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**3RD QUARTER 2014 GROUNDWATER MONITORING REPORT
FORMER WESTERN FORGE & FLANGE FACILITY
540 CLEVELAND AVENUE
ALBANY, CALIFORNIA
RO#3009**

PREPARED FOR:

Mr. Walter R. Pierce
Western Forge & Flange
687 County Road 2201
Cleveland, Texas 77328

PREPARED BY:

Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
1956 Webster Street, Suite 400
Oakland, California 94612

September 25, 2014
Project No. 401823001

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Mr. Walter R. Pierce
Western Forge & Flange
687 County Road 2201
Cleveland, Texas 77328

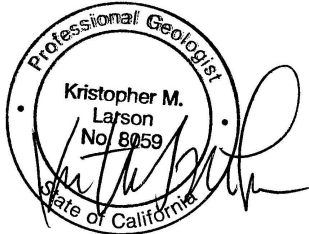
Subject: 3rd Quarter 2014 Groundwater Monitoring Report
Former Western Forge & Flange Facility
540 Cleveland Avenue
Albany, California
RO#3009

Dear Mr. Pierce:

Ninyo & Moore is pleased to present this 3rd Quarter 2014 Groundwater Monitoring Report for the property located at 540 Cleveland Avenue in Albany, California. This report documents the recent groundwater monitoring well sampling activities, laboratory analytical results, and our conclusions and recommendations regarding the environmental status of the site.

Should you have any questions regarding this report or need additional information, please contact the undersigned at your convenience.

Sincerely,
NINYO & MOORE



Kris M. Larson, PG 8059
Principal Environmental Geologist

Duane Blamer, PG
Principal Geologist
Manager, Environmental Sciences

KML/DWB/caa

Distribution: (1) Addressee
(1) Mark E. Detterman, ACEH

September 25, 2014
Project No. 401823001

To: Mr. Mark E. Detterman
Alameda County Environmental Health Department
Health Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Perjury Statement
3rd Quarter 2014 Groundwater Monitoring Report
540 Cleveland Avenue
Albany, California 94706

I declare, under penalty of perjury, that the information or recommendations contained in the attached report are true or correct to the best of my knowledge.



Walter R. Pierce

President and CEO

Western Forge & Flange Company

TABLE OF CONTENTS

	<u>Page</u>
1. INTRODUCTION	1
2. SITE BACKGROUND.....	1
2.1. Site Description	1
2.2. Site Geology and Hydrology	1
2.3. Previous Environmental Assessments and Remedial Action	3
2.4. Cleanup Goals (CGs).....	4
2.5. Monitoring Well Sampling.....	5
2.5.1. Groundwater Sample Analysis.....	5
2.6. Groundwater Depths, Elevations, Flow Direction, and Gradient.....	6
2.7. Groundwater Monitoring Analytical Results.....	6
2.7.1. TDS	6
2.7.2. Metals.....	6
2.7.2.1. Arsenic	7
2.7.2.2. Copper.....	7
2.7.2.3. Lead.....	7
2.7.2.4. Molybdenum	7
2.7.2.5. Nickel.....	8
2.7.2.6. Selenium.....	8
2.7.3. Total Petroleum Hydrocarbons as Hydraulic Oil (TPHho).....	8
2.7.4. Polycyclic Aromatic Hydrocarbons (PAHs).....	8
3. CONCLUSIONS AND RECOMMENDATIONS	9
4. LIMITATIONS.....	9
5. REFERENCES	12

Tables

Table 1 – Groundwater Depth and Elevation Data

Table 2 – Analytical Results for Metals and Total Dissolved Solids

Table 3 – Analytical Results for TPHho and PAHs

Figures

Figure 1 – Site Location

Figure 2 – Groundwater Gradient and Analytical Results Which Exceeded Cleanup Goals or Drinking Water ESLs – September 9, 2014

Appendices

Appendix A – Field Data Sheets

Appendix B – Laboratory Analytical Report

1. INTRODUCTION

Ninyo & Moore has prepared this 3rd Quarter 2014 Groundwater Monitoring Report to document the groundwater monitoring activities recently performed at the former Western Forge & Flange facility located at 540 Cleveland Avenue in Albany, California (site). The groundwater monitoring activities were performed in general accordance with the guidelines presented in Ninyo & Moore's Revised Data Gap Investigation Report and Corrective Action Plan (CAP) dated May 15, 2013, and CAP Addendum dated July 22, 2013, which were approved by Alameda County Environmental Health (ACEH) in an e-mail dated October 14, 2013.

2. SITE BACKGROUND

The following sections describe the location, description, and historical background of the site.

2.1. Site Description

The subject site is located at 540 Cleveland Avenue in Albany, California (Figure 1). The site is located in a commercial/industrial area of Albany between the Interstate 80 and 580 Freeways, and immediately east of a Union Pacific Rail Road (UPRR) right of way (Figure 2). The site is bordered to the north by a heavy industrial property (Albany Steel), to the south by a commercial building (currently occupied by the City of Albany and used as a maintenance yard), and to the east by Cleveland Avenue. The site is approximately 1.0 acre and recently consisted of an approximately 25,000 square-foot building with concrete and asphalt paved areas. Western Forge & Flange manufactured flanges at the site from 1944 until it moved operations to Texas in 2007. The site building and the majority of pavement surfaces were demolished and removed in June and July of 2013. Several subsurface concrete pits were also demolished during building demolition activities.

2.2. Site Geology and Hydrology

The site is located within the Coast Range Geologic Province. The San Francisco Bay and Bay margin geology was formed by a series of Mesozoic and Cenozoic aged oceanic crust

and volcanic arc terranes accreted to the continent. Uplift also occurred due to transpression along the Hayward Fault Zone during the Cenozoic. Bedrock geologic units include Jurassic Coast Range Ophiolite, Late Jurassic-Early Cretaceous Franciscan Complex and Knoxville Formation, and the Late Cretaceous Great Valley Sequence. Late Quaternary deposits consisting of Pleistocene to Holocene alluvial fan deposits overly the bedrock formations within the site area.

The ground surface elevation of the site ranges from approximately 12 to 16 feet above mean sea level (MSL), and ground surface is gently sloped towards the west-southwest. The site sedimentology observed during excavation activities consisted of approximately 2 to 6 feet of fill material over laying native silty clay (bay mud) deposits. The margin of the San Francisco Bay historically crossed through the site, with the western portion of the site historically being tidal wetlands. Fill material was observed to be thinner (extending to approximately 2 feet below ground surface [bgs]) in the central portion of the site, and thicker (extending to approximately 6 feet bgs) in the western portion of the site. The upper 1 to 2 feet of fill material was observed to generally consist of brown sand with gravel and clay, and the lower portion of fill was observed to generally consist of dark gray silt with sand and clay. Bricks, concrete rubble, and other debris were observed in areas throughout the fill material.

No natural surface water bodies, including ponds, streams, or other bodies of water, are present on the site. The San Francisco Bay is located approximately 500 feet west of the site. During the soil boring advancement conducted for during previous investigations, shallow groundwater was encountered between 2.5 and 5.5 feet bgs in all but one of the borings. Groundwater was encountered at 1 foot bgs in one boring in the northwestern portion of the site, which was attributed to a very shallow, perched groundwater zone that has been documented in previous environmental assessments. During excavation activities, groundwater was observed at approximately 4 feet bgs in the south-central portion of the site, and at approximately 6 feet bgs in the western portion of the site. Due to the site's proximity to the San Francisco Bay, tidal fluctuation may affect groundwater depth and flow direc-

tion/gradient. The depth and elevation of groundwater measured monitoring wells, and the inferred groundwater flow direction and gradient are described in Section 2.6 below.

2.3. Previous Environmental Assessments and Remedial Action

The site has been the subject of several environmental assessments dating back to 1984. Based on data generated during episodes of site assessment, the site was determined to be impacted with constituents of concern (COCs) including arsenic, chromium, copper, lead, molybdenum, nickel, zinc, polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons as hydraulic oil (TPHho) at elevated concentrations at various locations throughout the site. In order to protect human health and the environment, and allow the site to be redeveloped for future commercial/industrial land use, a CAP was prepared for the site by Ninyo & Moore. The CAP included an evaluation of remedial alternatives for the site, and excavation and off-site disposal of impacted soil was selected as the appropriate remedial alternative. The CAP was implemented between October 2013 and January 2014, as documented in Ninyo & Moore's Removal Action Completion Report (RACR) dated February 6, 2014.

