Rolls-Royce

Rolls-Royce Engine Services-Oakland Inc.
7200 Earhart Road
Oakland, California 94621-4504
(510) 613-1000

RECEIVED
By Alameda County Environmental Health 11:37 am, Jun 16, 2015

May 14, 2015

Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: **Rolls-Royce Engine Services Test Facility**
6701 Old Earhart Road
Oakland, California
Alameda County Site #RO0002606

I have reviewed the attached routine groundwater monitoring report dated June 5, 2015.

I agree with the conclusions and recommendation presented in the referenced report. The information is this report is accurate to the best of my knowledge. This report was prepared by Gettler-Ryan Incorporated, whose assistance and advice I have relied upon.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

Dave Goldberg
Manager HS&E

140193.11

GETTLER-RYAN INC.

June 5, 2015

Mr. Keith Nowell
Alameda County Environmental Health Department
1131 Harbor Bay Parkway, Ste. 250
Alameda, California 94502

Subject: **First Semi-Annual 2015 Event**
Groundwater Monitoring and Sampling Report
Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road, Oakland, California
Alameda County Site #RO0002606

Mr. Nowell,

On behalf of Rolls-Royce Engine Services-Oakland Inc. (R-R), Gettler-Ryan Inc. (GR) has prepared this First Semi-Annual 2015 Event, Groundwater Monitoring and Sampling Report for the site referenced above. This report describes the field and analytical methods, provides a summary of groundwater monitoring results, and presents conclusions and recommendations regarding groundwater conditions at the site.

SITE LOCATION AND DESCRIPTION

The subject site is located at 6701 Old Earhart Road, adjacent to the Metropolitan Oakland International Airport (MOIA)-North Field, Oakland, California (Figure 1). Topography in the vicinity of the subject site is relatively flat at an average elevation of approximately 7.5 feet above mean sea level. The closest surface water is within the tidal wetlands bordering the site to the east.

Pertinent site features consist of six engine test cells with auxiliary structures (sheds, pumphouse, waste water sumps, aboveground oil/water separator, control buildings, gas conditioning facility, air receivers, cooling towers, flare stack, etc), one 30,000-gallon aboveground liquefied petroleum fuel tank, one 10,000-gallon jet A fuel underground storage tank (UST) and two paired 8,000-gallon jet A fuel USTs. Pertinent site features and the location of the USTs are shown on Figure 2.

For site background and previous environmental investigation, please refer to GR report No. 25-948218.07, *Well Installation Report*, dated January 11, 2008.

GROUNDWATER MONITORING

On March 26, 2015, GR personnel conducted semi-annual groundwater monitoring of nineteen wells (MW-1 through MW-15, MW-17, MW-18, NPORD MW-3 and NPORD MW-4). Work at the site included measuring static groundwater levels, evaluating groundwater in the wells for the presence of petroleum hydrocarbons, and purging and sampling the wells for laboratory analysis. Groundwater monitoring and sampling were performed in accordance with GR Field Methods and Procedures, Groundwater Sampling (attached).

On March 26, 2015, GR collected depth to groundwater measurements in nineteen wells (MW-1 through MW-15, MW-17, MW-18, NPORD MW-3 and NPORD MW-4) and checked groundwater for the presence of Separate-Phase Hydrocarbons (SPH). No SPH were detected in any wells during this event. Water level data, groundwater elevations, and SPH thicknesses are presented in attached Table 1. SPH thicknesses and approximate SPH volumes purged are summarized in Table 3. Field data sheets for this event are attached.

Rolls-Royce personnel have been periodically removing SPH present in well MW-18 through the use of absorbent socks. SPH removal logs for the most recent and historic events are attached to this report.

Groundwater monitoring wells MW-1 through MW-15, MW-17, MW-18, NPORD MW-3 and NPORD MW-4 were purged and sampled on the same date they were monitored. Groundwater samples were submitted under chain-of-custody protocol to PaceAnalytical (NELAP #08263CA) of Davis, California. A copy of the laboratory analytical reports and chain-of-custody documents are attached. Purge water generated from the sampling activities was stored onsite in 55-gallon DOT approved drums pending disposal. GR understands that the disposal of water generated will be handled by R-R.

ANALYTICAL METHODS

Groundwater samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX), Methyl-tert Butyl Ether (MtBE), and Naphthalene by EPA Method 8260B, and for Total Petroleum Hydrocarbons as diesel (TPHd), Total Petroleum Hydrocarbons as motor oil (TPHmo), and Total Petroleum Hydrocarbons as jet fuel (TPHjf) by modified EPA Method 8015. Current and historic groundwater analytical results are presented in Tables 1 and 2.

RESULTS

Groundwater Gradient

On March 26, 2015, the groundwater flow direction was to the south at hydraulic gradients of 0.02 to 0.03 ft/ft. A Potentiometric Map is presented as Figure 3.

Analytical Results

TPHd was detected in groundwater samples collected from nine wells at concentrations ranging from 48 parts per billion (ppb) in well MW-14 to 31,800 ppb in well MW-18. Concentrations of TPHmo were detected in thirteen wells at levels ranging from 110 ppb in well MW-4 to 72,700 ppb in well MW-18. TPHjf were detected in fourteen wells at concentrations ranging from 73 ppb in well MW-2 to 41,700 ppb in well MW-18.

TPHg was detected in wells MW-13 and MW-18 at concentrations of 192 ppb and 640 ppb, respectively. Concentrations of TPHg were reported below the laboratory method detection limits in water samples collected from the remaining wells.

BTEX constituents were reported as below the laboratory method detection limits in all of the wells except for 1.1 ppb total Xylenes detected in MW-18. MtBE was detected in wells MW-13, MW-14 and MW-18 at concentrations of 1.9 ppb, 0.69 ppb and 1.3 ppb, respectively. Concentrations of Naphthalene were reported below the laboratory method detection limits in water samples collected from the wells, except for one well, MW-14 at a concentration of 0.50 ppb. TPHg, TPHd, TPHmo and TPHjf concentrations are presented on Figure 4.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this groundwater monitoring and sampling event, GR concludes and recommends the following:

- Concentrations of TPHd, TPHmo and TPHjf in groundwater samples were generally consistent with those observed during the previous monitoring and sampling events;
- Concentrations of TPHg were limited to the vicinity of wells MW-13 and MW-18;
- No measurable thickness of Separate-Phase Hydrocarbons was detected in MW-18;
- GR recommends the continuation of the current semi-annual monitoring and sampling program for the site. SPH will continue to be removed from well MW-18 on a periodic basis.

If you have any questions about this report, please feel free to contact our Dublin office at (925) 551-7555.

Sincerely,
Gettler-Ryan Inc.

Deanna L. Harding
Project Manager

Hagop Kevork
P.E. No. C55734

REGISTERED PROFESSIONAL ENGINEER
HAGOP KEVORK
No. C 55734
Exp. 12/31/16
CIVIL
STATE OF CALIFORNIA

Attachments: Table 1, Groundwater Monitoring Results
Table 2, Field Measurements and Groundwater Analytical Results
Table 3, SPH Thickness and Volumes Purged - MW-18
Figure 1, Vicinity Map
Figure 2, Site Plan
Figure 3, Potentiometric Map
Figure 4, Concentration Map
GR Field Methods and Procedures
Field Data Sheets
SPH Removal Logs
Laboratory Analytical Report and Chain of Custody

CC: Mr. Dave Goldberg, Rolls-Royce Engine Services-Oakland Inc
Ms. Colleen Liang, Port of Oakland

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-1															
10/03/07	7.17	3.04	0.00	4.13	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	7.17	3.02	0.00	4.15	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.17	3.38	0.00	3.79	<50	<50	<100	51[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.17	3.03	0.00	4.14	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.17	2.82	0.00	4.35	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.17	3.30	0.00	3.87	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.17	2.57	0.00	4.60	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.17	3.08	0.00	4.09	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.17	2.21	0.00	4.96	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	7.17	2.95	0.00	4.22	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.17	2.31	0.00	4.86	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.17	2.94	0.00	4.23	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.17	3.00	0.00	4.17	<50	<50	280[23]	72[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	7.17	3.15	0.00	4.02	<50	<50	160	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	7.17	3.30	0.00	3.87	<50	<50	<100	59	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	7.17	3.17	0.00	4.00	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	7.17	2.85	0.00	4.32	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	7.17	2.77	0.00	4.40	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**7.17**	**2.27**	**0.00**	**4.90**	**<50**	**<48**	**<95**	**<48**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-2															
10/03/07	7.03	2.80	0.00	4.23	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	7.03	2.94	0.00	4.09	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.03	3.32	0.00	3.71	<50	<50	<100	97[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.03	2.75	0.00	4.28	<50	<50	<100	410[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.03	2.54	0.00	4.49	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.03	3.15	0.00	3.88	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.03	2.52	0.00	4.51	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.03	2.87	0.00	4.16	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.03	2.15	0.00	4.88	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	7.03	2.79	0.00	4.24	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.03	1.92	0.00	5.11	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.03	2.70	0.00	4.33	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.03	2.41	0.00	4.62	<50	62[6]	340	170[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-2 (cont)															
09/18/12	7.03	3.03	0.00	4.00	<50	<50	190	51[9]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	7.03	3.21	0.00	3.82	<50	<50	<100	60	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	7.03	2.85	0.00	4.18	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	7.03	2.47	0.00	4.56	<50	53[6]	490	67[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	7.03	2.56	0.00	4.47	<50	110[6]	830	93[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**7.03**	**2.80**	**0.00**	**4.23**	**<50**	**56**	**560**	**73[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-3															
10/02/07	6.73	4.56	0.00	2.17	<50	<50	<100	410	<0.50	<0.50	<0.50	<0.50	1.6[4]	<0.50	NA
03/14/08	6.73	3.98	0.00	2.75	<50	<50	<100	120[9]	<0.50	<0.50	<0.50	<0.50	0.99	<0.50	NA
06/26/08	6.73	4.21	0.00	2.52	<50	<50	<100	610[7]	<0.50	1.7	<0.50	<0.50	0.93	<0.50	NA
09/25/08	6.73	4.25	0.00	2.48	<50	<50	<100	650[16]	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	NA
12/19/08	6.73	4.25	0.00	2.48	<50	<50	<100	520[18]	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	NA
03/26/09	6.73	3.82	0.00	2.91	<50	<50	<100	400[18]	<0.50	<0.50	<0.50	<0.50	0.69	<0.50	NA
06/24/09	6.73	4.21	0.00	2.52	<50	<50	<100	460	<0.50	<0.50	<0.50	<0.50	0.80	<0.50	NA
09/24/09	6.73	4.33	0.00	2.40	<50	<50	<100	400	<0.50	<0.50	<0.50	<0.50	0.70	<0.50	NA
01/15/10	6.73	3.92	0.00	2.81	<50	<50	110	420[18]	<0.50	<0.50	<0.50	<0.50	0.70	<0.50	NA
09/09/10	6.73	4.52	0.00	2.21	<50	<50	<100	450	<0.50	<0.50	<0.50	<0.50	0.62	<0.50	NA
03/21/11	6.73	3.20	0.00	3.53	<50	<50	500	400	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	6.73	4.48	0.00	2.25	<50	70	340	590[18]	<0.50	<0.50	<0.50	<0.50	0.68	<0.50	NA
04/17/12	6.73	3.66	0.00	3.07	<50	56[6]	870	680[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	6.73	4.54	0.00	2.19	<50	<50	120	470	<0.50	<0.50	<0.50	<0.50	0.62	<0.50	NA
03/25/13	6.73	4.35	0.00	2.38	<50	<50	<100	760	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	6.73	4.48	0.00	2.25	<50	62	210	520	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	6.73	4.30	0.00	2.43	<50	<50	460	500[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	6.73	4.23	0.00	2.50	95	<50	210	440	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**6.73**	**4.05**	**0.00**	**2.68**	**<50**	**<48**	**340**	**510[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-4															
10/2/07[4]	9.79	5.81	0.00	3.98	<50	86	<100	280	<0.50	0.63	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	9.79	5.82	0.00	3.97	<50	3,300	2,400	3,400[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	9.79	6.08	0.00	3.71	<50	2,300	1,900	2,700[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	9.79	5.98	0.00	3.81	<50	1,600	1,400	2,100[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	9.79	5.93	0.00	3.86	<50	<50[19]	<100[19]	440[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility

