DEPARTMENT OF TRANSPORTATION
DISTRICT 4
Office of Environmental Engineering
P.O. BOX 23660, MS 8C
OAKLAND, CA 94623-0660
PHONE (510) 286-5668
FAX (510) 286-5639
TTY 711
www.dot.ca.gov

Flex your power!
Be energy efficient!

October 21, 2013

Mr. Keith Nowell, P.G., C.H.G.
Alameda County Health Care Services
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Reference: **Semi-Annual Groundwater Monitoring Report (August 2013)**
Former Hegenberger Maintenance Station
555 Hegenberger Road
Oakland, California

TO WHOM IT MAY CONCERN:

Attached for your review is the Semi-Annual Groundwater Monitoring Report (August 2013) for the Former Hegenberger Maintenance Station, 555 Hegenberger Avenue, Oakland, California. This report was prepared for the Alameda County Health Care Services Environmental Protection Division by Stantec Consulting Services Inc.

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

If you have any questions, please don't hesitate to contact me or Stantec Project Manager Gary Messerotes at 408.827.3533.

Sincerely,

for Ramin Boker

Ray Boyer, P.E.
Office of Environmental Engineering
Division of Environmental Planning & Engineering
Caltrans District 04

Stantec Consulting Services Inc.
15575 Los Gatos Boulevard, Building C
Los Gatos CA 95032-2569
Tel: (408) 356-6124
Fax: (408) 356-6138

October 21, 2013

Mr. Keith Nowell, P.G., C.H.G.
Alameda County Health Care Services Agency
Environmental Protection Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Dear Mr. Nowell,

Reference: Semi-Annual Groundwater Monitoring Report (August 2013)
Caltrans Former Hegenberger Maintenance Station
555 Hegenberger Road, Oakland, CA

Stantec Consulting Services, Inc. (Stantec) has prepared this report describing the third quarter 2013 semi-annual groundwater monitoring event conducted at the California Department of Transportation (Caltrans) Former Hegenberger Maintenance Station, located at 555 Hegenberger Road, Oakland, California (Site; Figure 1). The semi-annual groundwater sampling activities were conducted in accordance with requirements stated in the letter from the Alameda County Health Care Services Agency (ACHCSA) dated February 3, 2012 and Stantec's response letter dated February 21, 2012.

The conclusions presented in this report are professional opinions based on data described herein. Limitations associated with this report are described in Appendix A.

BACKGROUND

The Site was formerly occupied by Caltrans to store and service maintenance vehicles and equipment. In September 1995, five groundwater monitoring wells (MW-1 through MW-5) were installed to assess the vertical and lateral extent of impacts to soil and groundwater from the former underground storage tanks (USTs) and pump island at the Site. Figure 2 shows former Site features and groundwater monitoring well locations.

Previous groundwater monitoring events were intermittent between 1995 and 1998. Groundwater monitoring resumed in 2001 and had been conducted on an annual basis between 2001 and 2005. No groundwater sampling events were conducted between 2005 and September 2011, when Stantec initiated semi-annual monitoring.

The groundwater samples were originally sampled for total petroleum hydrocarbons (TPH) as gasoline (GRO); TPH as diesel (DRO); TPH as motor oil (MO); oil and grease (O&G); benzene, toluene, ethylbenzene, and xylenes (BTEX); and methyl-tertiary butyl ether (MTBE). Volatile organic compounds (VOCs) were added to the groundwater sampling program in March 2001. Due to low concentrations, the ACHCSA approved the removal of TPH-MO, O&G, MTBE, and VOCs from the groundwater monitoring program, however analysis for MTBE and other fuel oxygenates have been reinstated.

Reference: Semi-Annual Groundwater Monitoring Report (August 2013) Caltrans Former Hegenberger Maintenance Station 555 Hegenberger Road, Oakland, CA

CURRENT SITE CONDITIONS

The Site currently consists of an asphalt parking lot and concrete pad and is surrounded by an eight-foot high chain link fence that is topped by barbed wire. To the immediate south of the Site is undeveloped land. Adjacent to the west of the Site is a property owned by D. Thompson Properties, LLC as affiliate of the tenant TEC of California, Inc. The current tenant is a General Motors Corporation (GMC) Truck Center facility. Coliseum Way abuts the Site on the north and Hegenberger Road is adjacent to the east.

In mid to late 2012, the Bay Area Rapid Transit (BART) commenced construction activities for the BART rail extension to the Oakland Airport, which runs along Hegenberger Road. A portion of this project includes concrete columns that will support the elevated rail line. Some of these columns are located along the eastern portion of the Site. The construction of these columns required a large excavation of approximately 20 feet by 20 feet and an unknown depth. At least one or two of these excavations were located in the area of suspected petroleum-impacted soil and groundwater. To Caltrans knowledge, no soil or grab groundwater samples were collected during the excavation activities.

GROUNDWATER MONITORING

Groundwater Level Measurements

On August 28, 2013, Stantec measured groundwater levels in groundwater monitoring wells MW-1 through MW-5 to the nearest 0.01-foot using a SolinstTM electronic water level meter. Depth-to-water and calculated well volumes were recorded on Groundwater Sample Field Data Sheets (Appendix B). Depth-to-water measurements and groundwater elevations are presented in Table 1; groundwater elevations are illustrated on Figure 3.

Monitoring Well Purging and Sampling

On August 28, 2013, Stantec used clean disposable bailers to purge MW-1 through MW-5. Approximately three casing volumes of water were purged from each groundwater monitoring well prior to sampling using a disposal bailer. Physical parameters including pH, temperature, conductivity, dissolved oxygen, and oxidation-reduction potential were monitored during purging and recorded on a standard Groundwater Sample Field Data Sheet (Appendix B). Stabilization of these parameters to within 10 percent indicates that groundwater in the monitoring well is representative of formation water. Groundwater samples were collected between 3 hours and 5 hours following purging of the wells to allow groundwater levels to partially recover prior to sampling. Monitoring of water level recovery prior to sample collection, however, revealed that the wells MW-3 and MW-5 were recharging at low rates. Because of the low groundwater recharge rates, water level recovery prior to sample collection was less than 80 percent for MW-3 and MW-5.

Groundwater samples were transferred from the bailers to laboratory-supplied containers. Sample containers were sealed, labeled, and placed on ice for transport to APPL Laboratories in Clovis, California, a California-certified analytical laboratory. Field instruments were cleaned with a non-phosphate cleanser, a tap-water rinse, and a final de-ionized water rinse prior to use and between each well sampled. New nitrile gloves were used for each sampling point. Rinse and purge water was containerized in a 55-gallon drum, pending analysis.

Reference: Semi-Annual Groundwater Monitoring Report (August 2013) Caltrans Former Hegenberger Maintenance Station 555 Hegenberger Road, Oakland, CA

Analytical Methods

The groundwater samples from each well were analyzed for TPH-GRO and TPH-DRO by EPA Method 8015B with silica gel cleanup, and for fuel oxygenates including BTEX, MTBE, tertiary amyl methyl ether (TAME), ethyl tertiary butyl ether (ETBE), diisopropyl ether (DIPE), tertiary butyl alcohol (TBA), ethylene dibromide (EDB), and 1,2-dichloroethane (EDC) by EPA Method 8260B.

GROUNDWATER MONITORING RESULTS

The current groundwater flow direction continues to exhibit an abnormal pattern. As previously stated in Stantec's Site Conceptual Model and Current Subsurface Investigation Results report for this Site, dated June 7, 2012, it is believed that the former UST excavation near MW-1, extending to approximately 18 ft below ground surface (bgs), accumulates precipitation within the more permeable backfill of the former UST excavation and flows radially outward from the excavation. This groundwater trend was documented in Appendix E of the aforementioned Site Conceptual Model report for 13 events of groundwater monitoring at the Site. Since the monitoring wells at the Site were installed in 1995, the groundwater flow direction has either been radially outward from MW-1 or generally west or northwest towards MW-3. During this monitoring event, groundwater is shallowest in the area of MW-1 and MW-5 and flows west, north, and east from these wells. A groundwater gradient was not calculated for this event. Historical and current groundwater elevations are presented in Table 1.

DATA SUMMARY

Concentrations of TPH constituents, BTEX, and fuel oxygenates from this sampling event were generally within historic concentration ranges, however, concentrations for many of the constituents decreased slightly this sampling event over levels detected the previous (March 2013) event. For this monitoring event, TPH-GRO concentrations ranged between 14 micrograms per liter (µg/L) (MW-2) and 2,300 µg/L (MW-4) with the sample from MW-2 having a "J" qualifier. The "J" qualifier indicates that the concentration is an estimated value between the laboratory method detection limit and the practical quantitation limit.

TPH-DRO concentrations ranged between <40.40 µg/L (MW-2) to 660 µg/L (MW-3); with sample results from four of the five monitoring wells exhibiting stable or slightly diminished concentrations. However, each of the TPH-DRO detections were "++" qualified by the laboratory, indicating the analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons.

Benzene concentrations ranged between <0.16 µg/L (MW-2) to 60 µg/L (MW-4), with results from three of the monitoring wells (MW-1, MW-2 and MW-5) continuing to exhibit stabilization at very low concentrations and concentrations in MW-3 and MW-4 dropping significantly.

The San Francisco Regional Water Quality Control Board Environmental Screening Levels (ESLs, May 2013) where groundwater is not a current or potential source of drinking water for Commercial/Industrial land use was exceeded in groundwater monitoring wells MW-1, MW-3, MW-4, and MW-5 for TPH-GRO; MW-3 for TPH-DRO; and MW-4 for benzene. All other analytes were below their respective ESLs or were not detected above the laboratory method detection limit.

Analytical results of selected constituents are presented on Figure 4.

Reference: Semi-Annual Groundwater Monitoring Report (August 2013)
Hegenberger Maintenance Station
Oakland, CA

Caltrans Former
555 Hegenberger Road,

QUALITY CONTROL

Stantec reviewed laboratory quality control (QC) data provided in the certified analytical reports. Based on the review, the groundwater analytical data are of adequate quality for the intended use.

A duplicate groundwater sample (Dup) was collected from MW-4 and the analytical results were within acceptable limits of the initial sample. Table 2 presents a summary of groundwater analytical results from the Site monitoring wells; the complete Certified Analytical Laboratory Reports and chain-of-custody documents are included in Appendix C.

FUTURE ACTIVITIES

Stantec is still awaiting response from the ACHCSA regarding the findings and recommendations of the *Site Conceptual Model* submitted in June 2012.

If you have any questions regarding this submittal, please contact Gary Messerotes at (408) 827-3533.

Regards,

STANTEC CONSULTING SERVICES INC.

