the site vicinity generally result in short-length groundwater hydrocarbon plumes throughout the East Bay.
- 7. The preponderance of evidence indicates that the Site meets both the general and media-specific criteria for low-threat closure under *Low-Threat Underground Storage Tank Case Closure Policy*.



We appreciate this opportunity to provide this report for your review. Please contact us if there are questions or if additional information is required.

Very truly yours,

Matthew A. Rosman Project Engineer

James E. Gribi Professional Geologist California No. 5843

#### **Enclosures**

Table 1 Cumulative Groundwater Laboratory Analytical Results
Table 2 Cumulative Soil Gas Laboratory Analytical Results

Figure 1 Site Vicinity Map

Figure 2 Site Area Plan

Figure 3 Site Plan

Figure 4 Groundwater Elevation Gradient - 12/07/2014

Figure 5 Groundwater Elevation Gradient – 01/29/2015

Figure 6 Groundwater Hydrocarbon Concentrations – 12/07/2014

Figure 7 Groundwater Hydrocarbon Concentrations – 01/29/2015

Figure 8 Soil Gas TPH-G/BTEX Results

Figure 9 Utility Map

Figure 10 Maximum Estimated TPH-G Plume Lengths

Appendix A Groundwater Monitoring Field Data Sheets
Appendix B Groundwater Hydrocarbon Concentration Trend Graphs
Appendix C Laboratory Data Reports & Chain-of-Custody Records
Appendix D Well Survey from Former Ambassador Laundry Site

c: Mr. Bill Banker, Jr., San Pablo Avenue Venture



**TABLES** 



#### Table 1 CUMULATIVE GROUNDWATER LABORATORY ANALYTICAL RESULTS

								Former	Maz Glass US	Site						
Well ID	Date	GW	GW						Groundwat	er Concentrati	on, in microgr	rams per liter	(ug/L)			
		Depth	Elev.	TPH-G	TPH-D	ТРН-НО	В	Т	E	х	ОХҮ	Cr6	Br	N	SVOCs	Other VOCs
MW-1	5/18/2012	8.42	30.54	17,000	-	-	1,300	29	770	260	All ND	-	-	-	-	-
<38.96>	9/13/2012	10.55	28.41	13,000	_	-	630	10	780	86.7	All ND	-	-	_	-	-
	11/9/2012	9.72	29.24	15,000	-	-	1,200	21	1,100	283	All ND	-	-	-	-	-
	2/20/2013	8.34	30.62	9,800	-	-	970	15	860	171.5	All ND	_	-	75	-	-
	6/4/2013	9.39	29.57	8,600	-	-	880	15	770	121.2	All ND	-	-	74	-	-
	Ozone Injection	Started on	September 9,	2013												
	9/26/2013	10.38	28.58	16,000	-	-	220	8.9	610	152.4	All ND	<0.20	0.091	120	-	-
	12/30/2013	9.92	29.04	4,700	-	-	62	1.5	110	62.75	All ND	-	-	23	-	-
	Ozone Injection	Stopped or	February 7, 2	2014												
	3/7/2014	6.56	32.40	5,600	-	-	320	8.4	370	89.7	All ND	<0.20	0.047	68	-	-
	5/27/2014	9.77	29.19	2,900	-	-	180	4.3	290	38.51	All ND	-	-	24	-	-
	Ozone Injection 9/29/2014	Resumed o 11.25	on August 5, 20 27.71	014 400	<500	960	<0.50	<0.50	1.1	1.3	<b>38</b> TBA	-	-	<1.0	All ND	<b>7.0</b> 1,3,5-Trimethylbenzene <b>4.3</b> 1,2,4-Trimethylbenene
	Ozone Injection	Stopped or	October 24,	2014												
	12/7/2014	C 01														
		6.01	32.95	12,000			250	2.8	270	54.51	All ND	-	-	-	-	-
	1/29/2015	8.91	32.95 30.05	12,000 15,000			250 240	2.8 3.6	270 210	54.51 59.51	All ND	-	-	- -	-	-
MW-2					_	_						- - -	- - -	- - -	- - -	
	1/29/2015	8.91	30.05	15,000	- -	<u>-</u>	240	3.6	210	59.51	All ND		- - -	- - -	- - -	- - -
	1/29/2015 5/18/2012	8.91 8.78	30.05 30.18	15,000 10,000			240 610	3.6 26	210 340	59.51 69	All ND	-	- - - -	- - - -	- - - -	- - - -
	1/29/2015 5/18/2012 9/13/2012	8.91 8.78 10.64	30.05 30.18 28.32	15,000 10,000 11,000	-	-	240 610 990	3.6 26 27	210 340 460	59.51 69 42.9	All ND All ND All ND	-	- - - - -	- - - - - 29	- - - -	- - - - -
	1/29/2015 5/18/2012 9/13/2012 11/9/2012	8.91 8.78 10.64 9.57	30.05 30.18 28.32 29.39	15,000 10,000 11,000 17,000	-	-	240 610 990 750	3.6 26 27 19	210 340 460 280	59.51 69 42.9 64.9	All ND All ND All ND All ND	- - -	- - - - -	- - - - - 29	- - - - -	- - - - -
<b>MW-2</b> <38.96>	1/29/2015 5/18/2012 9/13/2012 11/9/2012 2/20/2013	8.91 8.78 10.64 9.57 8.86 9.86	30.05 30.18 28.32 29.39 30.1 29.1	15,000 10,000 11,000 17,000 8,200 12,000	- - -	- - -	240 610 990 750 860	3.6 26 27 19 29	210 340 460 280 410	59.51 69 42.9 64.9 70	All ND All ND All ND All ND All ND	- - -			- - - - -	- - - - - -
	1/29/2015 5/18/2012 9/13/2012 11/9/2012 2/20/2013 6/4/2013	8.91 8.78 10.64 9.57 8.86 9.86	30.05 30.18 28.32 29.39 30.1 29.1	15,000 10,000 11,000 17,000 8,200 12,000	- - -	- - -	240 610 990 750 860	3.6 26 27 19 29	210 340 460 280 410	59.51 69 42.9 64.9 70	All ND All ND All ND All ND All ND	- - -			- - - - - -	- - - - - -
	1/29/2015  5/18/2012  9/13/2012  11/9/2012  2/20/2013  6/4/2013  Ozone Injection	8.91 8.78 10.64 9.57 8.86 9.86 Started on	30.05 30.18 28.32 29.39 30.1 29.1 September 9,	15,000 10,000 11,000 17,000 8,200 12,000	- - -	- - -	240 610 990 750 860 870	3.6 26 27 19 29 23	210 340 460 280 410 410	59.51 69 42.9 64.9 70 43.8	All ND	- - - -	-	46	- - - - - -	- - - - - - -
	1/29/2015 5/18/2012 9/13/2012 11/9/2012 2/20/2013 6/4/2013  Ozone Injection 9/26/2013	8.91 8.78 10.64 9.57 8.86 9.86 Started on 13.32 10.33	30.05 30.18 28.32 29.39 30.1 29.1 <b>September 9,</b> 25.64 28.63	15,000 10,000 11,000 17,000 8,200 12,000 2013 930 270	- - -	- - -	240 610 990 750 860 870	3.6 26 27 19 29 23	210 340 460 280 410 410	59.51 69 42.9 64.9 70 43.8	All ND	- - - - -	0.09	46 13		- - - - - -
	1/29/2015 5/18/2012 9/13/2012 11/9/2012 2/20/2013 6/4/2013 Ozone Injection 9/26/2013 12/30/2013	8.91 8.78 10.64 9.57 8.86 9.86 Started on 13.32 10.33	30.05 30.18 28.32 29.39 30.1 29.1 <b>September 9,</b> 25.64 28.63	15,000 10,000 11,000 17,000 8,200 12,000 2013 930 270	- - -	- - -	240 610 990 750 860 870	3.6 26 27 19 29 23	210 340 460 280 410 410	59.51 69 42.9 64.9 70 43.8	All ND	- - - - -	0.09	46 13	- - - - - -	- - - - - - -
	1/29/2015 5/18/2012 9/13/2012 11/9/2012 2/20/2013 6/4/2013 Ozone Injection 9/26/2013 12/30/2013 Ozone Injection	8.91 8.78 10.64 9.57 8.86 9.86 Started on 13.32 10.33 Stopped or	30.05 30.18 28.32 29.39 30.1 29.1 September 9, 25.64 28.63 a February 7, 2	15,000 10,000 11,000 17,000 8,200 12,000 2013 930 270	- - -	- - -	240 610 990 750 860 870 39 7.9	3.6 26 27 19 29 23 5.6 <0.50	210 340 460 280 410 410 26 2.9	59.51 69 42.9 64.9 70 43.8 20 <1.0	All ND TBA=20	- - - - - 1.1	- 0.09 -	<b>13</b> <1.0	- - - - - -	- - - - - - - -
	1/29/2015 5/18/2012 9/13/2012 11/9/2012 2/20/2013 6/4/2013 Ozone Injection 9/26/2013 12/30/2013 Ozone Injection 3/7/2014	8.91 8.78 10.64 9.57 8.86 9.86 Started on 13.32 10.33 Stopped or 6.95 9.95	30.05 30.18 28.32 29.39 30.1 29.1  September 9, 25.64 28.63 a February 7, 2 32.01 29.01	15,000 10,000 11,000 17,000 8,200 12,000 2013 930 270 2014 440 1,200	- - -	-	240 610 990 750 860 870 39 7.9	3.6 26 27 19 29 23 5.6 <0.50	210 340 460 280 410 410 26 2.9	59.51 69 42.9 64.9 70 43.8 20 <1.0	All ND TBA=20	- - - - - 1.1	0.09	46 13 <1.0		- - - - - - -

# Table 1 CUMULATIVE GROUNDWATER LABORATORY ANALYTICAL RESULTS

								Former	Maz Glass US	T Site						
Well ID	Date	GW	GW						Groundwat	er Concentrat	ion, in microg	rams per liter	(ug/L)			
		Depth	Elev.	TPH-G	TPH-D	ТРН-НО	В	Т	E	Х	ОХҮ	Cr6	Br	N	SVOCs	Other VOCs
	Ozone Injection	Stopped or	October 24,	2014												
	12/7/2014	6.15	32.81	430	-	-	41	1.1	4.3	3.4	<b>25</b> TBA	-	-	-	-	-
	1/29/2015	8.63	30.33	6,900	-	-	180	5.4	37	19.2	All ND	-	-	-	-	
MW-3	5/18/2012	8.61	30.23	13,000	-	-	1,400	36	350	378	All ND	-	-	-	-	-
<38.84>	9/13/2012	10.3	28.54	12,000	-	-	1,800	25	680	565.5	All ND	-	-	-	-	-
	11/9/2012	9.25	29.59	17,000	-	-	2,000	32	540	318.6	All ND	-	-	-	-	-
	2/20/2013	8.8	30.04	12,000	-	-	1,400	15	330	43.9	All ND	-	-	8.4	-	-
	6/4/2013	9.49	29.35	12,000	-	-	1,400	11	89	32.4	All ND	-	-	13	-	-
	Ozone Injection	Started on	September 9,	, 2013												
	9/26/2013	10.89	27.95	5,500	-	-	190	2.8	42	27	All ND	<0.20	0.096	18	-	-
	12/30/2013	14.59	24.25	380	-	-	8.3	<0.50	2.3	1.6	All ND	-	-	<1.0	-	-
	Ozone Injection	Stopped or	February 7,	2014												
	3/7/2014	6.99	31.85	400	-	-	31	0.75	2.6	2.9	All ND	<0.20	0.083	1.9	-	-
	5/27/2014	9.63	29.21	510	-	-	120	1.3	9.8	2.8	All ND	-	-	<1.0	-	-
	Ozone Injection	n Resumed o	n August 5, 2	014												
	9/29/2014	10.31	28.53	<50	<500	<500	2.3	<0.50	<0.50	<1.0	All ND	-	-	<1.0	ALL ND	ALL ND
	Ozone Injection	Stopped or	October 24,	2014												
	12/7/2014	6.23	32.61	1,900	-	-	290	1.8	2.1	12.4	<b>30</b> TBA	-	-	-	-	_
	1/29/2015	8.97	29.87	3,100	_	-	110	0.57	9.1	1.3	<b>53</b> TBA	-	_	_	-	-
MW-4	5/18/2012	8.28	30.2	10,000	-	-	82	32	330	278	All ND	-	-	-	-	-
<38.48>	9/13/2012	8.8	29.68	10,000	-	-	110	24	270	178.1	All ND	-	-	-	-	-
	11/9/2012	8.06	30.42	11,000	-	-	110	13	170	124.4	All ND	-	-	-	-	-
	2/20/2013	8.16	30.32	4,500	-	-	100	9.5	190	65.3	All ND	-	-	7.1	-	-
	6/4/2013	8.73	29.75	6,300	-	-	72	6.2	61	48.4	All ND	-	-	12	-	-
	Ozone Injection	Started on	September 9,	, 2013												
	9/26/2013	9.76	28.72	12,000	-	-	48	3.7	70	18.2	All ND	<0.20	0.056	13	-	-
	12/30/2013	9.81	28.67	7,600	-	-	50	6.6	68	104.3	All ND	-	-	37	-	-
	Ozone Injection	Stopped or	February 7,	2014												
	3/7/2014	6.76	31.72	3,100	-	-	38	4.3	51	76.5	All ND	<0.020	0.016	20	-	-
	5/27/2014	9.11	29.37	2,900	-	-	47	3.5	68	68.6	All ND	-	-	<1.0	-	-

#### Table 2 **CUMULATIVE SOIL GAS LABORATORY ANALYTICAL RESULTS** Former Maz Glass UST Site Sample TPH-G В Т Ε Х Other Methane CO2 Ν 02 Helium Sample ID Date Depth (ug/m3) (ug/m3) (ug/m3) (ug/m3) (ug/m3) (ug/m3) (ppmv) (%) (%) (%) (%) SG-1 8/28/2014 5.5 ft <7,170 <3.3 <3.8 <4.4 <8.8 Heptane = 5.1 <8.1 <1.62 62.1 14.2 <1.62 12/7/2014 Sucked water; did not sample 1/29/2015 Sucked water; did not sample SG-2 9/15/2014 5.5 ft 7,600 <3.3 <3.8 <4.4 <8.8 Cyclohexane = 310 170 3.87 51.0 13.2 <1.57 Heptane = 46 Hexane = **1,000** 1,3,5-TMB = **56** 9/25/2014 5.5 ft Cyclohexane = 1,900 <7,170 <160 <190 <220 <220 77 5.3 58.3 2.01 0.00 Hexane = 1,000 12/7/2014 Sucked water; did not sample 1/29/2015 <7,170 <3.3 <3.8 <4.4 <8.8 Cyclohexane = 53 493 <1.75 59.2 2.11 0.00 Heptane = 14 Hexane = 42 TCE = **16** SG-3 8/28/2014 5.5 ft <7,170 <3.3 <3.8 <4.4 <8.8 All ND <7.6 <1.51 49.7 16.6 <1.51 12/7/2014 Did not attempt to sample due to shallow groundwater depths 1/29/2015 Sucked water; did not sample SG-4 8/28/2014 5.5 ft <7.170 <3.3 <3.8 <4.4 <8.8 1,2,4-TMB = **13** 240 <1.54 52.3 5.87 <1.54 12/7/2014 Did not attempt to sample due to shallow groundwater depths 1/29/2015 440.000 <160 <190 <220 <220 Cyclohexane = 52.000 121.176 6.49 64.5 <1.72 0.00 Heptane = 9,800 Hexane = **26,000** SG-5 8/28/2014 5.5 ft <7,170 1,700 5,600 1,200 4,570 All ND 150 <1.53 49.7 12.5 <1.53 9/25/2014 <7,170 <3.3 <3.8 <4.4 <8.8 All ND 18 2.01 54.7 9.28 0.00 (Dup) 9/25/2014 <7,170 <3.3 <3.8 <4.4 <8.9 All ND <7.9 2.01 53.5 10.8 0.00 12/7/2014 Sucked water; did not sample 1/29/2015 <7,170 <3.3 <3.8 Tetrahydrofuran = 47 3,142 41.9 2.1 <4.4 <8.8 <1.54 0.00 Tetrachloroethene = 8.7 2-Butanone (MEK) = 47 8/28/2014 5.5 ft NA NA <1.58 Purge NA NA NA NA NA 53.5 14 <1.58 Soil Gas ESL 2.5E+06 1.3E+06 4,900 4.4E+05 420 Various

#### **Table Notes**

B = Benzene 1,2,4-TMB = 1,2,4-Trimethylbenzene
T = Toluene ug/m3 = micrograms per cubic meter
E = Ethylhbenzene ppmv = parts per million by volume

X = Xylenes % = Percent

Other = Other VOCs, includes approxmately 47 individual VOC compounds

<7,170 = Not detected at or above the expressed value.