6701 Old Earhart Road

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-4 (cont)															
03/26/09	9.79	5.65	0.00	4.14	<50	720	550	1,000[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	9.79	5.72	0.00	4.07	<50	<50	<100	480[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	9.79	5.85	0.00	3.94	<50	1,300	1,100	1,700[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	9.79	4.86	0.00	4.93	<50	210	280	580[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50[21,22]
09/09/10	9.79	5.75	0.00	4.04	<50	380[6]	510	680[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	9.79	4.95	0.00	4.84	<50	<50	<100	220	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	9.79	5.76	0.00	4.03	<50	60	<100	490[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	9.79	4.98	0.00	4.81	<50	240[6]	920	1,000[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	9.79	5.92	0.00	3.87	<50	200[6]	600	780[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	9.79	5.90	0.00	3.89	<50	180	170	640	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	9.79	5.78	0.00	4.01	<50	<50	150[13]	490[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	9.79	5.58	0.00	4.21	<50	73	250	330[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	9.79	5.36	0.00	4.43	<50	55[6]	180[13]	380[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**9.79**	**4.87**	**0.00**	**4.92**	**<50**	**<49**	**110[13]**	**290[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-5															
10/02/07	8.35	4.75	0.00	3.60	<50	5,600	11,000	5,300	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	8.35	4.40	0.00	3.95	<50	1,200[6]	1,700	1,100[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	8.35	4.68	0.00	3.67	<50	1,400[6]	3,200	2,000[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	8.35	4.52	0.00	3.83	<50	670[6]	1,200	940[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	8.35	4.43	0.00	3.92	<50	2,100[6]	4,100	1,900[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	8.35	4.25	0.00	4.10	<50	2,400[6]	5,500	2,600[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	8.35	4.38	0.00	3.97	<50	1,300[6]	2,700	990[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	8.35	4.47	0.00	3.88	<50	1,400[6]	3,000	1,400[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	8.35	3.47	0.00	4.88	<50	450[6]	1,800	870[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	8.35	4.34	0.00	4.01	<50	890[6]	2,200	600[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	8.35	3.59	0.00	4.76	<50	670[6]	1,600	460[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	8.35	4.39	0.00	3.96	<50	310[6]	760	450[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	8.35	3.88	0.00	4.47	<50	450[6]	960	1,500[18]	<0.50	0.57	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	8.35	4.54	0.00	3.81	<50	190[6]	470	470[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	8.35	4.58	0.00	3.77	<50	510[6]	1,200	680	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	8.35	4.43	0.00	3.92	<50	2,000[6]	4,500	1,700[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	8.35	4.21	0.00	4.14	<50	180[6]	690	330[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	8.35	4.10	0.00	4.25	<50	160[6]	690	350[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**8.35**	**3.54**	**0.00**	**4.81**	**<50**	**270**	**1,100**	**370[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility

6701 Old Earhart Road

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-6															
10/02/07	9.51	5.90	0.00	3.61	<50	3,000[6]	7,700	2,500[7]	<0.50	<0.50	0.86	1.1	<0.50	0.53	NA
03/14/08	9.51	5.55	0.00	3.96	<50	3,600[10]	7,600	2,800[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	9.51	5.80	0.00	3.71	<50	3,200[10]	9,400	3,200[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	9.51	5.69	0.00	3.82	<50	3,500[10]	8,800	3,800[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	9.51	5.43	0.00	4.08	<50	1,500[10]	5,500	1,200[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	9.51	5.38	0.00	4.13	<50	2,400[6]	6,800	1,800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	9.51	5.46	0.00	4.05	<50	490[6]	1,600	450[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	9.51	5.60	0.00	3.91	<50	1,100[10]	3,400	860[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	9.51	4.57	0.00	4.94	<50	450[6]	2,700	790[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50[21,22]
09/09/10	9.51	5.45	0.00	4.06	<50	620[6]	2,800	370[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	9.51	4.68	0.00	4.83	<50	<50	200	100[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	9.51	5.50	0.00	4.01	<50	310[6]	970	260[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	9.51	5.25	0.00	4.26	<50	62[1]	130[23]	650[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	9.51	5.64	0.00	3.87	<50	400[6]	1,300	500[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	9.51	5.64	0.00	3.87	<50	290[6]	870	620	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	9.51	5.51	0.00	4.00	<50	<50	<100[13]	200[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	9.51	5.30	0.00	4.21	<50	400[6]	2,600	490[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	9.51	5.18	0.00	4.33	<50	670[6]	4,400	680[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**9.51**	**4.61**	**0.00**	**4.90**	**<50**	**170[6]**	**1,700**	**230[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-7															
10/02/07	9.23	5.68	0.00	3.55	<50	12,000[6]	34,000	9,100[7]	<0.50	<0.50	<0.50	<0.50	<0.50	0.76	NA
03/14/08	9.23	5.32	0.00	3.91	<50	7,900[6]	20,000	5,500[11]	<0.50	<0.50	<0.50	<0.50	<0.50	3.5	NA
06/26/08	9.23	5.56	0.00	3.67	<50	3,300[6]	10,000	3,300[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	9.23	5.46	0.00	3.77	<50	5,300[10]	13,000	6,000[16]	<0.50	<0.50	<0.50	<0.50	<0.50	0.98	NA
12/19/08	9.23	5.38	0.00	3.85	<50	<50[19]	<100[19]	350[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	9.23	5.11	0.00	4.12	<50	710[6]	2,300	790[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	9.23	5.22	0.00	4.01	<50	<50	<100	390	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	9.23	5.38	0.00	3.85	<50	950[6]	2,600	980[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	9.23	4.38	0.00	4.85	<50	910[6]	4,900	1,200[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50[21,22]
09/09/10	9.23	5.25	0.00	3.98	<50	1,800[6]	6,800	850[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	9.23	4.49	0.00	4.74	<50	<50	160	240[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	9.23	5.28	0.00	3.95	<50	2,100[6]	6,200	1,200[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	9.23	4.78	0.00	4.45	<50	810[6]	2,600	2,200[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	9.23	5.31	0.00	3.92	<50	510[6]	1,700	700[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-7 (cont)															
03/25/13	9.23	5.48	0.00	3.75	<50	1,100[6]	3,900	1,800	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	9.23	5.31	0.00	3.92	<50	<50	<100	380[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	9.23	5.09	0.00	4.14	<50	660[6]	4,100	830[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	9.23	5.01	0.00	4.22	<50	290[6]	2,000	520[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**9.23**	**4.45**	**0.00**	**4.78**	**<50**	**370[6]**	**3,100**	**400[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-8															
09/14/07	8.25	4.65	0.00	3.60	<50	790[3]	2,700	1,000[2]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
07/03/08	8.25	4.49	0.00	3.76	<50	1,200[6]	4,400	1,800[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	8.25	4.41	0.00	3.84	<50	<50	130	140[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	8.25	4.31	0.00	3.94	<50	160[6]	840	340[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	8.25	4.05	0.00	4.20	<50	470[3]	1,500	570[2]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	8.25	4.21	0.00	4.04	<50	<50	<100	650[2]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	8.25	4.32	0.00	3.93	<50	130[10]	330	340[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	8.25	3.57	0.00	4.68	<50	120[6]	640	410[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	8.25	4.17	0.00	4.08	<50	82[6]	430	260[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	8.25	3.38	0.00	4.87	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	8.25	4.22	0.00	4.03	<50	63[6]	<100	240[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	8.25	3.70	0.00	4.55	<50	69[6]	340	370[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	8.25	4.33	0.00	3.92	<50	62[6]	210	490[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	8.25	4.31	0.00	3.94	<50	<50	<100	300	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	8.25	4.25	0.00	4.00	<50	96[6]	250	410[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	8.25	4.04	0.00	4.21	<50	72[6]	850	330[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	8.25	3.92	0.00	4.33	<50	110[6]	860	250[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**8.25**	**3.61**	**0.00**	**4.64**	**<50**	**<48**	**650**	**370[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-9															
10/03/07	9.44	5.81	0.00	3.63	<50	7,700	10,000	6,700	<0.50	<0.50	<0.50	<0.50	<0.50[4]	<0.50	NA
03/14/08	9.44	5.51	0.00	3.93	<50	6,400	8,000	4,000[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	9.44	5.72	0.00	3.72	<50	1,600[10]	1,800	1,800[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	9.44	5.59	0.00	3.85	<50	5,900[10]	9,300	6,300[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	9.44	5.43	0.00	4.01	<50	4,100[6]	8,500	4,000[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	9.44	5.26	0.00	4.18	<50	6,900[6]	9,700	5,600[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility

6701 Old Earhart Road

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-9 (cont)															
06/24/09	9.44	5.42	0.00	4.02	<50	2,900[6]	5,200	1,800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	9.44	5.53	0.00	3.91	<50	600[10]	1,100	720[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	9.44	4.69	0.00	4.75	<50	1,300[6]	3,100	1,600[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50[21,22]
09/09/10	9.44	5.43	0.00	4.01	<50	1,900[6]	4,500	960[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	9.44	4.58	0.00	4.86	<50	280[6]	780	460[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	9.44	5.39	0.00	4.05	<50	250[6]	500	700[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	9.44	4.85	0.00	4.59	<50	1,200[6]	2,500	2,700[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	9.44	5.57	0.00	3.87	<50	750[6]	1,700	940[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	9.44	5.48	0.00	3.96	<50	870[6]	2,600	1,200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	9.44	5.50	0.00	3.94	<50	420[6]	1,200	520[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	9.44	5.27	0.00	4.17	<50	610[6]	3,000	710[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	9.44	5.20	0.00	4.24	<50	220[6]	880	510[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**9.44**	**4.78**	**0.00**	**4.66**	**<50**	**230**	**1,400**	**360[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-10															
10/03/07	7.51	3.89	0.00	3.62	110	4,200	1,300	4,500	<0.50	<0.50	<0.50	<0.50	<0.50[4]	<0.50	NA
03/14/08	7.51	3.68	0.00	3.83	53	420	270	420[7]	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	NA
06/26/08	7.51	3.80	0.00	3.71	120	1,200	1,000	2,000	<0.50	<0.50	<0.50	<0.50	<0.50	5.0	NA
09/25/08	7.51	3.68	0.00	3.83	<50	3,100[10]	2,200	3,600	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.51	3.54	0.00	3.97	<50	1,700	1,200	1,900[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.51	3.36	0.00	4.15	53	1,500[8]	1,300	2,900	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	NA
06/24/09	7.51	3.54	0.00	3.97	<50	710[8]	750	1,400	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.51	3.61	0.00	3.90	<50	480[10]	600	1,100[18]	<0.50	<0.50	<0.50	0.69	<0.50	<0.50	NA
01/15/10	7.51	2.81	0.00	4.70	<50	180	210	500[18]	<0.50	<0.50	0.66	3.5	<0.50	3.4	<10 - <50[21,22]
09/09/10	7.51	3.48	0.00	4.03	<50	66[8]	<100	380[18]	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	NA
03/21/11	7.51	2.70	0.00	4.81	<50	<50	<100	610[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.51	3.51	0.00	4.00	<50	93	260[23]	890[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.51	2.97	0.00	4.54	<50	<50	<100	670[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	7.51	3.64	0.00	3.87	<50	77	180	600[18]	<0.50	<0.50	<0.50	<0.50	<0.50	0.51	NA
03/25/13	7.51	3.98	0.00	3.53	<50	120[24]	<100	750	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	7.51	3.60	0.00	3.91	<50	53	<100	270[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	7.51	3.40	0.00	4.11	<50	<50	210	330[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	7.51	3.25	0.00	4.26	<50	<50	<100	250[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**7.51**	**2.94**	**0.00**	**4.57**	**<50**	**<48**	**<96**	**230[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility

6701 Old Earhart Road

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-11															
10/03/07	7.60	4.01	0.00	3.59	80	250	490	610	<0.50	<0.50	<0.50	<0.50	<0.50[4]	<0.50	NA
03/14/08	7.60	3.71	0.00	3.89	61	410[6]	1,200	520[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.60	3.92	0.00	3.68	<50	2,700[10]	7,300	3,600[15]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.60	3.82	0.00	3.78	<50	2,800[10]	5,900	3,800[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.60	3.71	0.00	3.89	<50	1,500[6]	3,700	1,800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.60	3.49	0.00	4.11	<50	2,300[6]	4,200	2,800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.60	3.70	0.00	3.90	<50	1,100[6]	2,600	1,200[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.60	3.37	0.00	4.23	<50	1,400[10]	3,800	1,800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.60	3.02	0.00	4.58	<50	260[6]	860	620[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50[21,22]
09/09/10	7.60	3.63	0.00	3.97	<50	510[10]	1,200	520[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.60	2.85	0.00	4.75	<50	83[6]	280	410[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.60	3.70	0.00	3.90	<50	470[6]	990	720[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.60	3.13	0.00	4.47	<50	95[6]	220	1,300[18]	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	NA
09/18/12	7.60	3.83	0.00	3.77	<50	230	600	660[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	7.60	3.80	0.00	3.80	<50	230	450	1,200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	7.60	3.87	0.00	3.73	<50	130[6]	280	350[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	7.60	3.55	0.00	4.05	<50	220[6]	1,000	560[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	7.60	3.48	0.00	4.12	<50	110[6]	430	340[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**7.60**	**3.17**	**0.00**	**4.43**	**<50**	**160[6]**	**770**	**540[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-12															
10/03/07	7.32	3.61	0.00	3.71	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50[4]	<0.50	NA
03/14/08	7.32	3.35	0.00	3.97	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.32	3.60	0.00	3.72	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.32	3.50	0.00	3.82	<50	<50	<100	51[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.32	3.09	0.00	4.23	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.32	3.13	0.00	4.19	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.32	3.21	0.00	4.11	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.32	3.38	0.00	3.94	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.32	2.80	0.00	4.52	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	7.32	3.39	0.00	3.93	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.32	2.30	0.00	5.02	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.32	3.36	0.00	3.96	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.32	2.72	0.00	4.60	<50	<50	<100	99[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	7.32	3.56	0.00	3.76	<50	<50	<100	97[9]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-12 (cont)															
03/25/13	7.32	3.53	0.00	3.79	<50	<50	<100	73	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	7.32	3.44	0.00	3.88	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	7.32	3.08	0.00	4.24	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	7.32	3.04	0.00	4.28	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**7.32**	**3.03**	**0.00**	**4.29**	**<50**	**<48**	**<96**	**<48**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-13															
10/03/07	6.10	2.86	0.00	3.24	160	70[8]	<100	660	<0.50	<0.50	<0.50	<0.50	1.2[4]	1.7	NA
03/14/08	6.10	1.96	0.00	4.14	350[12]	490	130[13]	1,200	0.89	<0.50	<0.50	<0.50	2.0	8.9	NA
06/26/08	6.10	2.57	0.00	3.53	720	200[8]	<100	4,100[15]	2.0	<0.50	<0.50	0.60	3.3	3.3	NA
09/25/08	6.10	2.48	0.00	3.62	600	<200[17]	130[13]	1,900[16]	1.2	<0.50	<0.50	<0.50	2.9	11	NA
12/19/08	6.10	2.68	0.00	3.42	280	130[8]	<100	1,300[18]	0.89	<0.50	<0.50	<0.50	1.7	4.8	NA
03/26/09	6.10	2.44	0.00	3.66	310	86	120[13]	1,800[18]	0.81	<0.50	<0.50	<0.50	1.7	2.2	NA
06/24/09	6.10	2.91	0.00	3.19	330	170[8]	<100	2,000[19]	1.0	<0.50	<0.50	<0.50	1.9	5.2	NA
09/24/09	6.10	2.81	0.00	3.29	380	180	130[13]	5,400[18]	1.5	<0.50	<0.50	<0.50	2.5	6.8	NA
01/15/10	6.10	1.58	0.00	4.52	230	140	<100	1,600[18]	0.58	<0.50	<0.50	<0.50	1.4	3.1	NA
09/09/10	6.10	2.20	0.00	3.90	230	180[8]	<100	1,400[18]	0.95	<0.50	<0.50	<0.50	2.3	3.6	NA
03/21/11	6.10	1.10	0.00	5.00	260	76[8]	<100	2,400[18]	1.0	<0.50	<0.50	<0.50	1.7	3.1	NA
09/02/11	6.10	2.23	0.00	3.87	380[12]	500	260	1,400[18]	<0.50	<0.50	<0.50	<0.50	1.4	1.4	NA
04/17/12	6.10	1.50	0.00	4.60	310	190	110	3,400[18]	1.0	<0.50	<0.50	<0.50	2.6	1.4	NA
09/18/12	6.10	2.25	0.00	3.85	280	190	140	1,800[18]	0.68	<0.50	<0.50	<0.50	2.3	0.89	NA
03/25/13	6.10	2.52	0.00	3.58	170[12]	<50	<100	610	<0.50	<0.50	<0.50	<0.50	1.4	<0.50	NA
09/16/13	6.10	2.28	0.00	3.82	190[12]	110	<100	1,400[18]	<0.50	<0.50	<0.50	<0.50	1.7	<0.50	NA
06/26/14	6.10	2.17	0.00	3.93	340	110	150[13]	1,900[18]	0.73	<0.50	<0.50	<0.50	2.4	0.6	NA
10/16/14	6.10	1.89	0.00	4.21	180[12]	58	<100	1,500[18]	<0.50	<0.50	<0.50	<0.50	1.9	<0.50	NA
03/26/15	**6.10**	**2.03**	**0.00**	**4.07**	**192**	**<48**	**230[13]**	**1,500**	**0.61**	**<0.50**	**<0.50**	**<1.0**	**1.9**	**<0.50**	**NA**
MW-14															
10/02/07	6.42	2.40	0.00	4.02	67	300	870	1,400	<0.50	<0.50	<0.50	<0.50	1.4[4]	6.1	NA
03/14/08	6.42	2.44	0.00	3.98	50	250[6]	350	500[7]	<0.50	<0.50	<0.50	<0.50	1.7	5.0	NA
06/26/08	6.42	2.62	0.00	3.80	<50	570[10]	2,700	2,000[15]	<0.50	<0.50	<0.50	<0.50	1.4	3.1	NA
09/25/08	6.42	2.58	0.00	3.84	<50	510[10]	1,700	1,800[16]	<0.50	<0.50	<0.50	<0.50	1.0	<0.50	NA
12/19/08	6.42	2.14	0.00	4.28	<50	480[6]	2,100	1,200[18]	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	NA
03/26/09	6.42	2.23	0.00	4.19	<50	79[6]	540	1,000[18]	<0.50	<0.50	<0.50	<0.50	0.89	<0.50	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility

6701 Old Earhart Road

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-14 (cont)															
06/24/09	6.42	2.33	0.00	4.09	<50	<50	290	1,100[18]	<0.50	<0.50	<0.50	<0.50	1.2	0.52	NA
09/24/09	6.42	2.47	0.00	3.95	<50	88[10]	350	1,200[18]	<0.50	<0.50	<0.50	<0.50	0.83	<0.50	NA
01/15/10	6.42	1.95	0.00	4.47	<50	60[6]	490	1,100[18]	<0.50	<0.50	<0.50	<0.50	1.0	<0.50	NA
09/09/10	6.42	2.52	0.00	3.90	<50	150[10]	500	890[18]	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	NA
03/21/11	6.42	1.40	0.00	5.02	<50	<50	230	730[18]	<0.50	<0.50	<0.50	<0.50	1.3	<0.50	NA
09/02/11	6.42	2.49	0.00	3.93	<50	140[6]	550	900[18]	<0.50	<0.50	<0.50	<0.50	0.98	<0.50	NA
04/17/12	6.42	1.83	0.00	4.59	<50	140[6]	800	2,400[18]	<0.50	0.69	<0.50	<0.50	1.2	<0.50	NA
09/18/12	6.42	2.65	0.00	3.77	51	130[6]	680	1,300[18]	<0.50	<0.50	<0.50	<0.50	1.0	<0.50	NA
03/25/13	6.42	2.63	0.00	3.79	<50	160	640	2,000	<0.50	<0.50	<0.50	<0.50	1.1	<0.50	NA
09/16/13	6.42	2.53	0.00	3.89	<50	86[6]	360	920[18]	<0.50	<0.50	<0.50	<0.50	0.74	<0.50	NA
06/26/14	6.42	2.15	0.00	4.27	<50	100[6]	650	950[18]	<0.50	<0.50	<0.50	<0.50	0.98	<0.50	NA
10/16/14	6.42	2.08	0.00	4.34	<50	100[6]	880	920[18]	<0.50	<0.50	<0.50	<0.50	0.83	<0.50	NA
03/26/15	**6.42**	**2.08**	**0.00**	**4.34**	**<50**	**48[6]**	**730**	**790[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.69**	**0.50**	**NA**
MW-15															
10/02/07	7.51	4.85	0.00	2.66	<50	99	<100	120	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	7.51	4.62	0.00	2.89	<50	<50	<100	88[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.51	4.81	0.00	2.70	<50	<50	<100	84[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.51	4.81	0.00	2.70	<50	<50	<100	53	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.51	4.67	0.00	2.84	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.51	4.45	0.00	3.06	<50	<50	<100	110[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.51	4.68	0.00	2.83	<50	<50	<100	59	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.51	4.75	0.00	2.76	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.51	4.29	0.00	3.22	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	7.51	4.78	0.00	2.73	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.51	2.71	0.00	4.80	<50	<50	<100	200[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.51	4.77	0.00	2.74	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.51	3.65	0.00	3.86	<50	<50	120[23]	170[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	7.51	4.89	0.00	2.62	<50	<50	<100	50[9]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	7.51	4.78	0.00	2.73	<50	<50	<100	76	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	7.51	4.80	0.00	2.71	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	7.51	4.58	0.00	2.93	<50	<50	100	71[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	7.51	4.43	0.00	3.08	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**7.51**	**4.43**	**0.00**	**3.08**	**<50**	**<48**	**<96**	**<48**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-17															
09/14/07	0.04	4.10	0.00	-4.06	<50	<50	220	150[2]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
07/03/08	0.04	1.98	0.00	-1.94	<50	<50	<100	84[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
9/25/08[14]	0.04	4.77	0.00	-4.73	<50	<50	120	110[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	0.04	2.24	0.00	-2.20	<50	<50	<100	54	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	0.04	1.85	0.00	-1.81	<50	<50	<100	71[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	Not able to sample well-Oakland Airport security failed to provide access to well														
09/24/09	0.04	2.97	0.00	-2.93	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
1/15/10[14]	0.04	2.49	0.00	-2.45	<50	<50	<100	59[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	0.04	2.79	0.00	-2.75	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	0.04	2.25	0.00	-2.21	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	0.04	2.69	0.00	-2.65	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	0.04	2.49	0.00	-2.45	<50	<50	<100	240[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	0.04	2.96	0.00	-2.92	<50	<50	140[23]	84[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	0.04	2.51	0.00	-2.47	<50	<50	<100	93	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	0.04	2.88	0.00	-2.84	<50	<50	<100	69[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	0.04	2.73	0.00	-2.69	<50	<50	<100	70[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	0.04	2.47	0.00	-2.43	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**0.04**	**0.25**	**0.00**	**-0.21**	**<50**	**<49**	**<97**	**<49**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
MW-18															
10/02/07	7.05	4.15	0.55	3.34**	Not developed or sampled due to presence of SPH										
03/14/08	7.05	3.62	0.63	3.93**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
06/26/08	7.05	4.11	1.14	3.85**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
09/25/08	7.05	3.77	0.56	3.73**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
12/19/08	7.05	3.30	0.36	4.04**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
03/26/09	7.05	3.28	0.55	4.21**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
06/24/09	7.05	3.53	0.48	3.90**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
09/24/09	7.05	3.57	0.46	3.85**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
01/15/10	7.05	3.02	0.66	4.56**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
09/09/10	7.05	3.18	0.10	3.95**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
03/21/11	7.05	1.99	0.15	5.18**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
09/02/11	7.05	3.49	0.51	3.97**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
04/17/12	7.05	2.52	0.15	4.65**	Not sampled due to presence of SPH				--	--	--	--	--	--	--
09/18/12	7.05	3.14	0.00	3.91	2,100	210,000[10]	190,000	290,000	<0.50	<0.50	<0.50	2.4	2.0	<2.0	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility

6701 Old Earhart Road

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
MW-18 (cont)															
03/25/13	7.05	3.27	0.15	3.90**	740	35,000	39,000	61,000	<0.50	<0.50	<0.50	1.7	2.2	<0.80	NA
09/16/13	7.05	3.15	0.00	3.90	570	35,000[10]	37,000	48,000	<0.50	<0.50	<0.50	1.2	1.8	<0.80	NA
06/26/14	7.05	2.91	0.00	4.14	600	100,000[8]	150,000	110,000	<0.50	<0.50	<0.50	1.0	1.8	<0.80	NA
10/16/14	7.05	2.77	0.00	4.28	450	12,000	25,000	17,000[18]	<0.50	<0.50	<0.50	0.77	2.2	<0.50	NA
03/26/15	**7.05**	**2.58**	**0.00**	**4.47**	**640**	**31,800**	**72,700**	**41,700[18]**	**<0.50**	**<0.50**	**<0.50**	**1.1**	**1.3**	**<0.50**	**NA**
NPORD MW-3															
09/14/07	8.11	4.43	0.00	3.68	<50	<50	<100	64[2]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
07/03/08	8.11	3.96	0.00	4.15	<50	<50	<100	99[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	8.11	4.06	0.00	4.05	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	8.11	3.78	0.00	4.33	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	8.11	4.22	0.00	3.89	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	8.11	4.02	0.00	4.09	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	8.11	4.19	0.00	3.92	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	8.11	3.51	0.00	4.60	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	8.11	3.96	0.00	4.15	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	8.11	3.28	0.00	4.83	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	8.11	4.10	0.00	4.01	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	8.11	4.00	0.00	4.11	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	8.11	4.18	0.00	3.93	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	8.11	4.35	0.00	3.76	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	8.11	4.23	0.00	3.88	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	8.11	3.91	0.00	4.20	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	8.11	3.69	0.00	4.42	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**8.11**	**3.70**	**0.00**	**4.41**	**<50**	**<48**	**<97**	**<48**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
NPORD MW-4															
09/14/07	10.06	6.48	0.00	3.58	50	1,000[3]	1,400	2,000[2]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
07/03/08	10.06	6.26	0.00	3.80	<50	360[6]	700	960[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	10.06	6.28	0.00	3.78	<50	150[6]	240	820[16]	<0.50	<0.50	<0.50	<0.50	<0.50[4]	<0.50	NA
12/19/08	10.06	6.15	0.00	3.91	<50	320[10]	640	1,400[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	10.06	5.91	0.00	4.15	<50	95	160	520[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
NPORD MW-4 (cont)															
06/24/09	10.06	6.10	0.00	3.96	<50	200[6]	100	1,000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	10.06	6.20	0.00	3.86	<50	200[10,20]	180[20]	500[18,20]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	10.06	5.45	0.00	4.61	<50	93	<100	770[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	10.06	6.06	0.00	4.00	<50	<50	<100	290[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	10.06	5.31	0.00	4.75	<50	<50	<100	270	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	10.06	6.11	0.00	3.95	<50	95	<100	320[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	10.06	5.58	0.00	4.48	<50	64	130[23]	940[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	10.06	6.27	0.00	3.79	<50	150	250	800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	10.06	6.23	0.00	3.83	<50	57	<100	820	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	10.06	6.25	0.00	3.81	<50	72	120[13]	560[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	10.06	6.01	0.00	4.05	<50	90[6]	260	520[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/16/14	10.06	6.91	0.00	3.15	<50	200	480	690[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	**10.06**	**5.56**	**0.00**	**4.50**	**<50**	**91**	**270**	**470[18]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
QA															
09/14/07	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/02/07	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
6/26/08[14]	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
07/03/08	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/18/12	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/25/13	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/16/13	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/14	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility

6701 Old Earhart Road

Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D[1] (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
QA (cont)															
10/16/14	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/15	--	--	--	--	**<50**	**NA**	**NA**	**NA**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

EXPLANATIONS:

TOC = Top of Casing Elevation
DTW = Depth to Water
GWE = Groundwater Elevation
ft = feet
SPHT = Separate Phase Hydrocarbon Thickness
TPH-G= Total Petroleum Hydrocarbons as Gasoline
TPH-D = Total Petroleum Hydrocarbons as Diesel
TPH-MO = Total Petroleum Hydrocarbons as Motor Oil
TPH-JF = Total Petroleum Hydrocarbons as Jet Fuel
B = Benzene
T = Toluene
E = Ethylbenzene
X = Total Xylenes
MTBE = Methyl Tertiary Butyl Ether
SVOC = Semi-Volatile Organic Compounds
(µg/L) = Micrograms per liter
NA = Not Analyzed
-- = Not Measured
QA = Trip Blank

ANALYTICAL METHODS:

Kiff Analytical LLC (NELAP #08263CA)
TPH-G, BTEX, MTBE, and Napthalene by EPA Method 8260B
TPH-D, TPH-MO, and TPH-JF by modified EPA Method 8015
SVOC by EPA Method 8270C

* TOC elevations surveyed relative to mean sea level by Morrow Surveying (PLS #5161) on October 8, 2007
** = GWE corrected for the presence of SPH [(TOC-DTW) + (SPH thickness x SPH specific gravity)]. Specific gravity of SPH is assumed to be 0.8.

[1] Analyzed with Silica Gel Cleanup
[2] Discrete peaks, higher boiling hydrocarbons present in sample that are atypical for Jet Fuel
[3] Discrete peaks, higher boiling hydrocarbons present in sample that are atypical for Diesel Fuel
[4] Matrix spike/matrix spike duplicate results associated with these samples for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.
[5] Due to the formation of an emulsion in this sample, the sample was centrifuged and decanted prior to extraction.
[6] Hydrocarbons present in this sample are higher-boiling than typical Diesel Fuel.
[7] Hydrocarbons present in this sample are higher-boiling than typical Jet Fuel.
[8] Lower boiling hydrocarbons are present in this sample that are atypical for Diesel Fuel.
[9] Discrete peaks present in this sample that are atypical for Jet Fuel.
[10] Some lower-boiling hydrocarbons than Diesel and some higher-boiling hydrocarbons than Diesel are present in this sample.
[11] Both lower-boiling and higher-boiling hydrocarbons than Jet Fuel are present in this sample.
[12] Sample contained primarily compounds not found in typical Gasoline.
[13] Hydrocarbons present in this sample are lower-boiling than typical Motor Oil
[14] Sample was analyzed by EPA Method 8260B using bottles that contained headspace bubbles greater than 1/4-inch in diameter.
[15] Lower boiling hydrocarbons are present in this sample that are atypical for Jet Fuel.
[16] Chromatographic pattern not typical for Jet Fuel.
[17] Diesel method reporting limit for this sample was increased due to interference from Gasoline range hydrocarbons.
[18] Higher-boiling hydrocarbons are present in this sample that are atypical for Jet Fuel.
[19] Laboratory confirmed results

Table 1

Groundwater Monitoring Data and Analytical Results

Rolls-Royce Engine Services Test Facility

6701 Old Earhart Road

Oakland, California

EXPLANATIONS:

[20] Repeat analysis by Modified EPA Method 8015 yielded inconsistent results for sample NPORD MW-4. The concentrations appear to vary between bottles. The highest concentration results are reported.

[21] All analytes were ND or less than their respective reporting limits

[22] Analysis for SVOC requested by Client.

[23] Discrete peaks in Motor Oil range, atypical for Motor Oil.

[24] Discrete peaks in Diesel Range, atypical for Diesel Fuel.

Table 2

Field Measurements and Groundwater Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

WELL ID/ DATE	D.O. Pre-Purge (mg/L)	D.O. Post-Purge (mg/L)	ORP Pre-Purge (mV)	ORP Post-Purge (mV)	Ferric Iron (mg/L)	Ferrous Iron (mg/L)	Nitrate as NO_3 (mg/L)	Sulfate as SO_4 (mg/L)	Methane (µg/L)
MW-1									
09/09/10	0.00	0.74	-462.4	-124.7	3.2	0.81	<10	2,000	117
MW-2									
09/09/10	0.03	0.29	-261.9	-233.5	--	--	--	--	--
MW-3									
09/09/10	0.38	0.24	-149.2	-123.5	--	--	--	--	--
MW-4									
09/09/10	0.09	0.06	-295.2	-299.4	91	2.4	<2.5	8.6	6,590
MW-5									
09/09/10	0.84	0.05	-374	-459	68	12	<2.5	<2.5	4,760
MW-6									
09/09/10	0.22	0.20	-271.8	-273.5	40	<0.10	<2.5	540	3,280
MW-7									
09/09/10	0.07	0.09	-260.7	-257.4	340	18	<2.5	<2.5	6,350
MW-8									
09/09/10	0.14	0.11	-276	-281	23	2.1	<2.5	3.9	8,500
MW-9									
09/09/10	0.00	0.65	-548.1	-501.4	13	<0.10	<2.5	23	8,310
MW-10									
09/09/10	0.11	0.58	-333.3	-391.2	--	--	--	--	--
MW-11									
09/09/10	0.84	0.96	-399.4	-370.1	--	--	--	--	--
MW-12									
09/09/10	0.15	0.49	-340.1	-348.2	--	--	--	--	--
MW-13									
09/09/10	0.45	0.82	-142.9	-130.5	--	--	--	--	--
MW-14									
09/09/10	0.20	0.14	-264.6	-223.9	--	--	--	--	--

Table 2

Field Measurements and Groundwater Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

WELL ID/ DATE	D.O. Pre-Purge (mg/L)	D.O. Post-Purge (mg/L)	ORP Pre-Purge (mV)	ORP Post-Purge (mV)	Ferric Iron (mg/L)	Ferrous Iron (mg/L)	Nitrate as NO_3 (mg/L)	Sulfate as SO_4 (mg/L)	Methane (µg/L)
MW-15									
09/09/10	0.51	0.63	196.1	180.2	--	--	--	--	--
MW-17									
09/09/10	0.40	0.51	168.4	149.1	--	--	--	--	--
NPORD MW-3									
09/09/10	0.46	0.50	-208.2	-211.6	3.2	3.2	<10	1,200	27.8

Table 2

Field Measurements and Groundwater Analytical Results

Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

EXPLANATIONS:

ORP = Oxidation Reduction Potential
D.O. = Dissolved Oxygen
(mV) = Millivolts
(µg/L) = Micrograms per liter
(mg/L) = Milligrams per liter
-- = Not Measured

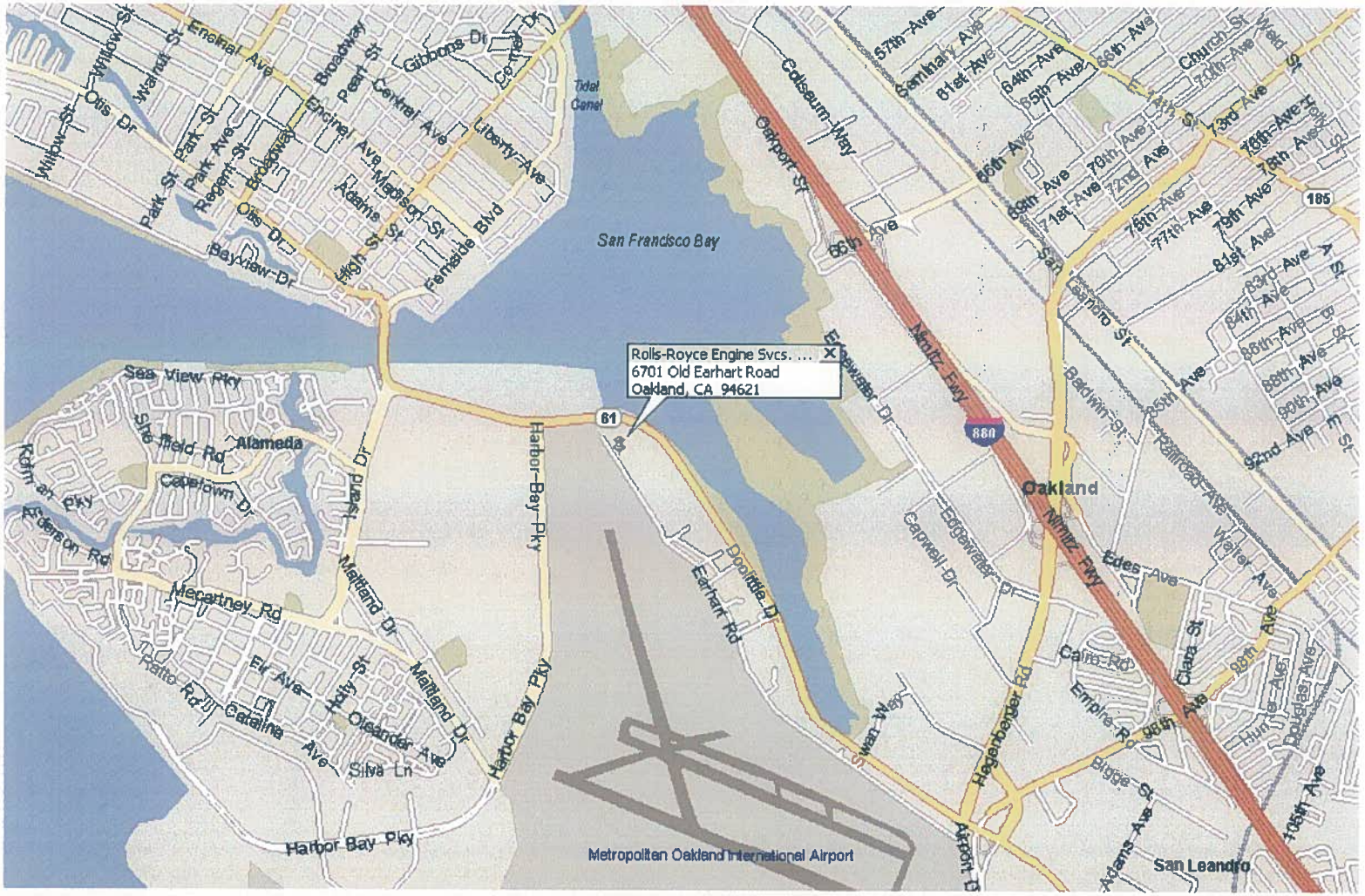
ANALYTICAL METHODS:

Nitratre as NO_3 and Sulfate as SO_3 by EPA Method 300.0
Ferric Iron by 200.7/SM 3500 Fe D
Ferrous Iron by SM 3500 Fe D
Methane by Method RSK-175M

Table 3
SPH Thickness and Volumes Purged - MW-18
Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, California

Date	SPH Thickness (feet)	Depth To SPH From Top of Casing (feet)	Approximate Volume of Water Purged (gallons)	Approximate Volume of SPH Purged (gallons)
9/14/07	0.55	3.60	2.00	2.50
3/14/08	0.63	2.99	0.80	0.30
6/26/08	1.14	2.97	1.00	0.13
9/25/08	0.56	3.21	2.00	0.07
12/19/08	0.36	2.94	0.13	0.16
3/26/09	0.55	2.73	0.08	0.08
6/24/09	0.48	3.05	0.05	0.06
9/24/09	0.46	3.11	0.00	0.07
1/15/10	0.66	2.36	2.00	0.14
9/9/10	0.10	3.08	0.13	0.01
3/21/11	0.15	1.84	0.26	0.03
9/2/11	0.51	2.98	0.16	0.26
4/17/12	0.15	2.37	0.05	0.26
9/18/12	0.00	NA	3.50	0.00
3/25/13	0.15	3.12	4.50	0.15
9/16/13	0.00	NA	3.00	0.00
6/26/14	0.00	NA	4.00	0.00
10/16/14	0.00	NA	4.00	0.00
3/26/2015	**0.00**	**NA**	**4.00**	**0.00**
		Totals:	**31.66**	**4.21**

NA = Not Applicable



SITE LOCATION MAP
ROLLS-ROYCE ENGINE SERVICES TEST FACILITY
6701 OLD EARHART RD.
OAKLAND, CA

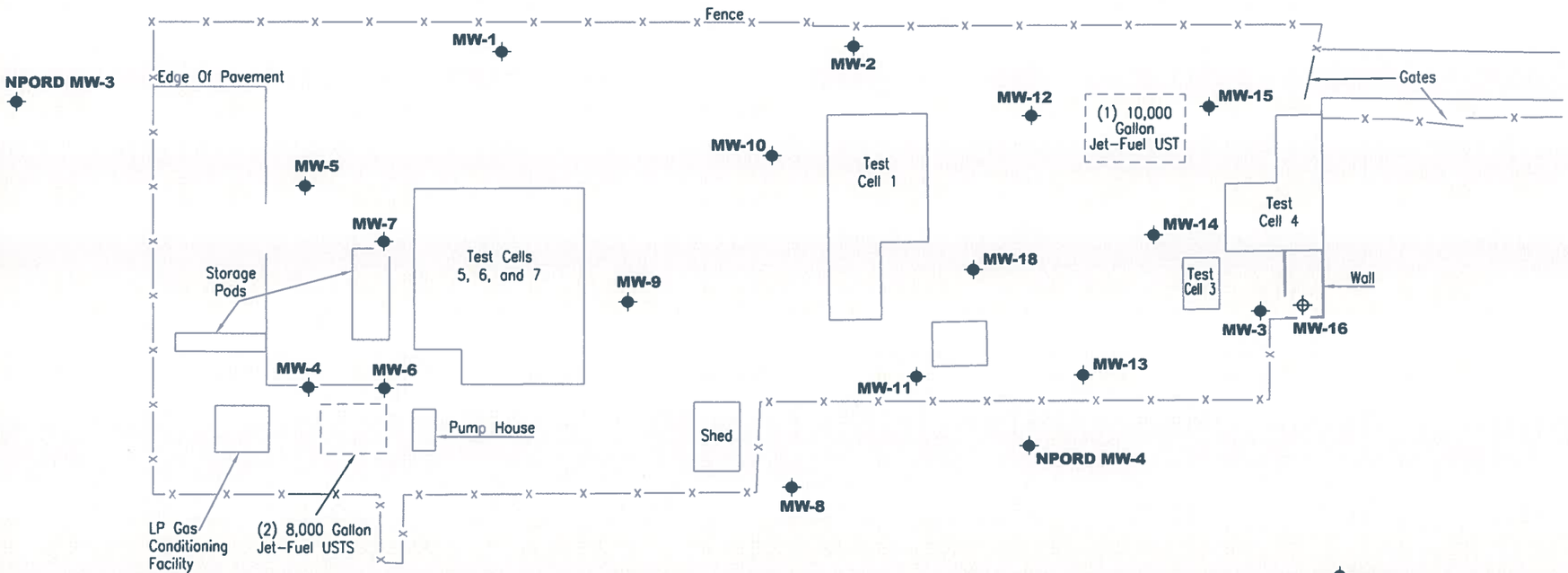
FIGURE
1

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
25-948218.7		11/13/07	

FILE NAME: P:\Enviro\Rolls Royce\1-Site Location Map.dwg | Layout Tab: Vicinity Map

EXPLANATION

- Groundwater monitoring well
- Proposed monitoring well – not installed location inaccessible by drill rig



Source: Figure modified from drawing provided by Morrow Surveying, Dated: 10/8/07.

FIGURE 2

SITE PLAN
Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, CA

REVISED DATE

GETTLER-RYAN INC.
6805 Sierra Court, Suite G
Dublin, CA 94568
(925) 551-7555

PROJECT NUMBER
948218.2

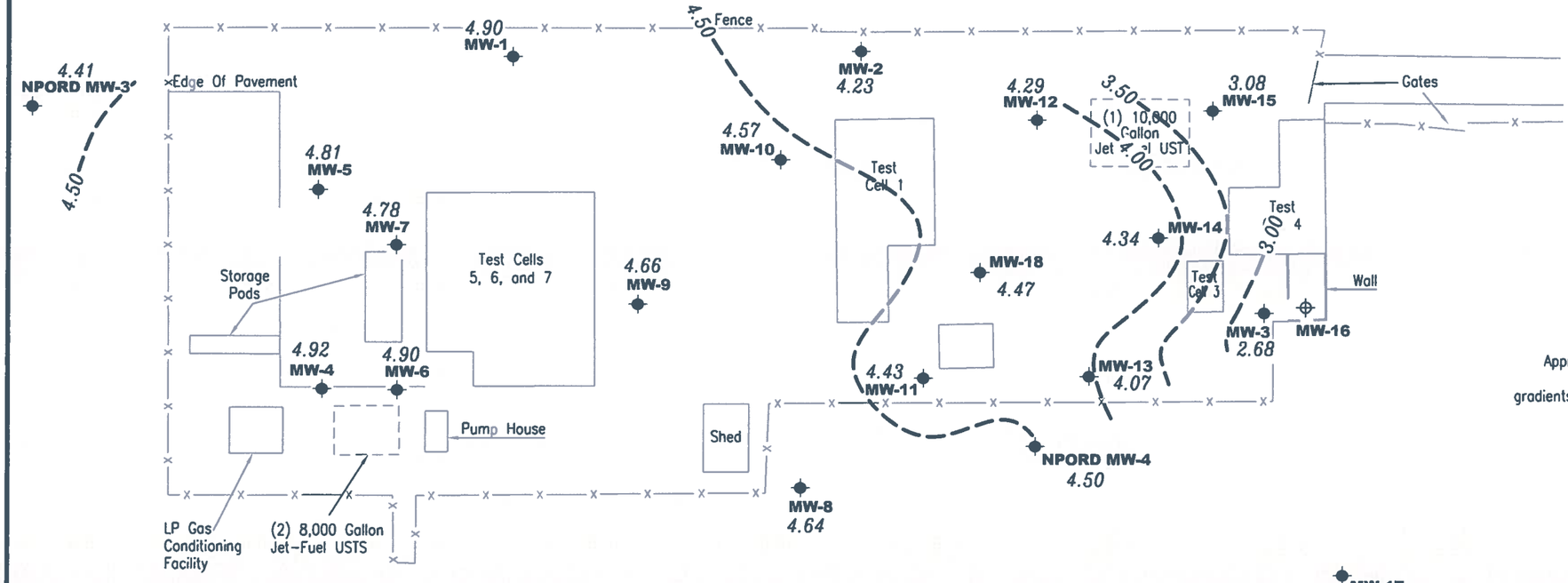
REVIEWED BY

DATE
11/07

FILE NAME: P:\Enviro\Rolls Royce\015-Rolls Royce.dwg | Layout Tab: Site Plan

EXPLANATION

- Groundwater monitoring well
- Proposed monitoring well – not installed location inaccessible by drill rig
- *99.99* Groundwater elevation in feet referenced to Mean Sea Level
- 99.99 Groundwater elevation contour, dashed where inferred
- *[99.99]* Not used in contouring



Source: Figure modified from drawing provided by Morrow Surveying, Dated: 10/8/07.

FIGURE 3

POTENTIOMETRIC MAP
Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, CA

REVISED DATE

DATE
March 26, 2015

REVIEWED BY

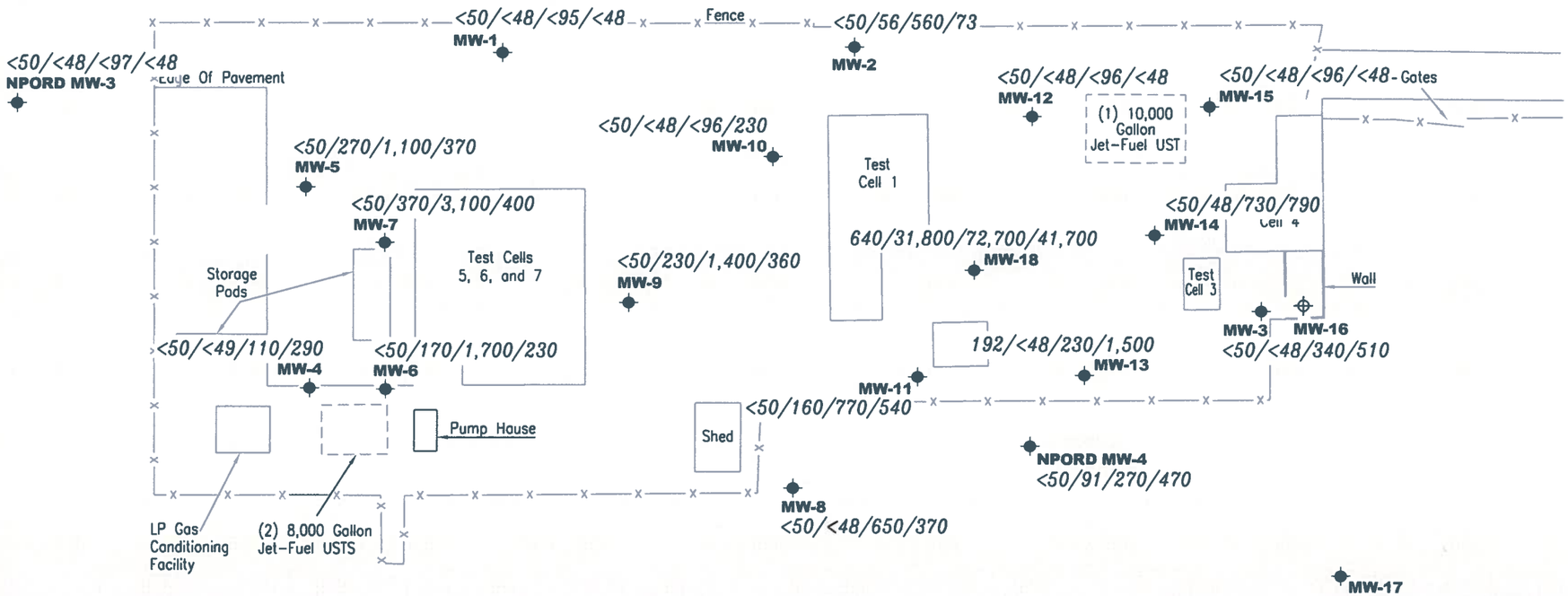
PROJECT NUMBER
948218.2

FILE NAME: P:\Enviro\Rolls Royce\015-Rolls Royce.dwg | Layout Tab: Pal2

GETTLER-RYAN INC.
6805 Sierra Court, Suite G
Dublin, CA 94568
(925) 551-7555

EXPLANATION

- ⊕ Groundwater monitoring well
- ⊕ Proposed monitoring well – not installed location inaccessible by drill rig
- *A/B/C/D* Total Petroleum Hydrocarbons TPH as Gasoline/TPH as Diesel/ TPH as Motor Oil/TPH as Jet Fuel concentrations in ppb
- *NS* Not Sampled
- *SPH* Separate Phase Hydrocarbons



Source: Figure modified from drawing provided by Morrow Surveying, Dated: 10/8/07.