Implementation of the CAP included removal of approximately 1,200 cubic yards (1,798 tons) of soil impacted with COCs and replacing the COCs impacted soil with clean imported backfill materials. Approximately 12.5 tons of groundwater impacted with COCs was also removed from the site. Excavation sidewall and bottom confirmation samples were collected and the results indicated that site soil was remediated to meet the requirements presented in the ACEH approved CAP and CAP Addendum. Three groundwater monitoring wells (MW-1 through MW-3) were also installed in the western portion of the site to evaluate post remediation groundwater quality (Figure 2).

An initial groundwater monitoring event was performed on December 5, 2013. A relatively minor concentration of TPHho (below the Cleanup Goal [CG]) was detected in monitoring well MW-1, and TPHho was not detected in monitoring wells MW-2 or MW-3. Only minor concentrations (below CGs) of the PAHs acenaphthene and naphthalene were detected

monitoring well MW-1, and no PAHs were detected in monitoring wells MW-2 or MW-3. Concentrations of several metals (cobalt, copper, lead, molybdenum, nickel, and mercury) exceeded CGs. The results of the initial groundwater monitoring event are also documented in the RACR.

2.4. Cleanup Goals (CGs)

The CGs established in the CAP Addendum for groundwater beneath the site are the San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for groundwater which is not a current or potential drinking water resource (May 2013 ESLs, Table F-1b). The selection of these CGs were based on results of the Data Gap Investigation which reported total dissolved solids (TDS) concentrations in several groundwater samples above than the San Francisco Bay Region Basin Plan (RWQCB 2007) guidelines of 3,000 milligrams per liter (mg/L) for a potential drinking water resource. Past analytical results from groundwater monitoring well samples have indicated TDS concentrations ranging from 1,100 to 1,800 mg/L, therefore shallow groundwater beneath the site would qualify as a potential drinking water resource under the Basin Plan. Post remediation groundwater monitoring results are therefore also compared to ESLs for Drinking Water (December 2013 ESLs, Table F-3).

The established groundwater CGs are the lowest of the screening values listed in ESLs Table F-1b, which are based on aquatic habitat goals for all site COCs with the exception of benzo(k)flouranthene, which is based on gross contamination/ceiling value (odor, etc.). Although the site is located in relative close proximity to San Francisco Bay, the COCs which have impacted site groundwater (metals, TPHho, and PAHs) are not very mobile and easily adsorb to soil, therefore these COCs most likely are not migrating to the aquatic habitat of San Francisco Bay. Post remediation groundwater monitoring results have revealed relatively minor residual impacts, with concentrations of only some metals slightly exceeding CGs and/or drinking water ESLs, as discussed in Section 2.7.2 below. The impacts were generally lower at the site's western boundary (in monitoring well MW-3), indicating that

groundwater impacts from the site would most likely not be migrating all the way to San Francisco Bay. It is therefore proposed that site CGs for groundwater be revised to be based on ESLs for Drinking Water (December 2013 ESLs, Table F-3). Drinking Water ESLs are generally higher than the ESLs for aquatic habitat goals for most of the metals which have impacted site groundwater.

2.5. Monitoring Well Sampling

On September 9, 2014, groundwater samples were collected from monitoring wells MW-1 through MW-3. The well caps were removed to allow the water level to equilibrate for approximately 20 minutes, at which time depth to groundwater was measured using a decontaminated water level meter accurate to 0.01 feet. Approximately three casing volumes of groundwater were purged using a peristaltic pump with dedicated tubing for each well prior to sample collection. Groundwater parameters, including pH, temperature, and electrical conductivity were measured during well purging and recorded on groundwater sampling field data sheets (Appendix A). Groundwater samples were collected in the appropriate containers using the peristaltic pump. The groundwater samples were not filtered or preserved during collection as the laboratory performed filtering and preservation of samples as necessary prior to analysis. The sample containers were labeled with the sample identification, project location, sampling date/time, and sampler's initials. The sample containers were stored in a cooler containing ice for transport to the analytical laboratory for analysis. Chain-of-custody documentation was completed and accompanied the groundwater samples to the laboratory.

2.5.1. Groundwater Sample Analysis

Groundwater samples were submitted to Curtis & Tompkins for analysis of TDS using EPA Method SM 2540C, Title 22 Metals using EPA Method 6010B/7470A, hexavalent chromium using EPA Method 7199, TPH_{ho} using EPA Method 8015M with silica gel cleanup, and PAHs using EPA Method 8270-SIM.

2.6. Groundwater Depths, Elevations, Flow Direction, and Gradient

The depth to groundwater was measured in site monitoring wells on September 9, 2014. Groundwater depth and elevation data is presented in Table 1 and on Figure 2. The depth to groundwater ranged from 6.49 to 6.91 feet below the top of well casings, or approximately 3.49 to 3.91 feet bgs, as the top of well casings are approximately 3 feet above the ground surface. Based on the surveyed well elevations, the groundwater elevation in the western portion of the site ranged from approximately 8.22 to 8.97 feet MSL. Based on the groundwater elevations, the groundwater flow direction was inferred to be towards the west with a gradient of approximately 0.002 feet per foot. The groundwater flow direction is expected to typically trend towards the west-southwest towards San Francisco Bay, however because of the site's proximity to San Francisco Bay, groundwater elevations and flow directions may be tidally influenced.

2.7. Groundwater Monitoring Analytical Results

Analytical results for groundwater monitoring samples are summarized in Tables 2 and 3, and a copy of the analytical laboratory report is presented in Appendix B. Groundwater sample analytical results are compared to site CGs and Drinking Water ESLs. Groundwater sample results exceeding CGs or Drinking water ESLs are also presented on Figure 2. The following sections summarize the groundwater monitoring sample results.

2.7.1. TDS

Analytical results for TDS are presented in Table 2. TDS was detected at concentrations of 1,100 mg/L in MW-1, at 900 mg/L in MW-2, and at 2,700 mg/L in MW-3.

2.7.2. Metals

Analytical results for metals are presented in Table 2. Groundwater monitoring results revealed concentrations of copper, lead, molybdenum, and nickel which exceeded CGs; and concentrations of arsenic, lead, and molybdenum which exceeded Drinking Water

ESLs. All other metals were either not detected, or were detected at concentrations below CGs and Drinking Water ESLs. Groundwater sample analytical results for metals which exceeded CGs or Drinking Water ESLs are discussed below.

2.7.2.1. Arsenic

Arsenic was not detected above the CG of 0.036 mg/L. Arsenic was detected at concentrations which exceed the Drinking Water ESL of 0.01 mg/L in samples MW-1 (0.017 mg/L), MW-2 (0.011 mg/L), and MW-3 (0.019 mg/L).

2.7.2.2. Copper

Copper was not detected above the Drinking Water ESL of 1.0 mg/L. Copper was detected at a concentration which exceeds the CG of 0.0031 mg/L in samples MW-1 (0.0079 mg/L) and MW-2 (0.064 mg/L), and was not detected in sample MW-3.

2.7.2.3. Lead

Lead was detected at a concentration which exceeds the CG of 0.0025 mg/L in samples MW-1 (0.019 mg/L) and MW-2 (0.0099 mg/L). Lead detected in sample MW-1 also exceeds the drinking Water ESL of 0.015 mg/L. Lead was not detected in sample MW-3.

2.7.2.4. Molybdenum

Molybdenum was detected at concentrations which exceed the CG of 0.24 mg/L and Drinking Water ESL of 0.078 mg/L in samples MW-1 (0.86 mg/L) and MW-2 (0.88 mg/L), and was detected at a concentration below both CG and Drinking Water ESL in MW-3 (0.014 mg/L).

2.7.2.5. Nickel

Nickel was not detected above the Drinking Water ESL of 0.1 mg/L. Nickel was detected at concentrations that exceed the CG of 0.0082 mg/L in samples MW-1 (0.039 mg/L), MW-2 (0.025 mg/L), and MW-3 (0.029 mg/L).

2.7.2.6. Selenium

Selenium was reported in MW-1 at 0.031 mg/L and MW-3 at 0.029 mg/L, which is above the CG of 0.005 mg/L but below the Drinking water ESL of 0.05 mg/L. Selenium was not reported above laboratory detection limits in MW-2.

2.7.3. Total Petroleum Hydrocarbons as Hydraulic Oil (TPHho)

Analytical results for TPHho are presented in Table 3. TPHho was not detected in samples MW-1, MW-2, and MW-3; however, the laboratory reporting limits were 300 micrograms per liter ($\mu\text{g/L}$), which is above the Drinking Water ESL of 100 $\mu\text{g/L}$.