ND = Not detected above laboratory detection levels.

IND = Not detected above laboratory detection levels.

NA = Not analyzed for this analyte

						c	CUMULATIVI	E <b>GROUNDWAT</b> I	Table 1 ER LABORATO Maz Glass US		AL RESULTS					
Well ID	Date	GW	GW						Groundwat	er Concentrat	ion, in microgi	ams per liter	(ug/L)			
Well ID	Date	Depth	Elev.	TPH-G	TPH-D	ТРН-НО	В	Т	E	х	ОХҮ	Cr6	Br	N	SVOCs	Other VOCs
	Ozone Injection 9/29/2014	n Resumed o 11.19	on August 5, 2 27.29	014 5,600	2,200	4,900	16	0.78	6.1	9.04	All ND	-	-	<1.0	All ND	1.3 sec-Butylbenzene 2.8 Isopropylbenzene 2.9 p-Isopropylbenzene
																<b>5.7</b> n-Propylbenzene <b>22</b> 1,3,5-Trimethylbenzene <b>20</b> 1,2,4-Trimethylbenzene
	Ozone Injection	n Stopped or	o October 24,	2014												
	12/7/2014	5.82	32.66	5,700	-	-	28	2.9	30	23.2	All ND	-	-	-	-	-
	1/29/2015	7.70	30.78	43,000	-	-	50	7.7	70	79.5	All ND	-	-	-	-	-
	Enviromental S	creening Lev	els	100	110	NL	27	95,000	310	37,000	110 TBA	21	NL	160	Various	Various

#### **TABLE NOTES**

GW Elev = Groundwater mean sea level elevation TPH-G = Total Petroleum Hydrocarbons as gasoline

B = Benzene,

T = Toluene

E = Ethylbenzene

TPH-D TPH-K

X = Xylenes

OXY = Oxygenates, including MTBE = Methyl-t-Butyl Ether,

ter-Butanol (TBA), Di-isopropyl Ether (DIPE), Ethyl-t-butyl Ether (ETBE), and Tert-amyl Methyl Ether (TAME).

Cr6 = Hexavalent Chromium

Br = Bromate

N = Naphthalene.

<38.96> = Top of casing mean sea level elevation (Virgil Chavez Land Survey).

All ND = No detectable concentrations of all analytes.

- = Not analyzed for this analyte.

SVOCs = semi-volatile organic compounds

VOCs = volatile organic compounds

<1.0 = Not detected above the expressed value.

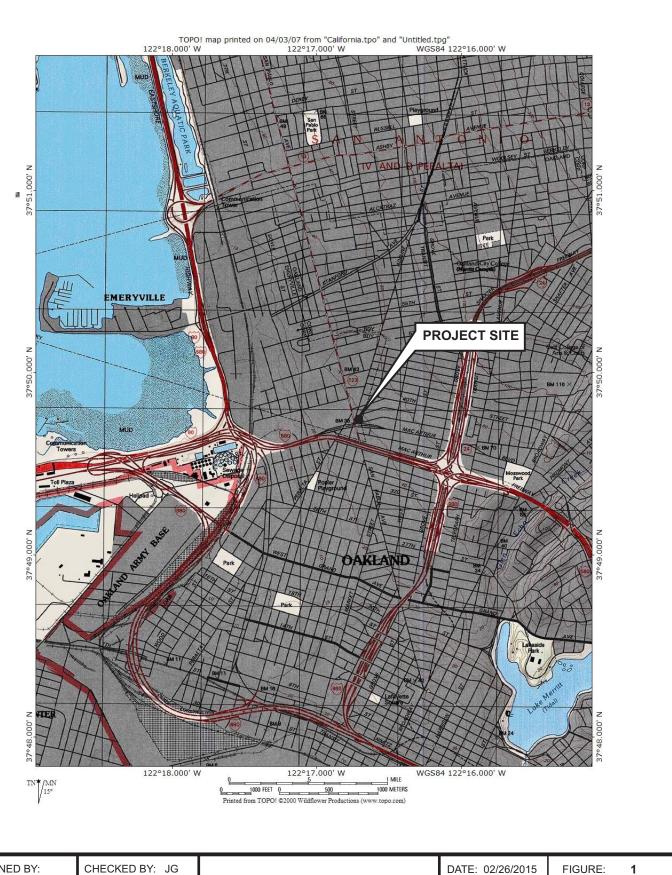
ESL = Environmental Screening Levels, as contained in *Screening for Environmental* 

Concerns at Sites with Contaminated Soil and Groundwater, San Francisco Bay Regional Water Quality Control Board, December 2013, Table E-1, Groundwater to Indoor Air, fine grained soils, residential land use.

NL = Not Listed

**FIGURES** 





DESIGNED BY: CHECKED BY: JG

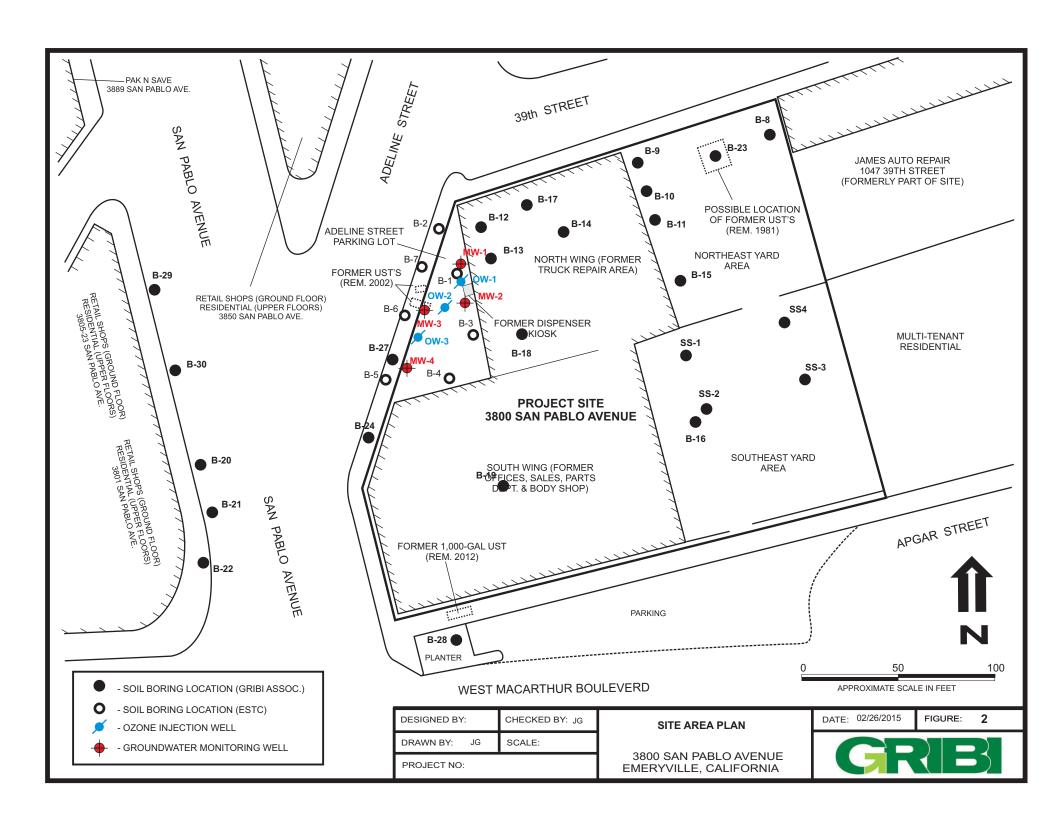
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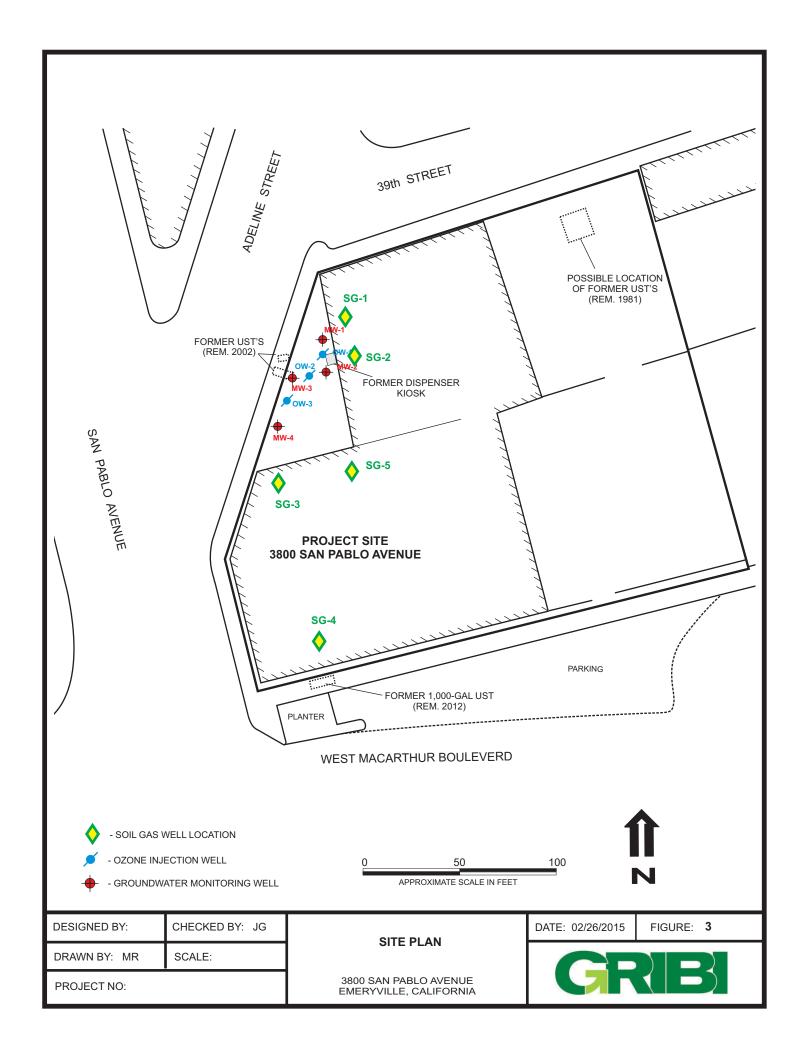
PROJECT NO:

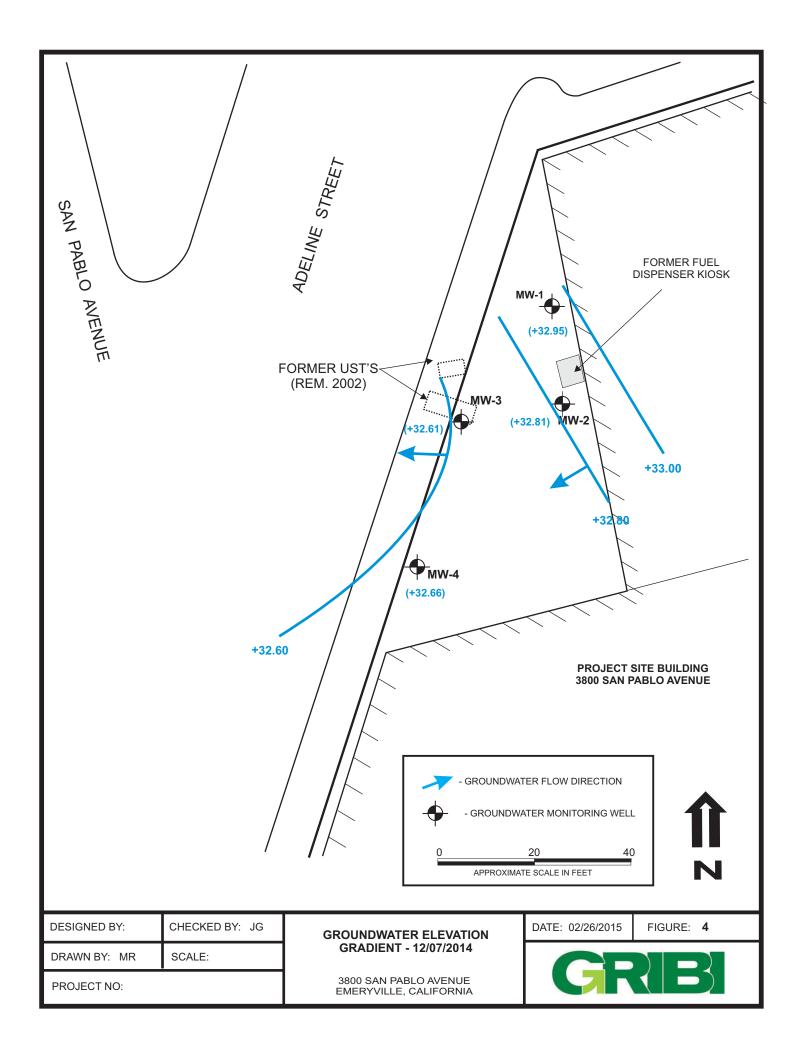
SITE VICINITY MAP

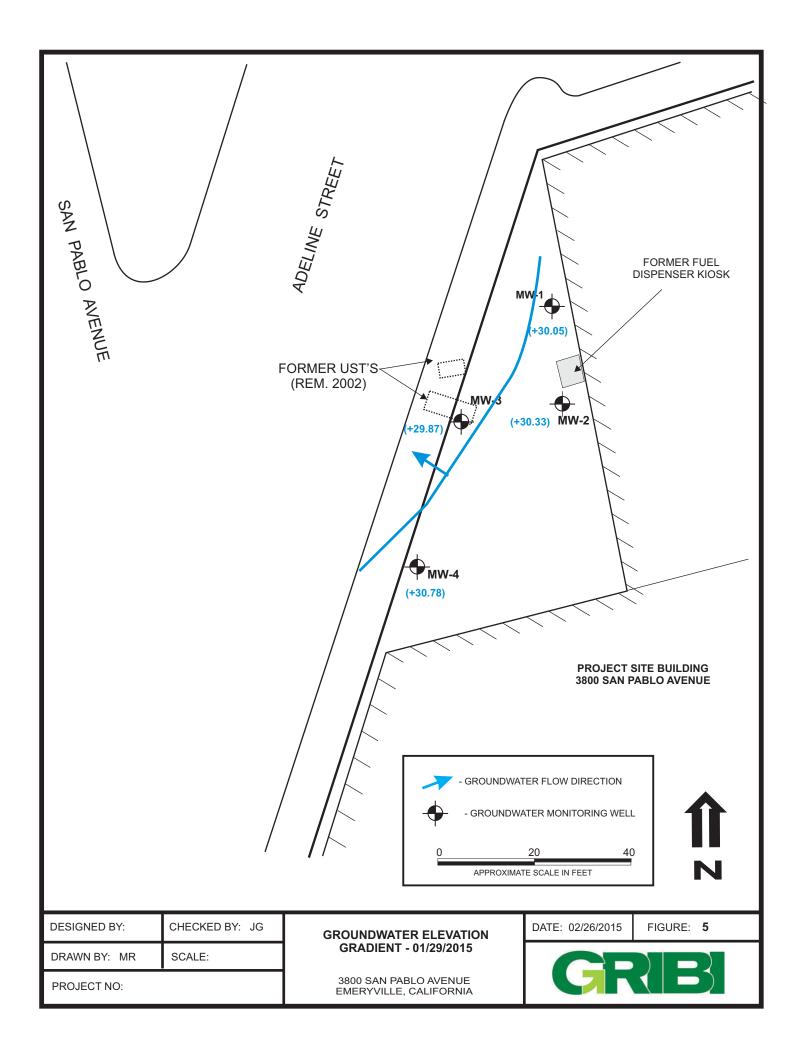
3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA

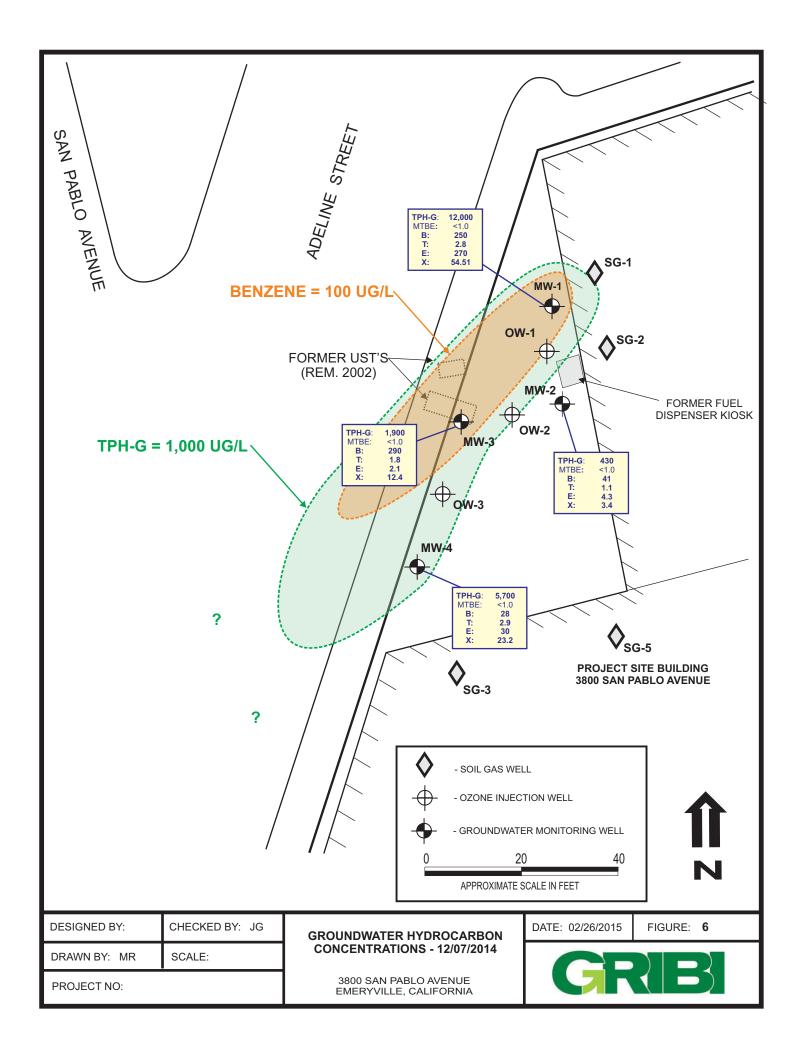


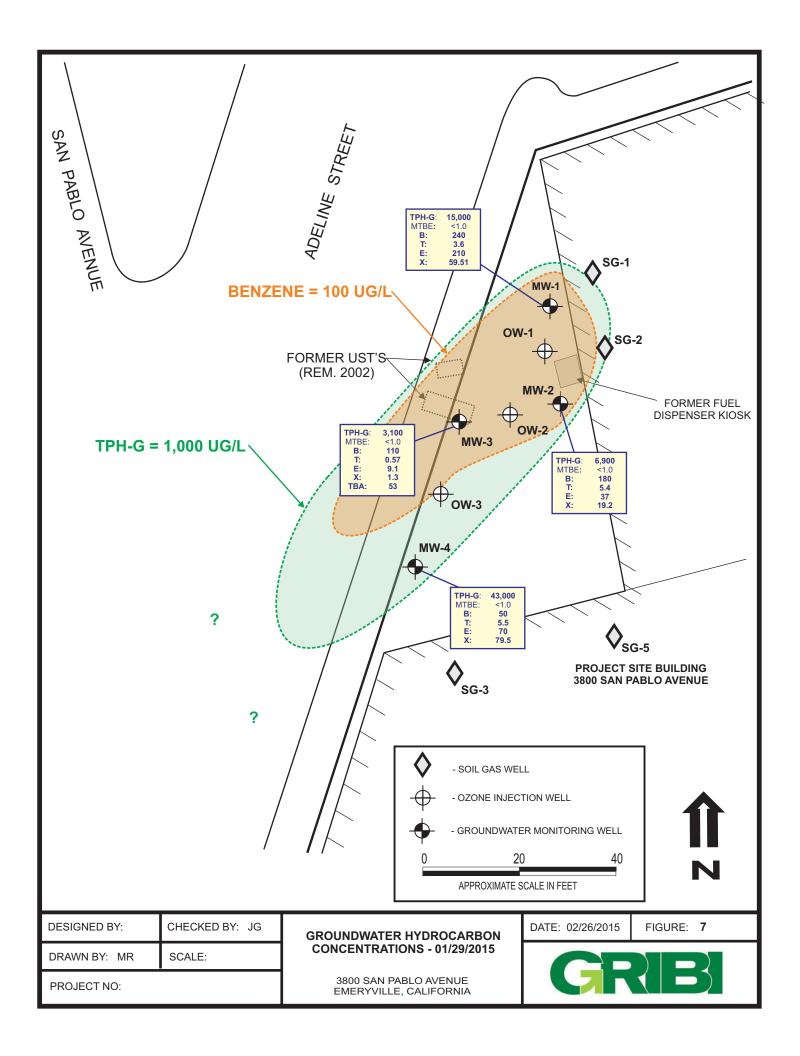


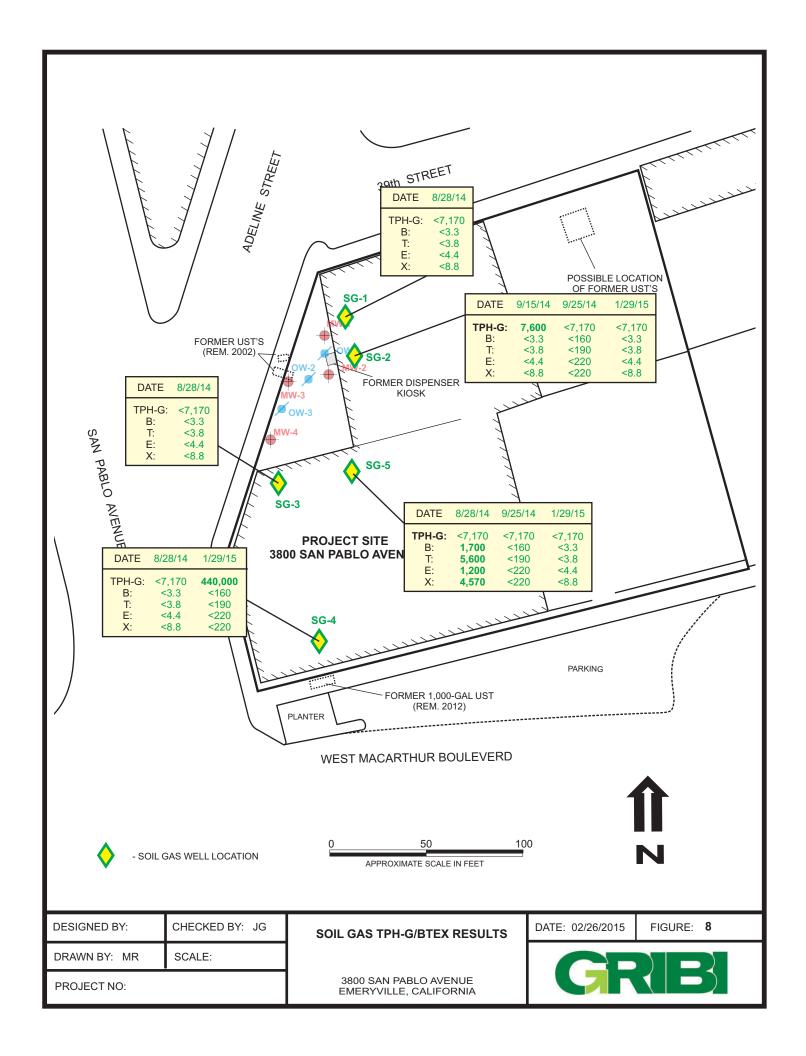


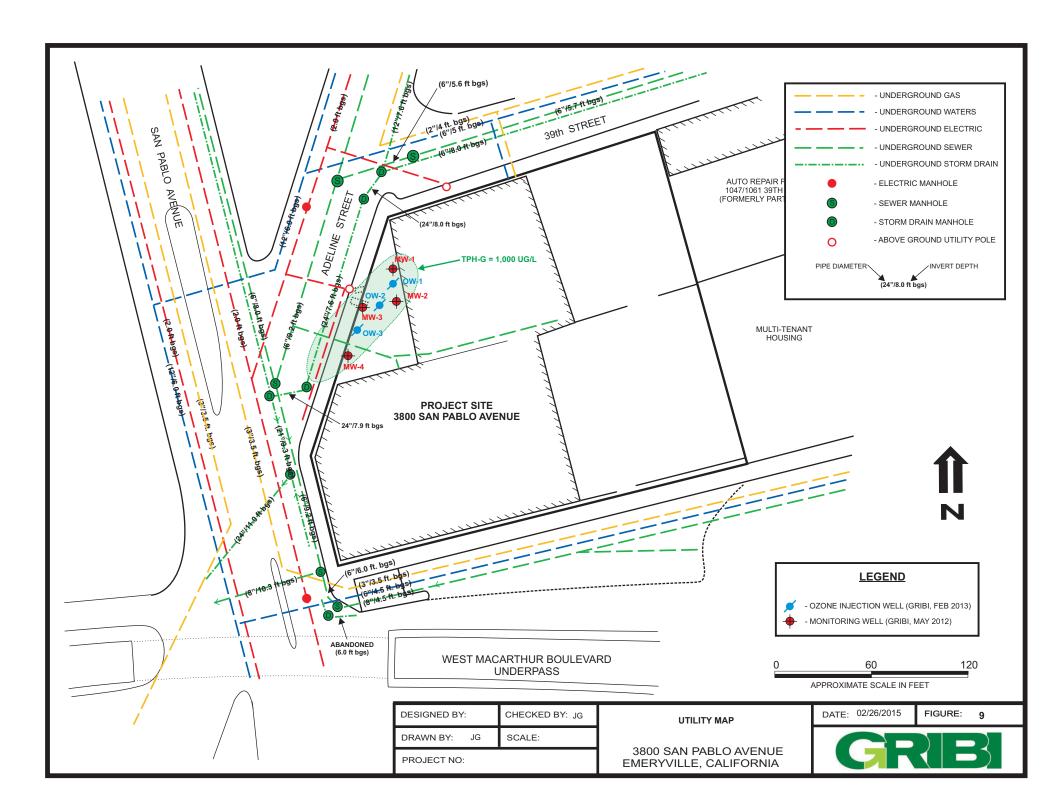














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DRAWN BY: MR SCALE:

SCALE:

PROJECT NO: 3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA

MAXIMUM ESTIMATED TPH-G PLUME LENGTHS DATE: 02/26/2015

FIGURE: 10



# **APPENDIX A**

# GROUNDWATER MONITORING FIELD DATA SHEETS



Site	1 <sup>y</sup> )c	12	0	1059			Proje	ot N	umber_		
Sampling	Personn	el	) C	5			Date_	(	2/7)	14	8
Weather C	Condition	as								,	
Well ID_	Mil	-	Ì				Craina	. D:-			7
			4	. 1			Casing	Lina	meter (n	nches)	Commission and appr
Depth to V	Vater (ft	)	0+0	)			Total I	Deptl	h (ft)	***************************************	
Water Col	umn (ft)						One W	ell V	Volume (	gal)	
3X Well V Notes: One Well V	Volume	is det	ermin	ied by m	ultiply	ring "W	ater Co	olum	ın" bv:		
* 0.059 fo Field Me	I 74 IIICH	well,	0.17	for 2 in	ch well	0.38	for 3 in	ch w	vell, 0.66	for 4 inch	well, 1.50 for 6 inch well
Activity				ailer		Pun	ın	-	Commo	nte	,
							V DC	-	Commi	ints	
						12	V DC	+		,	<u> </u>
Field Par	amete	ers								***************************************	
Time	Volu	me	Ter	nn	E.C		D.O.		pН	ORP	Comments
	Purge	ed		lsius)		/em)	(mg/		bm	(my)	Comments
845	0			.2	99		(mg/	11)	6.10	(my)	SIMK DrowN
846	2		20		95				5.90	-	Cit di mouse
941	4			.6	980				416		MKY DIN
849	6			.2	970	)			494		I'ILY JOIN
851	8		20		91	76			492		
				-		10		-	716	-	
Sample C	bserv	atior	15								
Characte	ristic	Non	ne	Sligh	t N	loder	ate	Stre	ong	Commer	nts
Color						X					
Odor				X		•		-			
Turbidity	7					X	-				
Sheen		X									
Floating		, ,				-					
Particles											
Precipita	te										
Sample T	ime	85	5			Samp	oler's	Sign	nature_	Jou	nn D

Site	W	Ma	2	Gla	35		Project	Nui	mber					
Sampling :	Personne	el	16	7			Date	1	2/7/	14			2.0	
Weather C	Condition	IS							1	,		Much	wfr	NO
Well ID_	Mas.	-2					Casing D	Dian	neter (ir	iches)		WEI	60;	X
Depth to V	Vater (ft)	6	.15				Total De							
Water Col	umn (ft)									gal)				
3X Well V Notes: One Well ' * 0,059 fo Field Mo	Volume	is dete well,	ermin	ed by m	ch wel	ying ''W	ater Coh	17717	ı" hv			50 for 6 incl	ı well	
Activity				ailer	inte	Pun	1p	C	ommo	ents				
										The				
												4		
Field Pa	ramete	rs												
Гime	Volu	ne	Ter	np	E.C	7.	D.O.	T	pН	ORP	Con	nments		
2 11 :	Purge	ed	(Ce	lsius)		S/cm)	(mg/L	)		(mv)				
14	0		***	2.4		72			4-11		1541	MKY br	N	
918 918	2		20		-	07			4.07					
716	4		20		10	-			4.05		Cli			
120	6		20	2	10	15			410					
9:22	9 6									<u> </u>				
Sample (	Observ	atior	15											
Characte	eristic	No	ne	Sligh	t N	10der	ate St	tro	ng	Commer	its			
Color		X		10										
Odor				X										
Turbidit	У	X												
Sheen		_X												
Floating Particles		V												
Precipita		V			-					-				
тестриа	ne	1												
Sample T	Гіте	925	5			Samp	oler's S	ign	ature <sub>.</sub>	Ga.	urıs C	a A		

Site	Maz	6	Lu.	5			Proje	et Nu	mber				
Sampling I	ersonne	1_1	C	dribi			Date	12	7/14				
Weather C	ondition.	s 5L	CL	oud-1				1	1				
Well ID_				/			Casin	g Dia	meter (in	ches)			
Depth to W	Vater (ft)	-	6.	22									
Water Coli										gal)			
							One w	ven v	omme (i	381)			
3X Well V Notes:													
One Well V	Volume i	is det	ermin	ed by m	ultipl	ying "W	ater C	Colum	n" by:	r	- 11 - 1	*0 5 6:	
* 0.059 for Field Me	thods	(che	ck a	ppropi	in we	u, 0.38 1 box)	IOT 3 11	nch w	en, 0.66	for 4 men	well, I	.50 for 6 ii	ich well
Activity				ailer		Pun	ър	(	Comme	nts			
			-			-		_					
										***************************************			
Field Par	ramete	rs											
Time	Volu		Ter	np	E.C		D.C	).	pН	ORP	Co	mments	
0	Purge	ed	(Ce	lsius)	more beautiful	S/cm)	(mg	(L)		(mv)			
940	0		20		110				3.90		SL	MKY	BIN
942	7		20,	8		8			3.91			11/	
745	4		20,		-	14			3.88		ļ.,,,	)(	
745	b		20		11.	66			3-90		15L		
947	9		20	.7	11	69			3.88		10	(1	
Sample (	Observ	atio	ns										
Characte		No		Sligh	t I	Moder	ate	Str	ong	Comme	nts		
Color		X	/				-		0115	Comme			
Odor		21	5	V51									
Turbidit	v ·	-		9,142,6		-							
Sheen	×	)	1										
Floating			7								-		
Particles		-	^		1								
Precipita	ite				1 9	I -					-		
Sample 7	Time_	95	0			Samj	pler's	s Sig	nature	Gan	W (	N (	V)