Jack C. Hardin
Managing Principal

Gary P. Messerotes, P.G.
Project Manager

PROFESSIONAL GEOLOGIST
GARY P. MESSEROTES
No. 5650
exp. 07/31/14
STATE OF CALIFORNIA

Attachment:

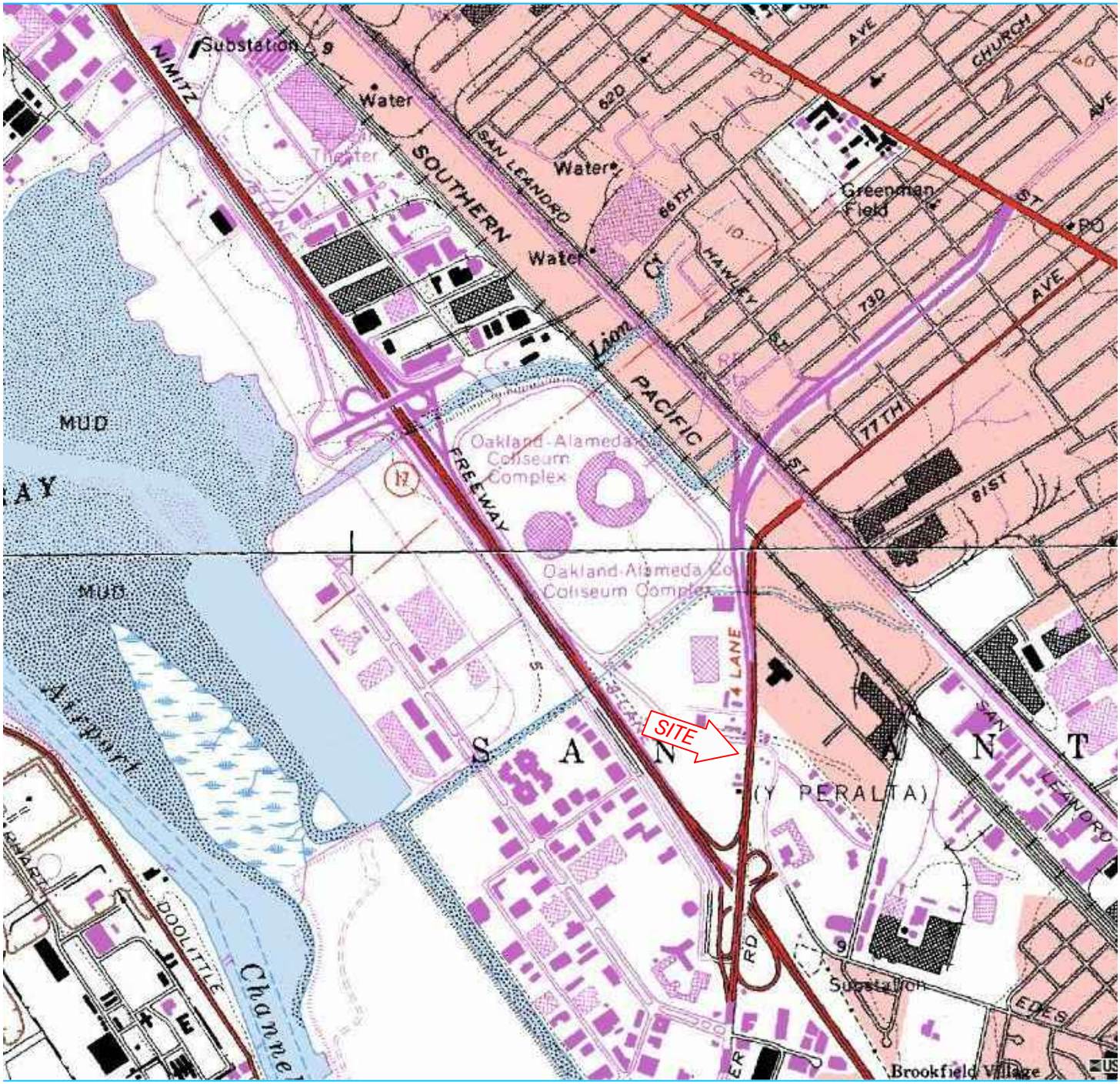
Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 - Groundwater Elevation Contour Map – August 2013
Figure 4 – Groundwater Monitoring Well Concentration Map – August 2013

Table 1 – Historical Groundwater Elevation Data
Table 2 – Historical Groundwater Analytical Results

Appendix A – Statement of Limitations
Appendix B – Groundwater Sample Field Data Sheets
Appendix C – Certified Analytical Laboratory Reports and Chain-of-Custody Documents

c. Mr. Ramin Behani, P.E., California Department of Transportation - District 4, Division of Environmental Planning and Engineering, Office of Environmental Engineering, 111 Grand Avenue, Oakland, CA

FIGURES



North

CALIFORNIA

1 1/2 0 1

SCALE (MILES)

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE (FEET)

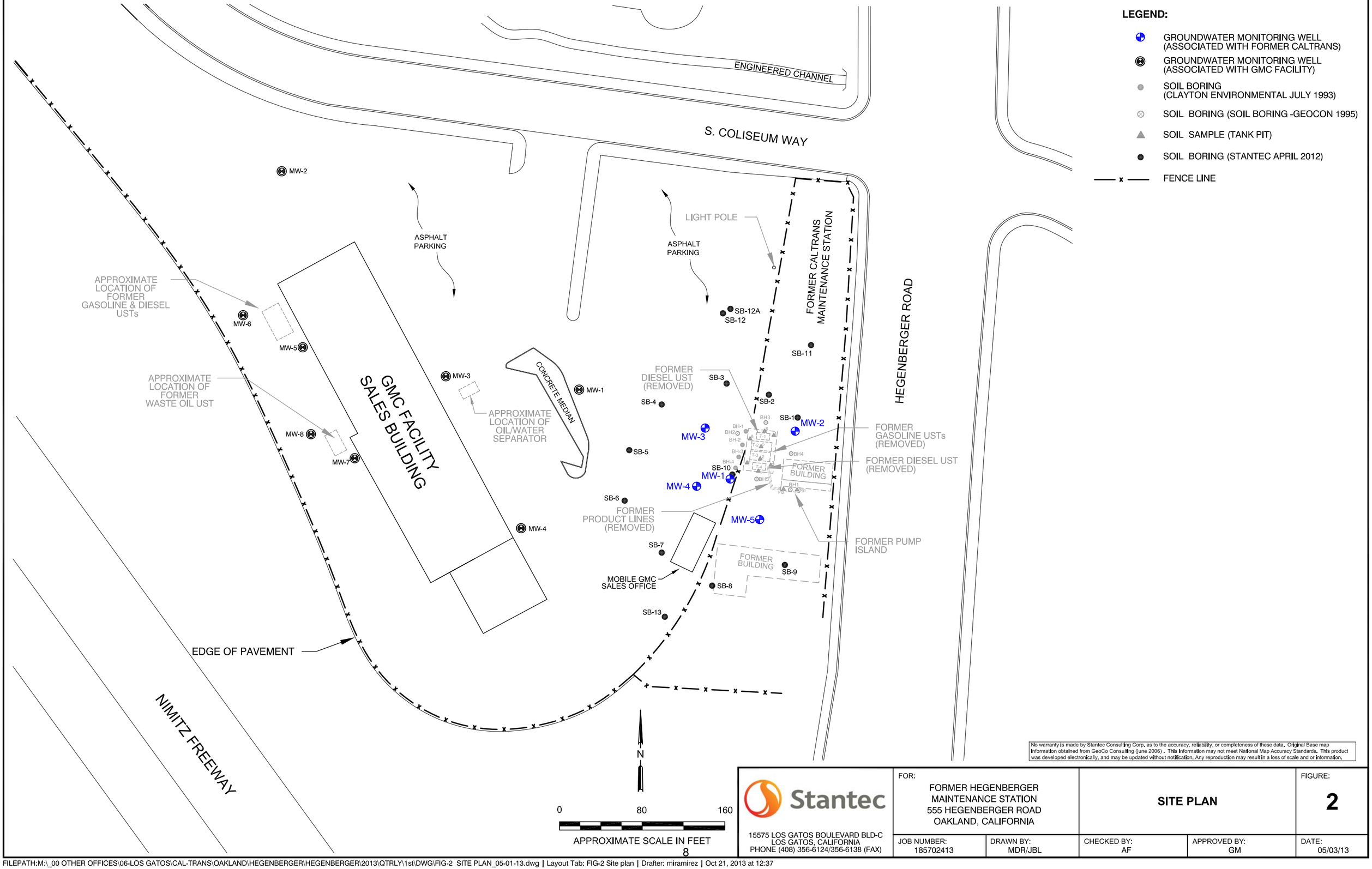
REFERENCE: USGS 7.5 MINUTE QUADRANGLE, OAKLAND, CALIFORNIA

Stantec

15575 LOS GATOS BOULEVARD BLD-C
LOS GATOS, CALIFORNIA
PHONE (408) 356-6124/356-6138 (FAX)

FOR:		FIGURE:
FORMER HEGENBERGER MAINTENANCE STATION 555 HEGENBERGER ROAD OAKLAND, CALIFORNIA	**SITE LOCATION MAP**	**1**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702413	MDR 7	AF	GM	04/04/13



No warranty is made by Stantec Consulting Corp. as to the accuracy, reliability, or completeness of these data. Original Base map information obtained from GeoCo Consulting (June 2006). This information may not meet National Map Accuracy Standards. This product was developed electronically, and may be updated without notification. Any reproduction may result in a loss of scale and or information.

Stantec
15575 LOS GATOS BOULEVARD BLD-C
LOS GATOS, CALIFORNIA
PHONE (408) 356-6124/356-6138 (FAX)

FOR:
FORMER HEGENBERGER MAINTENANCE STATION
555 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

SITE PLAN

FIGURE: **2**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702413	MDR/JBL	AF	GM	05/03/13

FILEPATH:M:_00 OTHER OFFICES\06-LOS GATOS\CAL-TRANS\OAKLAND\HEGENBERGER\HEGENBERGER\2013\QTRLY\1st\DWG\FIG-2 SITE PLAN_05-01-13.dwg | Layout Tab: FIG-2 Site plan | Drafter: miramirez | Oct 21, 2013 at 12:37

LEGEND:

- GROUNDWATER MONITORING WELL (ASSOCIATED WITH FORMER CALTRANS)
- GROUNDWATER MONITORING WELL (ASSOCIATED WITH GMC FACILITY)
- FENCE LINE
- 6.79 — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL) MEASURED ON SEPTEMBER 30, 2012
- 7.25 — GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)

ENGINEERED CHANNEL

S. COLISEUM WAY

HEGENBERGER ROAD

NIMITZ FREEWAY

EDGE OF PAVEMENT

ASPHALT PARKING

ASPHALT PARKING

LIGHT POLE

FORMER CALTRANS MAINTENANCE STATION

GMC FACILITY SALES BUILDING

CONCRETE MEDIAN

APPROXIMATE LOCATION OF FORMER GASOLINE & DIESEL USTs

APPROXIMATE LOCATION OF FORMER WASTE OIL UST

APPROXIMATE LOCATION OF OIL/WATER SEPARATOR

FORMER DIESEL UST (REMOVED)

FORMER GASOLINE USTs (REMOVED)

FORMER DIESEL UST (REMOVED)

FORMER PRODUCT LINES (REMOVED)