2.7.4. Polycyclic Aromatic Hydrocarbons (PAHs)

Analytical results for PAHs are presented in Table 3. Groundwater monitoring results revealed concentrations of naphthalene exceeding both the CGs (24 $\mu\text{g/L}$) and Drinking Water ESLs (6.1 $\mu\text{g/L}$) in the sample collected from MW-1 (38 $\mu\text{g/L}$); however, no other sample exceeded CGs or Drinking Water ESLs. Minor concentrations of acenaphthene (2.2 $\mu\text{g/L}$ in sample MW-1 and 0.1 $\mu\text{g/L}$ in sample MW-2), anthracene (0.3 $\mu\text{g/L}$ in sample MW-1 and 0.1 $\mu\text{g/L}$ in sample MW-2), Fluorene (0.7 $\mu\text{g/L}$ in sample MW-1 and 0.1 $\mu\text{g/L}$ in sample MW-2), and Phenanthrene (0.7 $\mu\text{g/L}$ in sample MW-1 and 0.2 $\mu\text{g/L}$ in sample MW-2) were detected in groundwater samples. These concentrations are below the CGs of 23 $\mu\text{g/L}$, 0.73 $\mu\text{g/L}$, 3.9 $\mu\text{g/L}$, and 4.6 $\mu\text{g/L}$, respectively, and below the Drinking Water ESLs of 20 $\mu\text{g/L}$, 22 $\mu\text{g/L}$, 630 $\mu\text{g/L}$, and 410 $\mu\text{g/L}$. No other concentrations of PAHs were detected in groundwater monitoring samples.

3. CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of post remediation groundwater monitoring activities, residual impacts from TPHho and PAHs in groundwater do not pose a significant threat to human health or the environmental. Because metals do not biodegrade or readily naturally attenuate, the residual impacts from metals in groundwater may persist at levels which exceed CGs and/or Drinking Water ESLs for a significant period of time.

Impacted groundwater beneath the site is most likely not impacting the aquatic habitat of San Francisco Bay based on the relatively minor impacts detected in groundwater monitoring wells and the generally lower concentrations of COCs detected in monitoring well MW-3 which is closest to the site's western boundary and San Francisco Bay.

Based on the findings of previous site assessments and the results of site remediation and post remediation groundwater monitoring, Ninyo & Moore recommends the following:

- Site CGs for groundwater should be revised to be Drinking Water ESLs (ESLs Table F-3) based on groundwater monitoring results for TDS.
- Because concentrations of metals in site groundwater may continue to exceed Drinking Water ESLs for a significant period of time, a Land Use Restriction preventing the beneficial use of groundwater beneath the site should be established and recorded with the County Assessor Office.
- Groundwater monitoring at the site should be discontinued and ACEH should consider the site for case closure. Following completion of a public notice and comment period for the proposed case closure, monitoring wells MW-1 through MW-3 should be destroyed in accordance with state and local guidelines. Following the submittal of a report to ACEH documenting the monitoring well destruction activities, ACEH should provide a No Further Action letter for the site.

4. LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No other warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions

may exist and conditions not observed or described in this report may be encountered during subsequent activities. Please also note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited subsurface assessment and chemical analysis. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored in this evaluation.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is accredited by the EPA or certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions and recommendations are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or human activities at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or

the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the WF&F. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the WF&F is undertaken at said parties' sole risk.

5. REFERENCES

California Regional Water Quality Control Board, San Francisco Bay Region, 2007 Water Quality Control Plan, dated January 18.

Ninyo & Moore, 2013, Revised Data Gap Investigation Report and Corrective Action Plan, Western Forge and Flange, 540 Cleveland Avenue, Albany, California, dated May 15.

Ninyo & Moore, 2013, Corrective Action Plan Addendum, Western Forge and Flange, 540 Cleveland Avenue, Albany, California, dated July 22.

Ninyo & Moore, 2014, Removal Action Completion Report, 540 Cleveland Avenue, Albany, California, dated February 6.

SFRWQCB, 2013, Environmental Screening Levels, dated May.

SFRWQCB, 2013, Environmental Screening Levels, dated December.

TABLE 1 - GROUNDWATER DEPTH AND ELEVATION DATA

Monitoring Well ID	TOC Elevation (ft msl)	Ground Surface Elevation (ft msl)	Measurement Date	Depth to Groundwater (ft btoc)	Depth to Groundwater (ft bgs)	Groundwater Elevation (ft msl)
MW-1	15.76	12.9	12/3/2013	7.62	4.8	8.14
			12/5/2013	7.59	4.7	8.17
			3/24/2014	5.25	2.4	10.51
			9/9/2014	6.81	4.0	8.95
MW-2	15.47	12.6	12/3/2013	7.31	4.4	8.16
			12/5/2013	7.28	4.4	8.19
			3/24/2014	4.95	2.1	10.52
			9/9/2014	6.5	3.6	8.97
MW-3	15.17	12.3	12/3/2013	5.47	2.6	9.70
			12/5/2013	5.79	2.9	9.38
			3/24/2014	4.75	1.9	10.42
			9/9/2014	6.95	4.1	8.22

Notes:

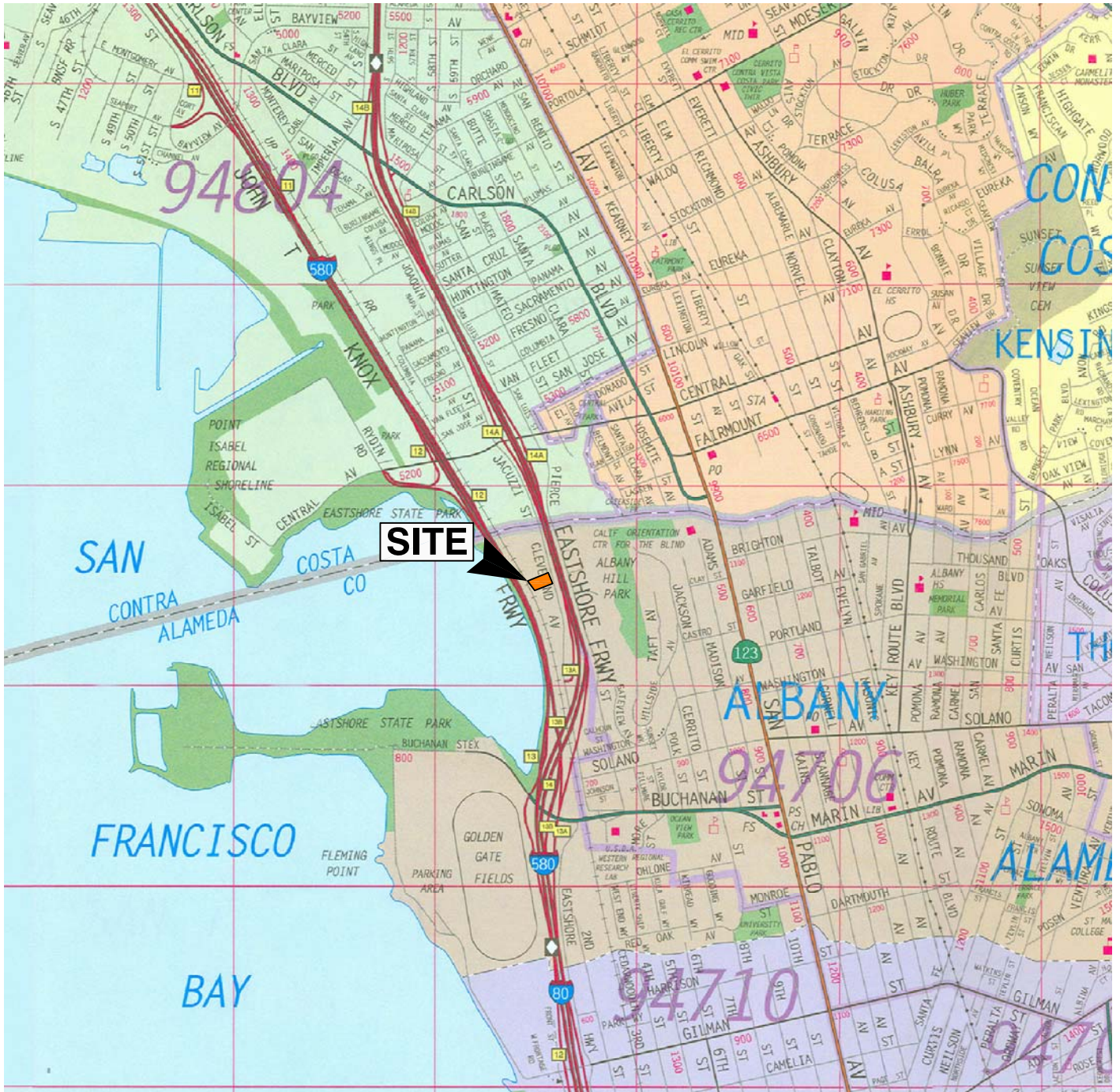
TOC = top of casing
ft btoc= feet below top of casing
ft msl = feet above mean sea level
ft bgs = feet below ground surface