Site	Ma7	(	Lac	55_			Proj	ect Ni	ımber_				
Sampling 1	Personn	el					Date	12	1711	14			
Weather C	ondition	IS											
Well ID_	MW.	-4					Casin	g Dia	meter (	inch	es)		
Depth to W	Vater (ft)	5	182	_					(fi)				
Water Coh											)		
3X Well V Notes:	olume (	gal) _											
One Well V	Volume r ¾ inch	is det	ermin	ed by m	ultiply	ing "W	ater (	Colum	m" by:	is for	e A inch :	v.a11	1.50 for 6 inch well
Field Mc	thods	(che	ck a	ppropi	riate	box)	101 5 1	HCH W	сп, 0.0	10 10.	7 111011	wen,	1.50 for 6 men wen
Activity				ailer		Pun	ар	(	Comn	nent	S		
Field Par	ramete	re							20				
Time	Volu	-	Ter	nn	E.C		D.0	`	-11	7	aac	10	
	Purg			lsius)		/cm)		9. g/L)	pH	1	ORP mv)	C	omments
1005	0		19		97		(111)	2/1/	49:		mv)	7	1-1
1006	7_		19.		9-				4.5			-	
1008	4			,6	100		1		44			-	
1009	6		19		100	-	-	***********	45				
1011	9		10	1.7	10				45			A	-
				-		-	-	-		<del>-}</del>		7	
Sample (			15										
Characte	ristic	No	ne	Sligh	t N	Ioder	ate	Str	ong	C	ommer	its	
Color		1											
Odor				X									
Turbidit													
Sheen													
Floating Particles	Particles X												
Precipita	te	X								-			
													0 0
Sample T	ime_(	015	5			Samp	oler's	s Sign	natur	e_ (	Jonas	C	160

Site	NAZ		(JL	95	>		Proj	ect Ni	ımber_				
Sampling I	ersonn	el	)	Gri.	b I		Date	1	1291	15			
Weather C	ondition	is	lea	17,0	66L			,	,				
Well ID	Mw.	-[		•			Casir	ıg Dia	meter (ir	nches)	2		
Depth to W	ater (ft)	2	56	8.91						22.95			
Water Colu	ımn (ft)									gal)			
3X Well V Notes: One Well V * 0.059 for Field Me	olume	is dete	ermin 0.17	ed by m	ch wel	1. 0.38	ater ( for 3 i	Colum inch w	m" by: rell, 0.66	for 4 inch	well, 1.50	for 6 inch	well
Activity		Control		iler	Tate	Pun	3D	16	Commo	nte			
	***************************************		1			12		-	Juliun	шіз			
								$\neg$	-				
Field Par	amete	ers								· · · · · · · · · · · · · · · · · · ·			
Time	Volu	me	Ten	np	E.C	•	D.C	).	pН	ORP	Comn	ents	
-	Purge	ed		lsius)	(mS	(cm)	(m	g/L)	*	(mv)			
roas	U	-		.5	-	50			7.06		MKX	BIN	
	2	0		.6	100	/			7.01		11	a	
		+	19		100	3			692				
	6			1	100				6.98				
8241	0	1.8	19	. 8	100	7			6.98				
Sample C	bserv	ation	15				5			i Gion			
Characte	ristic	Nor	1e	Sligh	t N	Toder	ate	Stre	ong	Comme	nts	-	1987
Color						YA							
Odor							9			ė.			
Turbidity	V										-		
Sheen							*						
Floating													
Particles													
Precipita	te												
Sample T	ime	22	5			Samp				É			

Site	Ma	2 (	ĞÜ	c55			Proj	ect N	umber_	3		
Sampling	Personn	iel					Date	- 1	129	15		
Weather (	Conditio	ns 4	180	1					•	,		
Well ID	MW	4	2				Cacir	a Di		nches)	2_	
		-	-	0.6	2							
Depth to \			150/	0.0	)		Total	Dept	h (ft)	23.9	(	
Water Col	lumn (ft)	-		-			One V	Well '	Volume (	(gal)		
3X Well V Notes: One Well * 0.059 fo Field Me	Volume or ¼ inch	is dete	rmir 0.17	ed by m	ch wel	ring "W	itatar (	~al				for 6 inch well
Activity		(		ailer	Jaic	Pun	np	T	Comm	ents		
						12						
L												
Field Pa	ramete	ers										
Time	Volu		Ter	np	E.C		D.C	).	pH	ORP	Comn	nente
	Purg			lsius)	(mS	(cm)		2/L)		(my)	Comin	icitis
745	0			104	100			-	6.9		MKV	9/4
	2			5	100	12			6.79		CIT	./17
	4			.5	109				6.78		11	
	6		19		100	70			6.79		11	
753	0		19	7	110	1		- 7	6.61		1 1	
Sample (	Observ	ation	c									
Characte				Sligh	t In	loder	oto	Ctu	ong	Comme	n én	
Color		X		211511	120	TOUCE	acc	DU.	ong	Comme	uts	
Odor				X	1	X						
Turbidit	v	X			+						200	
Sheen	×	X			+							
Floating		V			+		-		-			
Particles		1	,									
Precipita	te	X		~~~~	1		_					
Sample T	`ime	75	5			Samp	ler's	Sign	nature	4	Junes C	00

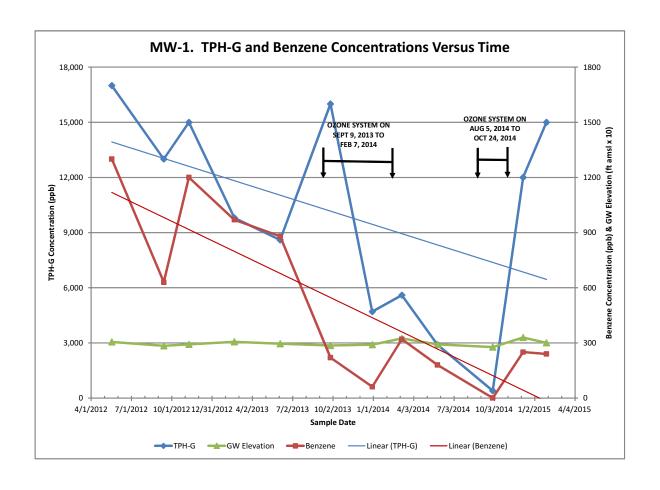
Sample Observations  Characteristic None Slight Moderate Strong Comments  Color X X  Turbidity X X  Sheen X	Site				-			Proje	ect N	umber			
Well ID	Sampling l	Personne	1_ <	16	-			Date	1/	29/1.	5		
Depth to Water (ft)													
Water Column (ft) One Well Volume (gal)  3X Well Volume (gal) Notes:  One Well Volume is determined by multiplying "Water Column" by:  * 0.059 for ¼ inch well, 0.17 for 2 inch well, 0.38 for 3 inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well inch well, 0.66 for 4 inch well, 1.50 for 6 inch well, 0.66 for 4 inch well, 1.50 for 6 inch well, 0.66 for 4 inch well, 1.50 for 6 inch well, 0.66 for 4 inch well, 0.66 fo	Well ID_	Ma		3				Casin	g Dia	meter (ir	iches)		
3X Well Volume (gal)	Depth to W	Vater (ft)	8	12	38.	97		Total :	Dept	h (ft) 2	2.09		
Notes: One Well Volume is determined by multiplying "Water Column" by: * 0.059 for ¼ inch well, 0.17 for 2 inch well, 0.38 for 3 inch well, 0.66 for 4 inch well, 1.50 for 6 inch w Field Methods (check appropriate box)  Activity Bailer Pump Comments  Field Parameters  Time Volume Temp E.C. D.O. pH ORP Comments  Purged (Celsius) (mS/cm) (mg/L) (my)  2 19.6 1147 7.16  2 19.6 1147 7.16  Sample Observations  Characteristic None Slight Moderate Strong Comments  Color X X X  Turbidity X X  Sheen X	Water Coh	ımn (ft)			-			One V	Vell V	Volume (1	gal)		
Activity Bailer Pump Comments  Field Parameters  Time Volume Temp E.C. D.O. pH ORP Comments  Purged (Celsius) (mS/cm) (mg/L) (mv)  2 19.6 1146 7.21 MKy DID  2 19.6 1147 7.16  14 9.7 1145 7.16  Sample Observations  Characteristic None Slight Moderate Strong Comments  Color X X X  Turbidity X X  Sheen X	Notes: One Well V * 0.059 for	Volume i	is dete	ermine	ed by m	h wel	1, 0.38	ater C	Colun nch v	nn" by: vell, 0.66	for 4 inch	well, 1.50 for	5 inch well
Field Parameters  Time Volume Temp E.C. D.O. pH ORP Comments Purged (Celsius) (mS/cm) (mg/L) 7/21 MKy DIV  2 17.6 1147 7.16  2 17.6 1147 7.16  Sample Observations  Characteristic None Slight Moderate Strong Comments Color X X  Turbidity X X  Sheen X								מו	T	Comme	nts		
Field Parameters  Time Volume Temp E.C. D.O. pH ORP Comments Purged (Celsius) (mS/cm) (mg/L) (mv)  2 17.6 1147 7.16 2 17.6 11													
Time		************							-				
Purged (Celsius) (mS/cm) (mg/L) (mv)   Comments			-							*		**************************************	
	Time					E.C	1.	D.C	).	pH	ORP	Comment	S
2   19.6   1147   7.16   1147   7.16   1147   7.16   1147   7.16   1147   7.16   1147   7.16   1147   7.14   1147   7.14   1147   7.12   1147   7.12   1147   7.12   1147   7.12   1147   7.12   1147   7.12   1147   7.12   1147   7.12   1147   7.14   1147   1147   1147   1147   1147   1147   1147   1147   1147   1147   1147   1147   114		ve Volume Temp F Purged (Celsius) (						(mg	/L)		(mv)		
Sample Observations Characteristic None Slight Moderate Strong Comments Color X X Turbidity X X Sheen X	835	0	-	18	8					7.21		MKU	DIU
Sample Observations Characteristic None Slight Moderate Strong Comments Color X X Turbidity X X Sheen X		2		19.	6		-			7.16		CITI	
Sample Observations  Characteristic None Slight Moderate Strong Comments  Color X Y TAN  Turbidity X X  Sheen X Sheen		4		p.	/								
Sample Observations  Characteristic None Slight Moderate Strong Comments  Color X X  Turbidity X X  Sheen X	£1400	-6-				111	FZ						
Characteristic None Slight Moderate Strong Comments  Color	843	8		17.	43	114	+7			7.12	1 100	3851	
Color         X         Stone         LT MKy JAN           Odor         X         X           Turbidity         X         X           Sheen         X         X			-	-	188					,	: 14		
Odor         X         X           Turbidity         X         X           Sheen         X         X		eristic	No	ne	Sligh	t I	Moder	ate	Str	ong	Commer	its	/
Turbidity X X Sheen X	Color				X						LT MI	Cy 14A	1
Sheen					X		X						
		y	,	X	X								
Tilleration			)	7									
	Floating		>	X									*
Particles		/											
Precipitate	Precipita	ite	/	1									
Sample Time Sympler's Signature	Sample T	Time_	340	5		ş	Samp	oler's	s Sig	nature	9		46

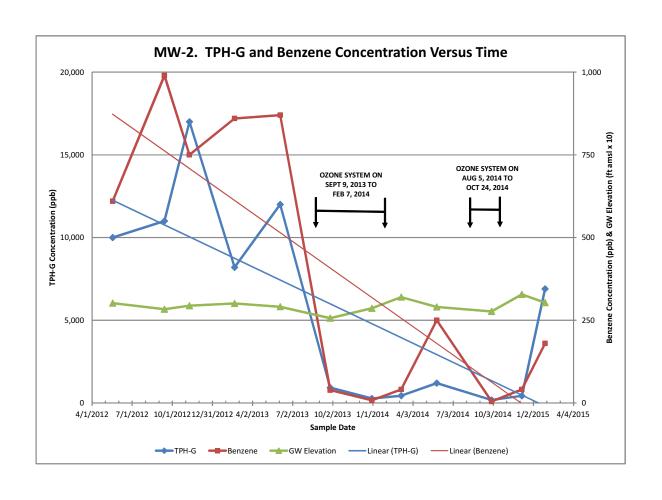
	M		0	,								
Site							Proj	ject N	umber_			
Sampling	Personn	eŁ_	G	-					129/			
Weather C	Condition	ns										
Well ID_	7	-	-				Casir	ng Dia	ameter (	inches)		
Depth to V	Water (ft)	9		7.	16	2	Total	Dept	h (ft)	22.9/		
Water Col	umn (ft)			_			One V	Well	Volume	(gal)		
3X Well V Notes: One Well * 0.059 fo Field Me	Volume or ¾ inch	is dete	ermin	ed by m	ch well	ing "W	later	Colum	on" hu		well, 1.50 for 6	inch well
Activity			B	ailer		Pun	np	1	Comn	ents		
						12	V			· · · · · · · · · · · · · · · · · · ·		
Field Pa	ramete	rs										
Time	Volum	ne	Ter	np	E.C		D.0	D.	pH	ORP	Comments	
A = 6	Purge	ed		lsius)	(mS	/cm)	(m	g/L)		(mv)		
900	0	9	18	1	100	20			6.90	2	CLI	
	7		16	. /		52			6.8	7		
	-			6	103	1			16.86			
908	6		19	6	103	3			68		1	
70%	0		18	77	103	9	<u></u>		688		90	
Sample (	Observ	ation	15							è		
Characte	eristic	Non	ne	Sligh	t N	Ioder	ate	Str	ong	Comme	nts	
Color		+			T		318					
Odor				+		Y			TO SECOND			
Turbidit	y	X	-			-		-				
Sheen		X					7	-			V	
Floating		1								1		
Particles		X	,									
Precipita	ite	X										
Sample T	Time_{	)10				Samp	oler's	s Sig	nature		4	

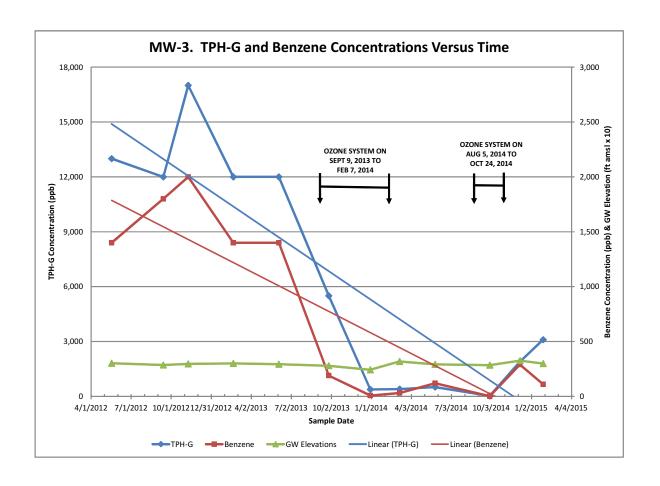
# **APPENDIX B**

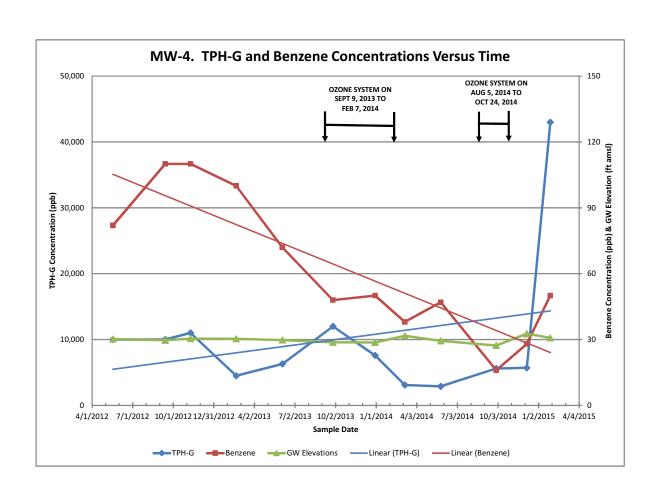
GROUNDWATER HYDROCARBON CONCENTRATION TREND GRAPHS











# **APPENDIX C**

LABORATORY DATA REPORTS AND CHAIN OF CUSTODY RECORDS





16 December 2014

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 12/09/14 10:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Katherine Running Crans

Katherine RunningCrane 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	12/16/14 12:00

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	T142525-01	Water	12/07/14 08:55	12/09/14 10:05
MW-2	T142525-02	Water	12/07/14 09:25	12/09/14 10:05
MW-3	T142525-03	Water	12/07/14 09:50	12/09/14 10:05
MW-4	T142525-04	Water	12/07/14 10:15	12/09/14 10:05

#### DETECTIONS SUMMARY

Sample ID: MW-1	Labor	atory ID:	T142525-01		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Benzene	250	5.0	ug/l	EPA 8260B	
Toluene	2.8	0.50	ug/l	EPA 8260B	
Ethylbenzene	270	5.0	ug/l	EPA 8260B	
m,p-Xylene	54	1.0	ug/l	EPA 8260B	
o-Xylene	0.51	0.50	ug/l	EPA 8260B	
C6-C12 (GRO)	12000	500	ug/l	EPA 8260B	
Sample ID: MW-2	Labor	atory ID:	T142525-02		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Benzene	41	0.50	ug/l	EPA 8260B	
Toluene	1.1	0.50	ug/l	EPA 8260B	
Ethylbenzene	4.3	0.50	ug/l	EPA 8260B	
m,p-Xylene	3.4	1.0	ug/l	EPA 8260B	
Tert-butyl alcohol	25	10	ug/l	EPA 8260B	
C6-C12 (GRO)	430	50	ug/l	EPA 8260B	
Sample ID: MW-3	Labor	atory ID:	T142525-03		
<u> </u>	_	Reporting	-		_
Analyte	Result	Limit	Units	Method	Notes

SunStar Laboratories, Inc.