FORMER PUMP ISLAND

FORMER BUILDING

FORMER BUILDING

MOBILE GMC SALES OFFICE

MW-1 7.18

MW-2 6.78

MW-3 6.80

MW-4 6.99

MW-5 7.16

MW-6

MW-7

MW-8

6.8

7.0

N

0 80 160

APPROXIMATE SCALE IN FEET

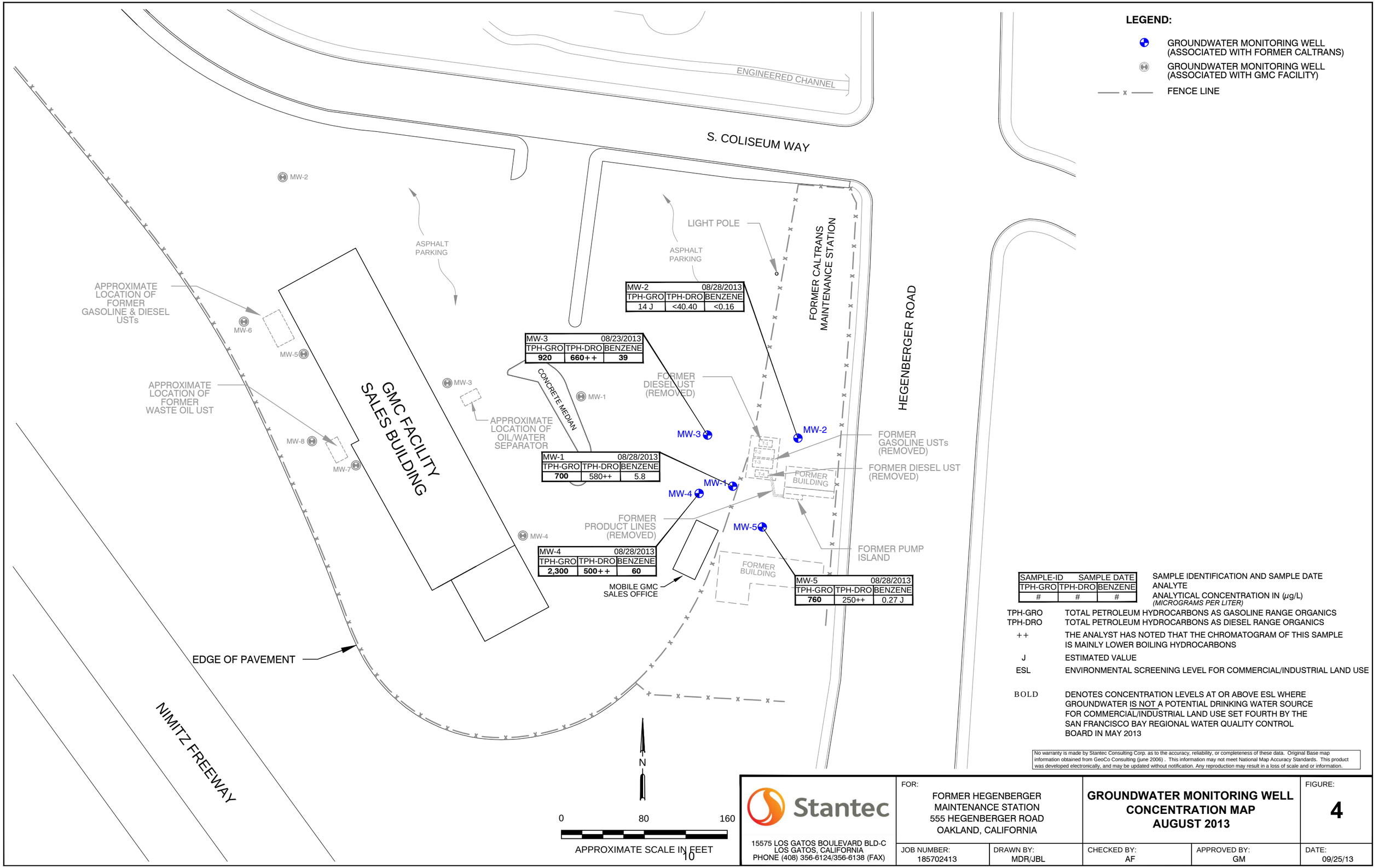
Stantec
15575 LOS GATOS BOULEVARD BLD-C
LOS GATOS, CALIFORNIA
PHONE (408) 356-6124/356-6138 (FAX)

FOR:
FORMER HEGENBERGER MAINTENANCE STATION
555 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP AUGUST 2013

FIGURE: **3**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702413	MDR/JBL	AF	GM	09/25/13



SAMPLE-ID	SAMPLE DATE	
TPH-GRO	TPH-DRO	BENZENE
#	#	#

SAMPLE IDENTIFICATION AND SAMPLE DATE
ANALYTE
ANALYTICAL CONCENTRATION IN (µg/L)
(MICROGRAMS PER LITER)

TPH-GRO	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
TPH-DRO	TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS
++	THE ANALYST HAS NOTED THAT THE CHROMATOGRAM OF THIS SAMPLE IS MAINLY LOWER BOILING HYDROCARBONS
J	ESTIMATED VALUE
ESL	ENVIRONMENTAL SCREENING LEVEL FOR COMMERCIAL/INDUSTRIAL LAND USE
BOLD	DENOTES CONCENTRATION LEVELS AT OR ABOVE ESL WHERE GROUNDWATER IS NOT A POTENTIAL DRINKING WATER SOURCE FOR COMMERCIAL/INDUSTRIAL LAND USE SET FOURTH BY THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD IN MAY 2013

Stantec
15575 LOS GATOS BOULEVARD BLD-C
LOS GATOS, CALIFORNIA
PHONE (408) 356-6124/356-6138 (FAX)

FOR:
FORMER HEGENBERGER MAINTENANCE STATION
555 HEGENBERGER ROAD
OAKLAND, CALIFORNIA

GROUNDWATER MONITORING WELL CONCENTRATION MAP AUGUST 2013

FIGURE: 4

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702413	MDR/JBL	AF	GM	09/25/13

TABLES

TABLE 1
Historical Groundwater Elevation Data
Caltrans Former Hegenberger Maintenance Station
555 Hegenberger Road, Oakland, CA

Sample ID	Well Screen Interval (feet)	Date	TOC Elevation (feet, msl)	DTW (feet)	GW Elevation (feet, msl)
MW-1	4.5-19.5	10/11/95	99.73	6.55	93.18
		01/17/96	99.73	5.64	94.09
		04/16/96	99.73	5.46	94.27
		08/26/96	99.73	5.91	93.82
		11/14/96	99.73	6.16	93.57
		02/18/98	99.73	3.82	95.91
		03/30/01	99.73	6.19	93.54
		*12/26/01	10.26	4.08	6.18
		*09/30/02	10.26	5.79	4.47
		*02/20/03	10.26	4.49	5.77
		*01/12/04	10.26	4.41	5.85
		*05/12/05	10.26	4.45	5.81
		*09/29/11	10.26	5.57	4.69
		**03/30/12	13.31	3.50	9.81
		09/11/12	13.31	6.15	7.16
		03/20/13	13.31	5.48	7.83
		08/28/13	13.31	6.13	7.18
MW-2	5-20	10/11/95	99.68	6.88	92.80
		01/17/96	99.68	5.32	94.36
		04/16/96	99.68	5.81	93.87
		08/26/96	99.68	5.98	93.70
		11/14/96	99.68	6.72	92.96
		02/18/98	99.68	5.01	94.67
		03/30/01	99.68	6.54	93.14
		*12/26/01	10.22	5.53	4.69
		*09/30/02	10.22	6.48	3.74
		*02/20/03	10.22	5.98	4.24
		*01/12/04	10.22	5.69	4.53
		*05/12/05	10.22	5.55	4.67
		*09/29/11	10.22	6.21	4.01
		**03/30/12	13.10	5.00	8.10
		09/11/12	13.10	6.29	6.81
		03/20/13	13.10	6.20	6.90
		08/28/13	13.10	6.32	6.78
MW-3	4.5-19.5	10/11/95	98.92	6.42	92.50
		01/17/96	98.92	5.82	93.10
		04/16/96	98.92	5.85	93.07
		08/26/96	98.92	5.72	93.20
		11/14/96	98.92	6.28	92.64
		02/18/98	98.92	4.65	94.27
		03/30/01	98.92	5.62	93.30
		*12/26/01	9.46	4.66	4.80
		*09/30/02	9.46	5.84	3.62
		*02/20/03	9.46	5.55	3.91
		*01/12/04	9.46	4.77	4.69
		*05/12/05	9.46	4.63	4.83
		*09/29/11	9.46	5.50	3.96
		**03/30/12	12.34	2.75	9.59
		09/11/12	12.34	5.55	6.79
		03/20/13	12.34	4.20	8.14
		08/28/13	12.34	5.54	6.80

TABLE 1
Historical Groundwater Elevation Data
Caltrans Former Hegenberger Maintenance Station
555 Hegenberger Road, Oakland, CA

Sample ID	Well Screen Interval (feet)	Date	TOC Elevation (feet, msl)	DTW (feet)	GW Elevation (feet, msl)
MW-4	4-19	10/11/95	99.46	6.63	92.83
		01/17/96	99.46	5.77	93.69
		04/16/96	99.46	5.89	93.57
		08/26/96	99.46	6.14	93.32
		11/14/96	99.46	6.72	92.74
		02/18/98	99.46	5.02	94.44
		03/30/01	99.46	6.21	93.25
		*12/26/01	10.00	5.37	4.63
		*09/30/02	10.00	6.40	3.60
		*02/20/03	10.00	5.83	4.17
		*01/12/04	10.00	5.41	4.59
		*05/12/05	10.00	5.59	4.41
		*09/29/11	10.00	6.23	3.77
		**03/30/12	12.85	3.30	9.55
		09/11/12	12.85	5.86	6.99
		03/20/13	12.85	5.23	7.62
		08/28/13	12.85	5.86	6.99
MW-5	5-20	10/11/95	99.91	6.68	93.23
		01/17/96	99.91	5.74	94.17
		04/16/96	99.91	5.85	94.06
		08/26/96	99.91	5.99	93.92
		11/14/96	99.91	6.70	93.21
		02/18/98	99.91	5.74	94.17
		03/30/01	99.91	6.73	93.18
		*12/26/01	10.34	5.23	5.11
		*09/30/02	10.34	6.18	4.16
		*02/20/03	10.34	5.80	4.54
		*01/12/04	10.34	5.60	4.74
		*05/12/05	10.34	6.18	4.16
		*09/29/11	10.34	6.37	3.97
		**03/30/12	13.33	4.61	8.72
		09/11/12	13.33	6.40	6.93
		03/20/13	13.33	5.73	7.60
		08/28/13	13.33	6.17	7.16

Notes
Data prior to September 29, 2011 was provided by Geocon Consultants, Inc.
TOC = Top of Casing
DTW = Depth to groundwater
GW = groundwater
msl = mean sea level
* Monitoring wells were resurveyed with latitude and longitude coordinates referenced to the California state Coordinate system, Zone III (NAD83) and elevations reverenced to NGVD 29 Benchmark Elevation = 10.76 feet
** Stantec resurveyed the wells on March 30, 2012. Latitude and longitude were determined from the US State Plane Zone 3 Coordinate System, NAD 83 Datum; elevations were measured against a NAVD 88 Benchmark and referenced to mean sea level.

Table 2
Historical Groundwater Analytical Results
Caltrans Former Hegenberger Maintenance Station
555 Hegenberger Road
Oakland, CA

Sample ID	Date	TPH-GRO (µg/L)	TPH-DRO (µg/L)	TPH-MO (µg/L)	O&G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Other VOCs (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TBA (µg/L)	EDB (µg/L)	DCA (µg/L)	TDS (mg/L)	Salinity (s)
ESL where groundwater IS NOT a current or potential source of drinking water		500	640	640	640	46	130	43	100	1,800	NE	NE	NE	NE	18,000	NE	1,000	NE	NE
MW-1	10/11/1995	**720**	<50	<50	<5,000	**660**	13	4.7	2.8	--	--	--	--	--	--	--	--	--	--
	1/17/1996	**4,400**	<50	<50	--	**1,000**	30	21	17	--	--	--	--	--	--	--	--	--	--
	4/16/1996	**6,050**	**7,450**	--	--	**914**	34.7	34.4	15.8	--	--	--	--	--	--	--	--	--	--
	8/26/1996	**3,800**	430	--	--	**780**	23	21	20	--	--	--	--	--	--	--	--	--	--
	11/14/1996	**2,600**	270	--	--	**500**	18	14	8.9	--	--	--	--	--	--	--	--	--	--
	2/18/1998	**3,100**	**800**	--	--	**240**	18	7.8	11	20	--	--	--	--	--	--	--	--	--
	3/30/2001	**3,600**	480	--	--	**150**	13	0.7	10.8	<0.5	<5	--	--	--	--	--	--	--	--
	12/26/2001	**3,000**	**1,100**	--	--	**86**	11	3.4	10.5	<5	Isopropylbenzene = 7.9	--	--	--	--	--	--	--	--
											n-butylbenzene = 5.1	--	--	--	--	--	--	--	--
											n-propylbenzene = 5.9	--	--	--	--	--	--	--	--
	9/30/2002	**590**	<50	--	--	12	2.7	<0.5	1.6	<0.5	--	--	--	--	--	--	--	--	--
	2/20/2003	**2,660**	--	--	--	36.9	10.6	7	18.1	<5	--	--	--	--	--	--	--	--	--
	1/12/2004	**1,610**	--	--	--	6.8	1.8	1.8	1.4	--	--	--	--	--	--	--	--	--	--
	5/12/2005	**1,200**	--	--	--	20	<5	<5	<5	--	--	--	--	--	--	--	--	--	--
	9/30/2011	**950**	530^{++}	--	--	14	6.5	0.36^{J}	6.9	<0.19	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	3/30/2012	**630**	280^{++}	--	--	14	4.4	0.36^{J}	4.9	<0.26	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	435	0.44 ^{J}
	9/11/2012	**600**	470^{++}	--	--	5.5	4.7	0.30^{J}	6.0	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	3/21/2013	**1,200**	130^{++}	--	--	7.2	4.0	0.35^{J}	4.8	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	8/28/2013	**700**	580^{++}	--	--	5.8	4.6	0.31^{J}	6.0	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	0.17^{J}	--	--
MW-2	10/11/1995	<50	<50	<50	<5,000	<0.3	<0.3	<0.3	<0.5	--	--	--	--	--	--	--	--	--	--
	1/17/1996	**4,900**	<50	<50	--	**2,100**	<1.5	<15	<15	--	--	--	--	--	--	--	--	--	--
	4/16/1996	<50	<50	--	--	1.0	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--
	8/26/1996	<50	<50	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--
	11/14/1996	<50	56	--	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--	--
	2/18/1998	<50	260	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--	--
	3/30/2001	<200	370	--	--	2.7	0.8	<0.5	0.8	<0.5	<5	--	--	--	--	--	--	--	--
	12/26/2001	86	140	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--	--	--	--	--
	9/30/2002	<50	<50	--	--	<0.5	<5	<0.5	<1.5	<0.5	--	--	--	--	--	--	--	--	--
	2/20/2003	110	--	--	--	6.6	<0.5	<0.5	<1	<0.5	--	--	--	--	--	--	--	--	--
	1/12/2004	67	--	--	--	<0.5	<0.5	<0.5	<1	--	--	--	--	--	--	--	--	--	--
	5/12/2005	**330**	--	--	--	<1	<1	<1	<1	--	--	--	--	--	--	--	--	--	--
	9/30/2011	130	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.19	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	3/30/2012	120	<40.40	--	--	0.32 ^{J}	0.24 ^{J}	<0.23	0.44 ^{J}	<0.26	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	853	0.93 ^{J}
	9/11/2012	13^{J}	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
DUP-1	9/11/2012	11^{J}	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	3/21/2013	110	<40.40	--	--	1.2	0.59 ^{J}	<0.23	0.77	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	8/28/2013	14^{J}	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--