CONCENTRATION MAP
Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road
Oakland, CA

FIGURE 4

REVISED DATE

DATE March 26, 2015

REVIEWED BY

PROJECT NUMBER 948218.2

FILE NAME: P:\Enviro\Rolls Royce\015-Rolls Royce.dwg | Layout Tab: Con2

GETTLER-RYAN INC.
6805 Sierra Court, Suite G
Dublin, CA 94568
(925) 551-7555

GR FIELD METHODS AND PROCEDURES - GROUNDWATER SAMPLING

Gettler-Ryan Inc. (GR) field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. All work is performed in accordance with the GR Health & Safety Plan and all client-specific programs. The scope of work and type of analysis to be performed is determined prior to commencing field work.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, peristaltic or Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging (additional parameters such as dissolved oxygen, oxidation reduction potential, turbidity may also be measured, depending on specific scope of work.). Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards, as directed by the scope of work. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**
Site Address: **6701 Old Earhart Road** Event Date: 3-26-15 (inclusive)
City: **Oakland, CA** Sampler: AW

Well ID MW-1
Well Diameter 2/4 in.
Total Depth 8.43 ft.
Depth to Water 2.27 ft.
Date Monitored: 3-26-15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

6.16 xVF .17 = 1.04 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.50

Purge Equipment:		**Sampling Equipment:**	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: _____ ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 0900 Weather Conditions: Sunny
Sample Time/Date: 0935 / 3-26-15 Water Color: Cloudy Odor: Y / N
Approx. Flow Rate: - gpm. Sediment Description: Cloudy
Did well de-water? N If yes, Time: - Volume: - gal. DTW @ Sampling: 3.44

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (F)	D.O. (mg/L)	ORP (mV)
0906	1.5	7.16	out of range	19.2		
0912	2.5	7.24	↓	19.5		
0919	3.5	7.29	↓	19.7		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-1	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: uS > 3999

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**
Site Address: **6701 Old Earhart Road** Event Date: 3-26-15 (inclusive)
City: **Oakland, CA** Sampler: AW

Well ID MW-2
Well Diameter (2)4 in.
Total Depth 8.93 ft.
Depth to Water 2.80 ft.
Date Monitored: 3-26-15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

6.13 xVF .17 = 1.04 x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.02

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1210 Weather Conditions: Sunny
Sample Time/Date: 1240 / 3-26-15 Water Color: Cloudy Odor: Y / N Slight
Approx. Flow Rate: - gpm. Sediment Description: Cloudy
Did well de-water? N If yes, Time: - Volume: - gal. DTW @ Sampling: 3.98

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1214	1.0	6.62	3916	18.1		
1218	2.0	6.77	Out of Range	18.4		
1222	3.0	6.92	↓	18.7		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: Out of Range - us >3999

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test | Job Number: 25-948218.1
Site Address: 6701 Old Earhart Road | Event Date: 3.26.15 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: MW-3
Well Diameter: (2)/ 4 in.
Total Depth: 12.09 ft.
Depth to Water: 4.05 ft.
☐ Check if water column is less then 0.50 ft.
8.04 xVF .17 = 1.36 x3 case volume = Estimated Purge Volume: 4.0 gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.65

Date Monitored: 3.26.15

Volume Factor (VF)				
	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Purge Equipment:
- Disposable Bailer: ✓
- Stainless Steel Bailer: ____
- Stack Pump: ____
- Peristaltic Pump: ____
- QED Bladder Pump: ____
- Other: ____

Sampling Equipment:
- Disposable Bailer: ✓
- Pressure Bailer: ____
- Metal Filters: ____
- Peristaltic Pump: ____
- QED Bladder Pump: ____
- Other: ____

Time Started: ____ (2400 hrs)
Time Completed: ____ (2400 hrs)
Depth to Product: ____ ft
Depth to Water: ____ ft
Hydrocarbon Thickness: ____ ft
Visual Confirmation/Description: ____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ____ ltr
Amt Removed from Well: ____ ltr
Water Removed: ____ ltr

Start Time (purge): 1030
Sample Time/Date: 1050 / 3.26.15
Approx. Flow Rate: / gpm.
Did well de-water? NO If yes, Time: ____ Volume: ____ gal.
Weather Conditions: SUNNY
Water Color: CLEAR Odor: Y / (N)
Sediment Description: NONE
DTW @ Sampling: 4.83

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1033	1.5	7.73	2817	18.4	/	/
1036	3.0	7.68	2826	18.6		
1039	4.0	7.64	2834	18.7		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: BOART L. 8"
(2 BROKEN BOLTS IN FLANGES)

Add/Replaced Gasket: ____ Add/Replaced Bolt: ____ Add/Replaced Lock: ____ Add/Replaced Plug: ____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3/26/15 (inclusive)

City: **Oakland, CA** Sampler: GM

Well ID: MW-4

Well Diameter: (2) 4 in.

Total Depth: 9.97 ft.

Depth to Water: 4.87 ft.

Date Monitored: 3/26/15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

5.10 xVF 0.17 = 0.86 x3 case volume = Estimated Purge Volume: 3 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.89

Purge Equipment:

Disposable Bailer	X
Stainless Steel Bailer	
Stack Pump	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: Ø ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 0940 Weather Conditions: SUNNY

Sample Time/Date: 1010 / 3/26/15 Water Color: BLACK Odor: Y / N MODERATE

Approx. Flow Rate: — gpm. Sediment Description: SILT

Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 5.45

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0942	1	7.04	OUT OF RANGE	20.1		
0944	2	7.05	↓	20.0		
0946	3	7.02	↓	19.9		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: _____

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3/26/15 (inclusive)

City: **Oakland, CA** Sampler: GM

Well ID MW-5 Date Monitored: 3/26/15

Well Diameter (2) 4 in.

Total Depth 9.64 ft.

Depth to Water 3.54 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

6.10 xVF 0.17 = 1.03 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.76

Purge Equipment:

Disposable Bailer	X
Stainless Steel Bailer	
Stack Pump	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: Ø ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 0850 Weather Conditions: Sunny

Sample Time/Date: 0925 / 3/26/15 Water Color: TAN Odor: (Y) N SLIGHT

Approx. Flow Rate: — gpm. Sediment Description: SILT

Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 4.10

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS mS µmhos/cm)	Temperature (C F)	D.O. (mg/L)	ORP (mV)
0853	1.25	6.69	OUT OF RANGE	20.2		
0856	2.5	6.65	↓	20.4		
0859	3.5	6.62	↓	20.3		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-5	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: _____

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: X Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3/26/15 (inclusive)

City: **Oakland, CA** Sampler: GM

Well ID MW-6 Date Monitored: 3/26/15

Well Diameter (2)4 in.

Total Depth 10.69 ft.

Depth to Water 4.61 ft. ☐ Check if water column is less then 0.50 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

6.08 xVF 0.17 = 1.03 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.82

Purge Equipment:

Disposable Bailer	X
Stainless Steel Bailer	
Stack Pump	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: Ø ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 1020 Weather Conditions: SUNNY

Sample Time/Date: 1058 / 3/26/15 Water Color: CLOUDY Odor: (Y) N MODERATE

Approx. Flow Rate: ~ gpm. Sediment Description: SILT

Did well de-water? N/O If yes, Time: ~ Volume: ~ gal. DTW @ Sampling: 4.97

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1023	1.25	7.06	OUT OF RANGE	19.6		
1026	2.5	7.07	↓	19.5		
1029	3.5	7.01	↓	19.1		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	7x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: _____

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**
Site Address: **6701 Old Earhart Road** Event Date: 3/26/15 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID MW-7
Well Diameter (2) 4 in.
Total Depth 10.10 ft.
Depth to Water 4.45 ft.
Date Monitored: 3/26/15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

5.65 xVF 0.17 = 0.96 x3 case volume = Estimated Purge Volume: 3 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.58

Purge Equipment:

Disposable Bailer	X
Stainless Steel Bailer	
Stack Pump	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: Ø ft
Visual Confirmation/Description:

Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1110 Weather Conditions: Sunny
Sample Time/Date: 1140 / 3/26/15 Water Color: BLACK Odor: (Y) N STRONG
Approx. Flow Rate: ~ gpm. Sediment Description: SILT
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 4.99

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1112	1	7.06	OUT OF RANGE	18.1		
1114	2	7.03	↓	18.0		
1116	3	7.02	↓	17.7		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-7	7x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**
Site Address: **6701 Old Earhart Road** Event Date: 3/26/15 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID MW-8
Well Diameter (2) 4 in.
Total Depth 9.80 ft.
Depth to Water 3.61 ft.
Date Monitored: 3/26/15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

6.19 xVF 0.17 = 1.05 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.84

Purge Equipment:
Disposable Bailer: T
Stainless Steel Bailer:
Stack Pump:
Peristaltic Pump:
QED Bladder Pump:
Other:

Sampling Equipment:
Disposable Bailer: C
Pressure Bailer:
Metal Filters:
Peristaltic Pump:
QED Bladder Pump:
Other:

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: 0 ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1240 Weather Conditions: SUNNY
Sample Time/Date: 1315 3/26/15 Water Color: BLACK Odor: (Y) / N MODERATE
Approx. Flow Rate: — gpm. Sediment Description: SILT
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 4.16

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) mS µmhos/cm)	Temperature (C) / F)	D.O. (mg/L)	ORP (mV)
1243	1.25	7.62	OUT OF RANGE	19.6		
1246	2.5	7.57	↓	19.2		
1248	3.5	7.54	↓	19.1		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-8	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS:

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3-26-15 (inclusive)

City: **Oakland, CA** Sampler: AW

Well ID MW-9 Date Monitored: 3-26-15

Well Diameter (2) 4 in.

Total Depth 9.95 ft.

Depth to Water 4.78 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

5.17 xVF .17 = 0.87 x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.81

Purge Equipment:		**Sampling Equipment:**	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1040 Weather Conditions: Sunny

Sample Time/Date: 1110 / 3-26-15 Water Color: Cloudy Odor: (N) / Slight

Approx. Flow Rate: — gpm. Sediment Description: / Cloudy

Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 5.29

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1043	1.0	6.52	3919	20.4		
1046	2.0	6.58	3990	20.7		
1050	3.0	6.63	out of rang	21.0		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-9	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: Out of Range - us >3999

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3-26-15 (inclusive)

City: **Oakland, CA** Sampler: AW

Well ID MW-10

Well Diameter (2) 4 in.

Total Depth 10.07 ft.

Depth to Water 2.94 ft.

Date Monitored: 3-26-15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

7.13 xVF .17 = 1.21 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.36

Purge Equipment:

Disposable Bailer	✓
Stainless Steel Bailer	
Stack Pump	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	✓
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: _____ ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 1125 Weather Conditions: Sunny

Sample Time/Date: 1155 / 3-26-15 Water Color: Cloudy Odor: (Y) N Slight

Approx. Flow Rate: — gpm. Sediment Description: / Cloudy

Did well de-water? ✓ If yes, Time: — Volume: — gal. DTW @ Sampling: 4.00

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1130	1.5	6.82	3985	19.1		
1135	3.0	6.93	out of range	19.5		
1140	4.0	7.00	↓	19.7		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-10	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: out of range - uS > 3985

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3-26-15 (inclusive)

City: **Oakland, CA** Sampler: AW

Well ID MW-11 Date Monitored: 3-26-15

Well Diameter (2) 4 in.