TABLE 2 - ANALYTICAL RESULTS FOR METALS AND TOTAL DISSOLVED SOLIDS

Sample ID	Date Collected	Antimony	Arsenic	Barium	Beryllium	Cadmium	Total Chromium	Hexavalent Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury	Total Dissolved Solids
		Groundwater Sample Results (mg/L)																		
MW-1	12/5/13	<0.010	0.017	0.074	<0.0020	<0.0020	<0.010	<0.010*	<0.0020	0.021	0.0094	0.99	0.033	<0.020	<0.0050	<0.010	0.018	<0.020	0.00022	1,400
	3/24/2014	<0.010	0.018	0.032	<0.0020	<0.0020	<0.010	<0.0005	<0.0020	0.037	0.019	0.67	0.043	<0.020	<0.0050	<0.010	0.022	<0.020	<0.00020	1,100
	9/9/2014	<0.010	0.017	<0.0050	<0.0020	<0.0050	<0.010	<0.0005	<0.0050	0.0079	0.019	0.86	0.039	0.031	<0.0050	<0.010	<0.0050	<0.020	<0.00020	1,100
MW-2	12/5/13	<0.010	0.011	0.11	<0.0020	<0.0020	<0.010	<0.010*	0.0056	0.020	<0.0050	0.58	0.037	<0.020	<0.0050	<0.010	0.012	0.047	0.00027	1,800
	3/24/2014	<0.010	<0.010	0.036	<0.0020	<0.0020	<0.010	<0.0005	<0.0020	<0.020	<0.0050	0.55	0.018	<0.020	<0.0050	<0.010	0.015	<0.020	<0.00020	1,100
	9/9/2014	<0.010	0.011	0.019	<0.0020	<0.0050	<0.010	<0.0005	<0.0050	0.064	0.0099	0.88	0.025	<0.010	<0.0050	<0.010	0.0054	<0.020	<0.00020	900
MW-3	12/5/13	<0.010	<0.010	0.15	<0.0020	<0.0020	<0.010	<0.010*	0.0028	<0.020	0.0099	<0.010	0.030	<0.020	<0.0050	<0.010	<0.010	0.047	0.00021	1,800
	3/24/2014	<0.010	0.014	0.04	<0.0020	<0.0020	<0.010	<0.0005	0.0023	<0.020	<0.0050	<0.010	0.019	<0.020	<0.0050	<0.010	<0.010	<0.020	<0.00020	1,200
	9/9/2014	<0.010	0.019	0.19	<0.0020	<0.0020	<0.010	<0.0005	<0.0050	<0.0050	<0.0050	0.014	0.029	0.029	<0.0050	<0.010	<0.010	<0.020	<0.00020	2,700
Cleanup Goals (mg/L)		0.030	0.036	1	0.00053	0.00025	0.18	0.011	0.003	0.0031	0.0025	0.24	0.0082	0.005	0.00019	0.004	0.019	0.081	0.000025	NA
Drinking Water ESLs (mg/L)		0.006	0.01	1	0.004	0.005	0.05	0.00002	0.0047	1.0	0.015	0.078	0.1	0.05	0.1	0.002	0.050	5	0.002	NA
Notes																				
Metals analyzed by EPA Methods 6010B, 7470A (mercury), and 7199 (hexavalent chromium)																				
* indicates samples analyzed for hexavalent chromium by EPA Method 7196A																				
Total Dissolved Solids analyzed by EPA Method SM 2540C																				
ESLs = San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels																				
Cleanup Goals = ESLs Table F-1b, Groundwater is not a current or potential drinking water resource, dated May 2013																				
Drinking Water ESLs = ESLs Table F-3, dated December 2013																				
<x = less than laboratory reporting limit of x																				
mg/L= milligrams per liter																				
NA = not applicable																				
Bold indicates concentration equal to or exceeding Cleanup Goal																				
Grey Shading indicates concentration exceeding Drinking Water ESL																				

TABLE 3 - ANALYTICAL RESULTS FOR TPHho and PAHs

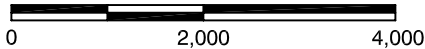
Sample ID	Date Collected	TPHho	PAHs																
			Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	Naphthalene	Phenanthrene	Pyrene	
			Analytical Results (µg/L)																
MW-1	12/5/13	230	0.28	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.99	<0.10	<0.10	
	3/24/2014	<100	0.80	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.26	<0.10	5.2	0.24	<0.10
	9/9/2014	<300	2.2	<0.09	0.3	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	0.7	<0.09	38	0.7	<0.09
MW-2	12/5/13	<100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	3/24/2014	<100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.12	<0.10	<0.10
	9/9/2014	<300	0.1	<0.09	0.1	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	0.1	<0.09	0.3	0.2	<0.09
MW-3	12/5/13	<100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	3/24/2014	<100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	9/9/2014	<300	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Cleanup Goals (µg/L)		640	23	30	0.73	0.027	0.014	0.056	0.10	0.40	0.35	0.25	8	3.9	0.056	24	4.6	2	
Drinking Water ESLs (µg/L)		100	20	2,000	22	0.056	0.2	0.056	0.13	0.056	0.56	0.016	130	630	0.056	6.1	410	68	
Notes																			
PAHs = polycyclic aromatic hydrocarbons analyzed by EPA Method 8270 SIM																			
TPHho = total petroleum hydrocarbons as hydraulic oil analyzed by EPA Method 8015B																			
ESLs = San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels																			
Cleanup Goals = ESLs Table F-1b, Groundwater is not a current or potential drinking water resource, dated May 2013																			
Drinking Water ESLs = ESLs Table F-3, dated December 2013																			
Bold indicates concentration equal to or exceeding Cleanup Goal																			
Grey Shading indicates concentration exceed Drinking Water ESLs																			
<x = not detected, concentration is less than laboratory reporting limit of x																			
µg/L = micrograms per Liter																			



REFERENCE: METRO AREAS OF ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO, AND SANTA CLARA COUNTIES, THOMAS GUIDE, 2008.



