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October 7, 2015

Mr. Karel Detterman, P.G.
Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
San Francisco, CA 94102

Re: Groundwater Well Installation and Monitoring Report,
Third Quarter 2015
3093 Broadway, Oakland, CA
Site Cleanup Program Case No. Ro0000199


Dear Ms. Detterman,

Please find attached, for your review and comment, Groundwater Well Installation and Monitoring Report, Third Quarter 2015, at the Former Connell Oldsmobile site, located at 3093 Broadway in Oakland, California. The Work Plan has been prepared by Langan Treadwell Rollo.

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.

OWNER:

3093 BROADWAY HOLDINGS, L.L.C.

By: 

Name: J David Martin

Title: CityView - Chair, Investment Committee

**GROUNDWATER WELL INSTALLATION AND
MONITORING REPORT
THIRD QUARTER 2015
3093 Broadway
Oakland, California**

Prepared For:

**3093 Broadway Holdings, L.L.C.
2235 3rd Street, Ste. E202
San Francisco, California 94107**

Prepared By:

**Langan Treadwell Rollo
555 Montgomery Street, Suite 1300
San Francisco, California 94111**

**7 October 2015
Project No. 731637001**

LANGAN TREADWELL ROLLO

7 October 2015

Ms. Karel Detterman, PG
Senior Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

**Subject: Groundwater Well Installation and Monitoring Report
Third Quarter 2015
3093 Broadway
Oakland, California
Langan Project No.: 731637001**

Dear Ms. Detterman:

On behalf of 3093 Broadway Holdings, L.L.C. (Broadway Holdings), Langan Treadwell Rollo (Langan) has prepared the enclosed Third Quarter 2015 Well Installation and Groundwater Monitoring Report for the former Connell Oldsmobile Site (site), located at 3093 Broadway in Oakland, California (Figure 1).

This report was prepared by Langan under the supervision of the Professional Engineer whose seal and signature appear hereon. The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, after being prepared in accordance with generally accepted professional engineering practice. No warranty is expressed or implied.

If you have any questions or require additional information, please call us at (415) 955-5200.

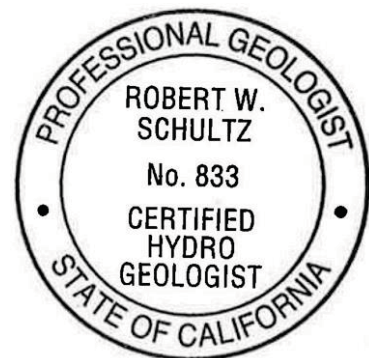
Sincerely yours,
Langan Treadwell Rollo



Annie Lee, PE
Project Engineer



Robert W. Schultz, CHG
Senior Project Manager



cc: Mr. Stephen Siri, 3093 Broadway Holdings, L.L.C.
2235 3rd Street, St. E202
San Francisco, CA 94107

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**GROUNDWATER WELL INSTALLATION AND
MONITORING REPORT
THIRD QUARTER 2015
3093 BROADWAY
OAKLAND, CALIFORNIA**

1.0 INTRODUCTION

On behalf of 3093 Broadway Holdings, L.L.C. (Broadway Holdings), Langan Treadwell Rollo (Langan) has prepared this Well Installation and Groundwater Monitoring Report - Third Quarter 2015 for the site located at 3093 Broadway in Oakland, California (site; Figure 1). The Alameda County Department of Environmental Health (ACEH) requires quarterly groundwater monitoring and reporting during implementation of the enhanced bioremediation groundwater cleanup plan. The groundwater monitoring program is described in the 21 May 2015 Feasibility Study and Corrective Action Plan (FS/CAP), approved by the ACEH on 17 April 2015.

2.0 BACKGROUND

Three underground storage tanks (USTs) that previously contained gasoline, diesel and waste oil were removed from north of the service bay at the site in December 1989. Petroleum compounds have been detected in groundwater including Total Petroleum Hydrocarbons (TPH) as gasoline (TPHg), TPH as diesel (TPHd), benzene, toluene, ethylbenzene and xylenes (BTEX), 1,2-dichloroethane, and naphthalene. On behalf of Broadway Holdings, Langan implemented the groundwater corrective action plan in accordance with the FS/CAP (Langan, 2015a). The FS/CAP recommended using enhanced bioremediation to address petroleum impacts in groundwater. The biological degradation of petroleum hydrocarbons in site groundwater is limited by the availability of electron acceptors, so bioremediation is being accelerated by introducing an electron acceptor (e.g., sulfate) into the subsurface. The groundwater corrective action consisted of drilling remediation borings and backfilling the saturated interval with a combination of sand and calcium sulfate (gypsum) powder to add sulfate to the site groundwater.

2.1 Site Geology and Hydrogeology

The site elevation ranges from approximately 52 to 68 feet above mean sea level (a-msl). The site slopes downward to the southeast, from Webster Street to Broadway. The site is underlain

by unconsolidated sediments ranging from silty clays to sandy gravels. Based on geotechnical drilling conducted by Langan at the site, unconsolidated sediments extend to at least 50 feet below ground surface. The site surficial geology is mapped as the Temescal Formation, which consists of quaternary age alluvial fan deposits comprised of interbedded layers of silt, sand, clay, and gravel (Radbrush, 1957). Alluvial fan deposits are characterized by laterally discontinuous and heterogeneous layers of irregular thickness.

During monitoring conducted between 1990 and 2015, the depth to water in the groundwater monitoring wells at the site have ranged from 15.19 to 33.65 feet below the tops of the well casings (corresponding to elevations of approximately 23.41 to 41.84 feet a-msl, based on the 2014 BKF Engineers site survey). Historical site data indicates an annual water level fluctuation on the order of one to four feet.

The predominant site-scale groundwater flow direction is to the east-southeast. Based on literature values for the observed soil types, the groundwater seepage velocity at the site is low to very low, with estimated groundwater seepage velocities ranging from approximately 0.2 to 20 feet per year.

2.2 Remediation Verification Monitoring Plan

In accordance with the FS/CAP, quarterly groundwater monitoring will be performed during construction (Third Quarter 2015 through Second Quarter 2016) to verify plume stability and monitor the progress of the bioremediation. Construction will be considered complete when earth work is complete, including utility corridor trenches, and when soil at the site is capped by foundations, sidewalks, or other features of the development. After final grading, on-site wells will be installed and groundwater from on-site and off-site wells will be sampled and analyzed for constituents associated with petroleum hydrocarbons to support case closure.

3.0 WELL INSTALLATION

The purpose of the installation of monitoring wells MW-25, MW-26, and MW-27 is to serve as replacement wells to MW-8, MW-7, and MW-5, respectively, to continue monitoring the groundwater conditions near the downgradient property boundary during demolition, site grading and foundation work, when the site cap will be removed.

3.1 Permitting and Utility Clearance

Prior to installing the monitoring wells, a permit was obtained from the Alameda County Public Works Agency, Water Resources Section (ACPWA). In addition, encroachment, obstruction, and excavation permits were obtained from the City of Oakland to allow installation of the wells within Broadway. The permits are provided in Appendix A.

A private utility locator was subcontracted to confirm the presence/absence of subsurface utilities at the monitoring well installation locations. Underground Services Alert, a regional subsurface utility notification center, was notified of the work on 10 June 2015.

3.2 Drilling Activities

Monitoring wells MW-25, MW-26, and MW-27 were installed on 15 and 16 June 2015 following the procedures described in the FS/CAP (Langan, 2015a). The wells were installed by Cascade Drilling, L.P. (C-57 License # 938110) under the oversight of Langan staff. The boreholes were advanced with a Geoprobe 7720 rig fitted with 8-inch diameter hollow stem augers. Prior to drilling, the borings were hand-augered to approximately 5 feet below ground surface (bgs) to clear for possible underground utility conflicts.

Each well was initially advanced using dual-wall direct push technology, producing 2.25-inch boreholes to depths ranging from 22 to 34 feet bgs, in an effort to identify the first conspicuous water-bearing zone. The soil was examined and logged by a Langan geologist working under the supervision of a California Professional Geologist and screened in the field using a photoionization detector (PID).

3.3 Monitoring Well Installation

Following soil sampling activities, the boreholes were overdrilled by advancing 8-inch diameter hollow stem augers to facilitate installation of the monitoring wells. MW-25 was augered to a depth of 29 feet bgs; MW-26 to a depth of 22 feet bgs; and MW-27 to a depth of 31 feet bgs.

Each monitoring well was constructed by placing a 2-inch diameter, Schedule 40 PVC casing with 10 feet of slotted 0.020-inch well screen through the augers. An annular sand pack consisting of #2/16 Monterey Sand was installed through the augers to approximately one foot above the screened interval. The monitoring well screened intervals are provided in Table 1. A one-foot hydrated bentonite seal was placed above the sand and the remainder of the borehole

was sealed with neat cement grout. Expanding, locking caps and flush-mounted traffic rated well boxes were installed over each casing. The drilling and well installation work was performed under the oversight of an ACPWA inspector.

3.4 Well Development

The newly installed monitoring wells were developed by surging, bailing, and purging the well to remove accumulated fines from the casings and stabilize the sand packs on 19 June 2015. Wells MW-25 and MW-27 were developed by removing approximately 10 well volumes, while well MW-26 was developed by removing approximately 7 well volumes before the well dewatered.

The locations of the newly installed wells are presented in Figure 2. Copies of the boring logs are presented in Appendix B.

4.0 GROUNDWATER MONITORING

Groundwater monitoring was performed in June and August 2015. Groundwater samples were collected on 23 June 2015 to provide baseline groundwater quality information for newly constructed monitoring wells MW-25, MW-26 and MW-27. On 17 August 2015, monitoring wells MW-1, MW-3, MW-13, MW-25, MW-26, and MW-27 were sampled to monitor groundwater conditions immediately following initiation of groundwater remediation.

The monitoring wells were opened and inspected for free product, the water levels were allowed to equilibrate, and then the monitoring wells were gauged. Groundwater elevations for wells gauged are presented in Table 1.

Groundwater sampling was performed using U.S. EPA low-flow sampling procedures. The monitoring well sampling and analytical methods used are summarized in Table 1. Groundwater analytical results for petroleum compounds are presented in Table 2. Water quality parameters (including temperature, pH, specific electrical conductance, oxidation-reduction potential [ORP], and dissolved oxygen [DO]) were measured using a flow-through cell during low-flow pumping. Groundwater field parameters collected during low flow sampling are presented in Table 3.

Following collection, the sample containers were sealed, labeled, and placed in a cooler with ice until delivery to McCampbell Analytical in Pittsburg, California, using chain-of-custody

procedures. The purged water was securely stored at the site in sealed and labeled 55-gallon drums for off-site disposal. Laboratory analytical reports are presented in Appendix C.

5.0 GROUNDWATER MONITORING RESULTS AND DISCUSSION

Groundwater elevations, field parameters and analytical groundwater monitoring results the June and August 2015 sampling events are presented in the subsequent sections.

5.1 Groundwater Levels

Table 1 presents groundwater elevations measured in monitoring wells MW-1, MW-3, MW-13, MW-25, MW-26 and MW-27 during the Third Quarter (June and August) 2015. Cumulative groundwater elevations measured site-wide since the shutdown of the former air sparging and dual phase extraction (AS/DPE) remediation system in June 2013 are presented in Appendix D.

As shown in Table 1, groundwater elevations at the monitoring wells sampled ranged from 27.47 feet above a-msl at MW-13 to 38.07 feet a-msl at MW-1 from June to August 2015. Groundwater elevations measured in monitoring wells in August 2015 are presented on Figure 2. These water level results are consistent with the groundwater flow direction interpretation presented in the Conceptual Site Model (Langan, 2014). As presented in the CSM, groundwater flows east to southeast across the site.

5.2 Petroleum Concentrations

Groundwater samples were analyzed for petroleum compounds, including BTEX, methyl tert-butyl ether (MTBE), TPHg, TPHd, 1,2-dichloroethane (1,2-DCA) and naphthalene. Groundwater analytical results for petroleum compounds detected in groundwater since the shutdown of the AS/DPE system in June 2013 are provided in Table 2. Benzene analytical results from the August 2015 sampling event are shown on Figure 3.

As shown in Table 2, TPHd was detected in groundwater samples collected from monitoring wells MW-1, MW-3, MW-25 and MW-26. TPHg, benzene, toluene, ethylbenzene, xylenes, 1,2-DCA and naphthalene were detected in groundwater samples collected from monitoring wells MW-1 and MW-25. This discussion focuses primarily on TPHg and benzene, which are used as representative compounds to evaluate remediation progress.

Monitoring well MW-1, which was located approximately five feet downgradient of pilot remediation boring RB-3, was sampled to evaluate the effects of the groundwater pilot study. TPHg and benzene were detected at MW-1 at 37,000 and 3,300 micrograms per liter ($\mu\text{g/L}$), respectively, which were slightly higher concentrations than what were detected in the previous sampling event in May 2015. However, the total xylenes concentration at MW-1 decreased from 5,400 $\mu\text{g/L}$ during the May 2015 sampling event to less than the laboratory reporting limit of 250 $\mu\text{g/L}$.

At MW-3, located cross-gradient from the source area, TPHd was detected at a concentration of 360 $\mu\text{g/L}$, which is lower than what was detected in a previous sampling event in May 2015. Additionally, MW-3 was analyzed for TPHd with silica gel cleanup. With the silica gel cleanup, TPHd was detected at 150 $\mu\text{g/L}$. Benzene was not detected at or above the laboratory reporting limit of 0.5 $\mu\text{g/L}$ in well MW-3.

Monitoring wells MW-25, MW-26 and MW-27 were installed to monitor the downgradient stability of petroleum impacts. During the August 2015 sampling event, TPHg and benzene were detected at MW-25 at concentrations of 610 and 37 $\mu\text{g/L}$, respectively. MW-25 was installed to replace monitoring well MW-8, which had a TPHg concentration of 91 $\mu\text{g/L}$ in May 2015. As shown in the well construction details presented in Table 1, the screened interval of monitoring MW-8 is approximately ten feet longer than the screened interval of monitoring well MW-25. A larger screened interval can increase the volume of groundwater flow through a monitoring well. Depending on sampling methodology, a long-screened well can result in dilution or decreased concentrations of constituents in groundwater.

TPHg and benzene were not detected in groundwater in the remaining off-site monitoring wells MW-26, MW-27, and MW-13.

5.3 Field Parameters and Natural Attenuation Parameters

The field water quality parameters are summarized in Tables 3 and 4. The pH within the plume was close to neutral, ranging from 6.19 to 7.38, which is favorable for bioremediation. Conductivity values ranged from 626 to 1901 microsiemens (μS).

Monitoring wells MW-3, MW-25, MW-26 and MW-27 reported elevated levels of turbidity above 1,000 nephelometric turbidity units (NTUs) in the August 2015 sampling event. Based on

the low turbidity levels observed in these monitoring wells in May and June 2015, elevated turbidity levels reported in August may be the result of an equipment calibration error.

Reducing conditions are present within the upper groundwater plume in monitoring well MW-1, where the DO is low (0.27 milligrams per liter [mg/L]) and ORP is negative (-133.9 millivolts, [mV]). Wells downgradient of the plume and wells located off-site have higher DO concentrations and positive ORP values.

In the August 2015 sampling event, source area monitoring well MW-1 was sampled to evaluate the bioremediation impacts from the pilot test and was analyzed for nitrate, nitrite, sulfate, sulfite, sulfide, total alkalinity, total iron, total manganese, and sulfate reducing bacteria. Additionally, off-site monitoring wells MW-25, MW-26, and MW-27 were analyzed for sulfate, sulfite, and sulfide to monitor downgradient conditions. Groundwater analytical results for these natural attenuation parameters and water quality parameters measured in groundwater since the shutdown of the AS/DPE system in June 2013 are provided in Table 4.

The results from MW-1 indicate that electron acceptors are depleted within the treatment area where petroleum impacts are present. Nitrate was not detected in MW-1. The total alkalinity was 562 mg/L as calcium carbonate. Iron and manganese concentrations are elevated because they have been reduced to their more soluble form.

Sulfate was detected at a concentration of 210 mg/L, which is significantly higher than the previous sulfate detection of 0.33 mg/L in May 2015, which suggests that the gypsum (calcium sulfate) introduced during the pilot study may be dissolving into the groundwater. Although sulfate concentrations increased, the sulfate reducing bacteria concentration at MW-1 decreased an order of magnitude from 2.8×10^5 in May 2015 to 2.3×10^4 cells per milliliter (cells/mL) in August 2015. The decrease in sulfate reducing bacteria may be due to introduction of oxygen during the remediation boring drilling activities and sulfate reducing bacteria populations are expected to increase as anaerobic conditions are reestablished. Based on the high levels of sulfate, low DO, and negative ORP at MW-1, conditions are favorable for the remediation of petroleum hydrocarbons under sulfate reducing conditions.

The sulfate concentrations ranged from 31 to 130 mg/L at down-gradient, off-site monitoring wells MW-25, MW-26 and MW-27. No sulfite or sulfide was detected above their respective laboratory detection limits.

6.0 SUMMARY AND FUTURE ACTIVITIES

Petroleum hydrocarbons, including TPHg and benzene, were detected in groundwater. The petroleum concentrations detected in groundwater during the Third Quarter 2015 monitoring events are consistent with the historical range of results for petroleum compounds in the respective wells. Groundwater analytical results from well MW-1 indicate that the groundwater remedy appears to be creating conditions favorable for bioremediation of petroleum compounds in groundwater.

As described in the FS/CAP, the on-site monitoring wells are being destroyed to allow for site development and construction. The methods and documentation of the well destructions will be presented in the Completion Report. The off-site monitoring wells MW-13, MW-25, MW-26, and MW-27 will be sampled for BTEX, MTBE, TPHg, TPHd, 1,2-DCA, naphthalene, and sulfate on a quarterly basis during demolition, site grading and foundation work, and results will be reported in quarterly groundwater monitoring reports.

The bioremediation progress will be further evaluated after the installation and sampling of on-site monitoring wells, to be located within the groundwater plume following final grading. The FS/CAP presents the work plan for the installation of wells MW-20 through MW-24 and includes the sampling and analysis plan for the monitoring of wells MW-20 through MW-27 after construction of the foundation elements capping the site. Figure 4 presents the remediation boring locations completed in August 2015, and the revised onsite monitoring well locations. Monitoring well MW-22 has been removed from the post-construction monitoring plan because the groundwater treatment area was revised to exclude the former showroom area. As discussed in the Pilot Study Report (Langan, 2015b), the concentrations of petroleum compounds (240 µg/L of benzene) and field parameters (4.51 mg/L of DO) at MW-18 within the showroom suggest that the groundwater impacts in this area will naturally attenuate within a shorter timeframe. Langan will notify the ACEH at least 48 hours prior to installation of the onsite monitoring wells, and anticipates submittal of a case closure request after the fourth quarterly monitoring event conducted after installation of the site cap.

REFERENCES

Langan, 2014. Conceptual Site Model, 3093 Broadway, Oakland, California. ACEH Case No.: RO0000199. 24 October.

Langan, 2015a. Feasibility Study and Corrective Action Plan. 3093 Broadway, Oakland, California. 21 May.

Langan, 2015b. Enhanced Bioremediation Pilot Study Report and Full Scale Implementation Plan. 3093 Broadway, Oakland, California. ACEH Case NO.: RO0000199. 30 July.

Radbrush, Dorothy. 1957, Areal and Engineering Geology of the Oakland West Quadrangle, California.