Table 2
Historical Groundwater Analytical Results
Caltrans Former Hegenberger Maintenance Station
555 Hegenberger Road
Oakland, CA

Sample ID	Date	TPH-GRO (µg/L)	TPH-DRO (µg/L)	TPH-MO (µg/L)	O&G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Other VOCs (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TBA (µg/L)	EDB (µg/L)	DCA (µg/L)	TDS (mg/L)	Salinity (s)
ESL where groundwater IS NOT a current or potential source of drinking water		500	640	640	640	46	130	43	100	1,800	NE	NE	NE	NE	18,000	NE	1,000	NE	NE
MW-3	10/11/1995	**1,300**	<50	<50	<5,000	1.0	<0.3	<0.3	<0.3	--	--	--	--	--	--	--	--	--	--
	1/17/1996	171	<50	<50	--	**64**	<0.3	1	<0.3	--	--	--	--	--	--	--	--	--	--
	4/16/1996	**6,740**	565	--	--	**2,770**	31	13.9	21.9	--	--	--	--	--	--	--	--	--	--
	8/26/1996	**700**	**700**	--	--	**180**	4.2	1	4.6	--	--	--	--	--	--	--	--	--	--
	11/14/1996	300	120	--	--	6.2	1.2	0.7	1.4	--	--	--	--	--	--	--	--	--	--
	2/18/1998	**11,000**	**2,500**	--	--	**3,070**	50	**54**	19	25	--	--	--	--	--	--	--	--	--
	3/30/2001	**9,900**	490	--	--	**2,000**	48	39	39	<0.5	Isopropylbenzene = 92	--	--	--	--	--	--	--	--
											n-butylbenzene = 38	--	--	--	--	--	--	--	--
											n-propylbenzene = 280	--	--	--	--	--	--	--	--
											sec-butylbenzene = 13	--	--	--	--	--	--	--	--
	12/26/2001	**9,400**	**1,700**	--	--	**1,500**	45	33	28	12	Isopropylbenzene = 85	--	--	--	--	--	--	--	--
											n-butylbenzene = 39	--	--	--	--	--	--	--	--
											n-propylbenzene = 250	--	--	--	--	--	--	--	--
	9/30/2002	**2,020**	570	--	--	**775**	17.2	1	8.4	<0.5	--	--	--	--	--	--	--	--	--
	2/20/2003	**4,010**	--	--	--	**1,120**	<50	<50	<100	<50	--	--	--	--	--	--	--	--	--
	1/12/2004	**3,520**	--	--	--	**632**	26.9	<25	<50	--	--	--	--	--	--	--	--	--	--
	5/12/2005	**5,200**	--	--	--	**1,000**	30	20	10	--	--	--	--	--	--	--	--	--	--
	9/30/2011	**3,800**	**900**$^{++}$	--	--	**390**	16	1.1	14	<0.14	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	3/30/2012	**5,400**	**780**$^{++}$	--	--	**640**	29	10	24	<0.26	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	1,380	1.6^{J}
	9/12/2012	**2,000**	210^{++}	--	--	22	7.4	<0.23	5.8	<0.26	--	<0.14	<0.19	0.27^{J}	<10.00	<0.20	<0.14	--	--
	3/21/2013	**4,900**	**1000**$^{++}$	--	--	**930**	32	5.9	19	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	8/28/2013	**920**	**660**$^{++}$	--	--	39	9.5	0.53^{J}	8.9	<0.26		<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--

Table 2
Historical Groundwater Analytical Results
Caltrans Former Hegenberger Maintenance Station
555 Hegenberger Road
Oakland, CA

Sample ID	Date	TPH-GRO (µg/L)	TPH-DRO (µg/L)	TPH-MO (µg/L)	O&G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Other VOCs (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TBA (µg/L)	EDB (µg/L)	DCA (µg/L)	TDS (mg/L)	Salinity (s)
ESL where groundwater IS NOT a current or potential source of drinking water		500	640	640	640	46	130	43	100	1,800	NE	NE	NE	NE	18,000	NE	1,000	NE	NE
MW-4	10/11/1995	**500**	<50	<50	<5,000	17	1.1	<0.3	0.5	--	--	--	--	--	--	--	--	--	--
	1/17/1996	460	<50	<50	--	**72**	4.1	<0.3	1.7	--	--	--	--	--	--	--	--	--	--
	4/16/1996	**2,200**	<50	--	--	**851**	7.7	1.4	5.7	--	--	--	--	--	--	--	--	--	--
	8/26/1996	300	110	--	--	**55**	4.9	1.2	<0.5	--	--	--	--	--	--	--	--	--	--
	11/14/1996	200	200	--	--	3.4	<0.5	--	<0.5	--	--	--	--	--	--	--	--	--	--
	2/18/1998	**1,500**	260	--	--	**320**	9.1	1	0.6	1.7	--	--	--	--	--	--	--	--	--
	3/30/2001	**2,700**	350	--	--	**320**	16	5.3	13.6	<0.5	Isopropylbenzene = 6.4	--	--	--	--	--	--	--	--
	12/26/2001	**600**	200	--	--	33	3	<0.5	1.7	0.8	<5	--	--	--	--	--	--	--	--
	9/30/2002	67	<50	--	--	<0.5	<0.5	<0.5	<1.5	<0.5	--	--	--	--	--	--	--	--	--
	2/20/2003	**570**	--	--	--	**107**	<10	<10	<2.0	<10	--	--	--	--	--	--	--	--	--
	1/12/2004	**700**	--	--	--	**122**	13.5	0.6	8.8	--	--	--	--	--	--	--	--	--	--
	5/12/2005	**760**	--	--	--	14	5.7	<5	<5	--	--	--	--	--	--	--	--	--	--
	9/30/2011	14[J]	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.19	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
DUP-1	9/30/2011	15 [J]	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.19	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	576	0.57 [J]
	3/30/2012	**2,200**	340[++]	--	--	**340**	23	2.8	19	<0.26	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	731	0.80 [J]
DUP-1	3/30/2012	**2,300**	310[++]	--	--	**330**	23	2.9	19	<0.26	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	576	0.57 [J]
	9/11/2012	**2,500**	310[++]	--	--	**92**	16	1.3	16	<0.52	--	<0.28	<0.38	<0.32	<20.00	<0.40	<0.28	--	--
	3/21/2013	**4,800**	**680[++]**	--	--	**200**	21	3.7	21	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
DUP	3/21/2013	**4,500**	**690[++]**	--	--	**220**	21	3.6	21	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	8/28/2013	**2,300**	500[++]	--	--	**60**	17	1.7	18	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
DUP	8/28/2013	**2,300**	480[++]	--	--	**59**	17	1.8	18	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
MW-5	10/11/1995	**1,000**	<50	<50	<5,000	45	15	1.9	6.1	--	--	--	--	--	--	--	--	--	--
	1/17/1996	<50	<50	<50	--	2	<0.3	<0.3	<0.3	--	--	--	--	--	--	--	--	--	--
	4/16/1996	**1,740**	**855**	--	--	**157**	20.1	3.9	22.4	--	--	--	--	--	--	--	--	--	--
	8/26/1996	**900**	270	--	--	**55**	6.4	0.9	3.7	--	--	--	--	--	--	--	--	--	--
	11/14/1996	**700**	320	--	--	31	5.7	0.7	0.38	--	--	--	--	--	--	--	--	--	--
	2/18/1998	**1,200**	580	--	--	14	5.2	0.8	5.5	9.5	--	--	--	--	--	--	--	--	--
	3/30/2001	**1,500**	480	--	--	7.2	6.5	<0.5	10.7	<0.5	n-propylbenzene = 5.1	--	--	--	--	--	--	--	--
	12/26/2001	**5,000**	**7,200**	--	--	0.8	10.5	3.8	10.5	3.6	Isopropylbenzene = 6	--	--	--	--	--	--	--	--
	9/30/2002	**560**	430	--	--	1.8	5.2	<0.5	6.5	<0.5	--	--	--	--	--	--	--	--	--
	2/20/2003	**1,040**	--	--	--	<2.5	8.6	<2.5	11.3	<2.5	--	--	--	--	--	--	--	--	--
	1/12/2004	**1,820**	--	--	--	4.2	8	0.6	12.8	--	--	--	--	--	--	--	--	--	--
	5/12/2005	**1,300**	--	--	--	<5	<5	<5	<5	--	--	--	--	--	--	--	--	--	--
	9/30/2011	**960**	440[++]	--	--	0.34[J]	0.52[J]	<0.23	1.8	<0.19	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	3/30/2012	200	270[++]	--	--	1.5	2.4	<0.23	5.2	<0.26	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	576	0.57 [J]
	9/12/2012	**550**	200[++]	--	--	1.0	1.6	<0.23	3.2	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	3/21/2013	**900**	230[++]	--	--	0.86	1.3	<0.23	3.3	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	8/28/2013	**760**	250[++]	--	--	0.27[J]	0.26[J]	<0.23	1.4	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
Trip Blank	3/30/2012	<8.60	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.26	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	576	0.57 [J]
	9/6/2012	<8.60	--	--	--	<0.16	<0.17	<0.23	<0.19	<0.26	<0.14 - <10.00	--	--	--	--	--	--	--	--
	3/21/2013	<8.60	--	--	--	<0.16	<0.17	<0.23	<0.19	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	8/28/2013	<8.60	--	--	--	<0.16	<0.17	<0.23	<0.19	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--

Table 2
Historical Groundwater Analytical Results
Caltrans Former Hegenberger Maintenance Station
555 Hegenberger Road
Oakland, CA

Sample ID	Date	TPH-GRO (µg/L)	TPH-DRO (µg/L)	TPH-MO (µg/L)	O&G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Other VOCs (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TBA (µg/L)	EDB (µg/L)	DCA (µg/L)	TDS (mg/L)	Salinity (s)
ESL where groundwater IS NOT a current or potential source of drinking water		500	640	640	640	46	130	43	100	1,800	NE	NE	NE	NE	18,000	NE	1,000	NE	NE
EB-1	9/30/2011	<8.60	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.19	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	576	0.57 J
	3/30/2012	<8.60	<40.40	--	--	<0.16	0.20 J	<0.23	0.26 J	<0.26	<0.14 - <10.00	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	576	0.57 J
	9/12/2012	<8.60	<40.40	--	--	<0.16	<0.17	<0.23	<0.19	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--
	3/21/2013	<8.60	<40.40	--	--	<0.16	0.19 J	<0.23	<0.19	<0.26	--	<0.14	<0.19	<0.16	12 J	<0.20	<0.14	--	--
	8/28/2013	<8.60	<40.40	--	--	<0.16	0.19 J	<0.23	<0.19	<0.26	--	<0.14	<0.19	<0.16	<10.00	<0.20	<0.14	--	--

Abbreviations:
ESL = Environmental Screening Level for Commercial/Industrial Land Use
NE = Not established for compounds detected
TPH-GRO = Total petroleum hydrocarbons as gasoline range organics
TPH-DRO = Total petroleum hydrocarbons as diesel range organics
TPH-MO = Total petroleum hydrocarbons as motor oil range organics
O&G = Oil and Grease
MTBE = Methyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
ETBE = Ethyl tertiary butyl ether
DIPE = Diisopropyl ether
TBA = Tertiary butyl alcohol
EDB = Ethylene dibromide
DCA = 1,2-dicholorethane
-- = Analysis not performed
++ = The analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons.
J = Estimated value.