SCALE IN FEET



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

SITE LOCATION

FIGURE

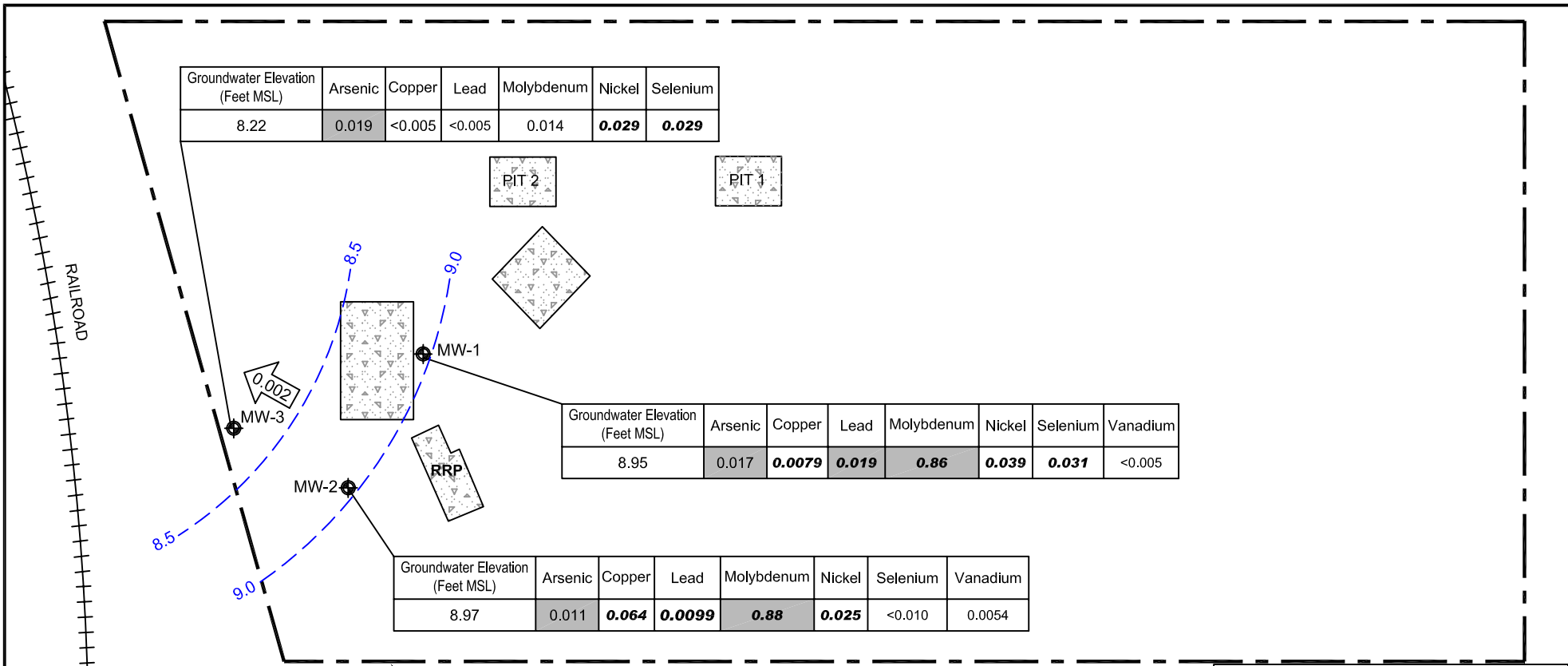
PROJECT NO.
401823001

DATE
9/14

WESTERN FORGE & FLANGE
540 CLEVELAND AVENUE
ALBANY, CALIFORNIA

1

481022001-SL.dwg, Sep 19, 2014, 2:44pm, anguyen



Groundwater Elevation (Feet MSL)	Arsenic	Copper	Lead	Molybdenum	Nickel	Selenium
8.22	0.019	<0.005	<0.005	0.014	0.029	0.029

Groundwater Elevation (Feet MSL)	Arsenic	Copper	Lead	Molybdenum	Nickel	Selenium	Vanadium
8.95	0.017	0.0079	0.019	0.86	0.039	0.031	<0.005

Groundwater Elevation (Feet MSL)	Arsenic	Copper	Lead	Molybdenum	Nickel	Selenium	Vanadium
8.97	0.011	0.064	0.0099	0.88	0.025	<0.010	0.0054

	Arsenic	Copper	Lead	Molybdenum	Nickel	Mercury	Selenium	Vanadium
Cleanup Goals	0.036	0.0031	0.0025	0.24	0.0082	0.000025	0.005	0.019
Drinking Water ESLs	0.01	1.0	0.015	0.078	0.1	0.002	0.05	0.050

LEGEND

- SUBSURFACE CONCRETE FOUNDATION LEFT IN PLACE
- MW-3 MONITORING WELL
- RRP RING ROLLING PIT
- GROUNDWATER FLOW DIRECTION AND GRADIENT IN FEET PER FOOT
- 9.0 GROUNDWATER EQUIPOTENTIAL LINE ELEVATION IN FEET MSL
- TPHho TOTAL PETROLEUM HYDROCARBONS AS HYDRAULIC OIL
- MSL ABOVE MEAN SEAL LEVEL
- SHADING INDICATES CONCENTRATION EXCEEDING DRINKING WATER ESL
- ESLs ENVIRONMENTAL SCREENING LEVELS
- < INDICATES NOT DETECTED, BELOW LABORATORY REPORTING LIMIT
- BOLD** INDICATES CONCENTRATIONS EQUAL TO OR EXCEEDING CLEANUP GOALS
- ANALYTICAL RESULTS, CLEANUP GOALS, AND ESLs IN MILLIGRAMS PER LITER



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

REFERENCE: MASTER LAYOUT FIGURE, CDMS, 1998, REV. 2008, NINYO & MOORE MEASUREMENTS OCTOBER 2011.

Ninyo & Moore		GROUNDWATER GRADIENT AND ANALYTICAL RESULTS FOR CONSTITUENTS EXCEEDING CLEANUP GOALS OR DRINKING WATER ESLs - SEPTEMBER 9, 2014	FIGURE
PROJECT NO.	DATE	WESTERN FORGE & FLANGE 540 CLEVELAND AVENUE ALBANY, CALIFORNIA	2
401823001	9/14		

401823001-FIG2.dwg, Sep 19, 2014, 2:40pm, anguyen

APPENDIX A
FIELD DATA SHEETS

Project Name: WF&F/540 Cleveland Avenue

Site: _____

Date: 9/9/14

Sampler: 1mL

Project No.: 401823001

Weather: Sunny & Warm

Monitoring Well ID: MW-1

Vapor Monitoring Results (ppmv): BZ= WH=

Casing Diameter: 2" 4" 6" Other _____

Casing Material: SCH 40-PVC Other: S. Steel

Total Depth (ft-TOC): 13.30

Floating Immiscible Layer Observed?: NO

Depth to Water (ft-TOC): 6.81

Floating Immiscible Layer Thickness (feet): —

Water Column Height (feet): 6.49

2" = 0.16
4" = 0.65 gal/ft = 1.04 x 3 = 3.1 Min. Purge Volume (gallons)
6" = 1.47

Water Level Measurement Equip.: Solinst Water Level Indicator

Cleaned: yes

Purging Method/Equipment: Geopump Peristaltic Pump

Cleaned: yes

Pump Lines/Bailer Ropes-New or Cleaned?: New

Temp./pH Meter: Oakton

Calibration (date/time): _____

Conductivity Meter: Oakton

Calibration (date/time): _____

Comments: _____

pH STND.	FIELD pH	FIELD TEMP. (°C)
4.0		
7.0		

TIME	Purge Vol.(Gal)	Totalizer Reading (Gal)	TEMP. (°C)	ORP	DO (%)	pH	COND. (µS/cm)	COMMENTS (color, turbidity, odor, sheen, etc.):
1116	1		20.9			7.01	1059	clean slight Petro odor
1122	2		21.1			9.03	1150	
1126	3	21.1 →	21.1			9.25	1201	
1130	4		25.8			9.88	1211	

Total Volume Purged (gallon): _____

Time Finished Purging: _____

Sampling Method/Equipment: Geopump Peristaltic Pump

PARAMETER	USEPA METHOD	CONTAINERS/VOLUME/TYPE (Voa/Glass/Plastic)	PRES.

Bailer Rope-New or Cleaned?: _____

Sample Time: _____

Sample ID: _____

Replicate ID (if appl.): _____

Laboratory: _____

Comments: _____

Project Name: WF&F/540 Cleveland Avenue
 Date: 9/19/14
 Site: _____
 Project No.: 401823001
 Sampler: pm L
 Monitoring Well ID: MW-2
 Weather: Sunny & Warm
 Vapor Monitoring Results (ppmv): BZ= WH=

Casing Diameter: 2" 4" 6" Other _____ Casing Material: SCH 40-PVC Other: S. Steel
 Total Depth (ft-TOC): 13.16 Floating Immiscible Layer Observed?: no
 Depth to Water (ft-TOC): 6.50 Floating Immiscible Layer Thickness (feet): no
 Water Column Height (feet): 6.66 x $2" = 0.16$ gal/ft = 1.06 x 3 = 3.2 Min. Purge Volume (gallons)
 $4" = 0.65$
 $6" = 1.47$

Water Level Measurement Equip.: Solinst Water Level Indicator Cleaned: yes
 Pumping Method/Equipment: Geopump Peristaltic Pump Cleaned: yes
 Pump Lines/Bailer Ropes-New or Cleaned?: New
 Temp./pH Meter: Oakton
 Conductivity Meter: Oakton
 Calibration (date/time): _____
 Calibration (date/time): _____

pH STND.	FIELD pH	FIELD TEMP. (°C)
4.0		
7.0		

TIME	Purge Vol.(Gal)	Totalizer Reading (Gal)	TEMP. (°C)	ORP	DO (%)	pH	COND. (µS/cm)	COMMENTS (color, turbidity, odor, sheen, etc.):
11:51	1		21.7			8.67	1037	Clear slight Petro odor ↓
11:54	2		21.1			8.60	828	
11:57	3		21.0			8.60	807	
12:00	4		20.5			8.60	810	

Total Volume Purged (gallon): _____ Time Finished Purging: _____

Sampling Method/Equipment: Geopump Peristaltic Pump

PARAMETER	USEPA METHOD	CONTAINERS/VOLUME/TYPE (Voa/Glass/Plastic)	PRES.