TABLES

**Table 1
Groundwater Elevations and Sampling and Analysis Summary
3Q 2015
3093 Broadway
Oakland, California**

Sampling Location	Sample Date	TOC Elevation	Screened Interval	Depth to Groundwater	Ground Water Elevation	Petroleum Compounds				Electron Acceptors/Reduced Electron Acceptors				Water Quality Parameters		Microbial
						BTEX/ MTBE	TPH- Gasoline and Diesel	1,2-DCA	Naphthalene	Nitrate/ Nitrite	Total Manganese	Total Iron/ Ferrous Iron	Sulfate/ Sulfite/ Sulfide	Total Dissolved Solids (TDS)	Alkalinity	Sulfate Reducing Bacteria
Analytical Methods						8260B	8015B	8260B	8260B	E300.1	E200.8	E200.8 SM 3500Fe	E300.1	SM2540C	SM2320B	CENSUS APS
		feet a-msl	feet bgs	feet bgs	feet a-msl	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L CaCO ₃	cells/mL
June 2015 Sampling Event																
MW-25	6/23/2015	51.38	19 to 29	22.66	28.72	X	X	X	X				X			
MW-26	6/23/2015	51.19	12 to 22	17.21	33.98	X	X	X	X				X			
MW-27	6/23/2015	50.94	21 to 31	18.69	32.25	X	X	X	X				X			
August 2015 Sampling Event																
MW-1	8/17/2015	60.57	19 to 35	22.50	38.07	X	X	X		X	X	X	X	X	X	X
MW-3	8/17/2015	56.87	20 to 35	19.58	37.29	X	X	X								
MW-13	8/17/2015	50.89	25 to 40	23.42	27.47	X	X	X								
MW-25	8/17/2015	51.38	19 to 29	22.97	28.41	X	X	X								
MW-26	8/17/2015	51.19	12 to 22	17.64	33.55	X	X	X								
MW-27	8/17/2015	50.94	21 to 31	19.62	31.32	X	X	X								

Notes:
3Q 2015 = Groundwater elevations and sampling conducted during the third quarter (3Q) 2015. Historical groundwater elevations observed in site monitoring wells are presented in Appendix D.
a-msl = above mean sea level
bgs = below ground surface
BTEX/MTBE = benzene, toluene, ethylbenzene, xylenes, methyl tertiary butyl ether
cells/mL = cells per milliliter
1,2-DCA = 1,2-dichloroethane
mg/L = milligrams per liter
TOC = Top of casing elevation; top of casing elevation surveyed relative to City of Oakland Datum by BKF Engineers September 2014 and June 2015
TPH = total petroleum hydrocarbons
µg/L = micrograms per liter
– not applicable

Table 2
Groundwater Analytical Results Petroleum Compounds
June 2013 through August 2015*
3093 Broadway
Oakland, California

Well ID	Date Sampled	TPHg	TPHd	TPHd w/ SGCU	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	1,2-DCA	Naphthalene	TBA
AS-1B	05/22/14	170	--	--	4.9	4.0	< 2.5	6.5	< 2.5	< 2.5	< 2.5	460
MW-1	06/21/13	51,000	--	--	2,300	3,500	340	8,100	<120	--	--	--
MW-1	05/21/14	60,000	--	--	4,300	6,400	660	10,000	< 250	< 250	780	< 1,000
MW-1 ^a	11/19/14	68,000	9,900	--	5,700	4,100	680	13,000	< 250	-	--	--
MW-1	05/18/15	31,000	10,000	--	2,300	650	260	5,400	<50	<50	430	--
MW-1	08/17/15	37,000	11,000	9,400	3,300	1,100	< 250	< 250	< 250	< 250	--	--
MW-2	05/22/14	< 50	--	--	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
MW-3	05/22/14	< 50	--	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
MW-3 ^a	11/19/14	< 50	52	--	1	< 0.50	< 0.50	1	< 5.0	--	--	--
MW-3	05/21/15	<50	380	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
MW-3	08/17/15	<50	360	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
MW-4	06/21/13	110,000	--	--	4,400	15,000	1,700	13,000	<1,200	--	--	--
MW-4	05/20/14	72,000	--	--	1,900	7,300	1,400	9,400	< 250	< 250	1,100	< 1,000
MW-4	05/22/15	66,000	14,000	--	1,400	5,300	1,200	7,100	<250	<250	780	--
MW-5	05/22/14	< 50	--	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
MW-5	05/22/15	<50	<50	--	<0.5	0.5	<0.5	1.4	<0.5	<0.5	<0.5	--
MW-6	06/21/13	15,000	--	--	2,400	300	370	680	<250	--	--	--
MW-6	05/20/14	17,000	--	--	3,700	530	830	840	< 50	< 50	200	490
MW-6 ^a	11/19/14	20,000	3,200	--	3,500	400	900	970	< 250	--	--	--
MW-6	05/21/15	18,000	4,100	--	2,400	220	320	520	<100	<100	120	--
MW-7	05/20/14	< 50	--	--	< 0.50	< 0.50	< 0.50	0.64	< 0.50	< 0.50	< 0.50	< 2.0
MW-7	05/22/15	<50	<50	--	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	--
MW-8	05/21/14	70	--	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	9.7	< 2.5	310
MW-8	05/21/15	91	130	--	<0.5	<0.5	<0.5	<0.5	<0.5	10	<0.5	--
MW-9	05/20/14	< 50	--	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	100	< 2.5	640
MW-9 ^a	11/19/14	240	83	--	4.5	2.2	< 0.5	6.2	< 5.0	--	--	--
MW-10	05/20/14	88,000	--	--	5,600	18,000	1,700	9,900	< 500	< 500	770	< 2,000
MW-13	05/22/14	< 50	--	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	6.2
MW-13	08/17/15	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
MW-13 ^b	08/17/15	<50	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--
MW-14	06/21/13	36,000	--	--	1,100	4,000	550	6,400	<250	--	--	--
MW-14	05/22/15	5,700	1,500	--	250	90	110	850	<5.0	<5.0	100	--
MW-15	06/21/13	11,000	--	--	390	710	120	2,200	<50	--	--	--
MW-15	05/21/14	4,100	--	--	430	19	220	250	< 17	< 17	--	< 67
MW-16A	05/21/14	3,700	--	--	5.3	3.7	7.4	31	< 2.5	< 2.5	11	27
MW-16B	06/21/13	5,400	--	--	1,600	350	56	170	<50	--	--	--
MW-16B	05/21/14	15,000	--	--	11,000	710	1,000	2,000	< 250	< 250	< 250	3,400
MW-17A	06/21/13	20,000	--	--	1,300	1,500	73	3,400	<250	--	--	--
MW-17A	05/21/14	52,000	--	--	1,900	3500	970	10000	< 50	< 50	830	< 200
MW-17B	05/21/14	< 50	--	--	< 0.50	< 0.50	< 0.50	1.1	< 0.50	< 0.50	< 0.50	< 2.0
MW-18	05/21/15	3,200	2,000	--	240	<5.0	42	26	<5.0	74	14	--
MW-19	05/22/15	<50	<50	--	<0.5	<0.5	<0.5	0.7	<5.0	1.9	<0.5	--
MW-25	06/23/15	350	84	--	61	<1.7	<1.7	<1.7	<1.7	4.6	2.7	--
MW-25	08/17/15	610	300	310	37	<1.0	3.7	2.1	<1.0	4.1	--	--
MW-26	06/23/15	<50	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--
MW-26	08/17/15	<50	58	55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
MW-27	06/23/15	<50	<50	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--
MW-27	08/17/15	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--
RW-2	05/20/14	3,600	--	--	220	330	140	780	< 10	< 10	38	49
RW-2	06/21/13	4,000	--	--	180	350	65	530	<50	--	--	--
RW-3A	05/22/15	20,000	5,000	--	1,100	190	170	2,700	<25	<25	260	--
RW-3B	05/22/15	190	2,600	--	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	--
RW-4	05/21/14	11,000	--	--	200	670	310	1,700	< 17	< 17	170	< 67
RW-5	05/21/14	14,000	--	--	880	440	520	2,200	< 50	< 50	250	< 200

Notes:

* This table summarizes the petroleum compounds data collected for the site after shutdown of the former AS/SVE system in June 2013.

^a TPHg, benzene, toluene, ethylbenzene, xylenes, and MTBE analyzed using EPA Method 8021B/ 8015Bm

^bDuplicate Sample (DUP-1)

< 50 - Analyte was not detected at or above the laboratory reporting limit (50 µg/L)

-- = Not analyzed

1,2-DCA = 1,2-dichloroethane

MTBE = methyl-t-butyl ether

TBA =t-butyl alcohol

TPHd = total petroleum hydrocarbons as diesel analyzed by EPA Method 8015B

TPHg = total petroleum hydrocarbons as gasoline analyzed by EPA Method 8015B unless otherwise indicated

SGCU = Silica Gel Clean-Up

All volatile organic compounds were analyzed using EPA method 8260B

µg/L = micrograms per liter

Table 3
Groundwater Field Parameters
May 2015 through August 2015*
3093 Broadway
Oakland, California

Well ID	Date	Total Dissolved Solids	Temperature	pH	Conductivity	Turbidity	DO	ORP	Observations
		mg/L	(°C)	-	(µS)	(NTU)	(mg/L)	(mV)	
MW-1	05/18/15	728	18.5	7.13	1486	110	--	-119	Odor
MW-1	08/17/15	227	24.1	6.56	1901	227	0.27	-133.9	
MW-3	05/21/15	476	20.8	6.13	817	152	2.48	169	
MW-3	08/17/15	-	26.5	6.35	841	>1000	1.48	150	
MW-4	05/22/15	-	20.6	6.59	666	9	0.37	-131	Odor
MW-5	05/22/15	-	19.6	6.51	823	127	0.6	78.7	
MW-6	05/21/15	817	21.8	6.42	1041	17	0.35	-127.6	
MW-7	05/22/15	-	20.3	6.56	6625	82	1.95	96.8	
MW-8	05/21/15	517	20	6.38	946	6	0.36	50.7	
MW-13	08/17/15	-	22.1	6.58	694	97	1.26	192.9	
MW-25	06/23/15	-	23.3	6.19	965	4	0.46	65.9	
MW-25	08/17/15	-	23.4	6.52	940	>1000	0.65	8.9	
MW-26	06/23/15	-	22.8	6.91	1839	4	3.66	43.8	
MW-26	08/17/15	-	23.5	7.38	721	>1000	2.16	76.1	
MW-27	06/23/15	-	23.2	6.65	626	2	1.6	65.8	
MW-27	08/17/15	-	23.9	6.98	634	>1000	0.71	101.5	

Notes:

* Emplacement of gypsum for enhanced bioremediation was initiated at the site on 18 May 2015.

°C = degrees Celsius

DO = dissolved oxygen

mg/L = milligrams per liter

mV = millivolts

ORP = oxidation reduction potential

NTU = nephelometric turbidity units

µS = microsiemens

Table 4
Groundwater Analytical Results - Natural Attenuation Parameters
June 2013 through August 2015*
3093 Broadway
Oakland, California

Well ID	Sample Date	Nitrate & Nitrite as N	Nitrate as N	Nitrite as N	Nitrate as NO3 ⁻	Nitrite as NO2 ⁻	Total Nitrogen	Total Organic Carbon	Total Phosphorous as P	Sulfate	Sulfide	Sulfite	Total Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Bicarbonate Alkalinity	Total Iron	Ferrous Iron	Total Manganese	Dissolved Methane	Sulfate Reducing Bacteria
		mg/L												mg CaCO ₃ /L				µg/L			
MW-1	11/19/14	--	<0.1	--	<0.45	--	--	73	--	0.73	--	--	--	--	--	501	16,000	--	9,800	4,300	--
MW-1	05/18/15	<0.2	<0.1	--	<0.45	--	5.2	53	1.1	0.33	0.094	< 10	--	--	--	711	33,000	27,000	11,000	5,700	284,000
MW-1	08/17/15	<0.2	<0.1	<0.1	<0.45	<0.33	--	--	--	210	<0.05	< 10	562	<1.0	<1.0	562	24,000	--	12,000	--	23,400
MW-3	11/19/14	--	1.3	--	5.6	--	--	3.0	--	140	--	--	--	--	--	220	3,000	--	59	0.37	--
MW-3	05/21/15	1.1	1.1	--	5	--	1.4	3.1	0.25	200	0.067	< 10	--	--	--	239	5,700	<50	71	0.52	5,940
MW-4	05/22/15	--	--	--	--	--	--	--	--	1	0.65	< 0.1	--	--	--	--	--	--	--	--	--
MW-5	05/22/15	--	--	--	--	--	--	--	--	100	<0.05	< 10	--	--	--	--	--	--	--	--	--
MW-6	11/19/14	--	<0.1	--	<0.45	--	--	21	--	9.1	--	--	--	--	--	462	6,000	--	4,400	510	--
MW-6	05/21/15	<0.2	<0.1	--	<0.45	--	<0.7	13	0.54	1.6	1.1	< 0.1	--	--	--	510	11,000	10,000	6,700	560	1,050,000
MW-7	05/22/15	--	--	--	--	--	--	--	--	80	<0.05	< 10	--	--	--	--	--	--	--	--	--
MW-8	05/21/15	<0.2	<0.1	--	<0.45	--	<0.7	3.5	0.13	27	<0.05	< 1.0	--	--	--	374	380	210	720	190	59,300
MW-9	11/19/14	--	<0.1	--	<0.45	--	--	6.0	--	110	--	--	--	--	--	234	1,300	--	580	47	--
MW-14	05/22/15	--	--	--	--	--	--	--	--	21	1.1	< 5.0	--	--	--	--	--	--	--	--	--
MW-18	05/21/15	<0.2	<0.1	--	<0.45	--	<0.7	16	0.14	140	0.14	< 10	--	--	--	500	11,000	520	1,100	2.5	30,300
MW-19	05/22/15	--	--	--	--	--	--	--	--	66	<0.05	< 10	--	--	--	--	--	--	--	--	--
MW-25	06/23/15	--	--	--	--	--	--	--	--	31	<0.05	<2.0	--	--	--	--	--	--	--	--	--
MW-26	06/23/15	--	--	--	--	--	--	--	--	130	<0.05	<2.0	--	--	--	--	--	--	--	--	--
MW-27	06/23/15	--	--	--	--	--	--	--	--	38	<0.05	<2.0	--	--	--	--	--	--	--	--	--
RW-3A	05/22/15	--	--	--	--	--	--	--	--	0.59	0.14	< 0.1	--	--	--	--	--	--	--	--	--
RW-3B	05/22/15	--	--	--	--	--	--	--	--	69	2.4	< 10	--	--	--	--	--	--	--	--	--

Notes:

* This table summarizes the natural attenuation parameter data collected for the site after shutdown of the former AS/SVE system in June 2013.

mg CaCO₃/L = milligrams per liter as Calcium Carbonate

mg/L = milligrams per liter

N = Nitrogen

µg/L = micrograms per liter

-- = Not analyzed

< 50 - Analyte was not detected at or above the laboratory reporting limit (50 µg/L)

Bicarbonate by EPA method SM2320B

Ferrous Iron by EPA method SM3500-Fe B4c

Methane by EPA method RSK175

Nitrate & Nitrite as N, Nitrate as N, Nitrate as NO₃⁻, Sulfate & Sulfite by EPA method E300.1

Sulfide by EPA method SM4500 S-2 D

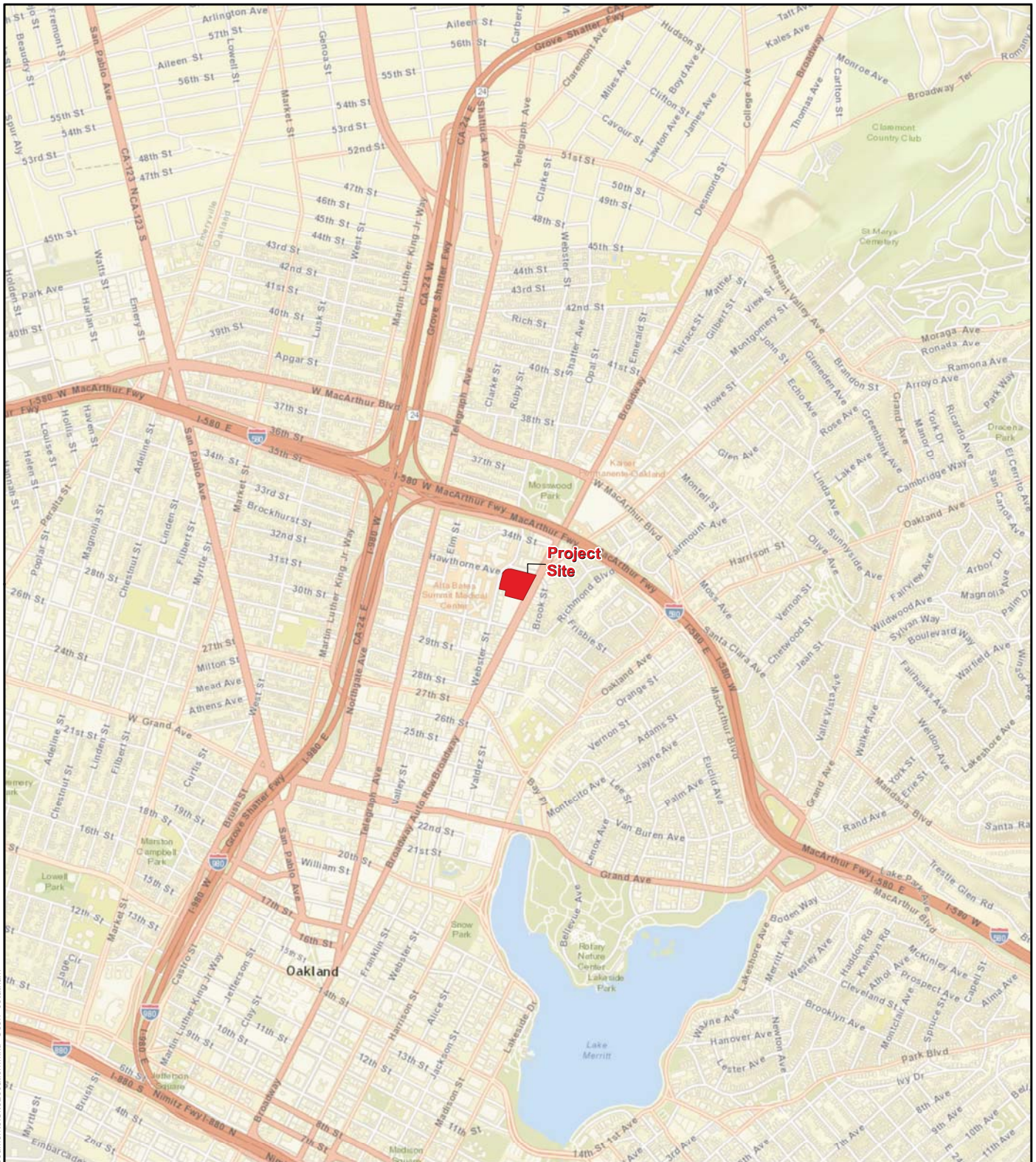
TOC and Total Nitrogen by EPA method E415.3

Total Dissolved Solids by EPA method SM2540C

Total Iron and Manganese by EPA method E200.8

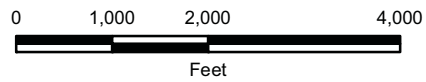
Total Phosphorous as P by EPA method E365.1

FIGURES



Notes:

1. World street basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN.
2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.



3093 BROADWAY
Oakland, California

SITE LOCATION MAP

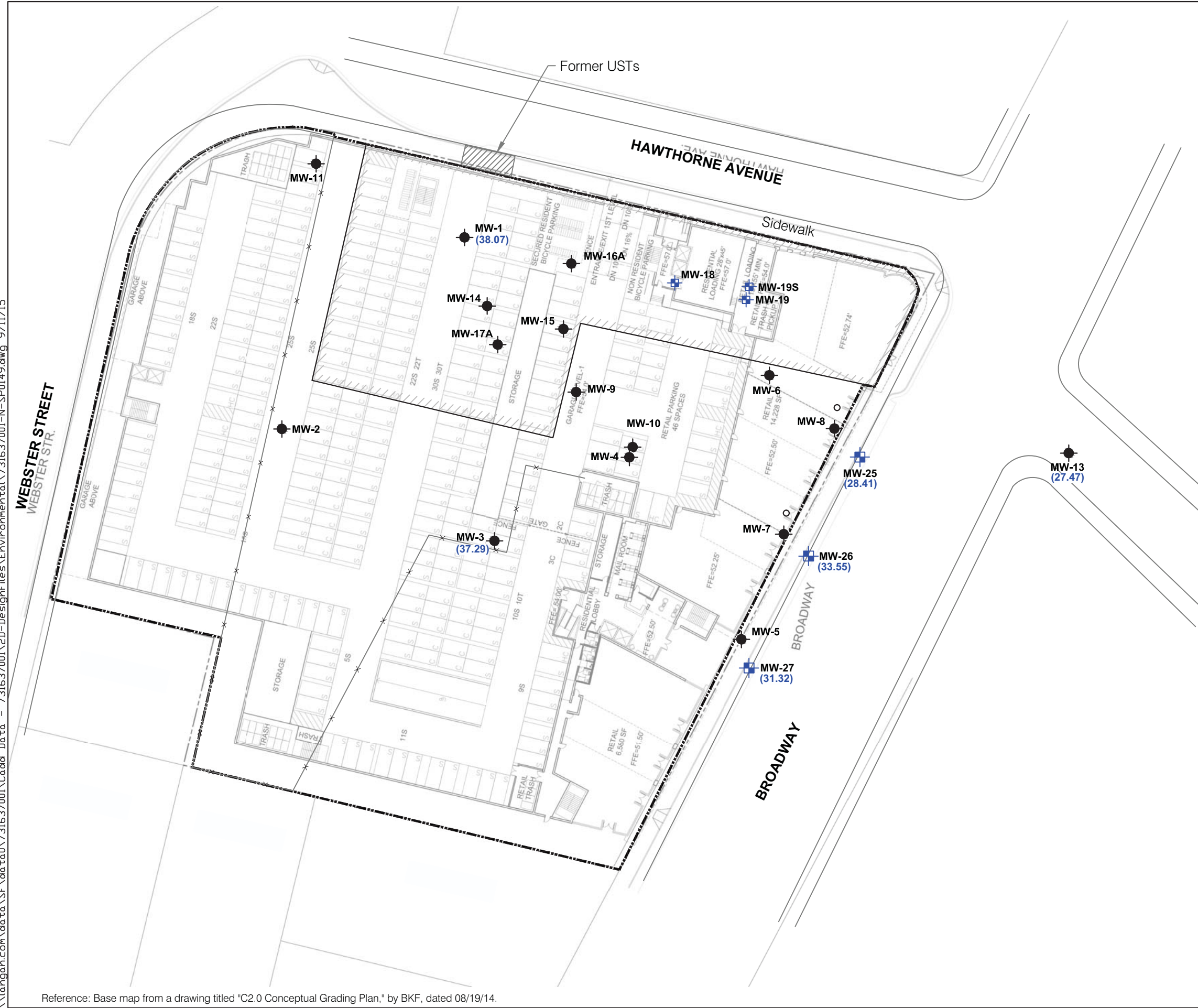
LANGAN TREADWELL ROLLO

Date 3/4/2015

Project 7316317001

Figure 1

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Reference: Base map from a drawing titled "C2.0 Conceptual Grading Plan," by BKF, dated 08/19/14.