Notes:
Only volatile organic compounds detected above laboratory reporting limits or practical quanitation limits are noted
Data prior to September 30, 2011 was provided by Geocon Consultants, Inc.
All groundwater concentrations measured in micrograms per Liter (µg/L)
BOLD denote concentration levels at or above ESL where groundwater IS NOT a potential drinking water source for Commercial/Industrial land use as set forth by the San Francisco Bay Regional Water Quality Control Board in May 2013

APPENDIX A
STATEMENT OF LIMITATIONS

This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the Site. It was prepared for the exclusive use of The California Department of Transportation (Caltrans) for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the Site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

Prepared by:

Alicia Jansen
Associate Scientist

Reviewed by:

Jack Hardin
Managing Principal

All information, conclusions, and recommendations provided by Stantec in this document regarding the Site have been prepared under the supervision of and reviewed by the Licensed Professional whose signature appears below:

Licensed Approver:

Name: **Gary P. Messerotes, P.G.**

Signature:

Date: **10/21/13**

Stamp:

APPENDIX B

GROUNDWATER SAMPLE FIELD DATA SHEETS

STANTEC CONSULTING
GROUNDWATER SAMPLE FIELD DATA SHEET

Project No. 185702413 Purged By: DavonOwens Well I.D.: MW-1
Client Name: Caltrans Sampled By: DO/TR Sample I.D.: MW-1
Location: Hegenberger What QA Samples?:

Date Purged: 8-28-13 Start (2400hr): 848 End (2400hr): 910
Date Sampled: 8-28-13 Sample Time (2400hr): 1245

Casing Diameter:	2"___	3"___	4" X	5"___	6"___	8"___	Other___
Casing Volume: (gallons per foot)	(0.17)	(0.38)	(0.67)	(1.02)	(1.50)	(2.60)	( )

Total depth (feet) = 19.50 Casing Volume (gal) = 8.95
Depth to water (feet) = 6.13 Calculated Purge (gal) = 26.87 (3 casing vols.)
Water column height (feet) = 13.37 Actual Purge (gal) = 27.00

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (umhos/cm)	pH (units)	Color (visual)	ORP [redacted]	
8-28-13	848	0	21.5	1275	6.75	clear	158	
	852	9	20.5	1333	6.71	cloudy	137	
	856	18	20.0	1369	6.67	Grey	101	
	908	27	19.8	1355	6.60	Grey	115	
						End DTW =	17.40	
						Sample DTW =	6.16	

D.O. ____ mg/l, ____ %

PURGING EQUIPMENT

___ Well Wizard Bladder Pump
___ Active Extraction Well Pump
___ Submersible Pump
___ Peristaltic Pump
Other: ____
Pump Depth: ____ (feet)

X Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated ____

SAMPLING EQUIPMENT

___ WW Bladder Pump
___ Sample Port
___ Submersible Pump
___ Peristaltic Pump
Other: ____

X Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated: ____

Analyses: ____
Sample Vessel / Preservative: Sodium/HCl, 2 1-L Amber Odor: Yes

Well Integrity: Good
Remarks: ____

Signature: [signature] Page 1 of __

STANTEC CONSULTING
GROUNDWATER SAMPLE FIELD DATA SHEET

Project No. 185702413 Purged By: Devon Owens Well I.D.: MW-2
Client Name: Caltrans Sampled By: DO / TR Sample I.D.: MW-2
Location: Hegenberger What QA Samples?:

Date Purged: 8-28-13 Start (2400hr): 748 End (2400hr): 805
Date Sampled: 8-28-13 Sample Time (2400hr): 1215

	2"	3"	4"	5"	6"	8"	Other
Casing Diameter:			X				
Casing Volume: (gallons per foot)	(0.17)	(0.38)	(0.67)	(1.02)	(1.50)	(2.60)	( )

Total depth (feet) = 19.30 Casing Volume (gal) = 8.69
Depth to water (feet) = 6.32 Calculated Purge (gal) = 26.08 (3 casing vols.)
Water column height (feet) = 12.98 Actual Purge (gal) = 26.50

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (umhos/cm)	pH (units)	Color (visual)	ORP	
8-28-13	748	0	23.2	2956	6.61	clear	90	
	753	8	21.8	3052	6.54	cloudy	78	
	758	16	21.3	2822	6.35	Grey	30	
	803	26	21.0	2547	6.34	Grey	20	
					End DTW. = 14.20			
					Sample DTW = 6.32			

D.O. _____ mg/l, _____ %

PURGING EQUIPMENT

___ Well Wizard Bladder Pump
___ Active Extraction Well Pump
___ Submersible Pump
___ Peristaltic Pump
Other: _____
Pump Depth: _____ (feet)

X Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated _____

SAMPLING EQUIPMENT

___ WW Bladder Pump
___ Sample Port
___ Submersible Pump
___ Peristaltic Pump
Other: _____

X Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated: _____

Analyses: _____
Sample Vessel / Preservative: 5 Vons 2 Amber Odor: Yes

Well Integrity: Good.
Remarks: _____

Signature: _____ Page 1 of __

STANTEC CONSULTING
GROUNDWATER SAMPLE FIELD DATA SHEET

Project No. 185702413 | Purged By: T. Rhodes | Well I.D.: MW-3
Client Name: Caltrans | Sampled By: DO/TR | Sample I.D.: MW-3
Location: Heyenberger | What QA Samples?:

Date Purged: 8-28-13 | Start (2400hr): 0844 | End (2400hr): 1020
Date Sampled: 8-28-13 | Sample Time (2400hr): 1320

Casing Diameter:	2"	3"	4"	5"	6"	8"	Other
Casing Volume: (gallons per foot)	(0.17)	(0.38)	(0.67)	(1.02)	(1.50)	(2.60)	( )
			X				

Total depth (feet) = 19.50 | Casing Volume (gal) = 9.35
Depth to water (feet) = 5.54 | Calculated Purge (gal) = 28.05 (3 casing vols.)
Water column height (feet) = 13.96 | Actual Purge (gal) = 28.00

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (~~umhos/cm~~) mS	pH (units)	Color (visual)	ORP ~~mV~~ (mV)	
8-28-13	0844	0	24.6	8714	6.79	clear	-66	
	0851	9	22.3	8813	6.69	clear	-84	
	0857	18	21.1	8781	6.71	lt. cloudy gray	-83	
	1020	28	21.6	8273	7.18	" "	-46	
					End DTW = 18.74			
					Sample DTW = 15.31			

D.O. _____ mg/l, _____ %

PURGING EQUIPMENT

___ Well Wizard Bladder Pump
___ Active Extraction Well Pump
___ Submersible Pump
___ Peristaltic Pump
Other: _____
Pump Depth: _____ (feet)

X Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated _____

SAMPLING EQUIPMENT

___ WW Bladder Pump
___ Sample Port
___ Submersible Pump
___ Peristaltic Pump
Other: _____

X Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated: _____

Analyses: _____
Sample Vessel / Preservative: 5 VOAs w/HCl, 2 1-L Amber | Odor: yes, & sheen

Well Integrity: good
Remarks: _____

Signature: _____ Page 1 of __

STANTEC CONSULTING
GROUNDWATER SAMPLE FIELD DATA SHEET

Project No. 185707413 Purged By: Devon Owens Well I.D.: MW-4
Client Name: Caltrans Sampled By: DO/TR Sample I.D.: MW-4
Location: Hegenberger What QA Samples?: Dup

Date Purged: 8-28-13 Start (2400hr): 0931 End (2400hr): 0942
Date Sampled: 8-28-13 Sample Time (2400hr): 1300

Casing Diameter:	2"	3"	4"	5"	6"	8"	Other
Casing Volume: (gallons per foot)	(0.17)	(0.38)	(0.67)	(1.02)	(1.50)	(2.60)	( )
			X				

Total depth (feet) = 16.70 Casing Volume (gal) = 7.26
Depth to water (feet) = 5.86 Calculated Purge (gal) = 21.7 (3 casing vols.)
Water column height (feet) = 10.84 Actual Purge (gal) = 22.00

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (~~umhos/cm~~) µS	pH (units)	Color (visual)	ORP ~~(mV)~~ (mV)	
8-28-13	0931	0	24.3	2761	6.55	clear	151	
	0933	7	24.8	4412	6.40	cloudy	109	
	0936	14	24.7	4483	6.44	gray	88	
	0940	22	24.7	4413	6.49	gray	76	
					End DTW = 6.93			
					Sample DTW = 5.90			

D.O. _____ mg/l, _____ %

PURGING EQUIPMENT

___ Well Wizard Bladder Pump
___ Active Extraction Well Pump
___ Submersible Pump
___ Peristaltic Pump
Other: _____
Pump Depth: _____ (feet)

X Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated _____

SAMPLING EQUIPMENT

___ WW Bladder Pump
___ Sample Port
___ Submersible Pump
___ Peristaltic Pump
Other: _____

X Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated: _____

Analyses: _____
Sample Vessel / Preservative: 5 Vocs 2 Ambers Odor: Yes

Well Integrity: OK. No bolts
Remarks: _____

Signature: _____ Page 1 of __

STANTEC CONSULTING
GROUNDWATER SAMPLE FIELD DATA SHEET

Project No. 185702413 Purged By: Tristan Rhodes Well I.D.: MW-5
Client Name: Caltrans Sampled By: DO/TR Sample I.D.: MW-5
Location: Heyenberger What QA Samples?:

Date Purged: 8-28-13 Start (2400hr): 0744 End (2400hr): 0915
Date Sampled: 8-28-13 Sample Time (2400hr): 1225

Casing Diameter:	2"	3"	4"	5"	6"	8"	Other
Casing Volume: (gallons per foot)	(0.17)	(0.38)	(0.67)	(1.02)	(1.50)	(2.60)	( )
			X				

Total depth (feet) = 19.35 Casing Volume (gal) = 8.83
Depth to water (feet) = 6.17 Calculated Purge (gal) = 26.5 (3 casing vols.)
Water column height (feet) = 13.18 Actual Purge (gal) = 27

FIELD MEASUREMENTS

Date	Time (2400hr)	Volume (gal)	Temp. (degrees C)	Conductivity (~~umhos/cm~~) mS	pH (units)	Color (visual)	ORP (mV) (~~mV~~)	
8-28-13	0744	0	22.0	1732	7.84	clear	-126	
	0752	9	20.7	1949	7.21	clear	-131	
	0758	18	20.0	2002	7.16	cloudy gray	-130	
	0915	27	19.9	1965	7.12	"	-120	
					End DTW = 18.75			
					Sample DTW = 10.44			

D.O. _____ mg/l, _____ %

PURGING EQUIPMENT

___ Well Wizard Bladder Pump
___ Active Extraction Well Pump
___ Submersible Pump
___ Peristaltic Pump
Other: _____
Pump Depth: _____ (feet)

~~X~~ Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated _____

SAMPLING EQUIPMENT

___ WW Bladder Pump
___ Sample Port
___ Submersible Pump
___ Peristaltic Pump
Other: _____

~~X~~ Bailer (disposable)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated: _____

Analyses: _____
Sample Vessel / Preservative: 5 VOA w/ HCl, 2 1-L Amber Odor: yes

Well Integrity: good
Remarks: _____

Signature: _____ Page 1 of __

APPENDIX C

CERTIFIED ANALYTICAL LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENT

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

NELAP Certification Number: 05233CA (HW)

September 13, 2013

Stantec Consulting, Inc.
15575 Los Gatos Boulevard, Building C
Los Gatos, California 95032

Attn: Gary Messerotes

Subject: Report of data: Case 71516

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

Dear Mr. Messerotes:

Eight water samples for project "185702413 Caltrans Hegenberger" were received August 29, 2013, in good condition. Written results are being provided on this September 13, 2013, for the requested analyses. All holding times were met.