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Katherine RunningCrane, Project Manager

Page 1 of 10



Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	12/16/14 12:00

ample ID: MW-3	Labor	atory ID:	T142525-03		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Benzene	290	5.0	ug/l	EPA 8260B	
Toluene	1.8	0.50	ug/l	EPA 8260B	
Ethylbenzene	2.1	0.50	ug/l	EPA 8260B	
m,p-Xylene	11	1.0	ug/l	EPA 8260B	
o-Xylene	1.4	0.50	ug/l	EPA 8260B	
Tert-butyl alcohol	30	10	ug/l	EPA 8260B	
C6-C12 (GRO)	1900	500	ug/l	EPA 8260B	
ample ID: MW-4	Labor	atory ID:	T142525-04		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Benzene	28	0.50	ug/l	EPA 8260B	
Toluene	2.9	0.50	ug/l	EPA 8260B	
Ethylbenzene	30	0.50	ug/l	EPA 8260B	
m,p-Xylene	22	1.0	ug/l	EPA 8260B	
		0.50		EPA 8260B	
o-Xylene	1.2	0.50	ug/l	EPA 8200B	

Page 2 of 10

SunStar Laboratories, Inc. PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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	12/16/14 12:00

### MW-1 T142525-01 (Water)

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborato	ries, Inc.					
Volatile Organic Compounds by l	EPA Method 8260	В							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l	1	4120827	12/08/14	12/10/14	EPA 8260B	
1,2-Dichloroethane	ND	0.50	"			"			
Benzene	250	5.0	"	10		"			
Toluene	2.8	0.50	"	1		"			
Ethylbenzene	270	5.0	"	10		"			
m,p-Xylene	54	1.0	"	1		"			
o-Xylene	0.51	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)	12000	500		10		"			
Surrogate: Toluene-d8		94.8 %	88.8	3-117	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	83.5	-119	"	"	"	"	
Surrogate: Dibromofluoromethane		99.6 %	81.1	-136	"	"	"	"	

SunStar Laboratories, Inc.

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Katherine RunningCrane, Project Manager

Katherine Running Crane

SunStar Laboratories, Inc.

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Benicia CA, 94510

25712 Commercentre Drive Lake Forest, California 92630 949.297.5020 Phone

12/16/14 12:00

PROMINING QUALITY ANALYTICAL SERVICES NATIONWIDE

949.297.5027 Fax

Gribi Associates

Project: Maz Glass

1090 Adam Street, Suite K

Project Number: [none]

Reported:

### MW-2 T142525-02 (Water)

Project Manager: Jim Gribi

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	5	SunStar La	aborato	ries, Inc.					
Volatile Organic Compounds by E	EPA Method 8260E	3							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l	1	4120827	12/08/14	12/10/14	EPA 8260B	
1,2-Dichloroethane	ND	0.50				"			
Benzene	41	0.50				"			
Toluene	1.1	0.50				"			
Ethylbenzene	4.3	0.50				"			
m,p-Xylene	3.4	1.0	"			"			
o-Xylene	ND	0.50	"			"			
Tert-amyl methyl ether	ND	2.0	"			"			
Tert-butyl alcohol	25	10				"			
Di-isopropyl ether	ND	2.0				"			
Ethyl tert-butyl ether	ND	2.0				"			
Methyl tert-butyl ether	ND	1.0				"			
C6-C12 (GRO)	430	50				"			
Surrogate: Toluene-d8	•	93.1 %	88.8	3-117	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.9 %	83.5	-119	"	"	"	"	
Surrogate: Dibromofluoromethane		106 %	81.1	-136	"	"	"	"	

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Katherine Running Crane

Page 4 of 10

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SunStar
Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Analyte

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

Method

Note

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	12/16/14 12:00

### MW-3 T142525-03 (Water)

Dilution

Batch

Prepared

Analyzed

Limit

	5	SunStar La	boratori	ies, Inc.				
Volatile Organic Compounds by I	EPA Method 8260I	3						
1,2-Dibromoethane (EDB)	ND	1.0	ug/l	1	4120827	12/08/14	12/10/14	EPA 8260B
1,2-Dichloroethane	ND	0.50				"		
Benzene	290	5.0	"	10		"		
Toluene	1.8	0.50		1		"		
Ethylbenzene	2.1	0.50				"		
m,p-Xylene	11	1.0				"		
o-Xylene	1.4	0.50				"		
Tert-amyl methyl ether	ND	2.0	"			"		
Tert-butyl alcohol	30	10	"			"		
Di-isopropyl ether	ND	2.0	"			"		
Ethyl tert-butyl ether	ND	2.0	"			"		
Methyl tert-butyl ether	ND	1.0	"			"		
C6-C12 (GRO)	1900	500	"	10	"	"		
Surrogate: Toluene-d8		88.9 %	88.8-	117	"	"	"	"
Surrogate: 4-Bromofluorobenzene		111 %	83.5-	119	"	"	"	"

104 %

81.1-136

Katherine Running Crane

SunStar Laboratories, Inc.

Surrogate: Dibromofluoromethane

Katherine RunningCrane, Project Manager

Katherine RunningCrane, Project Manager

Page 5 of 10



Method

Note

Page 6 of 10

 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 12/16/14 12:00

#### MW-4 T142525-04 (Water)

Units

Batch

Prepared

Analyzed

Limit

		SunStar La	aboratori	es, Inc.					
Volatile Organic Compounds by E	EPA Method 8260	В							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l	1	4120827	12/08/14	12/10/14	EPA 8260B	
1,2-Dichloroethane	ND	0.50	"			"			
Benzene	28	0.50	"			"			
Toluene	2.9	0.50	"			"		**	
Ethylbenzene	30	0.50	"			"		**	
m,p-Xylene	22	1.0	"			"			
o-Xylene	1.2	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)	5700	50	"			"			
Surrogate: Toluene-d8		94.6 %	88.8-	117	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	83.5-	119	"	"	"	"	

81.1-136

106 %

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.



Katherine RunningCrane, 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	12/16/14 12:00

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

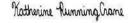
		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 4120827 - EPA 5030 GCMS	
Blank (4120827-BLK1)	Prepared: 12/08/14 Analyzed: 12/10/14

DIAIIK (4120627-DLK1)				Prepared: 12/08/14 Analyzed: 12/10/14
Bromobenzene	ND	1.0	ug/l	
Bromochloromethane	ND	1.0		
Bromodichloromethane	ND	1.0		
Bromoform	ND	1.0		
Bromomethane	ND	1.0		
n-Butylbenzene	ND	1.0		
sec-Butylbenzene	ND	1.0		
tert-Butylbenzene	ND	1.0		
Carbon tetrachloride	ND	1.0		
Chlorobenzene	ND	1.0		
Chloroethane	ND	1.0		
Chloroform	ND	1.0		
Chloromethane	ND	1.0		
2-Chlorotoluene	ND	1.0		
4-Chlorotoluene	ND	1.0		
Dibromochloromethane	ND	1.0		
1,2-Dibromo-3-chloropropane	ND	5.0		
1,2-Dibromoethane (EDB)	ND	1.0		
Dibromomethane	ND	1.0		
1,2-Dichlorobenzene	ND	1.0		
1,3-Dichlorobenzene	ND	1.0		
1,4-Dichlorobenzene	ND	1.0		
Dichlorodifluoromethane	ND	0.50		
1,1-Dichloroethane	ND	1.0		
1,2-Dichloroethane	ND	0.50		
1,1-Dichloroethene	ND	1.0		
cis-1,2-Dichloroethene	ND	1.0		
trans-1,2-Dichloroethene	ND	1.0		
1,2-Dichloropropane	ND	1.0		
1,3-Dichloropropane	ND	1.0		
2,2-Dichloropropane	ND	1.0		
1,1-Dichloropropene	ND	1.0		
cis-1,3-Dichloropropene	ND	0.50		
trans-1,3-Dichloropropene	ND	0.50		
Hexachlorobutadiene	ND	1.0		
Isopropylbenzene	ND	1.0		

SunStar Laboratories, Inc.

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Katherine RunningCrane, Project Manager

Page 7 of 10



 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 12/16/14 12:00

## 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 (4120827-BLK1)				Prepared: 12/0	8/14 Analyze	d: 12/10/14
p-Isopropyltoluene	ND	1.0	ug/l			
Methylene chloride	ND	1.0				
Naphthalene	ND	1.0				
n-Propylbenzene	ND	1.0				
Styrene	ND	1.0				
1,1,2,2-Tetrachloroethane	ND	1.0				
1,1,1,2-Tetrachloroethane	ND	1.0				
Tetrachloroethene	ND	1.0				
1,2,3-Trichlorobenzene	ND	1.0				
1,2,4-Trichlorobenzene	ND	1.0				
1,1,2-Trichloroethane	ND	1.0				
1,1,1-Trichloroethane	ND	1.0				
Trichloroethene	ND	1.0				
Trichlorofluoromethane	ND	1.0				
1,2,3-Trichloropropane	ND	1.0				
1,3,5-Trimethylbenzene	ND	1.0				
1,2,4-Trimethylbenzene	ND	1.0				
Vinyl chloride	ND	1.0				
Benzene	ND	0.50				
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				
Surrogate: Toluene-d8	7.51		"	8.00	93.9	88.8-117
Surrogate: 4-Bromofluorobenzene	7.85		"	8.00	98.1	83.5-119
Surrogate: Dibromofluoromethane	8.32		"	8.00	104	81.1-136

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Kotherine Running Crane

Katherine RunningCrane, 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	12/16/14 12:00

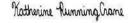
## Volatile Organic Compounds by EPA Method 8260B - Quality Control SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4120827 - EPA 5030 GCMS										
LCS (4120827-BS1)				Prepared:	12/08/14	Analyzed	d: 12/10/14			
Chlorobenzene	18.2	1.0	ug/l	20.0		90.9	75-125			
1,1-Dichloroethene	21.6	1.0		20.0		108	75-125			
Trichloroethene	15.2	1.0		20.0		76.1	75-125			
Benzene	19.4	0.50		20.0		96.9	75-125			
Toluene	15.9	0.50		20.0		79.7	75-125			
Surrogate: Toluene-d8	7.15		"	8.00		89.4	88.8-117			
Surrogate: 4-Bromofluorobenzene	7.64		"	8.00		95.5	83.5-119			
Surrogate: Dibromofluoromethane	9.89		"	8.00		124	81.1-136			
LCS Dup (4120827-BSD1)				Prepared:	12/08/14	Analyzed	d: 12/10/14			
Chlorobenzene	20.0	1.0	ug/l	20.0		100	75-125	9.63	20	
1,1-Dichloroethene	18.7	1.0		20.0		93.4	75-125	14.3	20	
Trichloroethene	19.0	1.0		20.0		95.2	75-125	22.3	20	QR-0
Benzene	19.4	0.50		20.0		96.8	75-125	0.0516	20	
Toluene	19.0	0.50		20.0		95.0	75-125	17.6	20	
Surrogate: Toluene-d8	7.69		"	8.00		96.1	88.8-117			
Surrogate: 4-Bromofluorobenzene	8.04		"	8.00		100	83.5-119			
Surrogate: Dibromofluoromethane	7.92		"	8.00		99.0	81.1-136			

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Katherine RunningCrane, 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
 12/16/14 12:00

#### **Notes and Definitions**

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch

were accepted based on percent recoveries and completeness of QC data.

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

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Katherine Running Crane

Katherine RunningCrane, Project Manager

Page 10 of 10

	Sample disposal Instructions: Dis	reliiquisieu by. (signame)	Relinquished by: (signature)  CSO  Relinquished by: (signature)	James Coll	Relingaished by: (aignatture)	>								MW-C	MW-3	MW-2_	MW-1	Sample ID	Project Manager: G	Phone:	Address:	Client: (51 LD)
(	Disposal @ \$2.00 each	Cate / Illia	12/4/14	12/8/14 930 AM	Date / Time									1015	09		12/7/11 08:	Date Sampled T	Gribi	Fax:		LOS CICIE
		, GOGINGU	Loos Received b	OAN Chal		7								15	50	0925	0	Time Type			\   	ľ
	Return to client	(sociyod by: (algiratura)	Received by: (signature)	1	Received by/(signature)	7		-						*		_ (	4004	Container 60				
į	Pickup	Date / Hille	Date / Time	12-5-	Date / Time									X	X	x	<u>x</u>	8260 + OXY 8260 BTEX, OXY <b>ANP し Scal j</b> で 8270 8021 BTEX	FPH Batch #:	Collector:	Projec	Date:
				Chain of C														8015M (gasoline) 8015M (diesel) 8015M Ext./Carbon Chain 6010/7000 Title 22 Metals		tor: L Grib	Project Name: /	10101
		Turn around time: ろ木	Seals intact? Y/N/NA	Chain of Custody seals Y/N/NA	Total # of containers														142525	6	MAZ GLASS	
		2.2.	ă Þ	\ <u>\</u>	<u>بر</u>									) ho	20	02	01	Laboratory ID #	EDF #: <b>-1</b>	Client Project #:	SS	Page:
	The state of the same and same	12/2/14			Notes													Comments/Preservative	EDF # T060 19788682	ject #:		Of L
		B				+	+	-	H	$\dashv$	+	-	 _	エ	ч	ع	ع	Total # of containers	- H -	1	Ļ	1

SunStar Laboratories, Inc. 25712 Commercentre Dr Lake Forest, CA 92630 949-297-5020

**Chain of Custody Record** 

COC 134576



Page 1 of \_

## SAMPLE RECEIVING REVIEW SHEET

BATCH# TIU2525
Client Name: Gribi Associates Project: Maz Glass
Received by: Date/Time Received: 12(4114 1005
Delivered by: Client SunStar Courier GSO FedEx Other
Total number of coolers received\ Temp criteria = 6°C > 0°C (no <u>frezen</u> containers)
Temperature: cooler #1 _2.4 _ °C +/- the CF (-0.2°C) = _2.2 _ °C corrected temperature
cooler #2°C +/- the CF (-0.2°C) =°C corrected temperature
cooler #3°C +/- the CF (- 0.2°C) =°C corrected temperature
Samples outside temp. but received on ice, w/in 6 hours of final sampling.   Yes  No*  N/A
Custody Seals Intact on Cooler/Sample
Sample Containers Intact
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
Proper preservative indicated on COC/containers for analyses requested Yes No* NA
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times.   Yes   No*
* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date
Comments:



09 February 2015

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 01/31/15 08:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Katherine Running Crane

Katherine RunningCrane Project Manager



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

Gribi Associates	Project: 1	Maz Glass	
1090 Adam Street, Suite K	Project Number: [	[none]	Reported:
Benicia CA, 94510	Project Manager: J	Jim Gribi	02/09/15 12:06

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	T150241-01	Water	01/29/15 08:25	01/31/15 08:40
MW-2	T150241-02	Water	01/29/15 07:55	01/31/15 08:40
MW-3	T150241-03	Water	01/29/15 08:45	01/31/15 08:40
MW-4	T150241-04	Water	01/29/15 09:10	01/31/15 08:40

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Kotherine Lumning Crane

Katherine RunningCrane, Project Manager Page 1 of 10



Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	02/09/15 12:06

#### DETECTIONS SUMMARY

Sample ID: MW-1	Labora	tory ID:	T150241-01		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Benzene	240	10	ug/l	EPA 8260B	
Toluene	3.6	0.50	ug/l	EPA 8260B	
Ethylbenzene	210	10	ug/l	EPA 8260B	
m,p-Xylene	59	1.0	ug/l	EPA 8260B	
o-Xylene	0.51	0.50	ug/l	EPA 8260B	
C6-C12 (GRO)	15000	1000	ug/l	EPA 8260B	
Sample ID: MW-2	Labora	tory ID:	T150241-02		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Benzene	180	5.0	ug/l	EPA 8260B	
Toluene	5.4	0.50	ug/l	EPA 8260B	
Ethylbenzene	37	0.50	ug/l	EPA 8260B	
m,p-Xylene	18	1.0	ug/l	EPA 8260B	
o-Xylene	1.2	0.50	ug/l	EPA 8260B	
C6-C12 (GRO)	6900	500	ug/l	EPA 8260B	
Sample ID: MW-3	Labora	tory ID:	T150241-03		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Benzene	110	0.50	ug/l	EPA 8260B	
Toluene	0.57	0.50	ug/l	EPA 8260B	
Ethylbenzene	9.1	0.50	ug/l	EPA 8260B	
m,p-Xylene	1.3	1.0	ug/l	EPA 8260B	
Tert-butyl alcohol	53	10	ug/l	EPA 8260B	
C6-C12 (GRO)	3100	50	ug/l	EPA 8260B	
Sample ID: MW-4	Labora	tory ID:	T150241-04		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes

SunStar Laboratories, Inc.

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Katherine Running Crane

Katherine RunningCrane, 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	02/09/15 12:06

Sample ID: MW-4	Labora	tory ID:	T150241-04		
		Reporting			
Analyte	Result	Limit	Units	Method	Note
Benzene	50	0.50	ug/l	EPA 8260B	
Toluene	7.7	0.50	ug/l	EPA 8260B	
Ethylbenzene	70	0.50	ug/l	EPA 8260B	
m,p-Xylene	75	1.0	ug/l	EPA 8260B	
o-Xylene	4.5	0.50	ug/l	EPA 8260B	
C6-C12 (GRO)	43000	50	ug/l	EPA 8260B	

SunStar Laboratories, Inc.

Page 2 of 10

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Katherine Running Crane

Katherine RunningCrane, Project Manager Page 3 of 10



 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 02/09/15 12:06

### MW-1 T150241-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aboratori	es, Inc.					
Volatile Organic Compounds by EPA	Method 8260B								
1,2-Dibromoethane (EDB)	ND	1.0	ug/l	1	5020231	02/02/15	02/04/15	EPA 8260B	
1,2-Dichloroethane	ND	0.50						•	
Benzene	240	10	11	20	90				
Toluene	3.6	0.50	*	1	*3				
Ethylbenzene	210	10	**	20	**			• 1	
m,p-Xylene	59	1.0	**	1	*				
o-Xylene	0.51	0.50	"		¥3				
Tert-amyl methyl ether	ND	2.0	**		¥3				
Tert-butyl alcohol	ND	10	**		20				
Di-isopropyl ether	ND	2.0	"		**				
Ethyl tert-butyl ether	ND	2.0							
Methyl tert-butyl ether	ND	1.0	"						
C6-C12 (GRO)	15000	1000		20					
Surrogate: Toluene-d8		87.1 %	88.8	-117		<b>5</b>	9.5	*	S-GC
Surrogate: 4-Bromofluorobenzene		92.0 %	83.5	-119		<b>6</b> 3	18	*	
Surrogate: Dibromofluoromethane		112 %	81.1	-136				*	

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Gribi Associates

Laboratories, Inc.

SunStar

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	02/09/15 12:06

#### MW-2 T150241-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborator	ies, Inc.					
Volatile Organic Compounds by EPA	Method 8260B								
1,2-Dibromoethane (EDB)	ND	1.0	ug/l	1	5020231	02/02/15	02/03/15	EPA 8260B	
1,2-Dichloroethane	ND	0.50			•				
Benzene	180	5.0		10					
Toluene	5.4	0.50		1	•				
Ethylbenzene	37	0.50	•						
m,p-Xylene	18	1.0	•				•	•	
o-Xylene	1.2	0.50	•			*	•		
Tert-amyl methyl ether	ND	2.0	•						
Tert-butyl alcohol	ND	10			7.5	2.7	- 1		
Di-isopropyl ether	ND	2.0	2.		*	55.850			
Ethyl tert-butyl ether	ND	2.0	**		*	0.00			
Methyl tert-butyl ether	ND	1.0	9.7		*0			200	
C6-C12 (GRO)	6900	500	•	10	*				
Surrogate: Toluene-d8		90.2 %	88.8	-117			"	*	
Surrogate: 4-Bromofluorobenzene		107 %	83.5	-119	•		*	*	
Surrogate: Dibromofluoromethane		107 %	81.1	-136				*	

SunStar Laboratories, Inc.

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Katherine Running Crane

Katherine RunningCrane, Project Manager

SunStar Laboratories, Inc.

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Katherine Running Crane

Katherine RunningCrane, Project Manager

Page 5 of 10



Gribi Associates Project: Maz Glass 1090 Adam Street, Suite K Project Number: [none] Reported: Benicia CA, 94510 Project Manager: Jim Gribi 02/09/15 12:06

#### MW-3 T150241-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	aborator	ies, Inc.					
Volatile Organic Compounds by EP.	A Method 8260B								-
1,2-Dibromoethane (EDB)	ND	1.0	ug/l	1	5020231	02/02/15	02/03/15	EPA 8260B	
1,2-Dichloroethane	ND	0.50	"						
Benzene	110	0.50	"						
Toluene	0.57	0.50	"						
Ethylbenzene	9.1	0.50	"						
m,p-Xylene	1.3	1.0							
o-Xylene	ND	0.50	"						
Tert-amyl methyl ether	ND	2.0	••		51				
Tert-butyl alcohol	53	10	"		*			•	
Di-isopropyl ether	ND	2.0	"		*			•	
Ethyl tert-butyl ether	ND	2.0			*				
Methyl tert-butyl ether	ND	1.0	10		60		*	# C	
C6-C12 (GRO)	3100	50	**		*0		~		
Surrogate: Toluene-d8		86.1 %	88.8	-117					S-GC
Surrogate: 4-Bromofluorobenzene		106 %	83.5	-119		•		~	
Surrogate: Dibromofluoromethane		111 %	81.1	-136		m			

SunStar Laboratories, Inc. ING QUALITY ANALYTICAL SERVICES NATIONWIDE

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	02/09/15 12:06

#### MW-4 T150241-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar La	borator	ies, Inc.					
Volatile Organic Compounds by EPA	Method 8260B								
1,2-Dibromoethane (EDB)	ND	1.0	ug/l	1	5020231	02/02/15	02/04/15	EPA 8260B	
1,2-Dichloroethane	ND	0.50	"						
Benzene	50	0.50							
Toluene	7.7	0.50	"						
Ethylbenzene	70	0.50							
m,p-Xylene	75	1.0							
o-Xylene	4.5	0.50	"						
Tert-amyl methyl ether	ND	2.0	"						
Tert-butyl alcohol	ND	10			7.5				
Di-isopropyl ether	ND	2.0			*	95.50			
Ethyl tert-butyl ether	ND	2.0			*	0.00			
Methyl tert-butyl ether	ND	1.0	10		*3		*	* 1	
C6-C12 (GRO)	43000	50	10		*0			•	
Surrogate: Toluene-d8		90.9 %	88.8	-117				*	
Surrogate: 4-Bromofluorobenzene		102 %	83.5	-119				~	
Surrogate: Dibromofluoromethane		106 %	81.1	-136				*	

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Katherine Running Crane

Page 6 of 10

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Katherine RunningCrane, Project Manager

Katherine Running Crane

Katherine RunningCrane, Project Manager

Page 7 of 10



 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 02/09/15 12:06

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 5020231 - EPA 5030 GCMS										
Blank (5020231-BLK1)				Prepared: 0	02/02/15 A	nalyzed: 0	2/03/15			
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50								
Benzene	ND	0.50								
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	7.49	- 7/2		8.00		93.6	88.8-117			
Surrogate: 4-Bromofluorobenzene	7.04			8.00		88.0	83.5-119			
Surrogate: Dibromofluoromethane	7.78			8.00		97.2	81.1-136			
LCS (5020231-BS1)				Prepared: 0	02/02/15 A	nalyzed: 0	2/04/15			
Chlorobenzene	16.3	1.0	ug/l	20.0		81.3	75-125			
1,1-Dichloroethene	24.1	1.0	*	20.0		120	75-125			
Trichloroethene	23.1	1.0		20.0		115	75-125			
Benzene	17.8	0.50	*	20.0		88.8	75-125			
Toluene	17.4	0.50		20.0		87.2	75-125			
Surrogate: Toluene-d8	7.39		σ	8.00		92.4	88.8-117			
Surrogate: 4-Bromofluorobenzene	8.15			8.00		102	83.5-119			
Surrogate: Dibromofluoromethane	9.69			8.00		121	81.1-136			
Matrix Spike (5020231-MS1)	Sou	rce: T150241-	02	Prepared: 0	02/02/15 A	nalyzed: 0	2/04/15			
Chlorobenzene	20.5	1.0	ug/l	20.0	ND	103	75-125			
1,1-Dichloroethene	23.7	1.0		20.0	ND	118	75-125			
Trichloroethene	21.6	1.0		20.0	ND	108	75-125			
Benzene	242	0.50		20.0	180	306	75-125			QM
Toluene	24.4	0.50		20.0	5.39	95.2	75-125			
Surrogate: Toluene-d8	7.60		, m	8.00		95.0	88.8-117			
Surrogate: 4-Bromofluorobenzene	7.96			8.00		99.5	83.5-119			
Surrogate: Dibromofluoromethane	9.17			8.00		115	81.1-136			

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Katherine Running Crane

Katherine RunningCrane, Project Manager Page 8 of 10



Analyte

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

RPD

Limit

%REC

Limits

RPD

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	02/09/15 12:06

# Volatile Organic Compounds by EPA Method 8260B - Quality Control

Limit

#### SunStar Laboratories, Inc.

Level

Result

%REC

Matrix Spike Dup (5020231-MSD1)	Source	e: T150241-	02	Prepared: 0	2/02/15 A	nalyzed: 0	2/04/15			
Chlorobenzene	17.2	1.0	ug/l	20.0	ND	85.8	75-125	17.9	20	
1,1-Dichloroethene	22.3	1.0		20.0	ND	111	75-125	6.14	20	
Trichloroethene	24.5	1.0	*	20.0	ND	123	75-125	12.8	20	
Benzene	253	0.50		20.0	180	361	75-125	4.45	20	QM-42
Toluene	18.6	0.50		20.0	5.39	66.0	75-125	27.2	20	QR-0
Surrogate: Toluene-d8	7.59		*	8.00		94.9	88.8-117			
Surrogate: 4-Bromofluorobenzene	8.60		*	8.00		108	83.5-119			
Surrogate: Dibromofluoromethane	9.36			8.00		117	81.1-136			

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Katherine RunningCrane, Project Manager Page 9 of 10



Relative Percent Difference

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	02/09/15 12:06

#### Notes and Definitions

S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s)
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
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

SunStar Laboratories, Inc.

RPD

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.

Katherine Running Crane

Katherine RunningCrane, Project Manager

(5)0 ished by: (signature) 1/29/15 1-31-15 Date / Time 0825 0845 0845 0900 ved by: 8260 + OXY XXXX 8260 BTEX, OXY ONLY TPH-G, PL SCAV 8021 BTEX 8015M (gasoline) 8015M (diesel) Received good condition/cold 8015M Ext./Carbon Chain 6010/7000 Title 22 Metals 200 Laboratory ID# STD. TAT 1/3/1/15

Chain of Custody Record

SunStar Laboratories, Inc. 25712 Commercentre Dr Lake Forest, CA 92630 949-297-5020

Gripi

ASSOCIATES

Project Manager.

600

Fax

Project Name:
Collector:

60.61 60.61

Client Project #: To 60 1978868 2

Total # of containers

COC 132487

ple disposal Instructions:

Disposal @ \$2.00 each

Page 10 of 10



# SAMPLE RECEIVING REVIEW SHEET

BATCH# T150241			
Client Name: Grisi Project:	Maz	Glass	
Received by: Date/Time R	eceived:	1-31-15	5 840
Delivered by: ☐ Client ☐ SunStar Courier ☒ GSO ☐ FedEx	Other		
Total number of coolers received Temp criteria = 6°C	2 > 0°C (no	frozen con	tainers)
Temperature: cooler #1 _ $\frac{1.6}{\text{C}}$ °C +/- the CF (-0.2°C) = $\frac{1.4}{\text{C}}$ °C corre	ected tempera	ture	
cooler #2°C +/- the CF (-0.2°C) =°C corr cooler #3°C +/- the CF (-0.2°C) =°C corr	Eg		
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.		labels, volu	mes
* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample F	Review - Init	ials and date	DM 1-31-15
Comments:		*	
		-	



09 February 2015

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 01/31/15 08:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Katherine Running Crane

Katherine RunningCrane 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	02/09/15 12:08

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SG-2	T150242-01	Air	01/29/15 13:13	01/31/15 08:40
SG-4	T150242-02	Air	01/29/15 12:40	01/31/15 08:40
SG-5	T150242-03	Air	01/29/15 11:54	01/31/15 08:40

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Nathanine Rumning Cane

Katherine RunningCrane, Project Manager



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

Reported: 02/09/15 12:08

#### DETECTIONS SUMMARY

Sample ID: SG-2	Labora	tory ID:	T150242-01		
		Reporting		•	
Analyte	Result	Limit	Units	Method	Notes
Cyclohexane	53	3.5	ug/m³ Air	TO-15	
Heptane	.14	4.2	ug/m³ Air	TO-15	
Hexane	42	3.6	ug/m³ Air	TO-15	
Trichloroethene	16	5.5	ug/m³ Air	TO-15	
Methane	330000	5800	ug/m³ Air	8015M	AO-1
Oxygen	2.11	1.75	%	GC	
Nitrogen	59.2	0.75	%	GC	
Sample ID: SG-4	Labora	tory ID:	T150242-02		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Cyclohexane	52000	170	ug/m³ Air	TO-15	TO-14
Heptane	9800	210	ug/m³ Air	TO-15	TO-14
Hexane	26000	180	ug/m³ Air	TO-15	TO-14
Methane	81000000	33000	ug/m³ Air	8015M	AO-1
C6-C12 (GRO)	440000	7170	ug/m³ Air	TO-3/TO-14 m	
Carbon Dioxide	6.49	1.72	%	GC	
Nitrogen	64.5	0.72	%	GC	
Sample ID: SG-5	Labora	tory ID:	T150242-03		
		Reporting			
Analyte	Result	Limit	Units	Method	Notes
Tetrahydrofuran	47	3.0	ug/m³ Air	TO-15	
Tetrachloroethene	8.7	6.9	ug/m' Air	TO-15	
2-Butanone (MEK)	47	15	ug/m³ Air	TO-15	
Methane	2100000	5100	ug/m³ Air	8015M	AO-1
Oxygen	2.10	1.54	%	GC	
Nitrogen	41.9	0.54	%	GC	