EXPLANATION

- MW-1 ● Monitoring well location
- MW-25 ⊕ Groundwater monitoring well location by Langan Treadwell Rollo, May and June 2015
- Site boundary
- × × Fence
- ▨ Building footprint
- (38.07) Groundwater elevation in feet, MSL datum

Note:

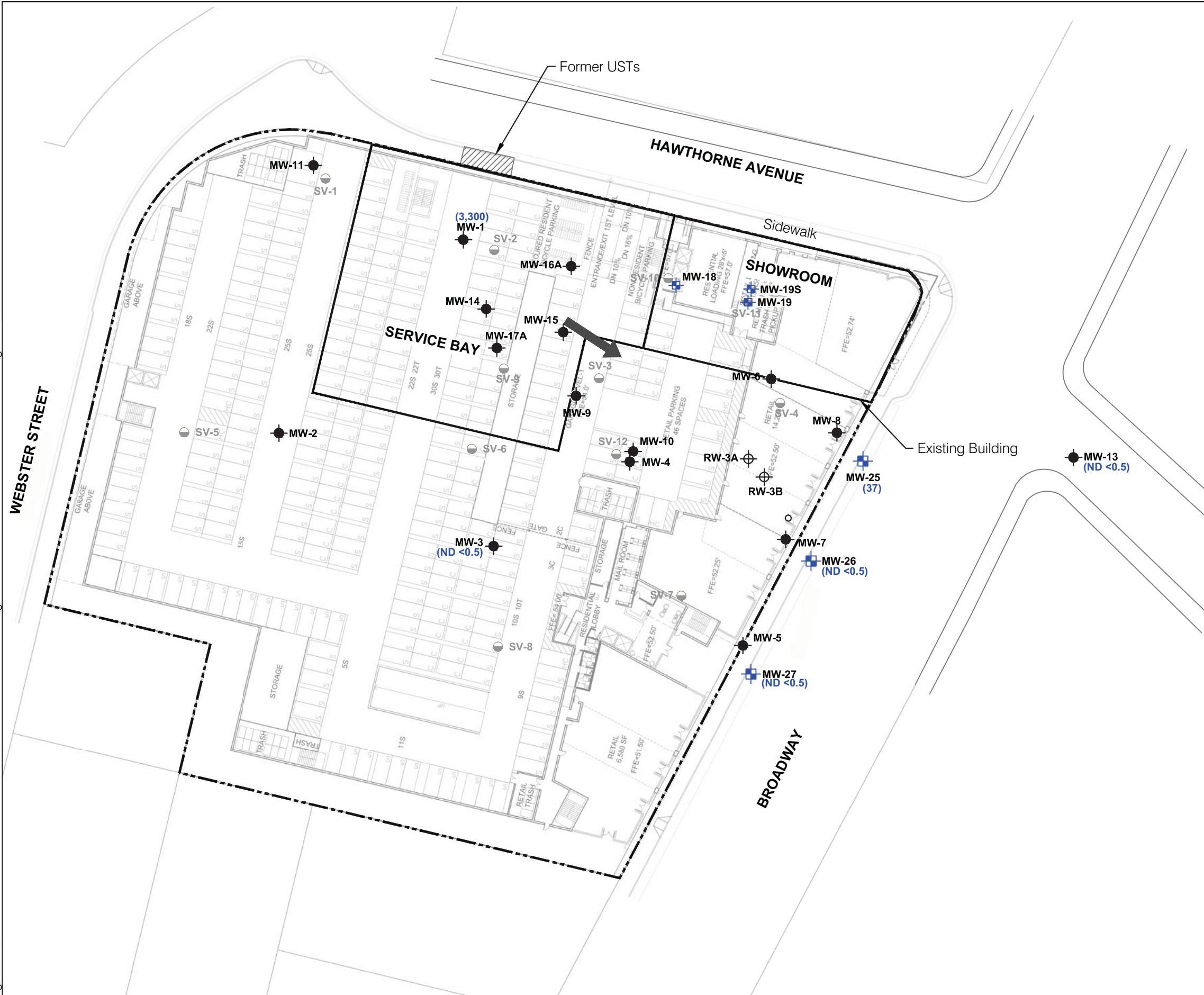
1. Two onsite wells and four offsite wells were gauged and sampled during the Third Quarter monitoring event.

0 60 Feet

Approximate scale

3093 BROADWAY Oakland, California		
GROUNDWATER ELEVATIONS AUGUST 2015		
Date 09/10/15	Project No. 731637001	Figure 2
LANGAN TREADWELL ROLLO		

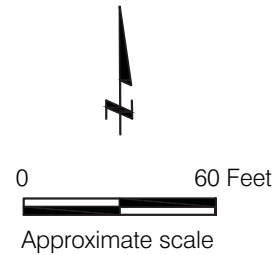
\\langan.com\data\00\SF\da.to\0\731637001\Cadd Data - 731637001\2D-DesignFiles\Environment\731637001-N-SP0150.dwg 9/11/15



EXPLANATION

- MW-18** Groundwater monitoring well location by Langan Treadwell Rollo, May and June 2015
- SV-1** Soil vapor well location
- MW-1** Monitoring well location
- RW-4** Remediation monitoring well location
- Site boundary
- Average Historical Direction of Groundwater flow
- (3,300)** Benzene concentration in micrograms per liter (µg/L)

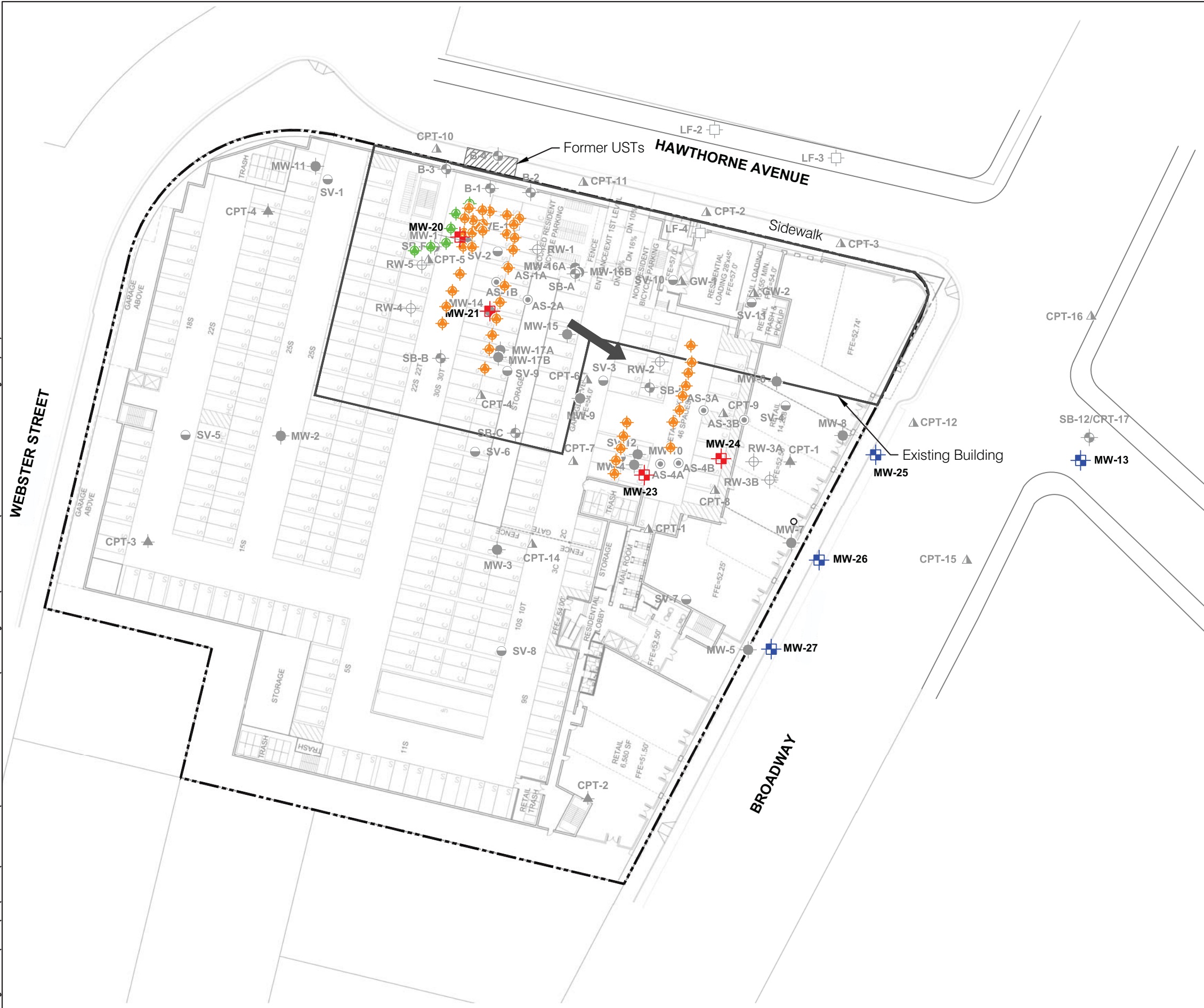
Notes:
 1. All results are from a 17 August 2015 sampling event
 2. ND <0.5 - not detected at or above the laboratory reporting limit (0.5).



3093 BROADWAY Oakland, California		
BENZENE CONCENTRATIONS AUGUST 2015		
Date 09/10/15	Project No. 731637001	Figure 3
LANGAN TREADWELL ROLLO		

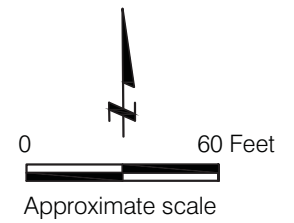
Reference: Base map from a drawing titled "C2.0 Conceptual Grading Plan," by BKF, dated 08/19/14 and "First Floor Plan," by Van Tilburg, Babvard & Soderbergh, AIA, dated 10/03/14.

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EXPLANATION

- MW-20 Proposed post construction monitoring well
- MW-25 Existing monitoring well
- Full scale remediation boring location
- Pilot study remediation boring location
- SV-1 Former soil vapor well location
- MW-1 Former monitoring well location
- RW-4 Former remediation monitoring well location
- AS-1B Former air sparge well location
- VE-1 Former vapor extraction well location
- SB-A Soil boring
- CPT-6 Penetration test boring - 1992
- CPT-4 Penetration test boring - 2014
- LF-2 Abandoned monitoring well location
- Site boundary
- Direction of groundwater flow

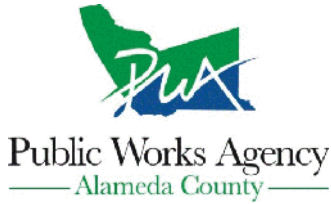


3093 BROADWAY Oakland, California		
REMEDATION BORING AND REVISED ONSITE WELL LOCATIONS - AUGUST 2015		
Date 10/05/15	Project No. 731637001	Figure 4
LANGAN TREADWELL ROLLO		

Reference: Base map from a drawing titled "C2.0 Conceptual Grading Plan," by BKF, dated 08/19/14 and "First Floor Plan," by Van Tilburg, Babvard & Soderbergh, AIA, dated 10/03/14.

**APPENDIX A
PERMITS**

Alameda County Public Works Agency - Water Resources Well Permit



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

Application Approved on: 06/09/2015 By jamesy

Permit Numbers: W2015-0491 to W2015-0493
Permits Valid from 06/15/2015 to 06/16/2015

Application Id: 1433272356408
Site Location: 3093 Broadway
Project Start Date: 06/15/2015
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

City of Project Site: Oakland

Completion Date: 06/16/2015

Applicant: Langan Treadwell Rollo - Adrian Angel
4030 Moorpark, Suite 210, San Jose, CA 95117
Property Owner: Broadway Holdings, LLC
555 California Street, 10th Floor, San Francisco, CA 94104
Client: ** same as Property Owner **
Contact: Adrian Angel

Phone: 415-955-5227

Phone: 415-262-5156

Phone: 415-955-5227
Cell: 831-331-3547

Receipt Number: WR2015-0281	Total Due:	\$1191.00
Payer Name : John Gouchon	Total Amount Paid:	\$1191.00
	Paid By: MC	PAID IN FULL

Works Requesting Permits:

Well Construction-Monitoring-Monitoring - 3 Wells
Driller: Cascade Drilling, L.P. - Lic #: 938110 - Method: hstem

Work Total: \$1191.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2015-0491	06/09/2015	09/13/2015	MW-25	8.00 in.	2.00 in.	20.00 ft	30.00 ft
W2015-0492	06/09/2015	09/13/2015	MW-26	8.00 in.	2.00 in.	20.00 ft	30.00 ft
W2015-0493	06/09/2015	09/13/2015	MW-27	8.00 in.	2.00 in.	20.00 ft	30.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

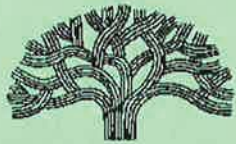
2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

Alameda County Public Works Agency - Water Resources Well Permit

4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.
 5. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.
 6. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
 7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
 8. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
 10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
-

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.



CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: OB1500516 Obstruction

Permit Issued: 6/9/2015

Job Site: 3093 BROADWAY

Schedule Inspection by calling: 510-238-3444

Parcel No: 009 070500104

District:

Project Description: RESERVE 8 METERED SPACES RELATED TO ACTIVITY BELOW. NO IMPACT ON SIDEWALK & TRAFFIC LANE ALLOWED. NO WEEKEND WORK.

Install three (3) monitoring well(s). Ref: enmi15095
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

Allow encroachment of three monitoring wells, MW-25, -26, and -27 on Broadway side in parking lane.

Rescission of indenture agreement will be required at end of term.

Additional permits required to implement work.

Contact agent to pick up agreement.

Related Permits: X1501176

	<u>Name</u>	<u>Applicant</u>	<u>Address</u>	<u>Phone</u>	<u>License #</u>
Owner:	HAWTHORNE BROADWAY LLC & HILL G C 3RD & KAY T TRS		150 LA SALLE AVE PIEDMONT, CA		
Contractor:	CASCADE DRILLING L P		P O BOX 1184 WOODINVILLE, WA	(425) 485-8908	938110
Owner-Agent:	CHRISTINA RAIN	X	150 LA SALLE AVE PIEDMONT, CA	9258185479	

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 06/15/2015	Obstruction Permit Type:	Short Term (Max 14 Days)
End Date: 06/23/2015	Number of Meters (Metered Area):	7
	Length Of Obstruction (Unmetered Area):	

TOTAL FEES TO BE PAID AT FILING: \$0.00

Plans Checked By _____ Date _____ Permit Issued By _____ Date _____

Finalized By _____ Date _____

FIELD COPY

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.



CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA ■ 2ND FLOOR ■ OAKLAND, CA 94612

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: X1501176 Excavation
Job Site: 3093 BROADWAY
Parcel No: 009 070500104
District:

Permit Issued: 6/9/2015

Schedule Inspection by calling: 510-238-3444

Project Description: Install three (3) monitoring well(s). Ref: enmi15095
Call PWA INSPECTION prior to start: 510-238-3651. 4th FLOOR.

Allow encroachment of three monitoring wells, MW-25, -26, and -27 on Broadway side in parking lane.

Rescission of indenture agreement will be required at end of term.

Additional permits required to implement work.

Contact agent to pick up agreement.

Related Permits: ENMI15095 OB1500516

	<u>Name</u>	<u>Applicant</u>	<u>Address</u>	<u>Phone</u>	<u>License #</u>
Owner:	HAWTHORNE BROADWAY LLC & HILL G C 3RD & KAY T TRS		150 LA SALLE AVE PIEDMONT, CA		
Contractor:	CASCADE DRILLING L P	X	P O BOX 1184 WOODINVILLE, WA	(425) 485-8908	938110

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party	Special Paving Detail Required:	Tree Removal Involved:
Date Street Last Resurfaced:		Holiday Restriction (Nov 1 - Jan 1):
Worker's Compensation Company Name:		Limited Operation Area (7AM-9AM) And (4PM-6PM):
Worker's Compensation Policy #:		

Key Dates

Approximate Start Date:
Approximate End Date:

TOTAL FEES TO BE PAID AT FILING: \$0.00

Plans Checked By _____ Date _____ Permit Issued By _____ Date _____
Finalized By _____ Date _____

FIELD COPY

No Fee Document Pursuant To Government Code Section 6103

recording requested by:

CITY OF OAKLAND

when recorded mail to:

City of Oakland
P&BD - Engineering Services
Dalziel Administration Building
250 Ogawa Plaza - 2nd Floor
Oakland, CA 94612
Attn: City Engineer

-----space above for City of Oakland's use only-----

INDENTURE AGREEMENT

Address 3093 Broadway

permit no. ENMI 15095

parcel no. 009 -0705-002-01

authorities Municipal Code Section 12.08.080

description Allow installation of three monitoring wells, MW-25, -26, and -27 on Broadway side in parking lane.

RECITAL

The owner subscribed below of fee simple interest in the property referenced above and described in Exhibit B attached hereto, is hereby granted, for an indeterminate period of time, the revocable permit referenced above allowing the temporary encroachment described above and delineated in Exhibit C, attached hereto, and limiting the use, exercise, and operation of the encroachment with the requirements and restrictions set forth in Exhibit A, attached hereto, and the associated permit. The owner agrees by and between themselves to be bound by the general and special conditions in Exhibit A and to comply with these conditions faithfully and fully at all times. The conditions of this agreement and associated permit shall equally bind all agents, heirs, successors, and assigns of the owner.

ACKNOWLEDGEMENT OF PROPERTY OWNER

(Notarization of signature required)

3093 Broadway Holdings LLC, a Delaware limited liability company

Signature _____
3093 Broadway Holdings LLC

Date _____

Print Name _____

Title _____

ATTACHMENTS

Exhibit A - Conditions of encroachment

Exhibit C - Limits of encroachment

Exhibit B - Description of privately owned parcel

CITY OF OAKLAND
a municipal corporation

by _____ date _____

DEBORAH SANDERCOCK
City Engineer

DAVID HARLAN
Engineering Manager
Planning and Building Department

EXHIBIT A

Conditions for an Encroachment in the Public Right-of-Way

address 3093 Broadway

parcel no. 009 -0705-002-01

permittee 3093 Broadway Holdings LLC

permit no. ENMI 15095

- **General conditions of the encroachment**

1. This agreement may be voided and the associated permit for an encroachment may be revoked at any time and for any reason, at the sole discretion of the City Administrator or his or her designee, or the associated permit may be suspended at any time, at the sole discretion of the City Engineer, upon failure of the permittee to comply fully and continuously with each and all of the general and special conditions set forth herein and in the associated permit.
2. The property owner and permittee hereby disclaim any right, title, or interest in or to any portion of the public right-of-way, including the sidewalk and street, and agree that the encroachment is granted for indeterminate period of time and that the use and occupancy by the permittee of the public right-of-way is temporary and does not constitute an abandonment, whether expressed or implied, by the City of Oakland of any of its rights associated with the statutory and customary purpose and use of and operations in the public right-of-way.
3. The permittee agrees to indemnify and save harmless the City of Oakland, its officers, agents, employees, and volunteers, and each of them, from any suits, claims, or actions brought by any person or persons, corporations, or other entities for on account of any bodily injury, disease, or illness, including death, damage to property, real or personal, or damages of any nature, however caused, and regardless of responsibility for negligence, arising in any manner out of the construction of or installation of a private improvement itself or sustained as result of its construction or installation or resulting from the permittee's failure to maintain, repair, remove and/or reconstruct the private improvement.
4. The permittee shall maintain fully in force and effect at all times that the encroachment occupies the public right-of-way good and sufficient public liability insurance in a face amount not less than \$300,000.00 for each occurrence, and property damage insurance in a face amount not less than \$50,000.00 for each occurrence, both including contractual liability, insuring the City of Oakland, its officers, agents, employees, and volunteers against any and all claims arising out of the existence of the encroachment in the public right-of-way, as respects liabilities assume under this permit, and that a certificate of such insurance and subsequent notices of the renewal thereof, shall be filed with the City Engineer of the City of Oakland, and that such certificate shall state that the insurance coverage shall not be canceled or be permitted to lapse without thirty calendar (30) days written notice to the City Engineer. The permittee also agree that the City of Oakland may review the type and amount of insurance required of the permittee annually and may require the permittee to increase the amount of and/or change the type of insurance coverage required.
5. The permittee shall be solely and fully liable and responsible for the repair, replacement, removal, reconstruction, and maintenance of any portion or all of the private improvements constructed or installed in the public right-of-way, whether by the cause, neglect, or negligence of the permittee or others and for the associated costs and expenses necessary to restore or remove the encroachment to the satisfaction of the City Engineer and shall not allow the encroachment to become a blight or a menace or a hazard to the health and safety of the general public.
6. The permittee acknowledge and agree that the encroachment is out of the ordinary and does not comply with City of Oakland standard installations. The permittee further acknowledge and agree

that the City of Oakland and public utility agencies will periodically conduct work in the public right-of-way, including excavation, trenching, and relocation of its facilities, all of which may damage the encroachment. Permittee further acknowledge and agree that the City and public utility agencies take no responsibility for repair or replacement of the encroachment which may be damaged by the City or its contractors or public utility agencies or their contractors. Permittee further acknowledge and agree that upon notification by and to the satisfaction of the City Engineer, permittee shall immediately repair, replace, or remove, at the sole expense of the permittee, all damages to the encroachment that are directly or indirectly attributable to work by the City or its contractors or public utility agencies or their contractors.