Total Depth 9.69 ft.

Depth to Water 3.17 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

6.52 xVF .17 = 1.10 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.47

Purge Equipment:		**Sampling Equipment:**	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: _____ ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 0950 Weather Conditions: Sunny

Sample Time/Date: 1025 / 3-26-15 Water Color: Cloudy Odor: (Y) N / Slight

Approx. Flow Rate: — gpm. Sediment Description: Cloudy

Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 4.06

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS/ mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0956	1.5	6.64	out of range	18.3		
1002	2.5	6.71	↓	18.9		
1010	3.5	6.78	↓	19.3		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-11	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: uS >3999

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1
Site Address: 6701 Old Earhart Road Event Date: 3-26-15 (inclusive)
City: Oakland, CA Sampler: AW

Well ID MW-12
Well Diameter (2)/4 in.
Total Depth 9.95 ft.
Depth to Water 3.03 ft.
Date Monitored: 3-26-15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

6.92 xVF .17 = 1.17 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.41

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: _____ ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 1255 Weather Conditions: Sunny
Sample Time/Date: 1330 / 3-26-15 Water Color: Clear Odor: (Y) / N Slight
Approx. Flow Rate: — gpm. Sediment Description: Clear
Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 3.93

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1301	1.5	7.13	out of Range	20.2		
1307	2.5	7.20	↓	20.5		
1314	3.5	7.24		20.9		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-12	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: out of Range - µS > 3999

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3.26.15 (inclusive)

City: **Oakland, CA** Sampler: FT

Well ID MW-13

Well Diameter 2 (4) in.

Total Depth 9.51 ft.

Depth to Water 2.03 ft.

Date Monitored: 3.26.15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

7.48 xVF .66 = 4.93 x3 case volume = Estimated Purge Volume: 15.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.52

Purge Equipment:

Disposable Bailer	✓
Stainless Steel Bailer	
Stack Pump	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	✓
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1145 Weather Conditions: SUNNY

Sample Time/Date: 1300 / 3.26.15 Water Color: CLEAR Odor: (Y) / N SLIGHT

Approx. Flow Rate: / gpm. Sediment Description: NONE

Did well de-water? Yes If yes, Time: 1152 Volume: 5.0 gal. DTW @ Sampling: 3.49

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1152	5.0	7.26	2575	19.2		
					/	/
					/	/

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-13	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: MONSOON 12" OK

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3.26.15 (inclusive)

City: **Oakland, CA** Sampler: FT

Well ID MW-14

Well Diameter ②/4 in.

Total Depth 10.04 ft.

Depth to Water 2.08 ft.

Date Monitored: 3.26.15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

7.96 xVF .17 = 1.35 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.67

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: _____ ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 1105 Weather Conditions: SUNNY

Sample Time/Date: 1125 / 3.26.15 Water Color: CLEAR Odor: Ⓨ / N MODERATE

Approx. Flow Rate: ✓ gpm. Sediment Description: NONE

Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 3.06

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS/ mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1108	1.5	6.80	2756	18.5		
1111	3.0	6.87	2763	18.8		
1114	4.0	6.91	2770	19.0	✓	✓

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-14	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: MORRISON 8" (2SE)

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3.26.15 (inclusive)

City: **Oakland, CA** Sampler: FT

Well ID MW-15 Date Monitored: 3.26.15

Well Diameter (2) 4 in.

Total Depth 10.00 ft.

Depth to Water 4.43 ft. ☐ Check if water column is less then 0.50 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

5.57 xVF .17 = .94 x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.54

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: _____ ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 0955 Weather Conditions: SUNNY

Sample Time/Date: 1015 / 3.26.15 Water Color: CLEAR Odor: Y / (N)

Approx. Flow Rate: ✓ gpm. Sediment Description: NONE

Did well de-water? No If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 5.16

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) / mS µmhos/cm)	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
0958	1.0	7.18	1926	18.7		
1001	2.0	7.24	1943	19.0		
1004	3.0	7.26	1951	19.4		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-15	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: MORRISON 8" OK

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3.26.15 (inclusive)

City: **Oakland, CA** Sampler: FT

Well ID MW-17 Date Monitored: 3-26-15

Well Diameter (2)/ 4 in.

Total Depth 9.81 ft.

Depth to Water .25 ft. ☐ Check if water column is less then 0.50 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

9.56 xVF .17 = 1.62 x3 case volume = Estimated Purge Volume: 5.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 2.16

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 0915 Weather Conditions: SUNNY

Sample Time/Date: 0935/3.26.15 Water Color: CLEAR Odor: Y / (N)

Approx. Flow Rate: ✓ gpm. Sediment Description: NONE

Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 2.12

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS/ mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0918	1.5	7.52	1872	16.7		
0921	3.0	7.47	1883	17.0	✓	✓
0925	5.0	7.42	1892	17.3		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-17	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: MORRISON 8" (1BF) (1SF)

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: N Add/Replaced Plug: N

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3.26.15 (inclusive)

City: **Oakland, CA** Sampler: FT

Well ID MW-18

Well Diameter (2) 4 in.

Total Depth 9.94 ft.

Depth to Water 2.58 ft.

Date Monitored: 3.26.15

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

7.36 xVF .17 = 1.25 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.05

Purge Equipment:		**Sampling Equipment:**	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Metal Filters	
Peristaltic Pump		Peristaltic Pump	
QED Bladder Pump		QED Bladder Pump	
Other:		Other:	

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1210 Weather Conditions: SUNNY

Sample Time/Date: 1230 / 3.26.15 Water Color: CLEAR Odor: (Y) / N STRONG

Approx. Flow Rate: ✓ gpm. Sediment Description: NONE

Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 3.16

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) / mS µmhos/cm)	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
1213	1.5	7.98	2889	19.6		
1216	3.0	7.93	2898	19.9		
1219	4.0	7.89	2910	20.1		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-18	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: 8" MORRISON (2BF)
SOCK IN WELL

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**

Site Address: **6701 Old Earhart Road** Event Date: 3/26/15 (inclusive)

City: **Oakland, CA** Sampler: GM

Well ID NPORDMW-3 Date Monitored: 3/26/15

Well Diameter 2 (4) in.

Total Depth 16.47 ft.

Depth to Water 3.70 ft. ☐ Check if water column is less then 0.50 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

12.77 xVF 0.66 = 8.42 x3 case volume = Estimated Purge Volume: 26 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.25

Purge Equipment:

Disposable Bailer	
Stainless Steel Bailer	
Stack Pump	X
Peristaltic Pump	
QED Bladder Pump	
Other:	

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Metal Filters	
Peristaltic Pump	
QED Bladder Pump	
Other:	

Time Started: _____ (2400 hrs)
Time Completed: _____ (2400 hrs)
Depth to Product: _____ ft
Depth to Water: _____ ft
Hydrocarbon Thickness: Ø ft
Visual Confirmation/Description: _____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: _____ ltr
Amt Removed from Well: _____ ltr
Water Removed: _____ ltr

Start Time (purge): 1330 Weather Conditions: SUNNY

Sample Time/Date: 1415 / 3/26/15 Water Color: CLEAR Odor: (Y) N SLIGHT

Approx. Flow Rate: 2 gpm. Sediment Description: NONE

Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 4.23

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (uS) / mS µmhos/cm)	Temperature (C) / F)	D.O. (mg/L)	ORP (mV)
1335	10	8.17	OUT OF RANGE	20.1		
1339	18	8.10	↓	19.5		
1343	26	8.01	↓	19.2		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
NPORDMW-3	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: TUBES IN WELL

Add/Replaced Gasket: _____ Add/Replaced Bolt: _____ Add/Replaced Lock: _____ Add/Replaced Plug: _____

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: **Rolls Royce Engine Test** Job Number: **25-948218.1**
Site Address: **6701 Old Earhart Road** Event Date: 3/26/15 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID NPORDMW-4 Date Monitored: 3/26/15
Well Diameter (2) 4 in.
Total Depth 11.45 ft.
Depth to Water 5.56 ft.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

5.89 xVF 0.17 = 1.00 x3 case volume = Estimated Purge Volume: 3 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.73

Purge Equipment:
Disposable Bailer X
Stainless Steel Bailer
Stack Pump
Peristaltic Pump
QED Bladder Pump
Other:

Sampling Equipment:
Disposable Bailer X
Pressure Bailer
Metal Filters
Peristaltic Pump
QED Bladder Pump
Other:

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: Ø ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ltr
Amt Removed from Well: ltr
Water Removed: ltr

Start Time (purge): 1200 Weather Conditions: SUNNY
Sample Time/Date: 1230 / 3/26/15 Water Color: BLACK Odor: (Y) / N MODERATE
Approx. Flow Rate: — gpm. Sediment Description: SILT
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 6.24

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1203	1	7.49	OUT OF RANGE	20.1		
1205	2	7.44	↓	20.0		
1207	3	7.43	↓	19.7		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
NPORDMW-4	7x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: TUBES IN WELL

Add/Replaced Gasket: Add/Replaced Bolt: Add/Replaced Lock: Add/Replaced Plug:

~~30~~ 100

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: RREGO TEST CELL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
7-17-14	5:15	MW18				410	
7-21-14	5:10	MW18				106	
7-30	5:15	MW18				90	
8-4	5:05	MW18				420	
8-11	5:00	MW18				300	
8-18	5:00	MW18				20	
8-26	5:00	MW18				120	
9-2	5:00	MW18				330	
9-8	5:00	MW18				250	
9-15	5:00	MW18				20	
9-22	5:45	MW18				20	
9-29	5:15	MW18				30	

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: RRESO TEST CELL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
10/6/14	05:00	MW18				20	
10/13/14	06:00	MW18				10	
10/20/14	05:15	MW18				30	
10/27/14	05:00	MW18				80	
11/3/14	05:00	MW18				60	
11/10/14	05:00	MW18				10	
11/17/14	05:00	MW18				70	
12/1/14	05:00	MW18				440	
12/8/14	05:00	MW18				410	
12/16/14	05:05	MW18				400	
12/23/14	05:30	MW18				80	
12/29/14	05:00	MW18				20	

~~100~~
10

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: RRESO TEST CELL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
1-5-15	04:55	MW18				10	
1-12-15	05:00	MW18				10	
1-26-15	05:15	MW18				10	
2-2-15	05:30	MW18				20	
2-9-15	05:00	MW18				30	
2-16-15	05:15	MW18				360	
2-23-15	05:00	MW18				310	
3-2-15	05:10	MW18				230	
3-9-15	05:05	MW18				410	
3-16-15	4:50	MW18				450	
3-23-15	05:00	MW18				420	
3-30-15	05:00	MW18				100	

BAG 10

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: BBESO TEST CELL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
4/6/15	05:00	MW18				90	
4/13/15	05:00	MW18				90	
4/20/15	05:00	MW18				80	
4/27/15	05:00	MW18				80	

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

April 23, 2015

Deanna L. Harding
Gettler-Ryan Inc.
6805 Sierra Court
Suite G
Dublin, CA 94568

RE: Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Dear Deanna L. Harding:
Enclosed are the analytical results for sample(s) received by the laboratory on March 27, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Scott Forbes

Scott M Forbes
scott.forbes@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

CERTIFICATIONS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Davis Cerification IDs
2795 Second Street Suite 300 Davis, CA 95618
North Dakota Certification #: R-214
Oregon Certification #: CA300002
Washington Certification #: C926-14a
California Certification #: 08263CA

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

SAMPLE SUMMARY

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1245003001	QA	Water	03/26/15 00:00	03/27/15 12:05
1245003002	MW-1	Water	03/26/15 09:35	03/27/15 12:05
1245003003	MW-2	Water	03/26/15 12:40	03/27/15 12:05
1245003004	MW-3	Water	03/26/15 10:50	03/27/15 12:05
1245003005	MW-4	Water	03/26/15 10:10	03/27/15 12:05
1245003006	MW-5	Water	03/26/15 09:25	03/27/15 12:05
1245003007	MW-6	Water	03/26/15 10:58	03/27/15 12:05
1245003008	MW-7	Water	03/26/15 11:40	03/27/15 12:05
1245003009	MW-8	Water	03/26/15 13:15	03/27/15 12:05
1245003010	MW-9	Water	03/26/15 11:10	03/27/15 12:05
1245003011	MW-10	Water	03/26/15 11:55	03/27/15 12:05
1245003012	MW-11	Water	03/26/15 10:25	03/27/15 12:05
1245003013	MW-12	Water	03/26/15 13:30	03/27/15 12:05
1245003014	MW-13	Water	03/26/15 13:00	03/27/15 12:05
1245003015	MW-14	Water	03/26/15 11:25	03/27/15 12:05
1245003016	MW-15	Water	03/26/15 10:15	03/27/15 12:05
1245003017	MW-17	Water	03/26/15 09:35	03/27/15 12:05
1245003018	MW-18	Water	03/26/15 12:30	03/27/15 12:05
1245003019	NPORDMW-3	Water	03/26/15 14:15	03/27/15 12:05
1245003020	NPORDMW-4	Water	03/26/15 12:30	03/27/15 12:05