For the EPA 8015B TPH-Diesel analysis, the samples were extracted according to EPA 3510C. The samples and QC extracts were cleaned with silica gel according to EPA method 3630C.

For the EPA 8260B analysis, the samples were purged according to EPA method 5030B.

For the EPA 8015B TPH-Gas analysis, the samples were purged according to EPA method 5030B.

No unusual problem or complication was encountered with this sample set.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Sharon Dehmlow, Laboratory Director
APPL, Inc.

SD/ab
Enclosure
cc: File

Number of pages in this report: ____

EPA 8015B TPH Diesel Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: MW-1
Sample Collection Date: 08/28/13

ARF: 71516
APPL ID: AY85004
QCG: #TPHD-130903A-180833

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8015B-	DIESEL FUEL	580 ++	50.0	40.40	ug/L	09/03/13	09/03/13
EPA 8015B-	SURROGATE: OCTACOSANE (S)	77.8	28-142		%	09/03/13	09/03/13
EPA 8015B-	SURROGATE: ORTHO-TERPHENYL (	80.4	49-128		%	09/03/13	09/03/13

++(T2M) The analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons.

Quant Method:	TPH0830.M
Run #:	830049
Instrument:	Apollo
Sequence:	130830
Dilution Factor:	1
Initials:	PJA

Printed: 09/04/13 9:27:32 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8015B TPH Diesel Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: MW-2
Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516
APPL ID: AY85005
QCG: #TPHD-130903A-180833

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8015B-	DIESEL FUEL	Not detected	50.0	40.40	ug/L	09/03/13	09/03/13
EPA 8015B-	SURROGATE: OCTACOSANE (S)	68.8	28-142		%	09/03/13	09/03/13
EPA 8015B-	SURROGATE: ORTHO-TERPHENYL (	70.5	49-128		%	09/03/13	09/03/13

Quant Method: TPH0830.M
Run #: 830050
Instrument: Apollo
Sequence: 130830
Dilution Factor: 1
Initials: PJA

Printed: 09/04/13 9:27:32 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8015B TPH Diesel Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

ARF: 71516

Sample ID: MW-3

APPL ID: AY85006

Sample Collection Date: 08/28/13

QCG: #TPHD-130903A-180833

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8015B-	DIESEL FUEL	660 ++	50.0	40.40	ug/L	09/03/13	09/03/13
EPA 8015B-	SURROGATE: OCTACOSANE (S)	79.6	28-142		%	09/03/13	09/03/13
EPA 8015B-	SURROGATE: ORTHO-TERPHENYL (	82.3	49-128		%	09/03/13	09/03/13

++(T2M) The analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons.

Quant Method: TPH0830.M
Run #: 830051
Instrument: Apollo
Sequence: 130830
Dilution Factor: 1
Initials: PJA

Printed: 09/04/13 9:27:32 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8015B TPH Diesel Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: MW-4
Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516
APPL ID: AY85007
QCG: #TPHD-130903A-180833

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8015B-	DIESEL FUEL	500 ++	50.0	40.40	ug/L	09/03/13	09/03/13
EPA 8015B-	SURROGATE: OCTACOSANE (S)	75.8	28-142		%	09/03/13	09/03/13
EPA 8015B-	SURROGATE: ORTHO-TERPHENYL (	77.5	49-128		%	09/03/13	09/03/13

++(T2M) The analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons.

Quant Method:	TPH0830.M
Run #:	830052
Instrument:	Apollo
Sequence:	130830
Dilution Factor:	1
Initials:	PJA

Printed: 09/04/13 9:27:32 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8015B TPH Diesel Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

Sample ID: MW-5

Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516

APPL ID: AY85008

QCG: #TPHD-130903A-180833

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8015B-	DIESEL FUEL	250 ++	50.0	40.40	ug/L	09/03/13	09/03/13
EPA 8015B-	SURROGATE: OCTACOSANE (S)	84.8	28-142		%	09/03/13	09/03/13
EPA 8015B-	SURROGATE: ORTHO-TERPHENYL (	87.6	49-128		%	09/03/13	09/03/13

++(T2M) The analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons.

Quant Method:	TPH0830.M
Run #:	830053
Instrument:	Apollo
Sequence:	130830
Dilution Factor:	1
Initials:	PJA

Printed: 09/04/13 9:27:32 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8015B TPH Diesel Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: EB-1
Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516
APPL ID: AY85009
QCG: #TPHD-130903A-180833

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8015B-	DIESEL FUEL	Not detected	50.0	40.40	ug/L	09/03/13	09/03/13
EPA 8015B-	SURROGATE: OCTACOSANE (S)	83.2	28-142		%	09/03/13	09/03/13
EPA 8015B-	SURROGATE: ORTHO-TERPHENYL (	86.1	49-128		%	09/03/13	09/03/13

Quant Method: TPH0830.M
Run #: 830054
Instrument: Apollo
Sequence: 130830
Dilution Factor: 1
Initials: PJA

Printed: 09/04/13 9:27:32 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8015B TPH Diesel Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: DUP
Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516
APPL ID: AY85010
QCG: #TPHD-130903A-180833

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8015B-	DIESEL FUEL	480 ++	50.0	40.40	ug/L	09/03/13	09/03/13
EPA 8015B-	SURROGATE: OCTACOSANE (S)	82.5	28-142		%	09/03/13	09/03/13
EPA 8015B-	SURROGATE: ORTHO-TERPHENYL (	85.4	49-128		%	09/03/13	09/03/13

++(T2M) The analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons.

Quant Method:	TPH0830.M
Run #:	830055
Instrument:	Apollo
Sequence:	130830
Dilution Factor:	1
Initials:	PJA

Printed: 09/04/13 9:27:32 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260B BTEX Oxy W - UST

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

ARF: 71516

Sample ID: MW-1

APPL ID: AY85004

Sample Collection Date: 08/28/13

QCG: #26UW-130903AT-180851

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.17 J	0.6	0.14	ug/L	09/03/13	09/03/13
EPA 8260B	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/03/13	09/03/13
EPA 8260B	BENZENE	5.8	0.4	0.16	ug/L	09/03/13	09/03/13
EPA 8260B	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/03/13	09/03/13
EPA 8260B	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/03/13	09/03/13
EPA 8260B	ETHYLBENZENE	0.31 J	0.6	0.23	ug/L	09/03/13	09/03/13
EPA 8260B	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/03/13	09/03/13
EPA 8260B	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/03/13	09/03/13
EPA 8260B	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/03/13	09/03/13
EPA 8260B	TOLUENE	4.6	1.1	0.17	ug/L	09/03/13	09/03/13
EPA 8260B	XYLENES	6.0	0.5	0.19	ug/L	09/03/13	09/03/13
EPA 8260B	SURROGATE: 1,2-DICHLOROETHAN	102	75-125		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	107	62-139		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: DIBROMOFLUOROME	103	75-125		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	108	75-125		%	09/03/13	09/03/13

J = Estimated value.

Quant Method: TALLW.M
Run #: 0903T28
Instrument: Thor
Sequence: T130903
Dilution Factor: 1
Initials: DG

Printed: 09/09/13 10:53:07 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260B BTEX Oxy W - UST

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: MW-2
Sample Collection Date: 08/28/13

ARF: 71516
APPL ID: AY85005
QCG: #26UW-130904AT-180891

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/04/13	09/04/13
EPA 8260B	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/04/13	09/04/13
EPA 8260B	BENZENE	Not detected	0.4	0.16	ug/L	09/04/13	09/04/13
EPA 8260B	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/04/13	09/04/13
EPA 8260B	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/04/13	09/04/13
EPA 8260B	ETHYLBENZENE	Not detected	0.6	0.23	ug/L	09/04/13	09/04/13
EPA 8260B	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/04/13	09/04/13
EPA 8260B	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/04/13	09/04/13
EPA 8260B	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/04/13	09/04/13
EPA 8260B	TOLUENE	Not detected	1.1	0.17	ug/L	09/04/13	09/04/13
EPA 8260B	XYLENES	Not detected	0.5	0.19	ug/L	09/04/13	09/04/13
EPA 8260B	SURROGATE: 1,2-DICHLOROETHAN	103	75-125		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	106	62-139		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: DIBROMOFLUOROME	102	75-125		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	106	75-125		%	09/04/13	09/04/13

Quant Method: TALLW.M
Run #: 0904T08
Instrument: Thor
Sequence: T130903
Dilution Factor: 1
Initials: DG

Printed: 09/09/13 10:53:08 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260B BTEX Oxy W - UST

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: MW-3
Sample Collection Date: 08/28/13

ARF: 71516
APPL ID: AY85006
QCG: #26UW-130903AT-180851

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/03/13	09/03/13
EPA 8260B	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/03/13	09/03/13
EPA 8260B	BENZENE	39	0.4	0.16	ug/L	09/03/13	09/03/13
EPA 8260B	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/03/13	09/03/13
EPA 8260B	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/03/13	09/03/13
EPA 8260B	ETHYLBENZENE	0.53 J	0.6	0.23	ug/L	09/03/13	09/03/13
EPA 8260B	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/03/13	09/03/13
EPA 8260B	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/03/13	09/03/13
EPA 8260B	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/03/13	09/03/13
EPA 8260B	TOLUENE	9.5	1.1	0.17	ug/L	09/03/13	09/03/13
EPA 8260B	XYLENES	8.9	0.5	0.19	ug/L	09/03/13	09/03/13
EPA 8260B	SURROGATE: 1,2-DICHLOROETHAN	103	75-125		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	105	62-139		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: DIBROMOFLUOROME	103	75-125		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	106	75-125		%	09/03/13	09/03/13

J = Estimated value.

Quant Method: TALLW.M
Run #: 0903T30
Instrument: Thor
Sequence: T130903
Dilution Factor: 1
Initials: DG

Printed: 09/09/13 10:53:08 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260B BTEX Oxy W - UST

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: MW-4
Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516
APPL ID: AY85007
QCG: #26UW-130903AT-180851

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/04/13	09/04/13
EPA 8260B	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/04/13	09/04/13
EPA 8260B	BENZENE	60	0.4	0.16	ug/L	09/04/13	09/04/13
EPA 8260B	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/04/13	09/04/13
EPA 8260B	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/04/13	09/04/13
EPA 8260B	ETHYLBENZENE	1.7	0.6	0.23	ug/L	09/04/13	09/04/13
EPA 8260B	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/04/13	09/04/13
EPA 8260B	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/04/13	09/04/13
EPA 8260B	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/04/13	09/04/13
EPA 8260B	TOLUENE	17	1.1	0.17	ug/L	09/04/13	09/04/13
EPA 8260B	XYLENES	18	0.5	0.19	ug/L	09/04/13	09/04/13
EPA 8260B	SURROGATE: 1,2-DICHLOROETHAN	92.4	75-125		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	107	62-139		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: DIBROMOFLUOROME	99.9	75-125		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	108	75-125		%	09/04/13	09/04/13

Quant Method: TALLW.M
Run #: 0903T32
Instrument: Thor
Sequence: T130903
Dilution Factor: 1
Initials: DG

Printed: 09/09/13 10:53:08 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260B BTEX Oxy W - UST

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: MW-5
Sample Collection Date: 08/28/13

ARF: 71516
APPL ID: AY85008
QCG: #26UW-130903AT-180851

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/04/13	09/04/13
EPA 8260B	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/04/13	09/04/13
EPA 8260B	BENZENE	0.27 J	0.4	0.16	ug/L	09/04/13	09/04/13
EPA 8260B	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/04/13	09/04/13
EPA 8260B	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/04/13	09/04/13
EPA 8260B	ETHYLBENZENE	Not detected	0.6	0.23	ug/L	09/04/13	09/04/13
EPA 8260B	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/04/13	09/04/13
EPA 8260B	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/04/13	09/04/13
EPA 8260B	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/04/13	09/04/13
EPA 8260B	TOLUENE	0.26 J	1.1	0.17	ug/L	09/04/13	09/04/13
EPA 8260B	XYLENES	1.4	0.5	0.19	ug/L	09/04/13	09/04/13
EPA 8260B	SURROGATE: 1,2-DICHLOROETHAN	96.9	75-125		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	104	62-139		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: DIBROMOFLUOROME	100	75-125		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	75-125		%	09/04/13	09/04/13

J = Estimated value.