7. Permittee shall remain liable for and shall immediately reimburse the City of Oakland for all costs, fee assessments, penalties, and accruing interest associated with the City's notification and subsequent abatement action for required maintenance, repairs, or removal, whether in whole or in part, of the encroachment or of damaged City infrastructure made necessary by the failure, whether direct or indirect, of the permittee to monitor the encroachment effectively and accomplish preventative, remedial, or restorative work expeditiously. The City reserves the unqualified right to collect all monies unpaid through any combination of available statutory remedies, including recordation of Prospective Liens and Priority Liens/ Special Assessments with the Alameda County Recorder, inclusion of non-reimbursed amounts by the Alameda County Assessor with the annual assessment of the general levy, and awards of judgments by a court of competent jurisdiction.
8. Upon revocation of the encroachment permit, permittee shall immediately, completely, and permanently remove the encroachment from the public right-of-way and restore the public right-of-way to its original conditions existing before the construction or installation of the encroachment, to the satisfaction of the City Engineer and all at the sole expense of the permittee.
9. This agreement and the associated permit for an encroachment shall become effective upon filing of this agreement with the Alameda County Recorder for recordation as an encumbrance of the property and its title.

• **Special conditions of the encroachment**

10. That said permittee shall obtain excavation permit(s) prior to construction and separate excavation permit(s) prior to the removal of the monitoring wells.
11. That said permittee shall provide to the City of Oakland an AS BUILT plan showing the actual location of the monitoring wells and the results of all data collected from the monitoring wells.
12. That said permittee shall remove the monitoring wells and repair any damage to the street area in accordance with City standards two (2) years after construction or as soon as monitoring is complete.
13. That said permittee shall notify the Planning and Building Department, Engineering Services Division after the monitoring wells are removed and the street area restored to initiate the procedure to rescind the minor encroachment permit.
14. That the monitoring wells' cover installed within the sidewalk area shall have a skid-proof surface.
15. That the monitoring wells' casting and cover shall be iron and shall meet H-20 load rating. The cover shall be secured with a minimum of two stainless steel bolts. Bolts and cover shall be mounted flush with the surrounding surface. For sidewalk installations, a pre-cast concrete utility box and non-skid cover may be needed in conjunction with the bolted cast iron cover with City approval.

16. That said permittee acknowledges that the City makes no representations or warranties as to the conditions beneath said encroachment. By accepting this revocable permit, permittee agrees that it will use the encroachment area at its own risk, is responsible for the proper coordination of its activities with all other permittee, underground utilities, contractors, or workmen operating, within the encroachment area and for the safety of itself and any of its personnel in connection with its entry under this revocable permit.
17. That said permittee acknowledges that the City is unaware of the existence of any hazardous substances beneath the encroachment area, and permittee hereby waives and fully releases and forever discharges the City and its officers, directors, employees, agents, servants, representatives, assigns and successors from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs), whether direct or indirect, known or unknown, foreseen or unforeseen, that may arise out of or in any way connected with the physical condition or required remediation of the excavation area of any law or regulation applicable thereto, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Sections 9601 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 466 et seq.), the Safe Drinking Water Act (14 U.S.C. Sections 1401, 1450), the Hazardous Waste Control Law (California Health and Safety Code Sections 25100 et seq.), the Porter-Cologne Water Quality Control Act (California Health and Safety Code Section 13000 et seq.), the Hazardous Substance Account Act (California Health and Safety Code Sections 253000 et seq.), and the Safe Drinking Water and Toxic Enforcement Act (California Health and Safety Code Section 25249.5 et seq.).
18. That said permittee further acknowledges that it understands and agrees that it hereby expressly waives all rights and benefits which it now has or in the future may have, under and by virtue of the terms of California Civil Code Section 1542, which reads as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."
19. That said permittee recognizes that by waiving the provisions of this section, permittee will not be able to make any claims for damages that may exist, and to which, if known, would materially affect its decision to agree to these encroachment terms and conditions, regardless of whether permittee's lack of knowledge is the result of ignorance, oversight, error, negligence, or any other cause.
20. (a) That said permittee, by the acceptance of this revocable permit, agrees and promises to indemnify, defend, and hold harmless the City of Oakland, its officers, agents, and employees, to the maximum extent permitted by law, from any and all claims, demands, liabilities damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs; collectively referred to as "claims", whether direct or indirect, known or unknown, foreseen or unforeseen, to the extent that such claims were either (1) caused by the permittee, its agents, employees, contractors or representatives, or, (2) in the case of environmental contamination, the claim is a result of environmental contamination that emanates or emanated from 3093 Broadway, Oakland, California site, or was otherwise caused by the permittee, its agents, employees, contractors or representatives.

(b) That, if any contamination is discovered below or in the immediate vicinity of the

encroachment, and the contaminants found are of the type used, housed, stored, processed or sold on or from 3093 Broadway, Oakland, California site, such shall amount to a rebuttable presumption that the contamination below, or in the immediate vicinity of, the encroachment was caused by the permittee, its agents, employees, contractors or representatives.

(c) That said permittee shall comply with all applicable federal, state, county and local laws, rules, and regulations governing the installation, maintenance, operation and abatement of the encroachment.

21. That said Minor Encroachment Permit and Agreement shall take effect when all the conditions hereinabove set forth shall have been complied with to the satisfaction of the City Engineer, and shall become null and void upon the failure of the permittee to comply with all conditions.
22. That said permittee understands that a rescission of this agreement will be needed to complete this agreement at some future date when monitoring is completed and wells are removed. Additional permitting will be required.
23. That said Indenture Agreement alone does not allow work to be done which requires inspection. Permittee to obtain any and all required permits before beginning work.
24. The City, at its sole discretion and at future date not yet determined, may impose additional and continuing fees as prescribed in the Master Fee Schedule for use and occupancy of the public right-of-way.

EXHIBIT B

Description of the Private Property Abutting the Encroachment

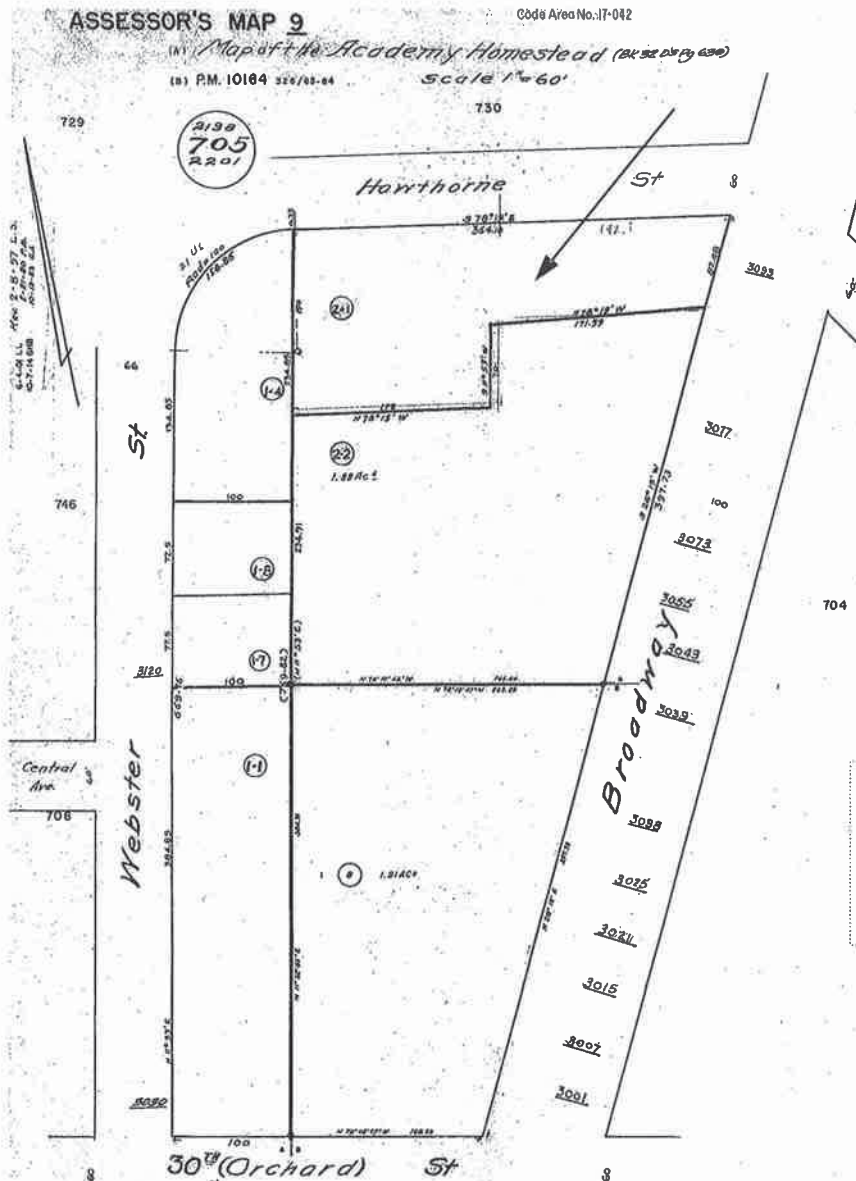
address 3093 Broadway

parcel no. 009 -0705-002-01

deed no. 2015-007981

recorded January 13, 2015

Beginning at the intersection of the Northwestern line of Broadway with the Southwestern line of Hawthorne Avenue; and running thence along said line of Broadway, South 26° 15' West, 82.63 feet; thence North 78° 15' West, 171.59 feet; thence South 11° 53' West, 70 feet; thence North 78° 15' West, 172 feet to a line drawn parallel with the Southeastern line of Webster Street; and distant at right angles 100 feet Southeasterly therefrom; thence along the line so drawn and the direct extension thereof; North 11° 53' East, 150 feet to said line of Hawthorne Avenue; and thence along the last named line, South 78° 15' East, 364.10 feet to the point of beginning.



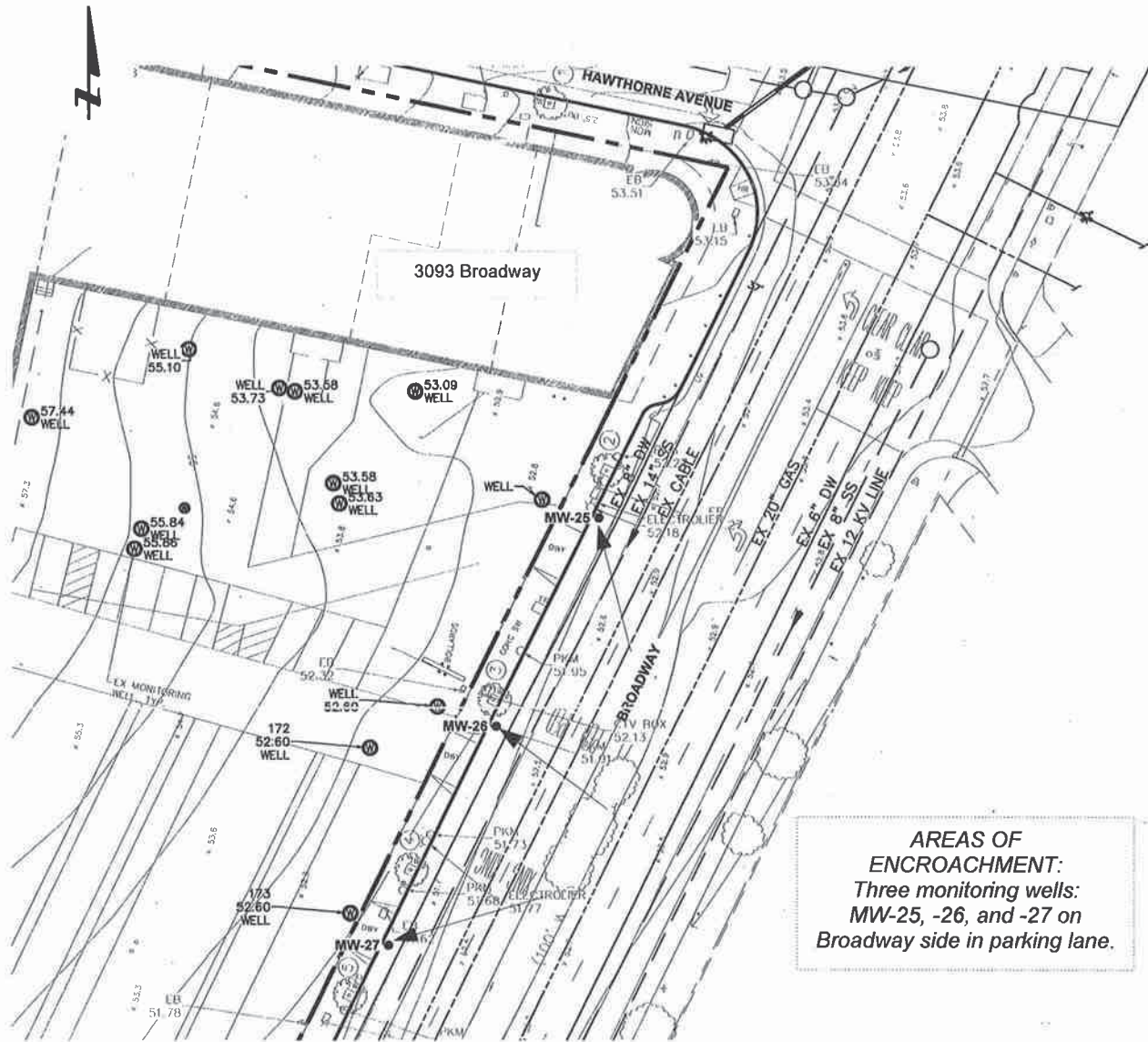
A more legible copy is available at the Office of the City Engineer, City of Oakland, 250 Frank Ogawa Plaza, 2nd floor.

EXHIBIT C

Limits Of The Encroachment In The Public Right-Of-Way

address 3093 Broadway

parcel no. 009 -0705-002-01



A more legible copy is available at the Office of the City Engineer, City of Oakland, 250 Frank Ogawa Plaza, 2nd floor.

LEGEND

- MW-25 ●** Approximate location proposed monitoring well (8" diameter well cover, 2" diameter well)
- ⊙** Existing monitoring well
- ▬** Building line
- - -** Property line
- Curb

APPENDIX B
BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

PROJECT:

3093 BROADWAY
Oakland, California

Log of Boring MW-25

PAGE 1 OF 2

Boring location: Along Broadway

Logged by: Adrian Angel

Date started: 6/15/15

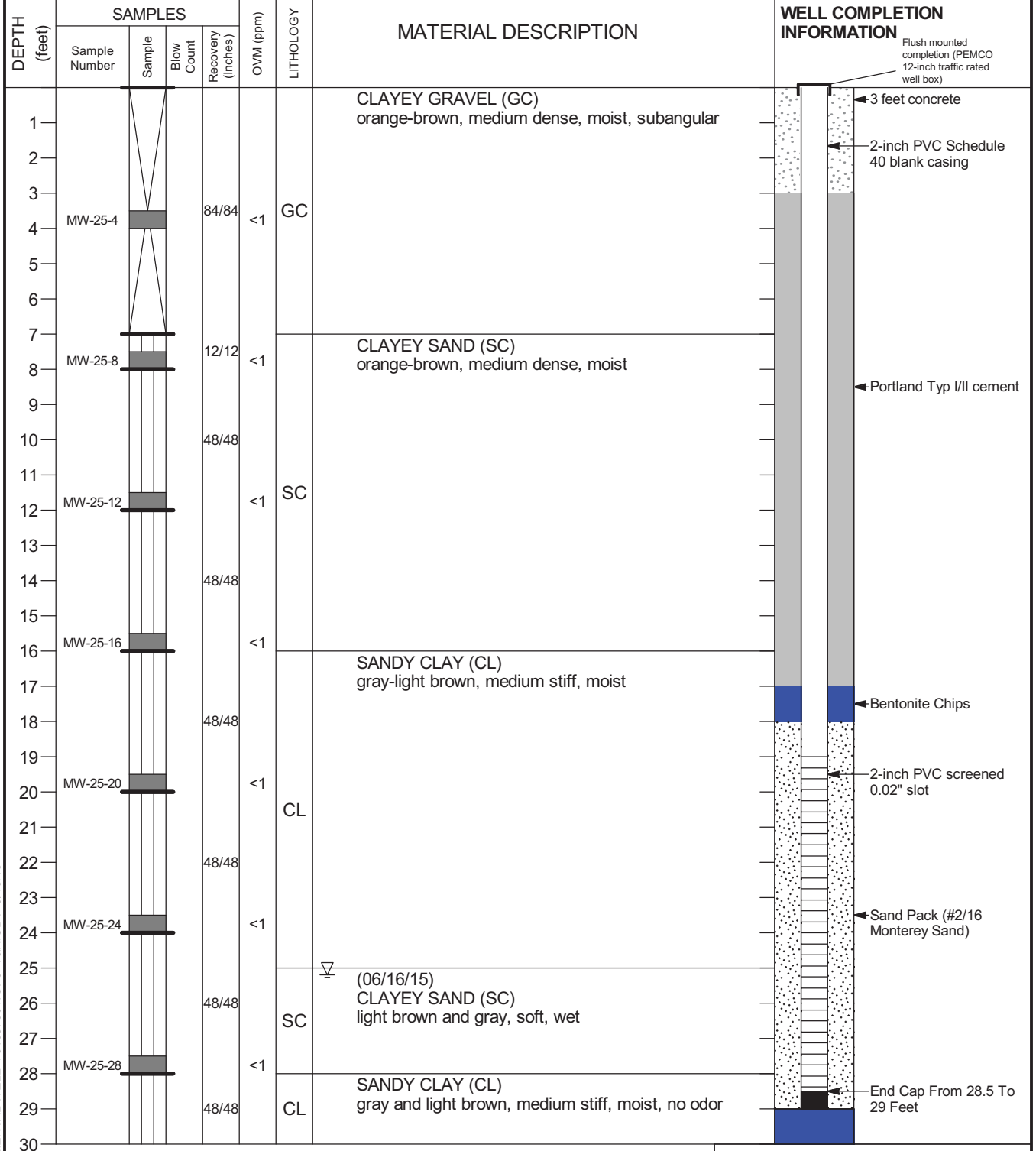
Date finished: 6/15/15

Drilling method: Direct Push

Hammer weight/drop: NA

Hammer type: Pneumatic

Sampler: 2.25" Dual Tube



TEST ENVIRONMENTAL WELL 731637001.GPJ T&R.GDT 9/15/15

PROJECT:

3093 BROADWAY
Oakland, California

Log of Boring MW-25

PAGE 2 OF 2

DEPTH (feet)	SAMPLES				OVM (ppm)	LITHOLOGY	MATERIAL DESCRIPTION	WELL COMPLETION INFORMATION
	Sample Number	Sample	Blow Count	Recovery (Inches)				
31	MW-25-32			48/48	<1	CL		← Bentonite Pellets
32				GC		CLAYEY GRAVEL (GC) gray and light brown, dense to medium dense, wet		
33				CL		SILTY CLAY (CL) light brown, stiff, moist, medium plasticity		
34				24/24				
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
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TEST ENVIRONMENTAL WELL 731637001.GPJ T&R.GDT 9/15/15

Boring terminated at a depth of 34 feet.
Boring completed with well installation using 8-inch hollow stem augers.
Well head set in concrete.
Groundwater encountered at 25.2 feet below ground surface during drilling.
Expansive clays.