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Katherine Running Crane

Katherine RunningCrane, 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	02/09/15 12:08

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Page 2 of 20

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Katherine RunningCrane, Project Manager Page 3 of 20



 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 02/09/15 12:08

### SG-2 T150242-01 (Air)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
		SunStar 1	Laboratorio	s, Inc.					
ГО-15				505					
Acetone	ND	12	ug/m³ Air	1.75	5020228	02/02/15	02/04/15	TO-15	
1,3-Butadiene	ND	4.5						•	
Carbon Disulfide	ND	3.2	**						
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	7.7			*			*	
sopropyl alcohol	ND	13			*		*	•	
Bromodichloromethane	ND	6.8	*						
Bromoform	ND	11	•					***	
Bromomethane	ND	4.0	"						
Carbon tetrachloride	ND	6.4							
Chlorobenzene	ND	4.7							
Chloroethane	ND	2.7	"		•				
Chloroform	ND	5.0							
Chloromethane	ND	11	•	0.70	*:	1.5			
Cyclohexane	53	3.5			• 5				
Heptane	14	4.2			*:				
Hexane	42	3.6			*:			50	
Dibromochloromethane	ND	8.7	25		*1				
1,2-Dibromoethane (EDB)	ND	7.8			<b>*</b> 3			•	
1,2-Dichlorobenzene	ND	6.1			•				
1,3-Dichlorobenzene	ND	6.1			*		*		
1,4-Dichlorobenzene	ND	6.1			40				
Dichlorodifluoromethane	ND	5.0							
1,1-Dichloroethane	ND	4.1						•	
1,2-Dichloroethane	ND	4.1							
1,1-Dichloroethene	ND	4.0							
cis-1,2-Dichloroethene	ND	4.0			2.5				
rans-1,2-Dichloroethene	ND	4.0	2		70			45	
,2-Dichloropropane	ND	4.7	20		•				
cis-1,3-Dichloropropene	ND	4.6			40				
rans-1,3-Dichloropropene	ND	4.6			*1		*		
4-Ethyltoluene	ND	5.0			20				

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Katherine Running Crane

Katherine RunningCrane, 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	02/09/15 12:08

#### SG-2 T150242-01 (Air)

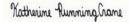
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
		SunStar I	Laboratorio	es, Inc.					
TO-15									
Methylene chloride	ND	3.5	ug/m³ Air	1.75	5020228	02/02/15	02/04/15	TO-15	
Styrene	ND	4.3		-	•				
1,1,2,2-Tetrachloroethane	ND	7.0						*	
Tetrahydrofuran	ND	3.0			7.5	0.70			
Tetrachloroethene	ND	6.9			*1	8.40		*	
1,1,2-Trichloroethane	ND	5.6			41			60	
1,1,1-Trichloroethane	ND	5.6			•			+:	
Trichloroethene	16	5.5	*		•				
Trichlorofluoromethane	ND	5.7			*1				
1,3,5-Trimethylbenzene	ND	5.0	*			( m		*	
1,2,4-Trimethylbenzene	ND	5.0							
Vinyl acetate	ND	3.6							
Vinyl chloride	ND	2.6			•				
1,4-Dioxane	ND	18							
2-Butanone (MEK)	ND	15	,		•				
Methyl isobutyl ketone	ND	42			*0			70	
Benzene	ND	3.3			*:			**	
Toluene	ND	3.8			*			# C	
Ethylbenzene	ND	4.4			**			60	
m,p-Xylene	ND	8.8	•						
o-Xylene	ND	4.4							
Surrogate: 4-Bromofluorobenzene		58.2 %	40-1	60	"		~	*	
Methane by GC									
Methane	330000	5800	ug/m³ Air	1.75	5020226	02/02/15	02/04/15	8015M	AO-

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Page 4 of 20

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Katherine RunningCrane, Project Manager



 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 02/09/15 12-08

#### SG-2 T150242-01 (Air)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar I	aboratorio	s, Inc.					
Total Volatile Organic Compounds by	TO-3 (modified)								
C6-C12 (GRO)	ND	7170	ug/m³ Air	1.75	5020227	02/02/15	02/05/15	TO-3/TO-14 m	
Fixed Gases ASTM D1946-90									
Helium	0.00		%	1.75	5020225	02/02/15	02/03/15	GC	
Carbon Dioxide	ND	1.75	"						
Oxygen	2.11	1.75							
Nitrogen	59.2	0.75		0.75			•		

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Katherine Running Crane

Katherine RunningCrane, Project Manager



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

Gribi Associates	Project: M	laz Glass	
1090 Adam Street, Suite K	Project Number: [n	one]	Reported:
Benicia CA, 94510	Project Manager: Jir	m Gribi	02/09/15 12:08

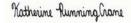
#### SG-4 T150242-02 (Air)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
7		CumCte-1	abounts-1-	a Inc					
		Sunstar	Laboratorie	s, Inc.					
TO-15				21227	20.202003	70000000	122000000	122703	20210
Acetone	ND	120	ug/m³ Air	1.72	5020228	02/02/15	02/05/15	TO-15	TO-14
1,3-Butadiene	ND	110		•	•		•		TO-14
Carbon Disulfide	ND	160							TO-14
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	390			59	850			TO-14
Isopropyl alcohol	ND	130			•		•	*	TO-14
Bromodichloromethane	ND	340		•	•		•		TO-14
Bromoform	ND	530			•				TO-14
Bromomethane	ND	200	•		*:			73	TO-14
Carbon tetrachloride	ND	320			*1			9.5	TO-14
Chlorobenzene	ND	230			*	н			TO-14
Chloroethane	ND	130			**			40	TO-14
Chloroform	ND	250			*				TO-14
Chloromethane	ND	110				H		W.7	TO-14
Cyclohexane	52000	170		15.48					TO-14
Heptane	9800	210							TO-14
Hexane	26000	180						200	TO-14
Dibromochloromethane	ND	430		1.72					TO-14
1,2-Dibromoethane (EDB)	ND	390							TO-14
1,2-Dichlorobenzene	ND	310					•		TO-14
1,3-Dichlorobenzene	ND	310							TO-14
1,4-Dichlorobenzene	ND	310	•		•				TO-14
Dichlorodifluoromethane	ND	250			7.5			7.0	TO-14
1,1-Dichloroethane	ND	210			*				TO-14
1,2-Dichloroethane	ND	210							TO-14
1,1-Dichloroethene	ND	200			*			K.:	TO-14
cis-1,2-Dichloroethene	ND	200			20			*	TO-14
trans-1,2-Dichloroethene	ND	200						**	TO-14
1,2-Dichloropropane	ND	240							TO-14
cis-1,3-Dichloropropene	ND	230							TO-14
trans-1,3-Dichloropropene	ND	230							TO-14
4-Ethyltoluene	ND	250							TO-14

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Katherine RunningCrane, Project Manager Page 7 of 20



 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 02/09/15 12-08

#### SG-4 T150242-02 (Air)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar 1	Laboratorio	s, Inc.					
TO-15									
Methylene chloride	ND	180	ug/m³ Air	1.72	5020228	02/02/15	02/05/15	TO-15	TO-14
Styrene	ND	220	"		•	•			TO-14
1,1,2,2-Tetrachloroethane	ND	350	"		*			•	TO-14
Tetrahydrofuran	ND	150			55	1.5			TO-14
Tetrachloroethene	ND	350			51		2.0		TO-14
1,1,2-Trichloroethane	ND	280	"		41			•0	TO-14
1,1,1-Trichloroethane	ND	280	"		•		*	*	TO-14
Trichloroethene	ND	270	*		*1				TO-14
Trichlorofluoromethane	ND	290	"		•		-		TO-14
1,3,5-Trimethylbenzene	ND	250	"						TO-14
1,2,4-Trimethylbenzene	ND	250							TO-14
Vinyl acetate	ND	180							TO-14
Vinyl chloride	ND	130	"						TO-14
1,4-Dioxane	ND	180	"						TO-14
2-Butanone (MEK)	ND	150			**				TO-14
Methyl isobutyl ketone	ND	210	70		*				TO-14
Benzene	ND	160	**		*1				TO-14
Toluene	ND	190	"					•	TO-14
Ethylbenzene	ND	220	11		*1				TO-14
m,p-Xylene	ND	220							TO-14
o-Xylene	ND	220		•		•			TO-14
Methane by GC									
Methane	81000000	33000	ug/m³ Air	10	5020226	02/02/15	02/04/15	8015M	AO-1

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Page 8 of 20

Katherine Running Crane

Katherine RunningCrane, Project Manager



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

Page 9 of 20

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	02/09/15 12:08

#### SG-4 T150242-02 (Air)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar I	Laboratorie	s, Inc.					
Total Volatile Organic Compounds I	by TO-3 (modified)								
C6-C12 (GRO)	440000	7170	ug/m³ Air	15.48	5020227	02/02/15	02/05/15	TO-3/TO-14 m	
Fixed Gases ASTM D1946-90									
Helium	0.00		%	1.72	5020225	02/02/15	02/03/15	GC	
Carbon Dioxide	6.49	1.72							
Oxygen	ND	1.72				н			
Nitrogen	64.5	0.72		0.72	•			•	

SunStar Laboratories, Inc.

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Katherine Running Cone

Katherine RunningCrane, Project Manager



 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 02/09/15 12:08

#### SG-5 T150242-03 (Air)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
		SunStar I	aboratorio	s, Inc.					
TO-15									
Acetone	ND	12	ug/m³ Air	1.54	5020228	02/02/15	02/04/15	TO-15	
1,3-Butadiene	ND	4.5			•	•	•	•	
Carbon Disulfide	ND	3.2							
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	7.7	•	(5)	5	(.5)			
Isopropyl alcohol	ND	13	•				•	•	
Bromodichloromethane	ND	6.8	"		•	•	•		
Bromoform	ND	11						•	
Bromomethane	ND	4.0	•		*3	2.5		7.0	
Carbon tetrachloride	ND	6.4			•			•	
Chlorobenzene	ND	4.7	7.5		*1			**	
Chloroethane	ND	2.7			**			• 0	
Chloroform	ND	5.0			*1				
Chloromethane	ND	11			*				
Cyclohexane	ND	3.5							
Heptane	ND	4.2	•						
Hexane	ND	3.6					•		
Dibromochloromethane	ND	8.7	•						
1,2-Dibromoethane (EDB)	ND	7.8			51	0.70			
1,2-Dichlorobenzene	ND	6.1	"		*:		*	• ;	
1,3-Dichlorobenzene	ND	6.1			*:		*	•	
1,4-Dichlorobenzene	ND	6.1			*			9.0	
Dichlorodifluoromethane	ND	5.0	10					•	
1,1-Dichloroethane	ND	4.1	**		#E				
1,2-Dichloroethane	ND	4.1	"		**				
1,1-Dichloroethene	ND	4.0							
cis-1,2-Dichloroethene	ND	4.0			•				
trans-1,2-Dichloroethene	ND	4.0	"						
1,2-Dichloropropane	ND	4.7	•						
cis-1,3-Dichloropropene	ND	4.6			*3			2.0	
trans-1,3-Dichloropropene	ND	4.6			41				
4-Ethyltoluene	ND	5.0			<b></b>		*	. 10	

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Katherine Running Crane

Katherine RunningCrane, Project Manager



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

Gribi Associates	Project: Maz Gla	sss	
1090 Adam Street, Suite K	Project Number: [none]		Reported:
Benicia CA, 94510	Project Manager: Jim Gril	ni.	02/09/15 12:08

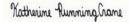
#### SG-5 T150242-03 (Air)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
		SunStar I	Laboratorio	es, Inc.					
TO-15									
Methylene chloride	ND	3.5	ug/m³ Air	1.54	5020228	02/02/15	02/04/15	TO-15	
Styrene	ND	4.3			•				
1,1,2,2-Tetrachloroethane	ND	7.0							
Tetrahydrofuran	47	3.0			50	2.5			
Tetrachloroethene	8.7	6.9			*:	2.0			
1,1,2-Trichloroethane	ND	5.6			51	70 <b>.9</b>			
1,1,1-Trichloroethane	ND	5.6			70			45	
Trichloroethene	ND	5.5	70		*				
Trichlorofluoromethane	ND	5.7			*			**	
1,3,5-Trimethylbenzene	ND	5.0			<b>*</b> 2	н			
1,2,4-Trimethylbenzene	ND	5.0							
Vinyl acetate	ND	3.6							
Vinyl chloride	ND	2.6							
1,4-Dioxane	ND	18							
2-Butanone (MEK)	47	15	,,						
Methyl isobutyl ketone	ND	42							
Benzene	ND	3.3			51				
Toluene	ND	3.8			*0	9.50			
Ethylbenzene	ND	4.4			*:				
m,p-Xylene	ND	8.8			*0				
o-Xylene	ND	4.4			*			**	
Surrogate: 4-Bromofluorobenzene		59.0 %	40-1	60			-	*	
Methane by GC									
Methane	2100000	5100	ug/m³ Air	1.54	5020226	02/02/15	02/04/15	8015M	AO-

SunStar Laboratories, Inc.

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Katherine RunningCrane, Project Manager

Page 11 of 20



 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 02/09/15 12:08

#### SG-5 T150242-03 (Air)

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		SunStar L	aboratorio	s, Inc.					
Total Volatile Organic Compounds by To	O-3 (modified)								
C6-C12 (GRO)	ND	7170	ug/m³ Air	1.54	5020227	02/02/15	02/05/15	TO-3/TO-14 m	
Fixed Gases ASTM D1946-90									
Helium	0.00		%	1.54	5020225	02/02/15	02/03/15	GC	
Carbon Dioxide	ND	1.54	"						
Oxygen	2.10	1.54							
Nitrogen	41.9	0.54		0.54	•			•	

SunStar Laboratories, Inc.

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Katherine Running Crane

Katherine RunningCrane, 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	02/09/15 12:08

# TO-15 - Quality Control

## SunStar Laboratories, Inc.

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

### Batch 5020228 - EPA 5030 GCMS

Blank (5020228-BLK1)				Prepared: 02/02/15 Analyzed: 02/04/15
Acetone	ND	12	ug/m³ Air	
1,3-Butadiene	ND	4.5		
Carbon Disulfide	ND	3.2	*	
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	7.7	*	
Isopropyl alcohol	ND	13		
Bromodichloromethane	ND	6.8	*	
Bromoform	ND	11	*	
Bromomethane	ND	4.0	*	
Carbon tetrachloride	ND	6.4	*	
Chlorobenzene	ND	4.7	25	
Chloroethane	ND	2.7		
Chloroform	ND	5.0		
Chloromethane	ND	11		
Cyclohexane	ND	3.5		
Heptane	ND	4.2		
Hexane	ND	3.6		
Dibromochloromethane	ND	8.7		
1,2-Dibromoethane (EDB)	ND	7.8	0.0	
1,2-Dichlorobenzene	ND	6.1	*	
1,3-Dichlorobenzene	ND	6.1	2.	
1,4-Dichlorobenzene	ND	6.1		
Dichlorodifluoromethane	ND	5.0		
1,1-Dichloroethane	ND	4.1		
1,2-Dichloroethane	ND	4.1		
1,1-Dichloroethene	ND	4.0		
cis-1,2-Dichloroethene	ND	4.0	90	
trans-1,2-Dichloroethene	ND	4.0		
1,2-Dichloropropane	ND	4.7		
cis-1,3-Dichloropropene	ND	4.6	25	
trans-1,3-Dichloropropene	ND	4.6		
4-Ethyltoluene	ND	5.0		
Methylene chloride	ND	3.5		
Styrene	ND	4.3		
1,1,2,2-Tetrachloroethane	ND	7.0		
Tetrahydrofuran	ND	3.0	*	