Quant Method: TALLW.M
Run #: 0903T33
Instrument: Thor
Sequence: T130903
Dilution Factor: 1
Initials: DG

Printed: 09/09/13 10:53:08 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260B BTEX Oxy W - UST

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: EB-1
Sample Collection Date: 08/28/13

ARF: 71516
APPL ID: AY85009
QCG: #26UW-130903AT-180851

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/03/13	09/03/13
EPA 8260B	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/03/13	09/03/13
EPA 8260B	BENZENE	Not detected	0.4	0.16	ug/L	09/03/13	09/03/13
EPA 8260B	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/03/13	09/03/13
EPA 8260B	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/03/13	09/03/13
EPA 8260B	ETHYLBENZENE	Not detected	0.6	0.23	ug/L	09/03/13	09/03/13
EPA 8260B	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/03/13	09/03/13
EPA 8260B	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/03/13	09/03/13
EPA 8260B	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/03/13	09/03/13
EPA 8260B	TOLUENE	0.19 J	1.1	0.17	ug/L	09/03/13	09/03/13
EPA 8260B	XYLENES	Not detected	0.5	0.19	ug/L	09/03/13	09/03/13
EPA 8260B	SURROGATE: 1,2-DICHLOROETHAN	104	75-125		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	104	62-139		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: DIBROMOFLUOROME	104	75-125		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	75-125		%	09/03/13	09/03/13

J = Estimated value.

Quant Method: TALLW.M
Run #: 0903T26
Instrument: Thor
Sequence: T130903
Dilution Factor: 1
Initials: DG

Printed: 09/09/13 10:53:08 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260B BTEX Oxy W - UST

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

Sample ID: DUP

Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516

APPL ID: AY85010

QCG: #26UW-130904AT-180891

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/04/13	09/04/13
EPA 8260B	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/04/13	09/04/13
EPA 8260B	BENZENE	59	0.4	0.16	ug/L	09/04/13	09/04/13
EPA 8260B	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/04/13	09/04/13
EPA 8260B	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/04/13	09/04/13
EPA 8260B	ETHYLBENZENE	1.8	0.6	0.23	ug/L	09/04/13	09/04/13
EPA 8260B	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/04/13	09/04/13
EPA 8260B	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/04/13	09/04/13
EPA 8260B	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/04/13	09/04/13
EPA 8260B	TOLUENE	17	1.1	0.17	ug/L	09/04/13	09/04/13
EPA 8260B	XYLENES	18	0.5	0.19	ug/L	09/04/13	09/04/13
EPA 8260B	SURROGATE: 1,2-DICHLOROETHAN	98.1	75-125		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	106	62-139		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: DIBROMOFLUOROME	99.4	75-125		%	09/04/13	09/04/13
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	108	75-125		%	09/04/13	09/04/13

Quant Method: TALLW.M
Run #: 0904T09
Instrument: Thor
Sequence: T130903
Dilution Factor: 1
Initials: DG

Printed: 09/09/13 10:53:08 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260B BTEX Oxy W - UST

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: TRIP BLANK
Sample Collection Date: 08/28/13

ARF: 71516
APPL ID: AY85011
QCG: #26UW-130903AT-180851

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/03/13	09/03/13
EPA 8260B	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/03/13	09/03/13
EPA 8260B	BENZENE	Not detected	0.4	0.16	ug/L	09/03/13	09/03/13
EPA 8260B	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/03/13	09/03/13
EPA 8260B	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/03/13	09/03/13
EPA 8260B	ETHYLBENZENE	Not detected	0.6	0.23	ug/L	09/03/13	09/03/13
EPA 8260B	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/03/13	09/03/13
EPA 8260B	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/03/13	09/03/13
EPA 8260B	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/03/13	09/03/13
EPA 8260B	TOLUENE	Not detected	1.1	0.17	ug/L	09/03/13	09/03/13
EPA 8260B	XYLENES	Not detected	0.5	0.19	ug/L	09/03/13	09/03/13
EPA 8260B	SURROGATE: 1,2-DICHLOROETHAN	106	75-125		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	109	62-139		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: DIBROMOFLUOROME	105	75-125		%	09/03/13	09/03/13
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	108	75-125		%	09/03/13	09/03/13

Quant Method: TALLW.M
Run #: 0903T23
Instrument: Thor
Sequence: T130903
Dilution Factor: 1
Initials: DG

Printed: 09/09/13 10:53:08 AM
APPL-F1-SC-NoMC-REG MDLs

Gas-Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

Sample ID: MW-1

Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516

APPL ID: AY85004

QCG: #GAS-130906A-181003

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
8015	GASOLINE	700	100.0	43.00	ug/L	09/07/13	09/07/13
8015	SURROGATE: BFB-FID (S)	82.7	70-130		%	09/07/13	09/07/13

Quant Method: HGAS.M
Run #: 0906H19
Instrument: Harpo
Sequence: 130422
Dilution Factor: 5
Initials: LF

Printed: 09/10/13 3:39:45 PM
APPL-F1-SC-NoMC-REG MDLs

Gas-Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes
Project: 185702413 Caltrans Hegenberger
Sample ID: MW-2
Sample Collection Date: 08/28/13

ARF: 71516
APPL ID: AY85005
QCG: #GAS-130906A-181003

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
8015	GASOLINE	14 J	20.0	8.60	ug/L	09/06/13	09/06/13
8015	SURROGATE: BFB-FID (S)	80.8	70-130		%	09/06/13	09/06/13

J = Estimated value.

Quant Method:	HGAS.M
Run #:	0906H12
Instrument:	Harpo
Sequence:	130422
Dilution Factor:	1
Initials:	LF

Printed: 09/10/13 3:39:45 PM
APPL-F1-SC-NoMC-REG MDLs

Gas-Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

ARF: 71516

Sample ID: MW-3

APPL ID: AY85006

Sample Collection Date: 08/28/13

QCG: #GAS-130906A-181003

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
8015	GASOLINE	920	100.0	43.00	ug/L	09/07/13	09/07/13
8015	SURROGATE: BFB-FID (S)	79.6	70-130		%	09/07/13	09/07/13

Quant Method: HGAS.M
Run #: 0906H20
Instrument: Harpo
Sequence: 130422
Dilution Factor: 5
Initials: LF

Printed: 09/10/13 3:39:45 PM
APPL-F1-SC-NoMC-REG MDLs

Gas-Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

ARF: 71516

Sample ID: MW-4

APPL ID: AY85007

Sample Collection Date: 08/28/13

QCG: #GAS-130909A-181002

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
8015	GASOLINE	2300	100.0	43.00	ug/L	09/09/13	09/09/13
8015	SURROGATE: BFB-FID (S)	84.3	70-130		%	09/09/13	09/09/13

0

Quant Method:	HGAS.M
Run #:	0909H08
Instrument:	Harpo
Sequence:	130422
Dilution Factor:	5
Initials:	LF

Printed: 09/10/13 3:39:45 PM
APPL-F1-SC-NoMC-REG MDLs

Gas-Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

ARF: 71516

Sample ID: MW-5

APPL ID: AY85008

Sample Collection Date: 08/28/13

QCG: #GAS-130906A-181003

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
8015	GASOLINE	760	20.0	8.60	ug/L	09/06/13	09/06/13
8015	SURROGATE: BFB-FID (S)	79.7	70-130		%	09/06/13	09/06/13

Quant Method: HGAS.M
Run #: 0906H16
Instrument: Harpo
Sequence: 130422
Dilution Factor: 1
Initials: LF

Printed: 09/10/13 3:39:45 PM
APPL-F1-SC-NoMC-REG MDLs

Gas-Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

Sample ID: EB-1

Sample Collection Date: 08/28/13

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 71516

APPL ID: AY85009

QCG: #GAS-130906A-181003

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
8015	GASOLINE	Not detected	20.0	8.60	ug/L	09/06/13	09/06/13
8015	SURROGATE: BFB-FID (S)	86.7	70-130		%	09/06/13	09/06/13

Quant Method: HGAS.M
Run #: 0906H09
Instrument: Harpo
Sequence: 130422
Dilution Factor: 1
Initials: LF

Printed: 09/10/13 3:39:45 PM
APPL-F1-SC-NoMC-REG MDLs

Gas-Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

ARF: 71516

Sample ID: DUP

APPL ID: AY85010

Sample Collection Date: 08/28/13

QCG: #GAS-130906A-181003

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
8015	GASOLINE	2300	100.0	43.00	ug/L	09/07/13	09/07/13
8015	SURROGATE: BFB-FID (S)	85.2	70-130		%	09/07/13	09/07/13

Quant Method: HGAS.M
Run #: 0906H21
Instrument: Harpo
Sequence: 130422
Dilution Factor: 5
Initials: LF

Printed: 09/10/13 3:39:45 PM
APPL-F1-SC-NoMC-REG MDLs

Gas-Water

Stantec Consulting, Inc.
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gary Messerotes

Project: 185702413 Caltrans Hegenberger

ARF: 71516

Sample ID: TRIP BLANK

APPL ID: AY85011

Sample Collection Date: 08/28/13

QCG: #GAS-130906A-181003

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
8015	GASOLINE	Not detected	20.0	8.60	ug/L	09/06/13	09/06/13
8015	SURROGATE: BFB-FID (S)	82.6	70-130		%	09/06/13	09/06/13

Quant Method:	HGAS.M
Run #:	0906H07
Instrument:	Harpo
Sequence:	130422
Dilution Factor:	1
Initials:	LF

Printed: 09/10/13 3:39:45 PM
APPL-F1-SC-NoMC-REG MDLs

Method Blank
EPA 8015B TPH Diesel Water

Blank Name/QCG: **130903W-85004 - 180833**
Batch ID: #TPHD-130903A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	DIESEL FUEL	Not detected	50.0	40.40	ug/L	09/03/13	09/03/13
BLANK	SURROGATE: OCTACOSANE (S)	76.0	28-142		%	09/03/13	09/03/13
BLANK	SURROGATE: ORTHO-TERPHENYL (	76.4	49-128		%	09/03/13	09/03/13

Quant Method: TPH0830.M
Run #: 830046
Instrument: Apollo
Sequence: 130830
Initials: PJA

GC SC-Blank-REG MDLs
Printed: 09/04/13 9:27:25 AM

Laboratory Control Spike Recoveries
EPA 8015B TPH Diesel Water

APPL ID: **130903W-85004 LCS - 180833**
Batch ID: #TPHD-130903A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL FUEL	2000	1420	1770	71.0	88.5	61-143	21.9	30
SURROGATE: OCTACOSANE (S)	150	115	117	76.7	78.0	28-142		
SURROGATE: ORTHO-TERPHENYL (S)	150	152	174	101	116	49-128		

Comments: _____

Primary	SPK	DUP
Quant Method :	TPH0830.M	TPH0830.M
Extraction Date :	09/03/13	09/03/13
Analysis Date :	09/03/13	09/03/13
Instrument :	Apollo	Apollo
Run :	830047	912015
Initials :	PJA	