LANGAN TREADWELL ROLLO

Project No.: 731637001	Figure: A-1b
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PROJECT:

3093 BROADWAY
Oakland, California

Log of Boring MW-26

PAGE 1 OF 1

Boring location: Along Broadway

Logged by: Adrian Angel

Date started: 6/15/15

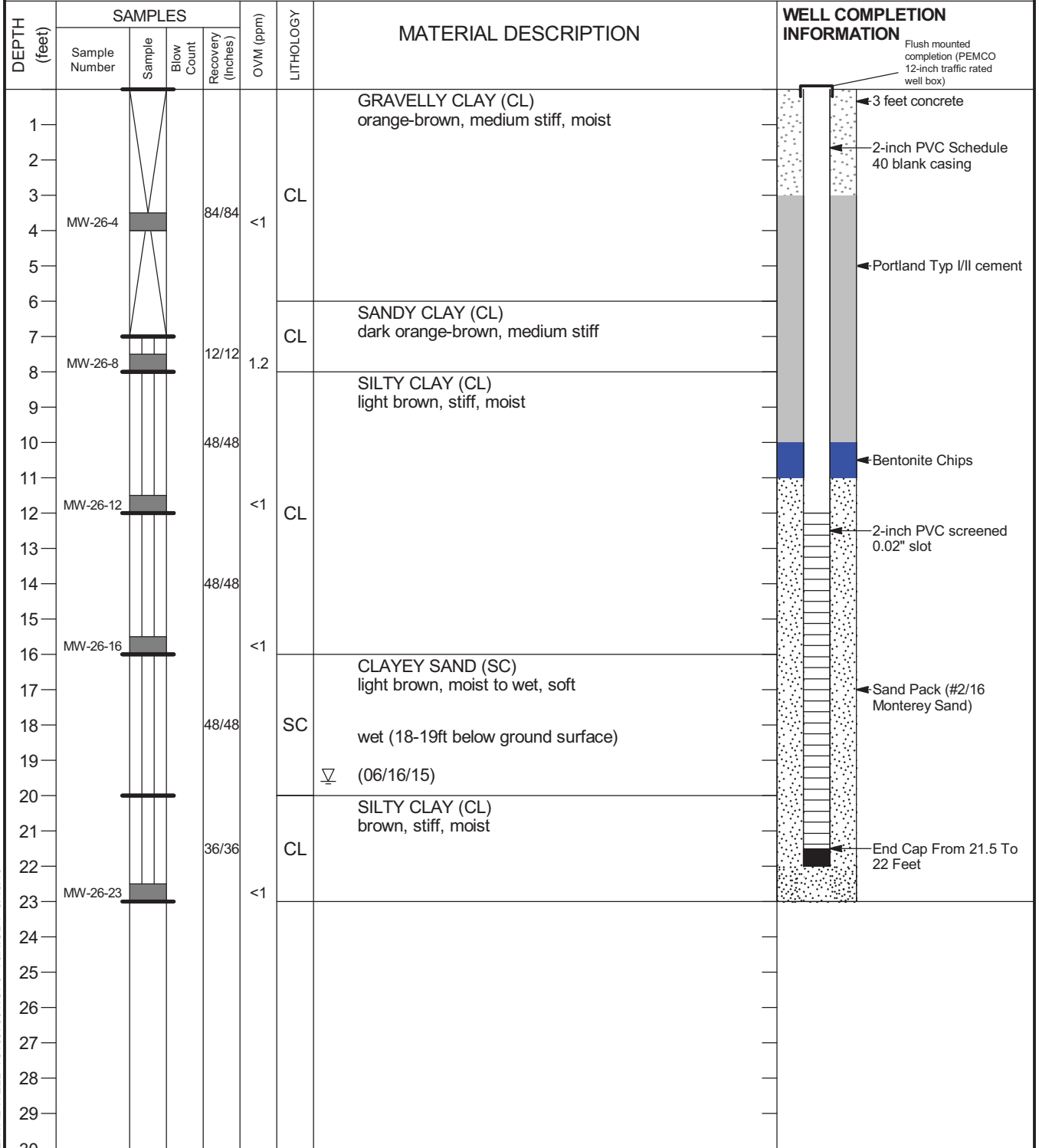
Date finished: 6/15/15

Drilling method: Direct Push

Hammer weight/drop: NA

Hammer type: Pneumatic

Sampler: 2.25" Dual Tube



TEST ENVIRONMENTAL WELL 731637001.GPJ T&R.GDT 9/15/15

Boring terminated at a depth of 23 feet.
Soil samples collected using dual-tube direct push system.
Well head set in concrete.
Boring completed with well installation using 8-inch hollow stem augers.
Groundwater encountered at 19.6 feet below ground surface during drilling.
Expansive clays.

LANGAN TREADWELL ROLLO

Project No.: 731637001 Figure: A-2

PROJECT:

3093 BROADWAY
Oakland, California

Log of Boring MW-27

PAGE 1 OF 1

Boring location: Along Broadway

Logged by: Adrian Angel

Date started: 6/16/15

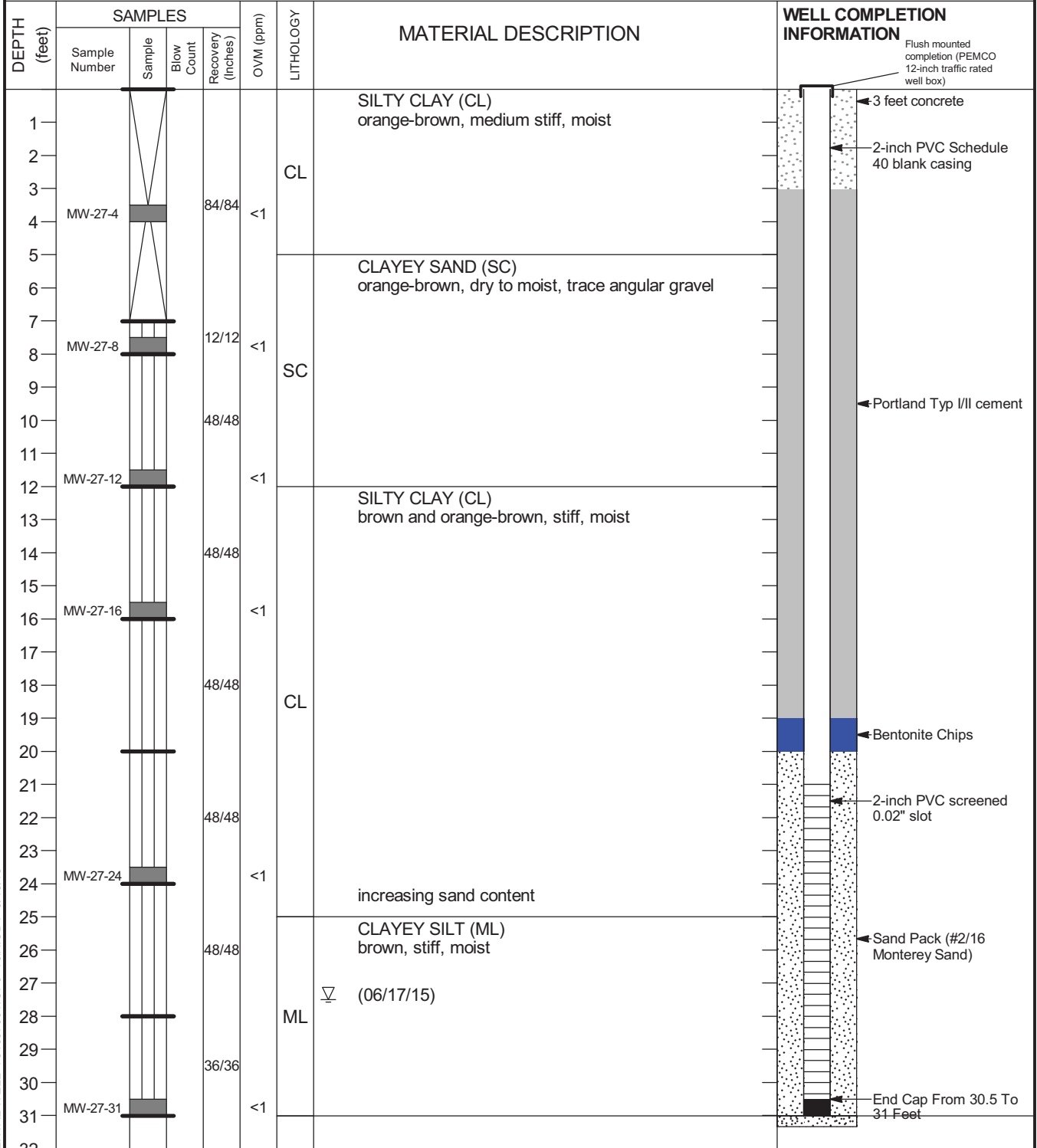
Date finished: 6/16/15

Drilling method: Direct Push

Hammer weight/drop: NA

Hammer type: Pneumatic

Sampler: 2.25" Dual Tube



TEST ENVIRONMENTAL WELL 731637001.GPJ T&R.GDT 9/15/15

Boring terminated at a depth of 31 feet.
Soil samples collected using dual-tube direct push system.
Well head set in concrete.
Boring completed with well installation using 8-inch hollow stem augers.
Groundwater encountered at 27.5 feet below ground surface during drilling.
Expansive clays.

LANGAN TREADWELL ROLLO

Project No.: 731637001 Figure: A-3

APPENDIX C
LABORATORY ANALYTICAL REPORTS



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1506A40

Report Created for: Treadwell & Rollo

4030 Moorpark Ave Ste 210
San Jose, CA 95117

Project Contact: Adrian Angel

Project P.O.:

Project Name: #731637001; Connell Auto

Project Received: 06/24/2015

Analytical Report reviewed & approved for release on 07/01/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
WorkOrder: 1506A40

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

S	spike recovery outside accepted recovery limits
c1	surrogate recovery outside of the control limits due to the dilution of the sample.
c11	The surrogate recovery is above the upper control limit. The target analyte(s) were Not Detected (ND); therefore, the data has been reported.
d1	weakly modified or unmodified gasoline is significant
e8	kerosene/kerosene range/jet fuel range



Glossary of Terms & Qualifier Definitions

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
WorkOrder: 1506A40

Quality Control Qualifiers

F1 MS/MSD recovery and/or RPD was out of acceptance criteria; LCS validated the prep batch.



Case Narrative

Client: Treadwell & Rollo
Project: #731637001; Connell Auto

Work Order: 1506A40
July 06, 2015

Hydrogen Sulfide results:

Based on the results of the Sulfide data it is assumed that the Hydrogent Sulfide Concentration is as follows:

1506A40-002E (Client ID: MW-25): ND<0.050mg/L

1506A40-003E (Client ID: MW-26): ND<0.050mg/L

1506A40-004E (Client ID: MW-27): ND<0.050mg/L



Analytical Report

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
Date Received: 6/24/15 16:15
Date Prepared: 6/26/15

WorkOrder: 1506A40
Extraction Method: E300.1
Analytical Method: E300.1
Unit: mg/L

Inorganic Anions by IC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1506A40-002D	Water	06/23/2015 13:30	IC1	106774

Analytes	Result	RL	DF	Date Analyzed
Sulfate	31	2.0	20	06/26/2015 13:00

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Formate	55	S	90-115	06/26/2015 13:00

Analyst(s): TD **Analytical Comments:** c1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1506A40-003D	Water	06/23/2015 13:30	IC1	106774

Analytes	Result	RL	DF	Date Analyzed
Sulfate	130	10	100	06/26/2015 13:27

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Formate	0	S	90-115	06/26/2015 13:27

Analyst(s): TD **Analytical Comments:** c1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1506A40-004D	Water	06/23/2015 13:30	IC1	106774

Analytes	Result	RL	DF	Date Analyzed
Sulfate	38	2.0	20	06/26/2015 13:54

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Formate	58	S	90-115	06/26/2015 13:54

Analyst(s): TD **Analytical Comments:** c1



Analytical Report

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
Date Received: 6/24/15 16:15
Date Prepared: 6/28/15

WorkOrder: 1506A40
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
TB-1	1506A40-001B	Water	06/23/2015 13:30	GC28	106948

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	06/28/2015 11:15
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	06/28/2015 11:15
Ethylbenzene	ND	0.50	1	06/28/2015 11:15
Methyl-t-butyl ether (MTBE)	ND	0.50	1	06/28/2015 11:15
Naphthalene	ND	0.50	1	06/28/2015 11:15
Toluene	ND	0.50	1	06/28/2015 11:15
Xylenes, Total	ND	0.50	1	06/28/2015 11:15

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	104	70-130	06/28/2015 11:15
Toluene-d8	110	70-130	06/28/2015 11:15
4-BFB	106	70-130	06/28/2015 11:15

Analyst(s): KBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1506A40-002B	Water	06/23/2015 13:30	GC28	106948

Analytes	Result	RL	DF	Date Analyzed
Benzene	61	1.7	3.3	06/28/2015 11:52
1,2-Dichloroethane (1,2-DCA)	4.6	1.7	3.3	06/28/2015 11:52
Ethylbenzene	ND	1.7	3.3	06/28/2015 11:52
Methyl-t-butyl ether (MTBE)	ND	1.7	3.3	06/28/2015 11:52
Naphthalene	2.7	1.7	3.3	06/28/2015 11:52
Toluene	ND	1.7	3.3	06/28/2015 11:52
Xylenes, Total	ND	1.7	3.3	06/28/2015 11:52

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	104	70-130	06/28/2015 11:52
Toluene-d8	111	70-130	06/28/2015 11:52
4-BFB	108	70-130	06/28/2015 11:52

Analyst(s): KBO

(Cont.)



Analytical Report

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
Date Received: 6/24/15 16:15
Date Prepared: 6/28/15

WorkOrder: 1506A40
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1506A40-003B	Water	06/23/2015 13:30	GC28	106948

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	06/28/2015 12:30
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	06/28/2015 12:30
Ethylbenzene	ND	0.50	1	06/28/2015 12:30
Methyl-t-butyl ether (MTBE)	ND	0.50	1	06/28/2015 12:30
Naphthalene	ND	0.50	1	06/28/2015 12:30
Toluene	ND	0.50	1	06/28/2015 12:30
Xylenes, Total	ND	0.50	1	06/28/2015 12:30

Surrogates	REC (%)	Qualifiers	Limits	Date Analyzed
Dibromofluoromethane	140	S	70-130	06/28/2015 12:30
Toluene-d8	108		70-130	06/28/2015 12:30
4-BFB	104		70-130	06/28/2015 12:30

Analyst(s): KBO

Analytical Comments: c11

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1506A40-004B	Water	06/23/2015 13:30	GC28	106948

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	06/28/2015 13:08
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	06/28/2015 13:08
Ethylbenzene	ND	0.50	1	06/28/2015 13:08
Methyl-t-butyl ether (MTBE)	ND	0.50	1	06/28/2015 13:08
Naphthalene	ND	0.50	1	06/28/2015 13:08
Toluene	ND	0.50	1	06/28/2015 13:08
Xylenes, Total	ND	0.50	1	06/28/2015 13:08

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	105	70-130	06/28/2015 13:08
Toluene-d8	109	70-130	06/28/2015 13:08
4-BFB	104	70-130	06/28/2015 13:08

Analyst(s): KBO



Analytical Report

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
Date Received: 6/24/15 16:15
Date Prepared: 6/26/15-6/27/15

WorkOrder: 1506A40
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
TB-1	1506A40-001A	Water	06/23/2015 13:30	GC7	106890

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	06/26/2015 18:17
MTBE	---	5.0	1	06/26/2015 18:17
Benzene	---	0.50	1	06/26/2015 18:17
Toluene	---	0.50	1	06/26/2015 18:17
Ethylbenzene	---	0.50	1	06/26/2015 18:17
Xylenes	---	0.50	1	06/26/2015 18:17
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	99	70-130		06/26/2015 18:17

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1506A40-002A	Water	06/23/2015 13:30	GC3	106922

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	350	50	1	06/27/2015 05:34
MTBE	---	5.0	1	06/27/2015 05:34
Benzene	---	0.50	1	06/27/2015 05:34
Toluene	---	0.50	1	06/27/2015 05:34
Ethylbenzene	---	0.50	1	06/27/2015 05:34
Xylenes	---	0.50	1	06/27/2015 05:34
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	120	70-130		06/27/2015 05:34

Analyst(s): IA

Analytical Comments: d1



Analytical Report

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
Date Received: 6/24/15 16:15
Date Prepared: 6/26/15-6/27/15

WorkOrder: 1506A40
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1506A40-003A	Water	06/23/2015 13:30	GC3	106922

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	06/27/2015 06:04
MTBE	---	5.0	1	06/27/2015 06:04
Benzene	---	0.50	1	06/27/2015 06:04
Toluene	---	0.50	1	06/27/2015 06:04
Ethylbenzene	---	0.50	1	06/27/2015 06:04
Xylenes	---	0.50	1	06/27/2015 06:04

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	108	70-130	06/27/2015 06:04

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1506A40-004A	Water	06/23/2015 13:30	GC3	106922

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	06/27/2015 06:33
MTBE	---	5.0	1	06/27/2015 06:33
Benzene	---	0.50	1	06/27/2015 06:33
Toluene	---	0.50	1	06/27/2015 06:33
Ethylbenzene	---	0.50	1	06/27/2015 06:33
Xylenes	---	0.50	1	06/27/2015 06:33

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	109	70-130	06/27/2015 06:33

Analyst(s): IA



Analytical Report

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
Date Received: 6/24/15 16:15
Date Prepared: 6/24/15

WorkOrder: 1506A40
Extraction Method: SM4500-S⁻² D-2000
Analytical Method: SM4500-S⁻² D-2000
Unit: mg/L

Sulfide

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1506A40-002E	Water	06/23/2015 13:30	SPECTROPHOTOMETER	106758

Analytes	Result	RL	DF	Date Analyzed
Sulfide	ND	0.050	1	06/24/2015 17:50

Analyst(s): RB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1506A40-003E	Water	06/23/2015 13:30	SPECTROPHOTOMETER	106758

Analytes	Result	RL	DF	Date Analyzed
Sulfide	ND	0.050	1	06/24/2015 18:05

Analyst(s): RB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1506A40-004E	Water	06/23/2015 13:30	SPECTROPHOTOMETER	106758

Analytes	Result	RL	DF	Date Analyzed
Sulfide	ND	0.050	1	06/24/2015 18:10

Analyst(s): RB



Analytical Report

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
Date Received: 6/24/15 16:15
Date Prepared: 6/25/15

WorkOrder: 1506A40
Extraction Method: SM4500 SO3-2 B-2000
Analytical Method: SM4500 SO3-2 B-2000
Unit: mg/L

Sulfite

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1506A40-002F	Water	06/23/2015 13:30	WetChem	106801

Analytes	Result	RL	DF	Date Analyzed
Sulfite	ND	2.0	1	06/25/2015 09:05

Analyst(s): JS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1506A40-003F	Water	06/23/2015 13:30	WetChem	106801

Analytes	Result	RL	DF	Date Analyzed
Sulfite	ND	2.0	1	06/25/2015 09:15

Analyst(s): JS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1506A40-004F	Water	06/23/2015 13:30	WetChem	106801

Analytes	Result	RL	DF	Date Analyzed
Sulfite	ND	2.0	1	06/25/2015 09:25

Analyst(s): JS



Analytical Report

Client: Treadwell & Rollo
Project: #731637001; Connell Auto
Date Received: 6/24/15 16:15
Date Prepared: 6/24/15

WorkOrder: 1506A40
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1506A40-002C	Water	06/23/2015 13:30	GC2B	106749

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	84	50	1	06/26/2015 11:26

Surrogates	REC (%)	Limits	Date Analyzed
C9	81	70-130	06/26/2015 11:26

Analyst(s): TK **Analytical Comments:** e8

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1506A40-003C	Water	06/23/2015 13:30	GC2B	106749

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	06/26/2015 12:42

Surrogates	REC (%)	Limits	Date Analyzed
C9	82	70-130	06/26/2015 12:42

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1506A40-004C	Water	06/23/2015 13:30	GC2B	106749

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	06/26/2015 13:59

Surrogates	REC (%)	Limits	Date Analyzed
C9	80	70-130	06/26/2015 13:59

Analyst(s): TK



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/24/15
Date Analyzed: 6/25/15
Instrument: IC3
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106774
Extraction Method: E300.1
Analytical Method: E300.1
Unit: mg/L
Sample ID: MB/LCS-106774
 1506A40-002DMS/MSD

QC Summary Report for E300.1

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Sulfate	ND	0.871	0.10	1	-	87	85-115

Surrogate Recovery

Formate	0.101	0.0974		0.10	101	97	90-115
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Sulfate	NR	NR	1	31.49	NR	NR	85-115	NR	15

Surrogate Recovery

Formate	0.0965	0.0977	0.10		96	98	90-115	1.24	10
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Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/28/15
Date Analyzed: 6/28/15
Instrument: GC28
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106948
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-106948
 1506A40-004BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	10.2	0.50	10	-	102	54-140
Benzene	ND	10.6	0.50	10	-	106	47-158
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	35.8	2.0	40	-	90	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	10.4	0.50	10	-	104	43-157
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	9.68	0.50	10	-	97	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	10.1	0.50	10	-	101	66-125
1,1-Dichloroethene	ND	10.5	0.50	10	-	105	47-149
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/28/15
Date Analyzed: 6/28/15
Instrument: GC28
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106948
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-106948
 1506A40-004BMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Diisopropyl ether (DIPE)	ND	10.4	0.50	10	-	104	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	9.57	0.50	10	-	96	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	9.74	0.50	10	-	97	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	10.6	0.50	10	-	107	52-137
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	10.2	0.50	10	-	102	43-157
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

Surrogate Recovery

Dibromofluoromethane	25.1	26.2		25	100	105	70-130
Toluene-d8	27.2	27.6		25	109	111	70-130
4-BFB	2.99	2.71		2.5	119	108	70-130

(Cont.)