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Katherine Running Crane

Katherine RunningCrane, Project Manager

Page 13 of 20



RPD

%REC

 Gribi Associates
 Project: Maz Glass

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

 Benicia CA, 94510
 Project Manager: Jim Gribi
 02/09/15 12:08

# TO-15 - Quality Control

#### SunStar Laboratories, Inc.

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5020228 - EPA 5030 GCMS										
Blank (5020228-BLK1)				Prepared: 0	02/02/15 Aı	nalyzed: 02	/04/15			
Tetrachloroethene	ND	6.9	ug/m³ Air							
1,1,2-Trichloroethane	ND	5.6								
,1,1-Trichloroethane	ND	5.6	*							
Trichloroethene	ND	5.5								
Trichlorofluoromethane	ND	5.7								
,3,5-Trimethylbenzene	ND	5.0	-							
1,2,4-Trimethylbenzene	ND	5.0								
/inyl acetate	ND	3.6								
Vinyl chloride	ND	2.6								
1,4-Dioxane	ND	18	*							
2-Butanone (MEK)	ND	15								
Methyl isobutyl ketone	ND	42	*							
Benzene	ND	3.3								
Toluene	ND	3.8								
Ethylbenzene	ND	4.4								
n,p-Xylene	ND	8.8								
o-Xylene	ND	4.4								
Surrogate: 4-Bromofluorobenzene	26.9			45.3		59.4	40-160			
Duplicate (5020228-DUP1)	Source	e: T150242	-01	Prepared: 0	02/02/15 As	nalyzed: 02	/04/15			
Acetone	ND	12	ug/m³ Air		ND	000			30	
,3-Butadiene	ND	4.5			ND				30	
Carbon Disulfide	ND	3.2			ND				30	
1,1,2-trichloro-1,2,2-trifluoroethane (CFC 113)	ND	7.7	•		ND				30	
sopropyl alcohol	ND	13	*		ND				30	
Bromodichloromethane	ND	6.8	•		ND				30	
Bromoform	ND	11	*		ND				30	
Bromomethane	ND	4.0			ND				30	
Carbon tetrachloride	ND	6.4			ND				30	
Chlorobenzene	ND	4.7			ND				30	
Chloroethane	ND	2.7	*		ND				30	
Chloroform	ND	5.0			ND				30	
Chloromethane	ND	11	*		ND				30	
Cyclohexane	45.1	3.5			52.7			15.4	30	
Heptane	13.7	4.2			13.7			0.00	30	

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Katherine Running Crane

Katherine RunningCrane, Project Manager



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

Gribi Associates	Project: M	faz Glass	
1090 Adam Street, Suite K	Project Number: [n	none]	Reported:
Benicia CA, 94510	Project Manager: Jin	im Gribi	02/09/15 12:08

## TO-15 - Quality Control

#### SunStar Laboratories, Inc.

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

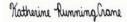
## Batch 5020228 - EPA 5030 GCMS

Duplicate (5020228-DUP1)	Source	e: T150242	-01	Prepared: 02/02/15 Anal	lyzed: 02/04/15	
Hexane	32.4	3.6	ug/m³ Air	42.0	26.0	30
Dibromochloromethane	ND	8.7		ND		30
1,2-Dibromoethane (EDB)	ND	7.8	26	ND		30
1,2-Dichlorobenzene	ND	6.1		ND		30
1,3-Dichlorobenzene	ND	6.1		ND		30
1,4-Dichlorobenzene	ND	6.1		ND		30
Dichlorodifluoromethane	ND	5.0		ND		30
1,1-Dichloroethane	ND	4.1		ND		30
1,2-Dichloroethane	ND	4.1		ND		30
1,1-Dichloroethene	ND	4.0		ND		30
cis-1,2-Dichloroethene	ND	4.0	*	ND		30
trans-1,2-Dichloroethene	ND	4.0		ND		30
1,2-Dichloropropane	ND	4.7	*	ND		30
cis-1,3-Dichloropropene	ND	4.6		ND		30
trans-1,3-Dichloropropene	ND	4.6		ND		30
4-Ethyltoluene	ND	5.0		ND		30
Methylene chloride	ND	3.5		ND		30
Styrene	ND	4.3		ND		30
1,1,2,2-Tetrachloroethane	ND	7.0	90	ND		30
Tetrahydrofuran	ND	3.0		ND		30
Tetrachloroethene	ND	6.9	36	ND		30
1,1,2-Trichloroethane	ND	5.6	28	ND		30
1,1,1-Trichloroethane	ND	5.6		ND		30
Trichloroethene	17.2	5.5		16.2	6.30	30
Trichlorofluoromethane	ND	5.7		ND		30
1,3,5-Trimethylbenzene	ND	5.0		ND		30
1,2,4-Trimethylbenzene	ND	5.0	*	ND		30
Vinyl acetate	ND	3.6		ND		30
Vinyl chloride	ND	2.6	*	ND		30
1,4-Dioxane	ND	18	*	ND		30
2-Butanone (MEK)	ND	15	*	ND		30
Methyl isobutyl ketone	ND	42		ND		30
Benzene	ND	3.3		ND		30
Toluene	ND	3.8		ND		30
Ethylbenzene	ND	4.4		ND		30
m,p-Xylene	ND	8.8		ND		30

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Katherine RunningCrane, 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	02/09/15 12:08

## TO-15 - Quality Control

#### SunStar Laboratories, Inc.

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

## Batch 5020228 - EPA 5030 GCMS

Duplicate (5020228-DUP1)	Source	e: T150242-01	Prepared: 02/02/15	Analyzed: 02/04/15	
o-Xylene	ND	4.4 ug/m³ Air	ND		30
Surrogate: 4-Bromofluorohenzene	27.0		45.3	50.7 40-160	

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Katherine Running Crane

Katherine RunningCrane, Project Manager



Duplicate (5020226-DUP1)

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

RPD

Page 17 of 20

%REC

19.8

Prepared: 02/02/15 Analyzed: 02/04/15

331000

Gribi Associates	Project: Maz	Glass	
1090 Adam Street, Suite K	Project Number: [non	e]	Reported:
Benicia CA, 94510	Project Manager: Jim	Gribi	02/09/15 12:08

## Methane by GC - Quality Control

#### SunStar Laboratories, Inc.

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 5020226 - General Prep VOC-GC										
Blank (5020226-BLK1)				Prepared: (	02/02/15 A	nalyzed: 02	/04/15			
Methane	ND	3300	ug/m³ Air							

5800 ug/m³ Air

Source: T150242-01

271000

SunStar Laboratories, Inc.

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Katherine Lunning Cane

Katherine RunningCrane, Project Manager



RPD

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%REC

Result

%REC

Gribi Associates	Project: Maz C	lass	
1090 Adam Street, Suite K	Project Number: [none]		Reported:
Benicia CA, 94510	Project Manager: Jim G	ribi	02/09/15 12:08

# Total Volatile Organic Compounds by TO-3 (modified) - Quality Control

#### SunStar Laboratories, Inc.

Blank (5020227-BLK1)				Prepared: 02/02/15 Analyzed: 02/04	1/15	
C6-C12 (GRO)	ND	7170	ug/m³ Air		2002	
Duplicate (5020227-DUP1)	Source	e: T150242	-01	Prepared: 02/02/15 Analyzed: 02/05	5/15	
C6-C12 (GRO)	1880	7170	ug/m³ Air	1940	3.28	30

SunStar Laboratories, Inc.

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Katherine Running Crane

Katherine RunningCrane, Project Manager



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

Page 19 of 20

Gribi Associates	Project: Maz Glass	
1090 Adam Street, Suite K	Project Number: [none]	Reported:
Benicia CA, 94510	Project Manager: Jim Gribi	02/09/15 12:08

## Fixed Gases ASTM D1946-90 - Quality Control

#### SunStar Laboratories, Inc.

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

Daten	3040443	- 171	A 3030	

Blank (5020225-BLK1)				Prepared: 02/02/15 Analyzed: 02/03	3/15		
Helium	0.00		%				
Carbon Dioxide	ND	1.00					
Oxygen	ND	1.00	20.				
Nitrogen	ND	1.00					
Duplicate (5020225-DUP1)	Sourc	e: T150242-0	1	Prepared: 02/02/15 Analyzed: 02/03	3/15		
Helium	0.00		%	0.00	*****		
Carbon Dioxide	1.24	1.75		1.35	8.37	20	
Oxygen	1.86	1.75		2.11	12.8	20	
Nitmeen	58.6	0.75	**	59.2	1.08	20	

SunStar Laboratories, Inc.

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\*\*Nathwine Running Come

Katherine RunningCrane, Project Manager



Gribi Associates Project: Maz Glass 1090 Adam Street, Suite K Project Number: [none] Reported: Benicia CA, 94510 Project Manager: Jim Gribi 02/09/15 12:08

#### Notes and Definitions

TO-14 TO-15 analysis of sample was not performed due to high concentration of analyte(s). Sample was analyzed utilizing method TO-14 and reporting limit has been adjusted accordingly.

Sample Was Collected in Summa Canister, Hold Time Increased AO-1

Analyte DETECTED DET

Analyte NOT DETECTED at or above the reporting limit ND

Sample results reported on a dry weight basis

RPD Relative Percent Difference

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Katherine RunningCrane, Project Manager

Page 20 of 20

# Phone: Project Manager: TO-15 SIM analysis available upon prior notification AIR LABORATORY uished by: (signature) Chain of Custody Record Gn 61 Associates Date / Time 1232 205 eived by: (signature) 1-31-15 840 Date/Time Batch #: Collector: MAZ ( PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE 25712 Commercentre Drive, Lake Forest, CA 92630 949-297-5020 SunStar XX X TO-3 TPH-G Laboratories, TO-14 TO-14 TO-15 GASS 8015m Methane 8015m Gasoline Fixed Gases by TCD He, CO2, O2, N EDF# Client Project #: **COCAL** 145299 Inc. 0 2 8 € Laboratory ID #

SunStar Laboratories Inc. 25712 Commercentre Dr. Lake Forest, CA 92630 (949)297-5020 (949)297-5027 fax

DO NOT WRITE ON OR 2120545 PLACE

LABELS ON SUMMA

SunStar

Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

Company: GRIB		Name: JIM	
Item:		Quantit	y:
2 oz jars 24/CS	100 mg (100 mg)		
4 oz jars 24/CS		A Committee of the Comm	
8 oz jars 12/CS		200	
40 ml unp. Voas 72/	BOX	1222	
40 ml HCL Voas 72/	BOX		
250 ml Poly 60/C5		Mag - San	The second second
1 Liter Poly 30/CS			
500 ml Poly 16/CS			
500 ml Amber Bottle	e Wide 12/CS		
1 Liter Amber Bottle	12/CS		
1 Gallon Poly 4/BOX			
5035 kits:(2)Sodium Bis	ulfate Voas 72/BOX		
(1) Methan	ol Voa 72/BOX		
(1)Syringe	50/PACK		
Lock-N-Load Handle			8
Tedlar Bags 10/PACH	(		
Manifold,Inst Sampler,	Var. Sampler	2-150 MANIFOLDS	2 RETURNED
Sub Slab Insert w/	washer		
Soil Gas Drop Tubes			
Gas extraction fittin	gs		
Soil Gas Filters			A 2 8
B.C. Summa Cans	400cc:		
	1L:	2-N2,3-PURGE	
	3L:		
	6L:		
Certified Summa Ca	ns 400cc:		
W. W. W. C. W. D.	1L:	6	CHARGE FOR 3
	3L:		
	6L:	0.8	
Cooler (S,MED,LRG) Nur	mber & Quantity	9 H	
Swagelok Fittings: Ferrules, Unions, Nuts		6/NF	CHARGE FOR 6
Other: Poly Tube, Too	ols, etc		
91			
To Make He consider			
Prepared By: BRIA	N	Date: 1/27/15	
Reviewed By:		Date :	

GRIBI. SunStar Laboratories JIM\_1-27-15\_11+2 Canister Data Sheet

Client:

SSAT-

0461

2056 2071

SSAT-

0198

1/27/2015

-30 -30 -30

56-3 Sucked

WHY

-used

36-2

30

5

1305

1313

0133 0123

1/27/2015

0058 0056

1/27/2015 1/27/2015

1/27/2015

56-5

CHECK

(-30 +/- 2 psia)

Sampling Information Sample

Sample

Initial Pressure

Pressure

Sample Start Time 1232 1149

Finish Time

1151

SSAT-

1/27/2015

0712 9090

PURGE CAN ONLY

PURGE CAN ONLY PURGE CAN ONLY

56-4/9 30/WT1

19/10/1

1225/1250 1142/1200

122/10th

0126 0116

1/27/2015

1/27/2015

NITROGEN FILLED

MANIFOLD 150

NITROGEN FILLED

Effective Date: 01/01/2013

Form F-LP0005-1.2

# APPENDIX D

WELL SURVEY FROM FORMER AMBASSADOR LAUNDRY SITE





## 7.0 PREFERENTIAL PATHWAY AND POTENTIAL RECEPTOR SURVEY

The Site is located along the City of Emeryville southern boundary with the City of Oakland. Kleinfelder conducted a preferential pathway survey (Survey) within a 2,000-foot radius of the Site. The survey consisted of obtaining and reviewing well records to identify potential groundwater plume receptors (monitoring, municipal and private water supply wells) and assessing the location of sewer and storm-drain lines that could serve as potential preferential pathways for contaminants in the subsurface.

Well records were obtained from the State of California Department of Water Resources (DWR) and the Alameda County Public Works Agency (ACPW). Storm-drain and sewer line maps for were requested from the City of Emeryville and the City of Oakland. DWR and ACPW records reviewed for this survey included well driller reports, well location sketches/maps, boring logs, and well completion logs for 197 wells in the area.

Plate 8 shows the approximate locations of 23 sites on which wells have been identified within the 2,000-foot search radius. A total of ninety-eight monitoring wells, one cathodic well, and one industrial well, were identified within the 2,000 feet radius. Copies of the Driller's Reports provided by the DWR and the results of the PWA well search are provided as Appendix E.

In 1995 one monitoring well was installed at the Site to a total depth of 25 feet. The well was installed to assess ground water conditions in the vicinity of the UST-HO removed in 1995. The ACEH closed the UST-HO leaking underground storage fuel tank (LUFT) case in a letter dated February 13, 1997. The monitoring well is assumed to have been abandoned, probably during building demolition activities in 2005, because the geophysical survey conducted at the Site in August 2007 did not reveal the presence of the monitoring well.

One industrial well and three groundwater monitoring wells are located at 3516 Adeline Street, approximately 300 feet southeast of the Site, in the cross-gradient ground water flow direction. The industrial well was installed in 1936, to a total depth of 97 feet, and the groundwater monitoring wells were installed in 1992 to a depth of 30 feet in association with an ongoing case with the ACEH.



The 120-foot cathodic well located more than 1,600 feet northeast of the Site was installed in 1974 approximately 61 feet east from the intersection of Apgar Street and Market Street. The deepest ground water monitoring well identified within the 2,000 feet radius is a 43 feet deep well located 1,300 feet northwest of the Site at the northwest corner of Yerba Buena and Hollis Streets, up-gradient ground water flow direction from the Site.

The remaining 93 monitoring wells identified within the 2,000 feet radius are located 680 feet or more away from the Site, and range in depth from 17 to 35 feet bgs. Of these 93 wells, seven wells are located in the down-gradient ground water flow direction of the Site; with the closest well located approximately 900 feet to the southwest. The seven down-gradient wells range in depth from 22 to 25 feet bgs. Due to their maximum depth (25 feet bgs), these down-gradient wells are not considered potential deep well conduits.

The sewer and storm-drain maps indicate two sewer lines bordering the east and west sides of the Site running south from the City of Emeryville into the City of Oakland; one sewer line along Adeline Street continuing on Adeline Street in Oakland, and another sewer line running south on San Pablo Avenue that continues running south on Peralta Street in the City of Oakland (Appendix E). Sewer and storm-drain lines also run along 36th Street, with flow towards the west and then south on Peralta. Sewer pipelines under streets down-gradient of the Site have flow lines at elevations lower than the groundwater surface elevation at the Site. Given that petroleum hydrocarbons do not appear to have migrated offsite and the plume is stable and attenuating, these utility lines are not believed to be acting as conduits for offsite migration of chemical of concern.

In summary, given the depth of offsite wells within a 2,000 feet radius and their distance to the Site, as well as the depth to water and the stratigraphy of the area, no apparent potential receptors will likely be impacted by petroleum hydrocarbons from the Site. Likewise, review of the sewer and storm drain lines in the Site's immediate vicinity suggests that, due to the depth of the groundwater table (approximately 20 feet bgs) sewer and storm drain lines are not acting as preferential pathways for contaminants in the subsurface.