Printed: 09/13/13 10:34:09 AM
APPL Standard LCSD

Method Blank

EPA 8260B BTEX Oxy W - UST

Blank Name/QCG: **130903W-84977 - 180851**
Batch ID: #26UW-130903AT

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/03/13	09/03/13
BLANK	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/03/13	09/03/13
BLANK	BENZENE	Not detected	0.4	0.16	ug/L	09/03/13	09/03/13
BLANK	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/03/13	09/03/13
BLANK	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/03/13	09/03/13
BLANK	ETHYLBENZENE	Not detected	0.6	0.23	ug/L	09/03/13	09/03/13
BLANK	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/03/13	09/03/13
BLANK	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/03/13	09/03/13
BLANK	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/03/13	09/03/13
BLANK	TOLUENE	Not detected	1.1	0.17	ug/L	09/03/13	09/03/13
BLANK	XYLENES	Not detected	0.5	0.19	ug/L	09/03/13	09/03/13
BLANK	SURROGATE: 1,2-DICHLOROETHAN	108	75-125		%	09/03/13	09/03/13
BLANK	SURROGATE: 4-BROMOFLUOROBEN	106	62-139		%	09/03/13	09/03/13
BLANK	SURROGATE: DIBROMOFLUOROME	107	75-125		%	09/03/13	09/03/13
BLANK	SURROGATE: TOLUENE-D8 (S)	106	75-125		%	09/03/13	09/03/13

Quant Method: TALLW.M
Run #: 0903T21
Instrument: Thor
Sequence: T130903
Initials: DG

GC SC-Blank-REG MDLs
Printed: 09/09/13 10:53:11 AM

Method Blank

EPA 8260B BTEX Oxy W - UST

Blank Name/QCG: **130904W-85005 - 180891**
Batch ID: #26UW-130904AT

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	Not detected	0.6	0.14	ug/L	09/04/13	09/04/13
BLANK	1,2-ETHYLENE DIBROMIDE	Not detected	0.6	0.20	ug/L	09/04/13	09/04/13
BLANK	BENZENE	Not detected	0.4	0.16	ug/L	09/04/13	09/04/13
BLANK	DI-ISOPROPYL ETHER	Not detected	0.5	0.16	ug/L	09/04/13	09/04/13
BLANK	ETHYL-TERT-BUTYL ETHER	Not detected	0.5	0.19	ug/L	09/04/13	09/04/13
BLANK	ETHYLBENZENE	Not detected	0.6	0.23	ug/L	09/04/13	09/04/13
BLANK	METHYL TERT-BUTYL ETHER	Not detected	0.5	0.26	ug/L	09/04/13	09/04/13
BLANK	TERT-AMYL METHYL ETHER	Not detected	0.5	0.14	ug/L	09/04/13	09/04/13
BLANK	TERT-BUTYL ALCOHOL	Not detected	25.0	10.00	ug/L	09/04/13	09/04/13
BLANK	TOLUENE	Not detected	1.1	0.17	ug/L	09/04/13	09/04/13
BLANK	XYLENES	Not detected	0.5	0.19	ug/L	09/04/13	09/04/13
BLANK	SURROGATE: 1,2-DICHLOROETHAN	103	75-125		%	09/04/13	09/04/13
BLANK	SURROGATE: 4-BROMOFLUOROBEN	107	62-139		%	09/04/13	09/04/13
BLANK	SURROGATE: DIBROMOFLUOROME	103	75-125		%	09/04/13	09/04/13
BLANK	SURROGATE: TOLUENE-D8 (S)	107	75-125		%	09/04/13	09/04/13

Quant Method: TALLW.M
Run #: 0904T07
Instrument: Thor
Sequence: T130903
Initials: DG

GC SC-Blank-REG MDLs
Printed: 09/09/13 10:53:11 AM

Laboratory Control Spike Recoveries

EPA 8260B BTEX Oxy W - UST

APPL ID: **130903W-84977 LCS - 180851**
Batch ID: #26UW-130903AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2-DICHLOROETHANE	10.00	11.1	11.4	111	114	68-127	2.7	20
1,2-ETHYLENE DIBROMIDE	10.00	11.2	11.1	112	111	70-130	0.90	20
BENZENE	10.00	10.5	10.5	105	105	75-125	0.0	20
DI-ISOPROPYL ETHER	10.00	9.11	9.57	91.1	95.7	70-130	4.9	20
ETHYL-TERT-BUTYL ETHER	10.00	10.3	10.3	103	103	70-130	0.0	20
ETHYLBENZENE	10.00	11.2	10.9	112	109	75-125	2.7	20
METHYL TERT-BUTYL ETHER	10.00	10.3	10.8	103	108	70-130	4.7	20
TERT-AMYL METHYL ETHER	10.00	9.66	9.89	96.6	98.9	70-130	2.4	20
TERT-BUTYL ALCOHOL	125	118	130	94.4	104	49-167	9.7	20
TOLUENE	10.00	10.8	10.8	108	108	74-125	0.0	20
XYLENES	30.0	33.4	32.2	111	107	70-130	3.7	20
SURROGATE: 1,2-DICHLOROETHANE-D	27.0	28.1	29.3	104	109	75-125		
SURROGATE: 4-BROMOFLUOROBENZE	28.4	31.4	30.9	111	109	62-139		
SURROGATE: DIBROMOFLUOROMETH	27.7	28.5	29.5	103	107	75-125		
SURROGATE: TOLUENE-D8 (S)	27.1	28.7	28.7	106	106	75-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	TALLW.M	TALLW.M
Extraction Date :	09/03/13	09/03/13
Analysis Date :	09/03/13	09/03/13
Instrument :	Thor	Thor
Run :	0903T17	0903T18
Initials :	DG	

Laboratory Control Spike Recoveries

EPA 8260B BTEX Oxy W - UST

APPL ID: **130904W-85005 LCS - 180891**
Batch ID: #26UW-130904AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2-DICHLOROETHANE	10.00	9.55	11.1	95.5	111	68-127	15.0	20
1,2-ETHYLENE DIBROMIDE	10.00	9.99	10.6	99.9	106	70-130	5.9	20
BENZENE	10.00	9.53	10.5	95.3	105	75-125	9.7	20
DI-ISOPROPYL ETHER	10.00	9.06	9.33	90.6	93.3	70-130	2.9	20
ETHYL-TERT-BUTYL ETHER	10.00	9.51	10.1	95.1	101	70-130	6.0	20
ETHYLBENZENE	10.00	10.0	10.9	100	109	75-125	8.6	20
METHYL TERT-BUTYL ETHER	10.00	9.54	10.3	95.4	103	70-130	7.7	20
TERT-AMYL METHYL ETHER	10.00	9.29	9.47	92.9	94.7	70-130	1.9	20
TERT-BUTYL ALCOHOL	125	112	108	89.6	86.4	49-167	3.6	20
TOLUENE	10.00	9.68	10.8	96.8	108	74-125	10.9	20
XYLENES	30.0	29.7	32.9	99.0	110	70-130	10.2	20
SURROGATE: 1,2-DICHLOROETHANE-D	27.0	26.9	27.5	99.8	102	75-125		
SURROGATE: 4-BROMOFLUOROBENZE	28.4	30.5	30.6	107	108	62-139		
SURROGATE: DIBROMOFLUOROMETH	27.7	28.1	28.4	102	103	75-125		
SURROGATE: TOLUENE-D8 (S)	27.1	28.4	27.9	105	103	75-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	TALLW.M	TALLW.M
Extraction Date :	09/04/13	09/04/13
Analysis Date :	09/04/13	09/04/13
Instrument :	Thor	Thor
Run :	0904T03	0904T04
Initials :	DG	

Method Blank
Gas-Water

Blank Name/QCG: **130909W-84978 - 181002**
Batch ID: #GAS-130909A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE	Not detected	20.0	8.60	ug/L	09/09/13	09/09/13
BLANK	SURROGATE: BFB-FID (S)	95.1	70-130		%	09/09/13	09/09/13

Quant Method: HGAS.M
Run #: 0909H05
Instrument: Harpo
Sequence: 130422
Initials: LF

GC SC-Blank-REG MDLs
Printed: 09/10/13 3:39:41 PM

Method Blank
Gas-Water

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **130906W-84977 - 181003**
Batch ID: #GAS-130906A

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE	Not detected	20.0	8.60	ug/L	09/06/13	09/06/13
BLANK	SURROGATE: BFB-FID (S)	90.9	70-130		%	09/06/13	09/06/13

Quant Method: HGAS.M
Run #: 0906H05
Instrument: Harpo
Sequence: 130422
Initials: LF

GC SC-Blank-REG MDLs
Printed: 09/10/13 3:39:41 PM

Laboratory Control Spike Recoveries
Gas-Water

APPL ID: **130906W-84977 LCS - 181003**
Batch ID: #GAS-130906A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE	300	322	314	107	105	73-120	2.5	25
SURROGATE: BFB-FID (S)	30.0	27.0	26.6	90.0	88.7	70-130		

Comments: _____

Primary	SPK	DUP
Quant Method :	HGAS.M	HGAS.M
Extraction Date :	09/06/13	09/06/13
Analysis Date :	09/06/13	09/06/13
Instrument :	Harpo	Harpo
Run :	0906H03	0906H04
Initials :	LF	

Printed: 09/10/13 3:39:43 PM
APPL Standard LCSD

Laboratory Control Spike Recoveries
Gas-Water

APPL ID: **130909W-84978 LCS - 181002**
Batch ID: #GAS-130909A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE	300	311	310	104	103	73-120	0.32	25
SURROGATE: BFB-FID (S)	30.0	26.5	26.7	88.3	89.0	70-130		

Comments: _____

Primary	SPK	DUP
Quant Method :	HGAS.M	HGAS.M
Extraction Date :	09/09/13	09/09/13
Analysis Date :	09/09/13	09/09/13
Instrument :	Harpo	Harpo
Run :	0909H03	0909H04
Initials :	LF	

71516

Stantec

Stantec Consulting Services Inc.
15575 Los Gatos Boulevard, Bldg C
Los Gatos, California 95032
Tel:408-356-6124 Fax: 408-356-6138

Date: 8-28-13 Page: 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact for Results (Hardcopy or PDF To): Gary.Messerotes@stantec.com
CC Results to: Alicia.Jansen@stantec.com
Laboratory: Appl
Lab Phone No.: 559-275-2175 Lab Fax No.:
Project Number: 185702413
Project Name: Caltran Hegenberger
Project Manager: Gary Messerotes

California EDF Report? ☑ Yes ☐ No
Global ID No: T0600101696
Samplers Name: Devon Owens / Tristan Rhodes
Samplers Signature:
Project Address: 555 Hegenberger Rd Oakland CA

Turn-around Time (Business Days): ☒ Standard ☐ 5 DAYS ☐ 72 HR ☐ 48 HR ☐ 24 HR

Sample Name	Field Point Name	Sampling: Date	Sampling: Time	Container: 40 ml VOA x3	Container: SLEEVE	Container: POLY	Container: AMBER	Container: Jar	Container: # of Containers	Preservative: HCl	Preservative: HNO_3	Preservative: ICE	Preservative: NONE	Matrix: WATER	Matrix: SOIL	Matrix: VAPOR	Analysis Request: TPH-GRO (8015M)	Analysis Request: TPH-DRO (8015M with silica gel Cleanup)	Analysis Request: Fuel Oxygenates (BTEX, EDB, EDC, MTBE, TAME, ETBE, DIPE, and TBA) By 8260B	Sample Remarks	For Lab Use Only
MW-1	MW-1	8-28-13	1245	X			X		7	X			X				X	X	X		
MW-2	MW-2		1215																		
MW-3	MW-3		1320																		
MW-4	MW-4		1300																		
MW-5	MW-5		1225																		
EB-1	QCEB		1330																		
Dup			—																		
TripBlank	QCTB	8-5-13	—						3	X											

Relinquished by:	Date	Time	Received by:
	8-29-13	1200	
Relinquished by:	Date	Time	Received by:
	8.29.13	1200	
Relinquished by:	Date	Time	Received by Laboratory:
	8.29.13	1626	

Remarks:

Relinquished By Commercial Carrier:
FedEx_____ UPS_____ Other_____

Temperature Upon Receipt 2.0°, 0.0°C

Bill To: Stantec Los Gatos
15575 Los Gatos Blvd., Bldg C
Los Gatos, CA 95032