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/28/15
Date Analyzed: 6/28/15
Instrument: GC28
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106948
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-106948
 1506A40-004BMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	10.6	10.4	10	ND	106	104	69-139	1.58	20
Benzene	10.4	9.87	10	ND	104	99	69-141	4.85	20
t-Butyl alcohol (TBA)	38.0	38.5	40	ND	95	96	41-152	1.26	20
Chlorobenzene	10.7	10.2	10	ND	107	102	77-120	4.79	20
1,2-Dibromoethane (EDB)	11.3	11.1	10	ND	113	111	76-135	1.90	20
1,2-Dichloroethane (1,2-DCA)	9.32	9.05	10	ND	93	90	73-139	3.03	20
1,1-Dichloroethene	11.0	10.4	10	ND	110	103	59-140	6.30	20
Diisopropyl ether (DIPE)	10.0	9.61	10	ND	100	96	72-140	4.47	20
Ethyl tert-butyl ether (ETBE)	9.25	9.11	10	ND	93	91	71-140	1.55	20
Methyl-t-butyl ether (MTBE)	10.2	9.87	10	ND	102	99	73-139	2.80	20
Toluene	10.9	10.2	10	ND	109	102	71-128	7.42	20
Trichloroethene	11.2	10.6	10	ND	112	106	64-132	5.31	20
Surrogate Recovery									
Dibromofluoromethane	25.9	26.4	25		104	106	70-130	1.73	20
Toluene-d8	27.0	26.8	25		108	107	70-130	0.640	20
4-BFB	3.06	3.06	2.5		122	123	70-130	0.0084	20



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/26/15
Date Analyzed: 6/26/15
Instrument: GC7
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106890
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-106890
 1506949-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	53.2	40	60	-	89	70-130
MTBE	ND	12.5	5.0	10	-	125	70-130
Benzene	ND	11.3	0.50	10	-	113	70-130
Toluene	ND	11.3	0.50	10	-	113	70-130
Ethylbenzene	ND	11.4	0.50	10	-	114	70-130
Xylenes	ND	35.4	0.50	30	-	118	70-130

Surrogate Recovery

aaa-TFT	10.1	9.92		10	101	99	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		750	NR	NR	-	NR	
MTBE	NR	NR		ND<50	NR	NR	-	NR	
Benzene	NR	NR		15	NR	NR	-	NR	
Toluene	NR	NR		37	NR	NR	-	NR	
Ethylbenzene	NR	NR		420	NR	NR	-	NR	
Xylenes	NR	NR		200	NR	NR	-	NR	

Surrogate Recovery

aaa-TFT	NR	NR			NR	NR	-	NR	
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Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/26/15
Date Analyzed: 6/26/15
Instrument: GC3
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106922
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-106922
 1506987-003AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	69.3	40	60	-	115	70-130
MTBE	ND	11.9	5.0	10	-	111	70-130
Benzene	ND	10.9	0.50	10	-	108	70-130
Toluene	ND	10.8	0.50	10	-	106	70-130
Ethylbenzene	ND	10.8	0.50	10	-	106	70-130
Xylenes	0.566	32.7	0.50	30	-	107	70-130

Surrogate Recovery

aaa-TFT	10.7	10.6		10	107	105	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	57.9	54.1	60	ND	96	90	70-130	6.73	20
MTBE	11.5	9.89	10	ND	115	99	70-130	14.9	20
Benzene	11.5	10.5	10	ND	114	104	70-130	9.48	20
Toluene	11.6	10.5	10	ND	113	103	70-130	9.89	20
Ethylbenzene	11.4	10.4	10	ND	113	102	70-130	9.57	20
Xylenes	34.8	31.5	30	ND	114	103	70-130	9.78	20

Surrogate Recovery

aaa-TFT	10.6	10.5	10		106	105	70-130	0.938	20
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Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/24/15
Date Analyzed: 6/24/15
Instrument: SPECTROPHOTOMETER
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106758
Extraction Method: SM4500-S⁻² D-2000
Analytical Method: SM4500-S⁻² D-2000
Unit: mg/L
Sample ID: MB/LCS-106758
 1506A40-002EMS/MSD

QC Summary Report For SM4500S2D

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Sulfide	ND	2.47	0.050	2.5	-	99	80-120

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Sulfide	2.23	2.11	2.5	ND	89	85	75-125	5.27	20



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/25/15
Date Analyzed: 6/25/15
Instrument: WetChem
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106801
Extraction Method: SM4500 SO3-2 B-2000
Analytical Method: SM4500 SO3-2 B-2000
Unit: mg/L
Sample ID: MB/LCS-106801
 1506A40-004FMS/MSD

QC Summary Report For SM4500 SO3-2 B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Sulfite	ND	92.0	2.0	100	-	92	80-120

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Sulfite	33.0	34.0	20	ND	165,F1	170,F1	75-125	2.99	0



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 6/24/15
Date Analyzed: 6/24/15
Instrument: GC2A, GC2B
Matrix: Water
Project: #731637001; Connell Auto

WorkOrder: 1506A40
BatchID: 106749
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-106749

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1300	50	1000	-	130	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	521	588		625	83	94	70-134



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1506A40

ClientCode: TRSJ

WaterTrax
 WriteOn
 EDF
 Excel
 EQuIS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
 Adrian Angel
 Treadwell & Rollo
 4030 Moorpark Ave Ste 210
 San Jose, CA 95117
 (408) 551-6700 FAX:

Email: aangel@langan.com
 cc/3rd Party:
 PO:
 ProjectNo: #731637001; Connell Auto

Bill to:
 Accounts Payable
 Treadwell & Rollo
 555 Montgomery St., Suite 1300
 San Francisco, CA 94111
 Langan_InvoiceCapture@concur.solutio

Requested TAT: 5 days

Date Received: 06/24/2015
Date Printed: 07/06/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1506A40-001	TB-1	Water	6/23/2015 13:30	<input type="checkbox"/>		B	A		A								
1506A40-002	MW-25	Water	6/23/2015 13:30	<input type="checkbox"/>	D	B	A	G		E	F	C					
1506A40-003	MW-26	Water	6/23/2015 13:30	<input type="checkbox"/>	D	B	A	G		E	F	C					
1506A40-004	MW-27	Water	6/23/2015 13:30	<input type="checkbox"/>	D	B	A	G		E	F	C					

Test Legend:

1	300_1_W	2	8260VOC_W	3	G-MBTEX_W	4	H2S_W	5	PREFDF REPORT
6	SULFIDE_W	7	SULFITE_4500SO3B_W	8	TPH(D)_W	9		10	
11		12							

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: TREADWELL & ROLLO

QC Level: LEVEL 2

Work Order: 1506A40

Project: #731637001; Connell Auto

Client Contact: Adrian Angel

Date Received: 6/24/2015

Comments:

Contact's Email: aangel@langan.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506A40-001A	TB-1	Water	SW8021B/8015Bm (G/MBTEX)	1	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-001B	TB-1	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, Toluene, Xylenes, Total>	1	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-002A	MW-25	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-002B	MW-25	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-002C	MW-25	Water	SW8015B (Diesel)	2	aVOA	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-002D	MW-25	Water	E300.1 (Inorganic Anions) <Sulfate>	1	125mL HDPE, unprsv.	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-002E	MW-25	Water	SM4500S2D (Sulfide)	1	250mL HDPE w/ NaOH+ZnAc	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-002F	MW-25	Water	SM4500 SO3-2 B (Sulfite)	1	125mL HDPE w/ MAI Presv.	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-002G	MW-25	Water	SM4500S2D Sulfides	1	250mL HDPE w/ NaOH+ZnAc	<input type="checkbox"/>	6/23/2015 13:30	5 days	None	<input type="checkbox"/>	
1506A40-003A	MW-26	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:30	5 days	Present	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: TREADWELL & ROLLO

QC Level: LEVEL 2

Work Order: 1506A40

Project: #731637001; Connell Auto

Client Contact: Adrian Angel

Date Received: 6/24/2015

Comments:

Contact's Email: aangel@langan.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506A40-003B	MW-26	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:30	5 days	Present	<input type="checkbox"/>	
1506A40-003C	MW-26	Water	SW8015B (Diesel)	2	aVOA	<input type="checkbox"/>	6/23/2015 13:30	5 days	Present	<input type="checkbox"/>	
1506A40-003D	MW-26	Water	E300.1 (Inorganic Anions) <Sulfate>	1	125mL HDPE, unprsv.	<input type="checkbox"/>	6/23/2015 13:30	5 days	Present	<input type="checkbox"/>	
1506A40-003E	MW-26	Water	SM4500S2D (Sulfide)	1	250mL HDPE w/ NaOH+ZnAc	<input type="checkbox"/>	6/23/2015 13:30	5 days	Present	<input type="checkbox"/>	
1506A40-003F	MW-26	Water	SM4500 SO3-2 B (Sulfite)	1	125mL HDPE w/ MAI Presv.	<input type="checkbox"/>	6/23/2015 13:30	5 days	Present	<input type="checkbox"/>	
1506A40-003G	MW-26	Water	SM4500S2D Sulfides	1	250mL HDPE w/ NaOH+ZnAc	<input type="checkbox"/>	6/23/2015 13:30	5 days	Present	<input type="checkbox"/>	
1506A40-004A	MW-27	Water	SW8021B/8015Bm (G/MBTEX)	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:30	5 days	Trace	<input type="checkbox"/>	
1506A40-004B	MW-27	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Naphthalene, Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	6/23/2015 13:30	5 days	Trace	<input type="checkbox"/>	
1506A40-004C	MW-27	Water	SW8015B (Diesel)	2	aVOA	<input type="checkbox"/>	6/23/2015 13:30	5 days	Trace	<input type="checkbox"/>	
1506A40-004D	MW-27	Water	E300.1 (Inorganic Anions) <Sulfate>	1	125mL HDPE, unprsv.	<input type="checkbox"/>	6/23/2015 13:30	5 days	Trace	<input type="checkbox"/>	
1506A40-004E	MW-27	Water	SM4500S2D (Sulfide)	1	250mL HDPE w/ NaOH+ZnAc	<input type="checkbox"/>	6/23/2015 13:30	5 days	Trace	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: TREADWELL & ROLLO

QC Level: LEVEL 2

Work Order: 1506A40

Project: #731637001; Connell Auto

Client Contact: Adrian Angel

Date Received: 6/24/2015

Comments:

Contact's Email: aangel@langan.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1506A40-004F	MW-27	Water	SM4500 SO3-2 B (Sulfite)	1	125mL HDPE w/ MAI Presv.	<input type="checkbox"/>	6/23/2015 13:30	5 days	Trace	<input type="checkbox"/>	
1506A40-004G	MW-27	Water	SM4500S2D Sulfides	1	250mL HDPE w/ NaOH+ZnAc	<input type="checkbox"/>	6/23/2015 13:30	5 days	Trace	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

BLAINE

TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

1506A40

CONDUCT ANALYSIS TO DETECT

LAB McCampbell

DHS #

MUST MEET SPECIFICATIONS

- EPA
- LIA
- OTHER

RWQCB REGION _____

CHAIN OF CUSTODY

BTS # 1506 23-6122

CLIENT

Treadwell & Rollo

SITE

Connell Auto

3093 Broadway

Oakland, CA

SPECIAL INSTRUCTIONS

Invoice and Report to: Adrian Angel

Treadwell & Rollo - San Jose Office

415.955.5227

Project No: 731637001

aangel@langan.com

EDF Required

SAMPLE I.D.	DATE	TIME	MATRIX		CONTAINERS		TPH-g (8015)	TPH-d (8015)	BTEX, MTBE, 1,2-DCA, Naphthalene (8260B)	Sulfate (E300.1)	Sulfite (SM4500 SO3-2), Sulfide (SM4500 S-2D)	Dissolved Hydrogen Sulfide Gas	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
			S = Soil	W = H2O	TOTAL											
TB-1	6/23/15	1330	W		2	HCL Vacus	X		X							
MW-25	↓		W		10	mixed	X	X	X	X	X	X				
MW-26	↓		W		10	↓	X	X	X	X	X	X				
MW-27	↓		W		10	↓	X	X	X	X	X	X				

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED
	6/23/15	1620	Gregory Roberts	NO LATER THAN Standard

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	6/23/15	1800	(Sample Custodian)	6/23/2015	1800

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
(BTS) S.C.	6/24/15	1245		6/24/15	1245

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	6/24/15	1520		6/24/15	1520

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #



Sample Receipt Checklist

Client Name: **Treadwell & Rollo** Date and Time Received: **6/24/2015 4:15:14 PM**
 Project Name: **#731637001; Connell Auto** LogIn Reviewed by: **Jena Alfaro**
 WorkOrder №: **1506A40** Matrix: Water Carrier: Benjamin Yslas (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present? Yes No
 Chain of custody signed when relinquished and received? Yes No
 Chain of custody agrees with sample labels? Yes No
 Sample IDs noted by Client on COC? Yes No
 Date and Time of collection noted by Client on COC? Yes No
 Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
 Shipping container/cooler in good condition? Yes No
 Samples in proper containers/bottles? Yes No
 Sample containers intact? Yes No
 Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: 2°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

* NOTE: If the "No" box is checked, see comments below.

Comments: Method SM4500 SO3-2 B (Sulfite) was received passed its 0.01-day holding time.



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1508572

Report Created for: Treadwell & Rollo

555 Montgomery St., Suite 1300
San Francisco, CA 94111

Project Contact: Annie Lee

Project P.O.:

Project Name: 731637001

Project Received: 08/17/2015

Analytical Report reviewed & approved for release on 08/24/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Treadwell & Rollo
Project: 731637001
WorkOrder: 1508572

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

a1	sample diluted due to matrix interference
d1	weakly modified or unmodified gasoline is significant
e2	diesel range compounds are significant; no recognizable pattern
e3	aged diesel is significant
e4	gasoline range compounds are significant.
e7	oil range compounds are significant



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/18/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: E300.1
Analytical Method: E300.1
Unit: mg/L

Sulfite by IC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001C	Water	08/17/2015 13:25	IC1	109094

Analytes	Result	RL	DF	Date Analyzed
Sulfite	ND	10	100	08/18/2015 15:12

Analyst(s): TD

Analytical Comments: a1



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/18/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: E300.1
Analytical Method: E300.1
Unit: mg/L

Inorganic Anions by IC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001A	Water	08/17/2015 13:25	IC3	109035
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Nitrate as N	ND		0.10	1	08/18/2015 11:41
Nitrate as NO ₃ ⁻	ND		0.45	1	08/18/2015 11:41
Nitrite as N	ND		0.10	1	08/18/2015 11:41
Nitrite as NO ₂ ⁻	ND		0.33	1	08/18/2015 11:41
Nitrate & Nitrite as N	ND		0.20	1	08/18/2015 11:41
Sulfate	210		10	100	08/18/2015 19:22
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Formate	97		90-115		08/18/2015 11:41
<u>Analyst(s):</u>	TD				



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/19/15-8/20/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001H	Water	08/17/2015 13:25	GC28	109224

Analytes	Result	RL	DF	Date Analyzed
Benzene	3300	250	500	08/19/2015 21:59
1,2-Dichloroethane (1,2-DCA)	ND	250	500	08/19/2015 21:59
Ethylbenzene	ND	250	500	08/19/2015 21:59
Methyl-t-butyl ether (MTBE)	ND	250	500	08/19/2015 21:59
Toluene	1100	250	500	08/19/2015 21:59
Xylenes, Total	ND	250	500	08/19/2015 21:59

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	101	70-130	08/19/2015 21:59
Toluene-d8	96	70-130	08/19/2015 21:59
4-BFB	110	70-130	08/19/2015 21:59

Analyst(s): KBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1508572-002B	Water	08/17/2015 12:25	GC28	109224

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	08/19/2015 22:36
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/19/2015 22:36
Ethylbenzene	ND	0.50	1	08/19/2015 22:36
Methyl-t-butyl ether (MTBE)	ND	0.50	1	08/19/2015 22:36
Toluene	ND	0.50	1	08/19/2015 22:36
Xylenes, Total	ND	0.50	1	08/19/2015 22:36

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	101	70-130	08/19/2015 22:36
Toluene-d8	99	70-130	08/19/2015 22:36
4-BFB	109	70-130	08/19/2015 22:36

Analyst(s): KBO

(Cont.)



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/19/15-8/20/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-13	1508572-003B	Water	08/17/2015 09:10	GC28	109224

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	08/19/2015 23:14
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/19/2015 23:14
Ethylbenzene	ND	0.50	1	08/19/2015 23:14
Methyl-t-butyl ether (MTBE)	ND	0.50	1	08/19/2015 23:14
Toluene	ND	0.50	1	08/19/2015 23:14
Xylenes, Total	ND	0.50	1	08/19/2015 23:14

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	101	70-130	08/19/2015 23:14
Toluene-d8	99	70-130	08/19/2015 23:14
4-BFB	111	70-130	08/19/2015 23:14

Analyst(s): KBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1508572-004B	Water	08/17/2015 10:10	GC28	109224

Analytes	Result	RL	DF	Date Analyzed
Benzene	37	1.0	2	08/20/2015 14:55
1,2-Dichloroethane (1,2-DCA)	4.1	1.0	2	08/20/2015 14:55
Ethylbenzene	3.7	1.0	2	08/20/2015 14:55
Methyl-t-butyl ether (MTBE)	ND	1.0	2	08/20/2015 14:55
Toluene	ND	1.0	2	08/20/2015 14:55
Xylenes, Total	2.1	1.0	2	08/20/2015 14:55

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	98	70-130	08/20/2015 14:55
Toluene-d8	98	70-130	08/20/2015 14:55
4-BFB	112	70-130	08/20/2015 14:55

Analyst(s): KF

(Cont.)



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/19/15-8/20/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1508572-005B	Water	08/17/2015 10:55	GC28	109224

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	08/20/2015 00:30
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/20/2015 00:30
Ethylbenzene	ND	0.50	1	08/20/2015 00:30
Methyl-t-butyl ether (MTBE)	ND	0.50	1	08/20/2015 00:30
Toluene	ND	0.50	1	08/20/2015 00:30
Xylenes, Total	ND	0.50	1	08/20/2015 00:30

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	102	70-130	08/20/2015 00:30
Toluene-d8	98	70-130	08/20/2015 00:30
4-BFB	111	70-130	08/20/2015 00:30

Analyst(s): KBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1508572-006B	Water	08/17/2015 11:40	GC28	109224

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	08/20/2015 01:08
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/20/2015 01:08
Ethylbenzene	ND	0.50	1	08/20/2015 01:08
Methyl-t-butyl ether (MTBE)	ND	0.50	1	08/20/2015 01:08
Toluene	ND	0.50	1	08/20/2015 01:08
Xylenes, Total	ND	0.50	1	08/20/2015 01:08

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	101	70-130	08/20/2015 01:08
Toluene-d8	98	70-130	08/20/2015 01:08
4-BFB	110	70-130	08/20/2015 01:08

Analyst(s): KBO

(Cont.)