Bailer Rope-New or Cleaned?: _____
 Sample Time: _____
 Sample ID: _____
 Replicate ID (if appl.): _____

Laboratory: _____

Comments: _____

APPENDIX B

LABORATORY ANALYTICAL REPORT



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 260639
ANALYTICAL REPORT

Ninyo & Moore
1956 Webster St.
Oakland, CA 94612

Project : 401823001
Location : Western Forge & Flange
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-1	260639-001
MW-2	260639-002
MW-3	260639-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 09/16/2014

Will S Rice
Project Manager
will.rice@ctberk.com

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 260639
Client: Ninyo & Moore
Project: 401823001
Location: Western Forge & Flange
Request Date: 09/09/14
Samples Received: 09/09/14

This data package contains sample and QC results for three water samples, requested for the above referenced project on 09/09/14. The samples were received cold and intact.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Semivolatile Organics by GC/MS SIM (EPA 8270C-SIM):

No analytical problems were encountered.

Metals (EPA 6010B and EPA 7470A):

Low recovery was observed for antimony in the MS for batch 215301; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPD was within limits. High recoveries were observed for thallium in the MS/MSD for batch 215301; the BS/BSD were within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated samples. No other analytical problems were encountered.

Hexavalent Chromium by Ion Chromatograph (EPA 7199):

No analytical problems were encountered.

Total Dissolved Solids (TDS) (SM2540C):

No analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 260639 Date Received 9/9/11 Number of coolers 1
 Client Ninyo & Moore Project Western Forge & Flange

Date Opened 9/9 By (print) SL (sign) [Signature]
 Date Logged in 9/9 By (print) MC (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO ~~N/A~~

3. Were custody papers dry and intact when received? _____ ~~YES~~ NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ ~~YES~~ NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ ~~YES~~ NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C
 Type of ice used: Wet Blue/Gel None Temp(°C) _____

Samples received on ice & cold without a temperature blank; temp taken with IR gun

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES ~~NO~~
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ ~~YES~~ NO

11. Are samples in the appropriate containers for indicated tests? _____ ~~YES~~ NO

12. Are sample labels present, in good condition and complete? _____ ~~YES~~ NO

13. Do the sample labels agree with custody papers? _____ ~~YES~~ NO

14. Was sufficient amount of sample sent for tests requested? _____ ~~YES~~ NO

15. Are the samples appropriately preserved? _____ YES NO ~~N/A~~

16. Did you check preservatives for all bottles for each sample? _____ YES NO ~~N/A~~

17. Did you document your preservative check? _____ YES NO ~~N/A~~

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO ~~N/A~~

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO ~~N/A~~

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO ~~N/A~~

21. Was the client contacted concerning this sample delivery? _____ YES ~~NO~~
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS
#10) received 4 containers/sample

Total Extractable Hydrocarbons			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	EPA 3520C
Project#:	401823001	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/09/14
Units:	ug/L	Received:	09/09/14
Diln Fac:	1.000	Prepared:	09/11/14
Batch#:	215308	Analyzed:	09/12/14

Field ID: MW-1 Lab ID: 260639-001
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Hydraulic Fluid, C12-40	ND	300
Surrogate	%REC	Limits
o-Terphenyl	87	66-129

Field ID: MW-2 Lab ID: 260639-002
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Hydraulic Fluid, C12-40	ND	300
Surrogate	%REC	Limits
o-Terphenyl	84	66-129

Field ID: MW-3 Lab ID: 260639-003
Type: SAMPLE Cleanup Method: EPA 3630C

Analyte	Result	RL
Hydraulic Fluid, C12-40	ND	300
Surrogate	%REC	Limits
o-Terphenyl	85	66-129

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC757227

Analyte	Result	RL
Hydraulic Fluid, C12-40	ND	300
Surrogate	%REC	Limits
o-Terphenyl	102	66-129

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	EPA 3520C
Project#:	401823001	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC757228	Batch#:	215308
Matrix:	Water	Prepared:	09/11/14
Units:	ug/L	Analyzed:	09/12/14

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,109	84	61-120

Surrogate	%REC	Limits
o-Terphenyl	102	66-129

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	EPA 3520C
Project#:	401823001	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	215308
MSS Lab ID:	260595-007	Sampled:	09/05/14
Matrix:	Water	Received:	09/06/14
Units:	ug/L	Prepared:	09/11/14
Diln Fac:	1.000	Analyzed:	09/12/14

Type: MS Lab ID: QC757229

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	27.19	2,500	2,294	91	65-120

Surrogate	%REC	Limits
o-Terphenyl	107	66-129

Type: MSD Lab ID: QC757230

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,355	93	65-120	3	26

Surrogate	%REC	Limits
o-Terphenyl	109	66-129

RPD= Relative Percent Difference

Semivolatile Organics by GC/MS SIM

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	EPA 3520C
Project#:	401823001	Analysis:	EPA 8270C-SIM
Field ID:	MW-1	Sampled:	09/09/14
Lab ID:	260639-001	Received:	09/09/14
Matrix:	Water	Prepared:	09/11/14
Units:	ug/L	Analyzed:	09/15/14
Batch#:	215309		

Analyte	Result	RL	Diln Fac
Naphthalene	38	0.5	5.000
Acenaphthylene	ND	0.09	1.000
Acenaphthene	2.2	0.09	1.000
Fluorene	0.7	0.09	1.000
Phenanthrene	0.7	0.09	1.000
Anthracene	0.3	0.09	1.000
Fluoranthene	ND	0.09	1.000
Pyrene	ND	0.09	1.000
Benzo(a)anthracene	ND	0.09	1.000
Chrysene	ND	0.09	1.000
Benzo(b)fluoranthene	ND	0.09	1.000
Benzo(k)fluoranthene	ND	0.09	1.000
Benzo(a)pyrene	ND	0.09	1.000
Indeno(1,2,3-cd)pyrene	ND	0.09	1.000
Dibenz(a,h)anthracene	ND	0.09	1.000
Benzo(g,h,i)perylene	ND	0.09	1.000

Surrogate	%REC	Limits	Diln Fac
Nitrobenzene-d5	63	50-135	1.000
2-Fluorobiphenyl	56	51-120	1.000
Terphenyl-d14	51	34-127	1.000

ND= Not Detected
 RL= Reporting Limit

Semivolatile Organics by GC/MS SIM

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	EPA 3520C
Project#:	401823001	Analysis:	EPA 8270C-SIM
Field ID:	MW-2	Batch#:	215309
Lab ID:	260639-002	Sampled:	09/09/14
Matrix:	Water	Received:	09/09/14
Units:	ug/L	Prepared:	09/11/14
Diln Fac:	1.000	Analyzed:	09/15/14

Analyte	Result	RL
Naphthalene	0.3	0.09
Acenaphthylene	ND	0.09
Acenaphthene	0.1	0.09
Fluorene	0.1	0.09
Phenanthrene	0.2	0.09
Anthracene	0.1	0.09
Fluoranthene	ND	0.09
Pyrene	ND	0.09
Benzo(a)anthracene	ND	0.09
Chrysene	ND	0.09
Benzo(b)fluoranthene	ND	0.09
Benzo(k)fluoranthene	ND	0.09
Benzo(a)pyrene	ND	0.09
Indeno(1,2,3-cd)pyrene	ND	0.09
Dibenz(a,h)anthracene	ND	0.09
Benzo(g,h,i)perylene	ND	0.09

Surrogate	%REC	Limits
Nitrobenzene-d5	59	50-135
2-Fluorobiphenyl	51	51-120
Terphenyl-d14	53	34-127

ND= Not Detected
 RL= Reporting Limit

Semivolatile Organics by GC/MS SIM

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	EPA 3520C
Project#:	401823001	Analysis:	EPA 8270C-SIM
Field ID:	MW-3	Batch#:	215309
Lab ID:	260639-003	Sampled:	09/09/14
Matrix:	Water	Received:	09/09/14
Units:	ug/L	Prepared:	09/11/14
Diln Fac:	1.000	Analyzed:	09/15/14

Analyte	Result	RL
Naphthalene	ND	0.09
Acenaphthylene	ND	0.09
Acenaphthene	ND	0.09
Fluorene	ND	0.09
Phenanthrene	ND	0.09
Anthracene	ND	0.09
Fluoranthene	ND	0.09
Pyrene	ND	0.09
Benzo(a)anthracene	ND	0.09
Chrysene	ND	0.09
Benzo(b)fluoranthene	ND	0.09
Benzo(k)fluoranthene	ND	0.09
Benzo(a)pyrene	ND	0.09
Indeno(1,2,3-cd)pyrene	ND	0.09
Dibenz(a,h)anthracene	ND	0.09
Benzo(g,h,i)perylene	ND	0.09

Surrogate	%REC	Limits
Nitrobenzene-d5	86	50-135
2-Fluorobiphenyl	86	51-120
Terphenyl-d14	94	34-127

ND= Not Detected
 RL= Reporting Limit

Batch QC Report
Semivolatile Organics by GC/MS SIM

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	EPA 3520C
Project#:	401823001	Analysis:	EPA 8270C-SIM
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC757232	Batch#:	215309
Matrix:	Water	Prepared:	09/11/14
Units:	ug/L	Analyzed:	09/15/14

Analyte	Result	RL
Naphthalene	ND	0.1
Acenaphthylene	ND	0.1
Acenaphthene	ND	0.1
Fluorene	ND	0.1
Phenanthrene	ND	0.1
Anthracene	ND	0.1
Fluoranthene	ND	0.1
Pyrene	ND	0.1
Benzo(a)anthracene	ND	0.1
Chrysene	ND	0.1
Benzo(b)fluoranthene	ND	0.1
Benzo(k)fluoranthene	ND	0.1
Benzo(a)pyrene	ND	0.1
Indeno(1,2,3-cd)pyrene	ND	0.1
Dibenz(a,h)anthracene	ND	0.1
Benzo(g,h,i)perylene	ND	0.1

Surrogate	%REC	Limits
Nitrobenzene-d5	62	50-135
2-Fluorobiphenyl	68	51-120
Terphenyl-d14	94	34-127

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatiles Organics by GC/MS SIM

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	EPA 3520C
Project#:	401823001	Analysis:	EPA 8270C-SIM
Matrix:	Water	Batch#:	215309
Units:	ug/L	Prepared:	09/11/14
Diln Fac:	1.000	Analyzed:	09/15/14

Type: BS Lab ID: QC757233

Analyte	Spiked	Result	%REC	Limits
Acenaphthene	1.000	0.8789	88	62-120
Pyrene	1.000	0.8375	84	51-121

Surrogate	%REC	Limits
Nitrobenzene-d5	79	50-135
2-Fluorobiphenyl	76	51-120
Terphenyl-d14	87	34-127

Type: BSD Lab ID: QC757234

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Acenaphthene	1.000	0.8168	82	62-120	7	24
Pyrene	1.000	0.8469	85	51-121	1	23

Surrogate	%REC	Limits
Nitrobenzene-d5	79	50-135
2-Fluorobiphenyl	74	51-120
Terphenyl-d14	87	34-127

RPD= Relative Percent Difference

Dissolved California Title 22 Metals

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001		
Field ID:	MW-1	Diln Fac:	1.000
Lab ID:	260639-001	Sampled:	09/09/14
Matrix:	Filtrate	Received:	09/09/14
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Analysis
Antimony	ND	10	215301	09/11/14	09/11/14	EPA 6010B
Arsenic	17	5.0	215301	09/11/14	09/11/14	EPA 6010B
Barium	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Beryllium	ND	2.0	215301	09/11/14	09/11/14	EPA 6010B
Cadmium	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Chromium	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Cobalt	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Copper	7.9	5.0	215301	09/11/14	09/11/14	EPA 6010B
Lead	19	5.0	215301	09/11/14	09/11/14	EPA 6010B
Mercury	ND	0.20	215327	09/12/14	09/12/14	EPA 7470A
Molybdenum	860	5.0	215301	09/11/14	09/11/14	EPA 6010B
Nickel	39	5.0	215301	09/11/14	09/11/14	EPA 6010B
Selenium	31	10	215301	09/11/14	09/11/14	EPA 6010B
Silver	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Thallium	ND	10	215301	09/11/14	09/11/14	EPA 6010B
Vanadium	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Zinc	ND	20	215301	09/11/14	09/11/14	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Dissolved California Title 22 Metals

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001		
Field ID:	MW-2	Diln Fac:	1.000
Lab ID:	260639-002	Sampled:	09/09/14
Matrix:	Filtrate	Received:	09/09/14
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Analysis
Antimony	ND	10	215301	09/11/14	09/11/14	EPA 6010B
Arsenic	11	5.0	215301	09/11/14	09/12/14	EPA 6010B
Barium	19	5.0	215301	09/11/14	09/11/14	EPA 6010B
Beryllium	ND	2.0	215301	09/11/14	09/11/14	EPA 6010B
Cadmium	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Chromium	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Cobalt	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Copper	6.4	5.0	215301	09/11/14	09/11/14	EPA 6010B
Lead	9.9	5.0	215301	09/11/14	09/11/14	EPA 6010B
Mercury	ND	0.20	215327	09/12/14	09/12/14	EPA 7470A
Molybdenum	880	5.0	215301	09/11/14	09/11/14	EPA 6010B
Nickel	25	5.0	215301	09/11/14	09/11/14	EPA 6010B
Selenium	ND	10	215301	09/11/14	09/12/14	EPA 6010B
Silver	ND	5.0	215301	09/11/14	09/11/14	EPA 6010B
Thallium	ND	10	215301	09/11/14	09/12/14	EPA 6010B
Vanadium	5.4	5.0	215301	09/11/14	09/11/14	EPA 6010B
Zinc	ND	20	215301	09/11/14	09/11/14	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Dissolved California Title 22 Metals

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001		
Field ID:	MW-3	Diln Fac:	1.000
Lab ID:	260639-003	Sampled:	09/09/14
Matrix:	Filtrate	Received:	09/09/14
Units:	ug/L	Analyzed:	09/12/14

Analyte	Result	RL	Batch#	Prepared	Analysis
Antimony	ND	10	215301	09/11/14	EPA 6010B
Arsenic	19	5.0	215301	09/11/14	EPA 6010B
Barium	190	5.0	215301	09/11/14	EPA 6010B
Beryllium	ND	2.0	215301	09/11/14	EPA 6010B
Cadmium	ND	5.0	215301	09/11/14	EPA 6010B
Chromium	ND	5.0	215301	09/11/14	EPA 6010B
Cobalt	ND	5.0	215301	09/11/14	EPA 6010B
Copper	ND	5.0	215301	09/11/14	EPA 6010B
Lead	ND	5.0	215301	09/11/14	EPA 6010B
Mercury	ND	0.20	215327	09/12/14	EPA 7470A
Molybdenum	14	5.0	215301	09/11/14	EPA 6010B
Nickel	29	5.0	215301	09/11/14	EPA 6010B
Selenium	29	10	215301	09/11/14	EPA 6010B
Silver	ND	5.0	215301	09/11/14	EPA 6010B
Thallium	ND	10	215301	09/11/14	EPA 6010B
Vanadium	ND	5.0	215301	09/11/14	EPA 6010B
Zinc	ND	20	215301	09/11/14	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Dissolved California Title 22 Metals

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC757189	Batch#:	215301
Matrix:	Filtrate	Prepared:	09/11/14
Units:	ug/L	Analyzed:	09/11/14

Analyte	Result	RL
Antimony	ND	10
Arsenic	ND	5.0
Barium	ND	5.0
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	5.0
Molybdenum	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Thallium	ND	10
Vanadium	ND	5.0
Zinc	ND	20

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Dissolved California Title 22 Metals			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 6010B
Matrix:	Filtrate	Batch#:	215301
Units:	ug/L	Prepared:	09/11/14
Diln Fac:	1.000		

Type: BS Lab ID: QC757190

Analyte	Spiked	Result	%REC	Limits	Analyzed
Antimony	100.0	98.52	99	78-120	09/14/14
Arsenic	100.0	97.69	98	80-120	09/11/14
Barium	100.0	96.11	96	80-120	09/11/14
Beryllium	100.0	101.9	102	80-120	09/11/14
Cadmium	100.0	102.7	103	80-120	09/11/14
Chromium	100.0	97.30	97	80-120	09/11/14
Cobalt	100.0	94.57	95	80-120	09/11/14
Copper	100.0	95.08	95	79-120	09/11/14
Lead	100.0	95.84	96	80-120	09/11/14
Molybdenum	100.0	89.46	89	80-120	09/11/14
Nickel	100.0	96.33	96	80-120	09/11/14
Selenium	100.0	97.39	97	80-120	09/11/14
Silver	100.0	98.02	98	80-120	09/11/14
Thallium	50.00	53.48	107	80-120	09/11/14
Vanadium	100.0	101.2	101	80-120	09/11/14
Zinc	100.0	105.0	105	80-120	09/11/14