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/19/15-8/20/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L

Volatile Organics by P&T and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DUP-1	1508572-007B	Water	08/17/2015 09:15	GC28	109224

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	08/20/2015 01:46
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/20/2015 01:46
Ethylbenzene	ND	0.50	1	08/20/2015 01:46
Methyl-t-butyl ether (MTBE)	ND	0.50	1	08/20/2015 01:46
Toluene	ND	0.50	1	08/20/2015 01:46
Xylenes, Total	ND	0.50	1	08/20/2015 01:46

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	101	70-130	08/20/2015 01:46
Toluene-d8	98	70-130	08/20/2015 01:46
4-BFB	110	70-130	08/20/2015 01:46

Analyst(s): KBO

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Trip Blank	1508572-008A	Water	08/17/2015 12:12	GC28	109224

Analytes	Result	RL	DF	Date Analyzed
Benzene	ND	0.50	1	08/20/2015 02:23
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/20/2015 02:23
Ethylbenzene	ND	0.50	1	08/20/2015 02:23
Methyl-t-butyl ether (MTBE)	ND	0.50	1	08/20/2015 02:23
Toluene	ND	0.50	1	08/20/2015 02:23
Xylenes, Total	ND	0.50	1	08/20/2015 02:23

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	102	70-130	08/20/2015 02:23
Toluene-d8	97	70-130	08/20/2015 02:23
4-BFB	113	70-130	08/20/2015 02:23

Analyst(s): KBO



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/18/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SM2320 B-1997
Analytical Method: SM2320 B-1997
Unit: mg CaCO₃/L

Total & Speciated Alkalinity as Calcium Carbonate

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001F	Water	08/17/2015 13:25	Titrimo	109127

Analytes	Result	RL	DF	Date Analyzed
Total	562	1.00	1	08/18/2015 21:56
Carbonate	ND	1.00	1	08/18/2015 21:56
Bicarbonate	562	1.00	1	08/18/2015 21:56
Hydroxide	ND	1.00	1	08/18/2015 21:56

Analyst(s): RB



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/19/15-8/22/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001G	Water	08/17/2015 13:25	GC3	109336

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	37,000	5000	100	08/22/2015 01:41
MTBE	---	500	100	08/22/2015 01:41
Benzene	---	50	100	08/22/2015 01:41
Toluene	---	50	100	08/22/2015 01:41
Ethylbenzene	---	50	100	08/22/2015 01:41
Xylenes	---	50	100	08/22/2015 01:41

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	99	70-130	08/22/2015 01:41

Analyst(s): IA Analytical Comments: d1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1508572-002A	Water	08/17/2015 12:25	GC3	109336

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	08/22/2015 02:11
MTBE	---	5.0	1	08/22/2015 02:11
Benzene	---	0.50	1	08/22/2015 02:11
Toluene	---	0.50	1	08/22/2015 02:11
Ethylbenzene	---	0.50	1	08/22/2015 02:11
Xylenes	---	0.50	1	08/22/2015 02:11

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	103	70-130	08/22/2015 02:11

Analyst(s): IA



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/19/15-8/22/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-13	1508572-003A	Water	08/17/2015 09:10	GC3	109336

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	08/22/2015 02:41
MTBE	---	5.0	1	08/22/2015 02:41
Benzene	---	0.50	1	08/22/2015 02:41
Toluene	---	0.50	1	08/22/2015 02:41
Ethylbenzene	---	0.50	1	08/22/2015 02:41
Xylenes	---	0.50	1	08/22/2015 02:41
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	102	70-130		08/22/2015 02:41

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1508572-004A	Water	08/17/2015 10:10	GC3	109336

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	610	50	1	08/22/2015 04:11
MTBE	---	5.0	1	08/22/2015 04:11
Benzene	---	0.50	1	08/22/2015 04:11
Toluene	---	0.50	1	08/22/2015 04:11
Ethylbenzene	---	0.50	1	08/22/2015 04:11
Xylenes	---	0.50	1	08/22/2015 04:11
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	119	70-130		08/22/2015 04:11

Analyst(s): IA

Analytical Comments: d1



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/19/15-8/22/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1508572-005A	Water	08/17/2015 10:55	GC3	109336

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	08/22/2015 04:40
MTBE	---	5.0	1	08/22/2015 04:40
Benzene	---	0.50	1	08/22/2015 04:40
Toluene	---	0.50	1	08/22/2015 04:40
Ethylbenzene	---	0.50	1	08/22/2015 04:40
Xylenes	---	0.50	1	08/22/2015 04:40
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	102	70-130		08/22/2015 04:40

Analyst(s): IA

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1508572-006A	Water	08/17/2015 11:40	GC3	109336

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	08/22/2015 05:10
MTBE	---	5.0	1	08/22/2015 05:10
Benzene	---	0.50	1	08/22/2015 05:10
Toluene	---	0.50	1	08/22/2015 05:10
Ethylbenzene	---	0.50	1	08/22/2015 05:10
Xylenes	---	0.50	1	08/22/2015 05:10
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
aaa-TFT	102	70-130		08/22/2015 05:10

Analyst(s): IA

(Cont.)



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/19/15-8/22/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DUP-1	1508572-007A	Water	08/17/2015 09:15	GC3	109255

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	08/19/2015 21:08
MTBE	---	5.0	1	08/19/2015 21:08
Benzene	---	0.50	1	08/19/2015 21:08
Toluene	---	0.50	1	08/19/2015 21:08
Ethylbenzene	---	0.50	1	08/19/2015 21:08
Xylenes	---	0.50	1	08/19/2015 21:08

Surrogates	REC (%)	Limits	Date Analyzed
aaa-TFT	104	70-130	08/19/2015 21:08

Analyst(s): IA



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/17/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L

Metals

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001B	Water	08/17/2015 13:25	ICP-MS1	109012

Analytes	Result	RL	DF	Date Analyzed
Iron	24,000	200	10	08/19/2015 16:20
Manganese	12,000	200	10	08/19/2015 16:20

Surrogates	REC (%)	Limits	Date Analyzed
Terbium	111	70-130	08/19/2015 16:20

Analyst(s): BBO



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/20/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SM4500-S⁻² D-2000
Analytical Method: SM4500-S⁻² D-2000
Unit: mg/L

Sulfide

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001D	Water	08/17/2015 13:25	SPECTROPHOTOMETER	109269

Analytes	Result	RL	DF	Date Analyzed
Sulfide	ND	0.050	1	08/20/2015 20:50

Analyst(s): RB



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/18/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SM2540 C-1997
Analytical Method: SM2540 C-1997
Unit: mg/L

Total Dissolved Solids

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001E	Water	08/17/2015 13:25	WetChem	109152

Analytes	Result	RL	DF	Date Analyzed
Total Dissolved Solids	227	10.0	1	08/18/2015 21:25

Analyst(s): AL



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/17/15-8/18/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001G	Water	08/17/2015 13:25	GC11A	109027

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	11,000	50	1	08/19/2015 11:19

Surrogates	REC (%)	Limits	Date Analyzed
C9	94	70-130	08/19/2015 11:19

Analyst(s): TK Analytical Comments: e4,e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1508572-002A	Water	08/17/2015 12:25	GC11A	109027

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	360	50	1	08/19/2015 00:20

Surrogates	REC (%)	Limits	Date Analyzed
C9	91	70-130	08/19/2015 00:20

Analyst(s): TK Analytical Comments: e7,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-13	1508572-003A	Water	08/17/2015 09:10	GC11A	109027

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	ND	50	1	08/19/2015 02:37

Surrogates	REC (%)	Limits	Date Analyzed
C9	91	70-130	08/19/2015 02:37

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1508572-004A	Water	08/17/2015 10:10	GC11A	109027

Analytes	Result	RL	DF	Date Analyzed
TPH-Diesel (C10-C23)	300	50	1	08/19/2015 04:54

Surrogates	REC (%)	Limits	Date Analyzed
C9	92	70-130	08/19/2015 04:54

Analyst(s): TK Analytical Comments: e4,e2

(Cont.)



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/17/15-8/18/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1508572-005A	Water	08/17/2015 10:55	GC9b	109027
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	58		50	1	08/18/2015 17:32
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	104		70-130		08/18/2015 17:32
<u>Analyst(s):</u> TK		<u>Analytical Comments:</u> e3			

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-27	1508572-006A	Water	08/17/2015 11:40	GC9b	109027
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	08/18/2015 18:44
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	104		70-130		08/18/2015 18:44
<u>Analyst(s):</u> TK					

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
DUP-1	1508572-007A	Water	08/17/2015 09:15	GC9a	109088
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	ND		50	1	08/20/2015 07:42
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	99		70-130		08/20/2015 07:42
<u>Analyst(s):</u> TK					



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/18/15
Date Analyzed: 8/18/15
Instrument: IC1
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109094
Extraction Method: E300.1
Analytical Method: E300.1
Unit: mg/L
Sample ID: MB/LCS-109094

QC Summary Report for E300.1

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Sulfite	ND	1.05	0.10	1	-	105	80-120



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/18/15
Date Analyzed: 8/18/15
Instrument: IC3
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109035
Extraction Method: E300.1
Analytical Method: E300.1
Unit: mg/L
Sample ID: MB/LCS-109035
 1508516-001AMS/MSD

QC Summary Report for E300.1

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Nitrate as N	ND	1.07	0.10	1	-	107	85-115
Nitrate as NO ₃ ⁻	ND	4.75	0.45	4.4	-	108	85-115
Nitrite as N	ND	1.10	0.10	1	-	110	85-115
Nitrite as NO ₂ ⁻	ND	3.62	0.33	3.3	-	110	85-115
Sulfate	ND	1.07	0.10	1	-	104	85-115

Surrogate Recovery

Formate	0.0990	0.0984		0.10	99	98	90-115
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Nitrate as N	NR	NR	1	ND<10	NR	NR	85-115	NR	15
Nitrate as NO ₃ ⁻	NR	NR	4.4	ND<45	NR	NR	85-115	NR	15
Nitrite as N	NR	NR	1	ND<10	NR	NR	85-115	NR	15
Nitrite as NO ₂ ⁻	NR	NR	3.3	ND<33	NR	NR	85-115	NR	15
Sulfate	NR	NR	1	92.97	NR	NR	85-115	NR	15

Surrogate Recovery

Formate	0.101	0.101	0.10		101	101	90-115	0	10
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Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/19/15
Date Analyzed: 8/19/15
Instrument: GC28
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109224
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-109224
 1508517-001CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	9.96	0.50	10	-	100	54-140
Benzene	ND	10.4	0.50	10	-	99	47-158
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	40.9	2.0	40	-	102	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	9.47	0.50	10	-	95	43-157
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	9.34	0.50	10	-	93	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	9.88	0.50	10	-	99	66-125
1,1-Dichloroethene	ND	9.92	0.50	10	-	99	47-149
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,1-Dichloropropene	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/19/15
Date Analyzed: 8/19/15
Instrument: GC28
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109224
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-109224
 1508517-001CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	9.57	0.50	10	-	96	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	9.66	0.50	10	-	97	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	9.63	0.50	10	-	96	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	9.57	0.50	10	-	93	52-137
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	9.86	0.50	10	-	99	43-157
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

(Cont.)



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/19/15
Date Analyzed: 8/19/15
Instrument: GC28
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109224
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS-109224
 1508517-001CMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
Dibromofluoromethane	24.9	24.0		25	99	96	70-130
Toluene-d8	25.0	24.7		25	100	99	70-130
4-BFB	2.73	2.57		2.5	109	103	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	11.1	11.5	10	ND	111	115	69-139	3.12	20
Benzene	11.4	11.2	10	0.94	104	103	69-141	0.977	20
t-Butyl alcohol (TBA)	49.7	53.2	40	ND	124	133	41-152	6.80	20
Chlorobenzene	9.67	9.74	10	ND	97	97	77-120	0	20
1,2-Dibromoethane (EDB)	11.0	11.1	10	ND	110	111	76-135	1.49	20
1,2-Dichloroethane (1,2-DCA)	10.5	10.8	10	ND	105	108	73-139	3.01	20
1,1-Dichloroethene	9.85	9.92	10	ND	99	99	59-140	0	20
Diisopropyl ether (DIPE)	10.1	10.2	10	ND	101	102	72-140	1.46	20
Ethyl tert-butyl ether (ETBE)	10.3	10.7	10	ND	103	107	71-140	3.41	20
Methyl-t-butyl ether (MTBE)	10.7	11.2	10	ND	107	112	73-139	4.48	20
Toluene	9.98	9.76	10	ND	96	94	71-128	2.16	20
Trichloroethene	9.97	9.95	10	ND	100	99	64-132	0.259	20

Surrogate Recovery									
Dibromofluoromethane	24.9	25.0	25		100	100	70-130	0	20
Toluene-d8	24.5	24.0	25		98	96	70-130	2.30	20
4-BFB	2.60	2.56	2.5		104	102	70-130	1.73	20



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/18/15 - 8/19/15
Date Analyzed: 8/18/15 - 8/19/15
Instrument: Titrino
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109127
Extraction Method: SM2320 B-1997
Analytical Method: SM2320 B-1997
Test Method: SM2320B (Alkalinity)

QC Summary Report for Alkalinity

Lab ID	Analyte	Reporting Units	Sample Result	Sample DF	Dup / Serial Dilution Result	Dup / Serial Dilution DF	RPD	Acceptance Criteria (%)
1508572-001F	Total	mg CaCO ₃ /L	562	1	560	1	0.226	<20



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/19/15
Date Analyzed: 8/19/15
Instrument: GC3
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109255
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-109255
 1508517-003AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	66.7	40	60	-	111	70-130
MTBE	ND	11.4	5.0	10	-	115	70-130
Benzene	ND	11.9	0.50	10	-	119	70-130
Toluene	ND	11.9	0.50	10	-	119	70-130
Ethylbenzene	ND	11.8	0.50	10	-	118	70-130
Xylenes	ND	35.9	0.50	30	-	120	70-130

Surrogate Recovery

aaa-TFT	10.3	10.0		10	103	100	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	50.3	54.9	60	ND	84	92	70-130	8.86	20
MTBE	11.0	9.42	10	ND	110	94	70-130	15.3	20
Benzene	9.82	9.61	10	ND	97	95	70-130	2.21	20
Toluene	10.1	9.98	10	ND	101	100	70-130	1.04	20
Ethylbenzene	9.95	10.0	10	ND	100	100	70-130	0	20
Xylenes	30.0	30.7	30	ND	100	102	70-130	2.07	20

Surrogate Recovery

aaa-TFT	10.5	10.0	10		105	100	70-130	4.67	20
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(Cont.)



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/21/15
Date Analyzed: 8/21/15
Instrument: GC3
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109336
Extraction Method: SW5030B
Analytical Method: SW8021B/8015Bm
Unit: µg/L
Sample ID: MB/LCS-109336
 1508576-001AMS/MSD

QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	61.1	40	60	-	102	70-130
MTBE	ND	11.1	5.0	10	-	111	70-130
Benzene	ND	10.8	0.50	10	-	107	70-130
Toluene	ND	10.8	0.50	10	-	108	70-130
Ethylbenzene	ND	10.7	0.50	10	-	107	70-130
Xylenes	ND	32.5	0.50	30	-	108	70-130

Surrogate Recovery

aaa-TFT	10.1	9.98		10	101	100	70-130
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Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	52.9	53.9	60	ND	88	90	70-130	1.83	20
MTBE	8.73	9.53	10	ND	87	95	70-130	8.83	20
Benzene	9.42	10.4	10	ND	94	104	70-130	10.2	20
Toluene	9.72	10.7	10	ND	97	107	70-130	9.73	20
Ethylbenzene	9.80	10.7	10	ND	98	107	70-130	8.96	20
Xylenes	30.0	32.4	30	ND	100	108	70-130	7.71	20

Surrogate Recovery

aaa-TFT	10.1	10.7	10		101	107	70-130	6.19	20
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Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/17/15
Date Analyzed: 8/18/15
Instrument: ICP-MS2
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109012
Extraction Method: E200.8
Analytical Method: E200.8
Unit: µg/L
Sample ID: MB/LCS-109012
 1508567-002DMS/MSD

QC Summary Report for Metals

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Iron	ND	550	20	500	-	108	85-115
Manganese	ND	516	20	500	-	103	85-115
Surrogate Recovery							
Terbium	781	780		750	104	104	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Iron	NR	NR	500	57,000	NR	NR	70-130	NR	20
Manganese	NR	NR	500	8800	NR	NR	70-130	NR	20
Surrogate Recovery									
Terbium	811	806	750		108	108	70-130	0	20



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/20/15
Date Analyzed: 8/20/15
Instrument: SPECTROPHOTOMETER
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109269
Extraction Method: SM4500-S⁻² D-2000
Analytical Method: SM4500-S⁻² D-2000
Unit: mg/L
Sample ID: MB/LCS-109269
 1508572-001DMS/MSD

QC Summary Report For SM4500 S-2D

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Sulfide	ND	2.42	0.050	2.5	-	97	80-120

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Sulfide	2.24	2.28	2.5	ND	89	90	75-125	1.52	20



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/18/15
Date Analyzed: 8/18/15
Instrument: WetChem
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109152
Extraction Method: SM2540 C-1997
Analytical Method: SM2540 C-1997
Unit: mg/L

QC Summary Report for Total Dissolved Solids

SampleID	Sample Result	Sample DF	Dup / Serial Dilution Result	Dup / Serial Dilution DF	RPD	Acceptance Criteria (%)
1508563-001G	373	1	400	2	6.99	<20



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/17/15
Date Analyzed: 8/17/15
Instrument: GC2A, GC9a
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109027
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-109027

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1110	50	1000	-	111	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	631	571		625	101	91	65-122

(Cont.)



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/18/15
Date Analyzed: 8/18/15
Instrument: GC11B, GC9b
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109088
Extraction Method: SW3510C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-109088

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1060	50	1000	-	106	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	642	649		625	103	104	65-122



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1508572

ClientCode: TWRF

WaterTrax
 WriteOn
 EDF
 Excel
 EQUIS
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:

Annie Lee
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111
(415) 955-5244 FAX: (415) 955-9041

Email: alee@langan.com
cc/3rd Party:
PO:
ProjectNo: 731637001

Bill to:

Accounts Payable
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111
Langan_InvoiceCapture@concursoft.com

Requested TAT: 5 days;

Date Received: 08/17/2015

Date Printed: 08/20/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1508572-001	MW-1	Water	8/17/2015 13:25	<input type="checkbox"/>	C	A	H	F	G	B	A	D	E	G	G	
1508572-002	MW-3	Water	8/17/2015 12:25	<input type="checkbox"/>			B		A					C	A	
1508572-003	MW-13	Water	8/17/2015 9:10	<input type="checkbox"/>			B		A						A	
1508572-004	MW-25	Water	8/17/2015 10:10	<input type="checkbox"/>			B		A					A	A	
1508572-005	MW-26	Water	8/17/2015 10:55	<input type="checkbox"/>			B		A					A	A	
1508572-006	MW-27	Water	8/17/2015 11:40	<input type="checkbox"/>			B		A						A	
1508572-007	DUP-1	Water	8/17/2015 9:15	<input type="checkbox"/>			B		A					A	A	
1508572-008	Trip Blank	Water	8/17/2015 12:12	<input type="checkbox"/>			A									

Test Legend:

1	300_1_Sulfite_W	2	300_1_W	3	8260VOC_W	4	Alk(spe)_W	5	G-MBTEX_W
6	METALSMS_W	7	PREDF REPORT	8	SULFIDE_W	9	TDS_W	10	TPH(D)WSG_W
11	TPH(DMO)_W	12							

The following SamplIDs: 001G, 002A, 003A, 004A, 005A, 006A, 007A contain testgroup.