Type: BSD Lab ID: QC757191

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analyzed
Antimony	100.0	96.78	97	78-120	2	20	09/14/14
Arsenic	100.0	91.76	92	80-120	6	20	09/11/14
Barium	100.0	91.64	92	80-120	5	20	09/11/14
Beryllium	100.0	96.91	97	80-120	5	20	09/11/14
Cadmium	100.0	97.63	98	80-120	5	20	09/11/14
Chromium	100.0	92.09	92	80-120	5	20	09/11/14
Cobalt	100.0	89.87	90	80-120	5	20	09/11/14
Copper	100.0	91.29	91	79-120	4	20	09/11/14
Lead	100.0	90.87	91	80-120	5	20	09/11/14
Molybdenum	100.0	82.55	83	80-120	8	20	09/11/14
Nickel	100.0	92.54	93	80-120	4	20	09/11/14
Selenium	100.0	87.68	88	80-120	10	20	09/11/14
Silver	100.0	92.95	93	80-120	5	20	09/11/14
Thallium	50.00	55.37	111	80-120	3	20	09/11/14
Vanadium	100.0	96.10	96	80-120	5	20	09/11/14
Zinc	100.0	99.60	100	80-120	5	20	09/11/14

RPD= Relative Percent Difference

Batch QC Report
Dissolved California Title 22 Metals

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	215301
MSS Lab ID:	260644-001	Sampled:	09/08/14
Matrix:	Filtrate	Received:	09/09/14
Units:	ug/L	Prepared:	09/11/14
Diln Fac:	1.000	Analyzed:	09/11/14

Type: MS Lab ID: QC757192

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	5.221	100.0	73.57	68 *	76-120
Arsenic	33.24	100.0	130.6	97	79-126
Barium	77.61	100.0	166.4	89	74-120
Beryllium	0.1879	100.0	102.0	102	80-122
Cadmium	<0.2822	100.0	99.73	100	76-122
Chromium	0.4195	100.0	94.86	94	76-120
Cobalt	2.850	100.0	93.73	91	74-120
Copper	<0.6734	100.0	96.08	96	74-122
Lead	6.952	100.0	94.20	87	71-120
Molybdenum	1.612	100.0	94.09	92	78-120
Nickel	<7.145	100.0	94.20	94	73-120
Selenium	27.79	100.0	131.4	104	71-127
Silver	2.100	100.0	90.70	89	58-128
Thallium	<20.20	50.00	64.93	130 *	71-120
Vanadium	2.326	100.0	102.3	100	80-120
Zinc	13.50	100.0	117.6	104	74-123

Type: MSD Lab ID: QC757193

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	85.11	80	76-120	15	20
Arsenic	100.0	131.8	99	79-126	1	20
Barium	100.0	169.4	92	74-120	2	25
Beryllium	100.0	106.5	106	80-122	4	20
Cadmium	100.0	103.6	104	76-122	4	20
Chromium	100.0	99.05	99	76-120	4	20
Cobalt	100.0	97.71	95	74-120	4	20
Copper	100.0	101.7	102	74-122	6	21
Lead	100.0	99.33	92	71-120	5	20
Molybdenum	100.0	103.6	102	78-120	10	20
Nickel	100.0	98.08	98	73-120	4	20
Selenium	100.0	139.8	112	71-127	6	35
Silver	100.0	96.06	94	58-128	6	22
Thallium	50.00	70.48	141 *	71-120	8	20
Vanadium	100.0	107.2	105	80-120	5	20
Zinc	100.0	121.9	108	74-123	4	20

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Batch QC Report

Dissolved California Title 22 Metals			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	215327
Lab ID:	QC757306	Prepared:	09/12/14
Matrix:	Filtrate	Analyzed:	09/12/14
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Dissolved California Title 22 Metals			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	215327
Matrix:	Filtrate	Prepared:	09/12/14
Units:	ug/L	Analyzed:	09/12/14
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC757307	2.500	2.760	110	80-120		
BSD	QC757308	2.500	2.656	106	80-120	4	20

RPD= Relative Percent Difference

Batch QC Report
Dissolved California Title 22 Metals

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	215327
Field ID:	ZZZZZZZZZZ	Sampled:	09/03/14
MSS Lab ID:	260498-002	Received:	09/04/14
Matrix:	Filtrate	Prepared:	09/12/14
Units:	ug/L	Analyzed:	09/12/14
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC757309	<0.04000	2.500	2.738	110	57-127		
MSD	QC757310		2.500	2.753	110	57-127	1	42

RPD= Relative Percent Difference

Batch QC Report

Dissolved California Title 22 Metals			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	215327
Lab ID:	QC757312	Prepared:	09/12/14
Matrix:	Filtrate	Analyzed:	09/12/14
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
 RL= Reporting Limit

Dissolved Hexavalent Chromium

Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 7199
Matrix:	Filtrate	Batch#:	215220
Units:	ug/L	Received:	09/09/14
Diln Fac:	1.000		

Field ID:	MW-1	Sampled:	09/09/14 11:30
Type:	SAMPLE	Analyzed:	09/09/14 14:08
Lab ID:	260639-001		

Analyte	Result	RL
Hexavalent Chromium	ND	0.50

Field ID:	MW-2	Sampled:	09/09/14 12:00
Type:	SAMPLE	Analyzed:	09/09/14 13:44
Lab ID:	260639-002		

Analyte	Result	RL
Hexavalent Chromium	ND	0.50

Field ID:	MW-3	Sampled:	09/09/14 12:30
Type:	SAMPLE	Analyzed:	09/09/14 13:56
Lab ID:	260639-003		

Analyte	Result	RL
Hexavalent Chromium	ND	0.50

Type:	BLANK	Analyzed:	09/09/14 09:40
Lab ID:	QC756870		

Analyte	Result	RL
Hexavalent Chromium	ND	0.50

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Dissolved Hexavalent Chromium			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	EPA 7199
Field ID:	MW-3	Batch#:	215220
MSS Lab ID:	260639-003	Sampled:	09/09/14 12:30
Matrix:	Filtrate	Received:	09/09/14
Units:	ug/L		

Type: LCS Diln Fac: 1.000
 Lab ID: QC756871 Analyzed: 09/09/14 09:52

Analyte	Spiked	Result	%REC	Limits
Hexavalent Chromium	10.00	10.49	105	90-110

Type: MS Diln Fac: 5.000
 Lab ID: QC756872 Analyzed: 09/09/14 16:43

Analyte	MSS Result	Spiked	Result	%REC	Limits
Hexavalent Chromium	<0.08023	50.00	47.83	96	85-115

Type: MSD Diln Fac: 5.000
 Lab ID: QC756873 Analyzed: 09/09/14 16:54

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Hexavalent Chromium	50.00	47.57	95	85-115	1	44

RPD= Relative Percent Difference

Total Dissolved Solids (TDS)			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	SM2540C
Analyte:	Total Dissolved Solids	Sampled:	09/09/14
Matrix:	Water	Received:	09/09/14
Units:	mg/L	Prepared:	09/11/14
Batch#:	215288	Analyzed:	09/12/14

Field ID	Type	Lab ID	Result	RL	Diln Fac
MW-1	SAMPLE	260639-001	1,090	10	1.000
MW-2	SAMPLE	260639-002	930	10	1.000
MW-3	SAMPLE	260639-003	2,710	17	1.667
	BLANK	QC757136	ND	10	1.000

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Dissolved Solids (TDS)			
Lab #:	260639	Location:	Western Forge & Flange
Client:	Ninyo & Moore	Prep:	METHOD
Project#:	401823001	Analysis:	SM2540C
Analyte:	Total Dissolved Solids	Batch#:	215288
Field ID:	ZZZZZZZZZZ	Sampled:	09/08/14
Matrix:	Water	Prepared:	09/11/14
Units:	mg/L	Analyzed:	09/12/14

Type	MSS Lab ID	Lab ID	MSS Result	Spiked	Result	RL	%REC	Limits	RPD	Lim	Diln	Fac	Received
LCS		QC757137		104.0	86.00		83	74-120				1.000	
SDUP	260605-006	QC757138	1,991		1,977	14.29			1	5		1.429	09/08/14
SDUP	260644-001	QC757139	1,407		1,404	11.11			0	5		1.111	09/09/14

RL= Reporting Limit

RPD= Relative Percent Difference