Prepared by: Agustina Venegas

Comments: SEND HARD COPY/ Always notify the PM when TAT is not going to be met! JEL 9-9-14. TPH Dwsg added 8/20/15 5D TAT

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: TREADWELL & ROLLO

QC Level: LEVEL 2

Work Order: 1508572

Project: 731637001

Client Contact: Annie Lee

Date Received: 8/17/2015

Comments: SEND HARD COPY/ Always notify the PM when TAT is not going to be met! JEL 9-9-14. TPH Dwsg added 8/20/15 5D TAT

Contact's Email: alee@langan.com

WaterTrax WriteOn EDF Excel Fax Email HardCopy ThirdParty J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508572-001A	MW-1	Water	E300.1 (Inorganic Anions) <Nitrate & Nitrite as N, Nitrate as N, Nitrate as NO3 ⁻ , Nitrite as N, Nitrite as NO2 ⁻ , Sulfate>	1	125mL HDPE, unprsv.	<input type="checkbox"/>	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
1508572-001B	MW-1	Water	E200.8 (Metals) <Iron, Manganese>	1	250mL HDPE w/ HNO3	<input type="checkbox"/>	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
1508572-001C	MW-1	Water	E300.1 (Sulfite)	1	125mL HDPE w/ MAI Presv.	<input type="checkbox"/>	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
1508572-001D	MW-1	Water	SM4500S2D (Sulfide)	1	250mL HDPE w/ NaOH+ZnAc	<input type="checkbox"/>	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
1508572-001E	MW-1	Water	SM2540C (TDS)	1	500mL HDPE, unprsv.	<input type="checkbox"/>	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
1508572-001F	MW-1	Water	SM2320B (Alkalinity)	1	500mL HDPE, unprsv.	<input type="checkbox"/>	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
1508572-001G	MW-1	Water	SW8015B (Diesel w/ S.G. Clean-Up)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days	Present	<input type="checkbox"/>	
1508572-001H	MW-1	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
1508572-002A	MW-3	Water	Multi-Range TPH(g,d,mo)	3	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	8/17/2015 12:25	5 days	Present	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: TREADWELL & ROLLO

QC Level: LEVEL 2

Work Order: 1508572

Project: 731637001

Client Contact: Annie Lee

Date Received: 8/17/2015

Comments: SEND HARD COPY/ Always notify the PM when TAT is not going to be met! JEL 9-9-14. TPH Dwsg added 8/20/15 5D TAT

Contact's Email: alee@langan.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508572-002B	MW-3	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	8/17/2015 12:25	5 days	Present	<input type="checkbox"/>	
1508572-002C	MW-3	Water	SW8015B (Diesel w/ S.G. Clean-Up)	1	aVOA	<input type="checkbox"/>	8/17/2015 12:25	5 days	Present	<input type="checkbox"/>	
1508572-003A	MW-13	Water	Multi-Range TPH(g,d,mo)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	8/17/2015 9:10	5 days	Present	<input type="checkbox"/>	
1508572-003B	MW-13	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	8/17/2015 9:10	5 days	Present	<input type="checkbox"/>	
1508572-004A	MW-25	Water	SW8015B (Diesel w/ S.G. Clean-Up)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	8/17/2015 10:10	5 days	Present	<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days	Present	<input type="checkbox"/>	
1508572-004B	MW-25	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	8/17/2015 10:10	5 days	Present	<input type="checkbox"/>	
1508572-005A	MW-26	Water	SW8015B (Diesel w/ S.G. Clean-Up)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	8/17/2015 10:55	5 days	Present	<input type="checkbox"/>	
			Multi-Range TPH(g,d,mo)			<input type="checkbox"/>		5 days	Present	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



WORK ORDER SUMMARY

Client Name: TREADWELL & ROLLO

QC Level: LEVEL 2

Work Order: 1508572

Project: 731637001

Client Contact: Annie Lee

Date Received: 8/17/2015

Comments: SEND HARD COPY/ Always notify the PM when TAT is not going to be met! JEL 9-9-14. TPH Dwsg added 8/20/15 5D TAT

Contact's Email: alee@langan.com

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
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Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508572-005B	MW-26	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	8/17/2015 10:55	5 days	Present	<input type="checkbox"/>	
1508572-006A	MW-27	Water	Multi-Range TPH(g,d,mo)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	8/17/2015 11:40	5 days	Present	<input type="checkbox"/>	
1508572-006B	MW-27	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	8/17/2015 11:40	5 days	Present	<input type="checkbox"/>	
1508572-007A	DUP-1	Water	SW8015B (Diesel w/ S.G. Clean-Up) Multi-Range TPH(g,d,mo)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	<input type="checkbox"/>	8/17/2015 9:15	5 days	Present	<input type="checkbox"/>	
1508572-007B	DUP-1	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	8/17/2015 9:15	5 days	Present	<input type="checkbox"/>	
1508572-008A	Trip Blank	Water	SW8260B (VOCs) <1,2-Dichloroethane (1,2-DCA), Benzene, Ethylbenzene, Methyl-t-butyl ether (MTBE), Toluene, Xylenes, Total>	2	VOA w/ HCl	<input type="checkbox"/>	8/17/2015 12:12	5 days	None	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

BLAINE

TECH SERVICES, INC.

1680 ROGERS AVENUE
N JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

1508572

CONDUCT ANALYSIS TO DETECT

LAB McCampbell

DHS #

MUST MEET SPECIFICATIONS
 EPA
 LIA
 OTHER

RWQCB REGION

CHAIN OF CUSTODY

BTS # 150817-DS1

CLIENT

Treadwell & Rollo

SITE

Connell Auto

3093 Broadway

Oakland, CA

SPECIAL INSTRUCTIONS

Invoice and Report to: Annie Lee

Treadwell & Rollo - San Francisco Office

415.955.5285

Project No: 731637001

alee@langan.com

EDF Required

SAMPLE I.D.	DATE	TIME	MATRIX	CONTAINERS	TPH-g, TPH-d (8015)	BTEX, MTBE, 1,2-DCA (8260B)	Nitrate, Nitrite, Sulfate (E300.1)	Total Manganese, Total Iron (E200.8)	Sulfite (SM4500 SO3-2), Sulfide (SM4500 S-2D)	TDS (SM2540C)	Alkalinity (SM2320B)	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
			S = Soil W = H2O	TOTAL											
+ MW-1	8-17-15	1325	W	12	X	X	X	X	X	X	X				
+ MW-3	8-17-15	1225	W	6	X	X									
+ MW-13	8-17-15	0910	W	6	X	X									
+ MW-25	8-17-15	1010	W	6	X	X									
+ MW-26	8-17-15	1055	W	6	X	X									
+ MW-27	8-17-15	1140	W	6	X	X									
DUP-1	8/17/15	9:15	W	4	X	X									
TRIP BLANK	8/17/15	12:12	W	4	X	X									

ICE/° 32
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 PRESERVATION VOAS ORG METALS OTHER

SAMPLING COMPLETED DATE 8-17-15 TIME 1325 SAMPLING PERFORMED BY Damon Sato RESULTS NEEDED NO LATER THAN Standard

RELEASED BY [Signature] DATE 8-17-15 TIME 1452 RECEIVED BY [Signature] DATE 8/17/15 TIME 2:52 PM

RELEASED BY [Signature] DATE 8-17-15 TIME 1521 RECEIVED BY [Signature] DATE 8-17-15 TIME 1721

RELEASED BY [Signature] DATE 8-17-15 TIME 1750 RECEIVED BY [Signature] DATE 8/17/15 TIME 1750

SHIPPED VIA DATE SENT TIME SENT COOLER #

* DUP-1 & TRIP BLANK SAMPLES SET UP PER A.L.



Sample Receipt Checklist

Client Name: **Treadwell & Rollo** Date and Time Received: **8/17/2015 10:06:45 PM**
 Project Name: **731637001** Login Reviewed by: **Agustina Venegas**
 WorkOrder No: **1508572** Matrix: Water Carrier: Bernie Cummins (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present? Yes No
 Chain of custody signed when relinquished and received? Yes No
 Chain of custody agrees with sample labels? Yes No
 Sample IDs noted by Client on COC? Yes No
 Date and Time of collection noted by Client on COC? Yes No
 Sampler's name noted on COC? Yes No

Sample Receipt Information

Custody seals intact on shipping container/cooler? Yes No NA
 Shipping container/cooler in good condition? Yes No
 Samples in proper containers/bottles? Yes No
 Sample containers intact? Yes No
 Sufficient sample volume for indicated test? Yes No

Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Yes No
 Sample/Temp Blank temperature Temp: 3.2°C NA
 Water - VOA vials have zero headspace / no bubbles? Yes No NA
 Sample labels checked for correct preservation? Yes No
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes No NA
 Samples Received on Ice? Yes No

(Ice Type: WET ICE)

UCMR3 Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No NA
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes No NA

* NOTE: If the "No" box is checked, see comments below.

 Comments: pH adjusted in Lab.



McC Campbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1508572 A

Report Created for: Treadwell & Rollo

555 Montgomery St., Suite 1300
San Francisco, CA 94111

Project Contact: Annie Lee

Project P.O.:

Project Name: 731637001

Project Received: 08/17/2015

Analytical Report reviewed & approved for release on 08/24/2015 by:

Angela Rydelius,
Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.





Glossary of Terms & Qualifier Definitions

Client: Treadwell & Rollo
Project: 731637001
WorkOrder: 1508572

Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

a1	sample diluted due to matrix interference
d1	weakly modified or unmodified gasoline is significant
e2	diesel range compounds are significant; no recognizable pattern
e3	aged diesel is significant
e4	gasoline range compounds are significant.
e7	oil range compounds are significant



Analytical Report

Client: Treadwell & Rollo
Date Received: 8/17/15 22:06
Date Prepared: 8/17/15-8/20/15
Project: 731637001

WorkOrder: 1508572
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1508572-001G	Water	08/17/2015 13:25	GC6A	109240
Analytes					
TPH-Diesel (C10-C23)	9400		RL 50	DF 1	Date Analyzed 08/20/2015 20:47
Surrogates					
C9	93		Limits 70-130		08/20/2015 20:47
Analyst(s): TK			Analytical Comments: e4,e3		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1508572-002C	Water	08/17/2015 12:25	GC11B	109240
Analytes					
TPH-Diesel (C10-C23)	150		RL 100	DF 2	Date Analyzed 08/21/2015 09:40
Surrogates					
C9	91		Limits 70-130		08/21/2015 09:40
Analyst(s): TK			Analytical Comments: e2		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-25	1508572-004A	Water	08/17/2015 10:10	GC6A	109240
Analytes					
TPH-Diesel (C10-C23)	310		RL 50	DF 1	Date Analyzed 08/20/2015 19:35
Surrogates					
C9	86		Limits 70-130		08/20/2015 19:35
Analyst(s): TK			Analytical Comments: e4,e3		

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-26	1508572-005A	Water	08/17/2015 10:55	GC6A	109240
Analytes					
TPH-Diesel (C10-C23)	55		RL 50	DF 1	Date Analyzed 08/20/2015 23:09
Surrogates					
C9	92		Limits 70-130		08/20/2015 23:09
Analyst(s): TK			Analytical Comments: e3		



Quality Control Report

Client: Treadwell & Rollo
Date Prepared: 8/17/15
Date Analyzed: 8/21/15
Instrument: GC11A
Matrix: Water
Project: 731637001

WorkOrder: 1508572
BatchID: 109240
Extraction Method: SW3510C/3630C
Analytical Method: SW8015B
Unit: µg/L
Sample ID: MB/LCS-109240

QC Report for SW8015B w/SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	744	50	1000	-	74	59-151
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
Surrogate Recovery							
C9	578	590		625	92	94	65-122



1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1508572 **A** ClientCode: TWRF

WaterTrax
 WriteOn
 EDF
 Excel
 Fax
 Email
 HardCopy
 ThirdParty
 J-flag

Report to:
 Annie Lee
 Treadwell & Rollo
 555 Montgomery St., Suite 1300
 San Francisco, CA 94111
 (415) 955-5244 FAX: (415) 955-9041

Email: alee@langan.com
 cc/3rd Party:
 PO:
 ProjectNo: 731637001

Bill to:
 Accounts Payable
 Treadwell & Rollo
 555 Montgomery St., Suite 1300
 San Francisco, CA 94111
 Langan_InvoiceCapture@concursolutionio

Requested TAT: 5 days;

Date Received: 08/17/2015
Date Add-On: 08/20/2015
Date Printed: 08/20/2015

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
1508572-001	MW-1	Water	8/17/2015 13:25	<input type="checkbox"/>	G												
1508572-002	MW-3	Water	8/17/2015 12:25	<input type="checkbox"/>	C												
1508572-004	MW-25	Water	8/17/2015 10:10	<input type="checkbox"/>	A												
1508572-005	MW-26	Water	8/17/2015 10:55	<input type="checkbox"/>	A												
1508572-007	DUP-1	Water	8/17/2015 9:15	<input type="checkbox"/>	A												

Test Legend:

1	TPH(D)WSG_W	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Agustina Venegas

Add-On Prepared By: Jena Alfaro

Comments: SEND HARD COPY/ Always notify the PM when TAT is not going to be met! JEL 9-9-14. TPH Dwsg added 8/20/15 5D TAT

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



WORK ORDER SUMMARY

Client Name: TREADWELL & ROLLO

QC Level: LEVEL 2

Work Order: 1508572

Project: 731637001

Client Contact: Annie Lee

Date Received: 8/17/2015

Comments: SEND HARD COPY/ Always notify the PM when TAT is not going to be met! JEL 9-9-14. TPH Dwsg added 8/20/15 5D TAT

Contact's Email: alee@langan.com

Date Add-On: 8/20/2015

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1508572-001G	MW-1	Water	SW8015B (Diesel w/ S.G. Clean-Up)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	8/17/2015 13:25	5 days	Present	<input type="checkbox"/>	
1508572-002C	MW-3	Water	SW8015B (Diesel w/ S.G. Clean-Up)	1	aVOA	8/17/2015 12:25	5 days	Present	<input type="checkbox"/>	
1508572-004A	MW-25	Water	SW8015B (Diesel w/ S.G. Clean-Up)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	8/17/2015 10:10	5 days	Present	<input type="checkbox"/>	
1508572-005A	MW-26	Water	SW8015B (Diesel w/ S.G. Clean-Up)	4	2 VOAs w/HCL + 2-aVOAs (multi-range)	8/17/2015 10:55	5 days	Present	<input type="checkbox"/>	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1508572

BLAINE

TECH SERVICES, INC.

1680 ROGERS AVENUE
 IN JOSE, CALIFORNIA 95112-1105
 FAX (408) 573-7771
 PHONE (408) 573-0555

CONDUCT ANALYSIS TO DETECT

LAB McCampbell

DHS #

MUST MEET SPECIFICATIONS

- EPA
- LIA
- OTHER

RWQCB REGION

CHAIN OF CUSTODY

BTS #150817-DS1

CLIENT

Treadwell & Rollo

SITE

Connell Auto

3093 Broadway

Oakland, CA

SPECIAL INSTRUCTIONS

Invoice and Report to: Annie Lee

Treadwell & Rollo - San Francisco Office

415.955.5285

Project No: 731637001

alee@langan.com

EDF Required

SAMPLE I.D.	DATE	TIME	MATRIX		CONTAINERS	TPH-g, TPH-d (8015)	BTEX, MTBE, 1,2-DCA (8260B)	Nitrate, Nitrite, Sulfate (E300.1)	Total Manganese, Total Iron (E200.8)	Sulfite (SM4500 SO3-2), Sulfide (SM4500 S-2D)	TDS (SM2540C)	Alkalinity (SM2320B)	STLC ABK TPH-d w/SG 8-20-15 SD	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
			S = Soil	W = H2O													
+ MW-1	8-17-15	1325	W		12	X	X	X	X	X	X	X	X				
+ MW-3	8-17-15	1225	W		6	X	X						X				
+ MW-13	8-17-15	0910	W		6	X	X						X				
+ MW-25	8-17-15	1010	W		6	X	X						X				
+ MW-26	8-17-15	1055	W		6	X	X						X				
+ MW-27	8-17-15	1140	W		6	X	X						X				
DUP-1	8/17/15	9:15	W		4	X	X						X	Cancelled			
TRIP BLANK	8/17/15	12:12	W		4		X										

ICE/# 32
 GOOD CONDITION _____
 HEAD SPACE ABSENT _____
 DECHLORINATED IN LAB _____
 PRESERVATION _____

APPROPRIATE CONTAINERS _____
 PRESERVED IN LAB _____

VOAS ORG METALS OTHER

SAMPLING COMPLETED 8-17-15 1325
 SAMPLING PERFORMED BY Damen Sato
 RESULTS NEEDED NO LATER THAN Standard

RELEASED BY [Signature] DATE 8-17-15 TIME 1452 RECEIVED BY [Signature] DATE 8/17/15 TIME 2:52 PM

RELEASED BY [Signature] DATE 8-17-15 TIME 1521 RECEIVED BY [Signature] DATE 8-17-15 TIME 1721

RELEASED BY [Signature] DATE 8-17-15 TIME 1750 RECEIVED BY [Signature] DATE 8/17/15 TIME 1750

SHIPPED VIA _____ DATE SENT _____ TIME SENT _____ COOLER # _____

* DUP-1 & TRIP BLANK SAMPLES
 Set up per A.I.

APPENDIX D
CUMULATIVE GROUNDWATER ELEVATIONS

Appendix D
Cumulative Groundwater Elevations
June 2013 through August 2015

3093 Broadway
Oakland, California

Well ID	Date	TOC Elevation¹ (feet a-msl)	Depth to Groundwater (feet bgs)	Calculated GW Elevation (feet a-msl)
AS-1B	05/22/14	61.45	22.78	38.67
MW-1	06/21/13	60.57	22.13	38.44
MW-1	06/21/13	60.57	22.28	38.29
MW-1	05/21/14	60.57	22.13	38.44
MW-1	11/19/14	60.57	22.70	37.87
MW-1	08/17/15	60.57	22.50	38.07
MW-2	05/22/14	61.59	26.92	34.67
MW-2	05/22/14	61.59	26.92	34.67
MW-3	05/22/14	56.87	19.51	37.36
MW-3	05/22/14	56.87	19.51	37.36
MW-3	11/19/14	56.87	20.20	36.67
MW-3	05/22/15	56.87	18.98	37.89
MW-3	08/17/15	56.87	19.58	37.29
MW-4	06/21/13	55.67	18.15	37.52
MW-4	06/21/13	55.67	18.46	37.21
MW-4	06/21/13	55.67	18.15	37.52
MW-4	06/21/13	55.67	18.46	37.21
MW-4	05/20/14	55.67	18.15	37.52
MW-4	05/20/14	55.67	18.15	37.52
MW-4	05/22/15	55.67	17.95	37.72
MW-5	05/22/14	51.70	25.73	25.97
MW-5	05/22/15	51.70	26.68	25.02
MW-6	06/21/13	51.65	22.93	28.72
MW-6	06/21/13	51.65	21.56	30.09
MW-6	06/21/13	51.65	22.93	28.72
MW-6	06/21/13	51.65	21.56	30.09
MW-6	05/20/14	51.65	22.93	28.72
MW-6	05/20/14	51.65	22.93	28.72
MW-6	11/19/14	51.65	23.76	27.89
MW-6	05/22/15	51.65	22.66	28.99
MW-7	05/20/14	52.25	16.99	35.26
MW-7	05/20/14	52.25	16.99	35.26
MW-7	05/22/15	52.25	17.68	34.57
MW-8	05/21/14	52.30	26.14	26.16
MW-8	05/21/14	52.30	26.14	26.16
MW-8	05/22/15	52.30	25.44	26.86
MW-9	05/20/14	57.15	19.37	37.78
MW-9	05/20/14	57.15	19.37	37.78
MW-9	11/19/14	57.15	20.50	36.65
MW-10	05/20/14	54.89	17.45	37.44
MW-13	05/22/14	50.89	23.14	27.75
MW-13	08/17/15	50.89	23.42	27.47
MW-14 ²	06/21/13	61.5	21.54	40.0
MW-14 ²	05/22/15	61.5	21.38	40.1
MW-15	06/21/13	60.74	22.16	38.58
MW-15	06/21/13	60.74	22.24	38.50
MW-15	05/21/14	60.74	22.16	38.58

Appendix D
Cumulative Groundwater Elevations
June 2013 through August 2015

3093 Broadway
Oakland, California

Well ID	Date	TOC Elevation¹ (feet a-msl)	Depth to Groundwater (feet bgs)	Calculated GW Elevation (feet a-msl)
MW-16A	05/21/14	61.51	23.64	37.87
MW-16B	06/21/13	61.08	26.13	34.95
MW-16B	06/21/13	61.08	25.99	35.09
MW-16B	05/21/14	61.08	26.13	34.95
MW-17A	06/21/13	60.49	22.16	38.33
MW-17A	06/21/13	60.49	21.55	38.94
MW-17A	05/21/14	60.49	22.16	38.33
MW-17B	05/21/14	61.43	22.55	38.88
MW-18	05/22/15	52.51	15.25	37.26
MW-19	05/22/15	52.35	18.94	33.41
MW-25	06/23/15	51.38	22.66	28.72
MW-25	08/17/15	51.38	22.97	28.41
MW-26	06/23/15	51.19	17.21	33.98
MW-26	08/17/15	51.19	17.64	33.55
MW-27	06/23/15	50.94	18.69	32.25
MW-27	08/17/15	50.94	19.62	31.32
RW-2	06/21/13	54.11	15.92	38.19
RW-2	06/21/13	54.11	16.35	37.76
RW-2	05/20/14	54.11	15.92	38.19
RW-3A ²	05/22/15	54.0	14.56	39.4
RW-3B ²	05/22/15	54.0	23.83	30.2
RW-4	05/21/14	60.75	20.32	40.43
RW-5	05/21/14	60.48	21.33	39.15

Notes:

¹TOC Elev (ft): Top of casing surveyed relative to City of Oakland Datum by BKF Engineers, September 2014 and June 2015

²TOC Elev (ft): Top of casing - approximate elevation from topographic contour map of the site
a-msl - above mean sea level
bgs - below ground surface
GW - Groundwater