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

SAMPLE ANALYTE COUNT

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1245003001	QA	EPA 8260B	JCP	10	PASI-DAV
1245003002	MW-1	EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003003	MW-2	EPA 8260B	JCP	11	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003004	MW-3	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003005	MW-4	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003006	MW-5	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003007	MW-6	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003008	MW-7	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003009	MW-8	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003010	MW-9	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003011	MW-10	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003012	MW-11	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1245003013	MW-12	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JCP	10	PASI-DAV

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

SAMPLE ANALYTE COUNT

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1245003014	MW-13	EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JMB	10	PASI-DAV
1245003015	MW-14	EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JMB	10	PASI-DAV
1245003016	MW-15	EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JMB	10	PASI-DAV
1245003017	MW-17	EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JMB	10	PASI-DAV
1245003018	MW-18	EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JMB	10	PASI-DAV
1245003019	NPORDMW-3	EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JMB	10	PASI-DAV
1245003020	NPORDMW-4	EPA 8015B	DRM	3	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JMB	10	PASI-DAV

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: QA **Lab ID: 1245003001** Collected: 03/26/15 00:00 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 12:44	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 12:44	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 12:44		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 12:44	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 12:44	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 12:44	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 12:44	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	70-130	1		04/09/15 12:44	17060-07-0	
Toluene-d8 (S)	99	%.	70-130	1		04/09/15 12:44	2037-26-5	
4-Bromofluorobenzene (S)	89	%.	70-130	1		04/09/15 12:44	460-00-4	

Sample: MW-1 **Lab ID: 1245003002** Collected: 03/26/15 09:35 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	ND	mg/L	0.048	1	04/08/15 16:14	04/22/15 15:39	94114-58-6	
TPH - Motor Oil	ND	mg/L	0.095	1	04/08/15 16:14	04/22/15 15:39	64742-65-0	
Surrogates								
n-Octacosane (S)	105	%.	70-130	1	04/08/15 16:14	04/22/15 15:39	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.048	1	04/08/15 16:14	04/10/15 13:31		
Surrogates								
n-Octacosane (S)	103	%.	70-130	1	04/08/15 16:14	04/10/15 13:31	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 11:04	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 11:04	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 11:04		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 11:04	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 11:04	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 11:04	108-88-3	
TPH as Gas	ND	ug/L	50.0	1		04/09/15 11:04		
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 11:04	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	96	%.	70-130	1		04/09/15 11:04	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		04/09/15 11:04	2037-26-5	
4-Bromofluorobenzene (S)	87	%.	70-130	1		04/09/15 11:04	460-00-4	

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-2 **Lab ID: 1245003003** Collected: 03/26/15 12:40 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.073**	mg/L	0.047	1	04/08/15 16:14	04/22/15 21:31	94114-58-6	4V
TPH - Motor Oil	**0.56**	mg/L	0.095	1	04/08/15 16:14	04/22/15 21:31	64742-65-0	
Surrogates								
n-Octacosane (S)	130	%.	70-130	1	04/08/15 16:14	04/22/15 21:31	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**0.056**	mg/L	0.047	1	04/08/15 16:14	04/10/15 11:11		
Surrogates								
n-Octacosane (S)	121	%.	70-130	1	04/08/15 16:14	04/10/15 11:11	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 13:35	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 13:35	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 13:35		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 13:35	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 13:35	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 13:35	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 13:35	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	70-130	1		04/09/15 13:35	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		04/09/15 13:35	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	70-130	1		04/09/15 13:35	460-00-4	

Sample: MW-3 **Lab ID: 1245003004** Collected: 03/26/15 10:50 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.51**	mg/L	0.048	1	04/08/15 16:14	04/22/15 22:00	94114-58-6	4V
TPH - Motor Oil	**0.34**	mg/L	0.097	1	04/08/15 16:14	04/22/15 22:00	64742-65-0	
Surrogates								
n-Octacosane (S)	136	%.	70-130	1	04/08/15 16:14	04/22/15 22:00	630-02-4	S5
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.048	1	04/08/15 16:14	04/10/15 12:21		
Surrogates								
n-Octacosane (S)	121	%.	70-130	1	04/08/15 16:14	04/10/15 12:21	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 14:00	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 14:00	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 14:00		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 14:00	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 14:00	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 14:00	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 14:00	1330-20-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-3 **Lab ID: 1245003004** Collected: 03/26/15 10:50 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260B							
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		04/09/15 14:00	17060-07-0	
Toluene-d8 (S)	102	%.	70-130	1		04/09/15 14:00	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	70-130	1		04/09/15 14:00	460-00-4	

Sample: MW-4 **Lab ID: 1245003005** Collected: 03/26/15 10:10 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.29**	mg/L	0.049	1	04/08/15 16:14	04/22/15 17:07	94114-58-6	4V
TPH - Motor Oil	**0.11**	mg/L	0.098	1	04/08/15 16:14	04/22/15 17:07	64742-65-0	DH
Surrogates								
n-Octacosane (S)	136	%.	70-130	1	04/08/15 16:14	04/22/15 17:07	630-02-4	S5
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.049	1	04/08/15 16:14	04/10/15 12:56		
Surrogates								
n-Octacosane (S)	119	%.	70-130	1	04/08/15 16:14	04/10/15 12:56	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 14:25	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 14:25	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 14:25		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 14:25	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 14:25	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 14:25	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 14:25	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		04/09/15 14:25	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		04/09/15 14:25	2037-26-5	
4-Bromofluorobenzene (S)	89	%.	70-130	1		04/09/15 14:25	460-00-4	

Sample: MW-5 **Lab ID: 1245003006** Collected: 03/26/15 09:25 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.37**	mg/L	0.048	1	04/08/15 16:14	04/22/15 17:36	94114-58-6	4V
TPH - Motor Oil	**1.1**	mg/L	0.096	1	04/08/15 16:14	04/22/15 17:36	64742-65-0	
Surrogates								
n-Octacosane (S)	123	%.	70-130	1	04/08/15 16:14	04/22/15 17:36	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**0.27**	mg/L	0.048	1	04/08/15 16:14	04/10/15 23:19		

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-5 **Lab ID: 1245003006** Collected: 03/26/15 09:25 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
Surrogates								
n-Octacosane (S)	120	%.	70-130	1	04/08/15 16:14	04/10/15 23:19	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 14:50	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 14:50	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 14:50		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 14:50	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 14:50	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 14:50	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 14:50	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	96	%.	70-130	1		04/09/15 14:50	17060-07-0	
Toluene-d8 (S)	99	%.	70-130	1		04/09/15 14:50	2037-26-5	
4-Bromofluorobenzene (S)	89	%.	70-130	1		04/09/15 14:50	460-00-4	

Sample: MW-6 **Lab ID: 1245003007** Collected: 03/26/15 10:58 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.23**	mg/L	0.049	1	04/08/15 16:14	04/22/15 18:06	94114-58-6	4V
TPH - Motor Oil	**1.7**	mg/L	0.098	1	04/08/15 16:14	04/22/15 18:06	64742-65-0	
Surrogates								
n-Octacosane (S)	128	%.	70-130	1	04/08/15 16:14	04/22/15 18:06	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**0.17**	mg/L	0.049	1	04/08/15 16:14	04/12/15 02:41		DM
Surrogates								
n-Octacosane (S)	120	%.	70-130	1	04/08/15 16:14	04/12/15 02:41	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 15:15	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 15:15	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 15:15		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 15:15	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 15:15	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 15:15	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 15:15	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	70-130	1		04/09/15 15:15	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		04/09/15 15:15	2037-26-5	
4-Bromofluorobenzene (S)	85	%.	70-130	1		04/09/15 15:15	460-00-4	

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-7 **Lab ID: 1245003008** Collected: 03/26/15 11:40 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.40**	mg/L	0.24	5	04/08/15 16:14	04/22/15 23:58	94114-58-6	4V
TPH - Motor Oil	**3.1**	mg/L	0.48	5	04/08/15 16:14	04/22/15 23:58	64742-65-0	
Surrogates								
n-Octacosane (S)	130	%.	70-130	5	04/08/15 16:14	04/22/15 23:58	630-02-4	S5
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**0.37**	mg/L	0.048	1	04/08/15 16:14	04/12/15 04:26		DM
Surrogates								
n-Octacosane (S)	125	%.	70-130	1	04/08/15 16:14	04/12/15 04:26	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 15:41	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 15:41	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 15:41		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 15:41	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 15:41	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 15:41	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 15:41	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	70-130	1		04/09/15 15:41	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		04/09/15 15:41	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	70-130	1		04/09/15 15:41	460-00-4	

Sample: MW-8 **Lab ID: 1245003009** Collected: 03/26/15 13:15 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.37**	mg/L	0.048	1	04/08/15 16:14	04/22/15 22:30	94114-58-6	4V
TPH - Motor Oil	**0.65**	mg/L	0.096	1	04/08/15 16:14	04/22/15 22:30	64742-65-0	
Surrogates								
n-Octacosane (S)	147	%.	70-130	1	04/08/15 16:14	04/22/15 22:30	630-02-4	S5
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.048	1	04/08/15 16:14	04/10/15 23:54		
Surrogates								
n-Octacosane (S)	125	%.	70-130	1	04/08/15 16:14	04/10/15 23:54	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 16:05	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 16:05	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 16:05		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 16:05	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 16:05	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 16:05	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 16:05	1330-20-7	

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-8 **Lab ID: 1245003009** Collected: 03/26/15 13:15 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260B							
Surrogates								
1,2-Dichloroethane-d4 (S)	95	%.	70-130	1		04/09/15 16:05	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		04/09/15 16:05	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	70-130	1		04/09/15 16:05	460-00-4	

Sample: MW-9 **Lab ID: 1245003010** Collected: 03/26/15 11:10 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.36**	mg/L	0.049	1	04/08/15 16:14	04/22/15 19:33	94114-58-6	4V
TPH - Motor Oil	**1.4**	mg/L	0.097	1	04/08/15 16:14	04/22/15 19:33	64742-65-0	
Surrogates								
n-Octacosane (S)	130	%.	70-130	1	04/08/15 16:14	04/22/15 19:33	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**0.23**	mg/L	0.049	1	04/08/15 16:14	04/11/15 00:29		
Surrogates								
n-Octacosane (S)	120	%.	70-130	1	04/08/15 16:14	04/11/15 00:29	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 16:30	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 16:30	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 16:30		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 16:30	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 16:30	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 16:30	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 16:30	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	70-130	1		04/09/15 16:30	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		04/09/15 16:30	2037-26-5	
4-Bromofluorobenzene (S)	87	%.	70-130	1		04/09/15 16:30	460-00-4	

Sample: MW-10 **Lab ID: 1245003011** Collected: 03/26/15 11:55 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.23**	mg/L	0.048	1	04/08/15 16:14	04/22/15 16:38	94114-58-6	4V
TPH - Motor Oil	ND	mg/L	0.096	1	04/08/15 16:14	04/22/15 16:38	64742-65-0	
Surrogates								
n-Octacosane (S)	127	%.	70-130	1	04/08/15 16:14	04/22/15 16:38	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.048	1	04/08/15 16:14	04/11/15 01:04		

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-10 **Lab ID: 1245003011** Collected: 03/26/15 11:55 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
Surrogates								
n-Octacosane (S)	120	%.	70-130	1	04/08/15 16:14	04/11/15 01:04	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 16:55	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 16:55	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 16:55		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 16:55	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 16:55	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 16:55	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 16:55	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	95	%.	70-130	1		04/09/15 16:55	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		04/09/15 16:55	2037-26-5	
4-Bromofluorobenzene (S)	88	%.	70-130	1		04/09/15 16:55	460-00-4	

Sample: MW-11 **Lab ID: 1245003012** Collected: 03/26/15 10:25 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.54**	mg/L	0.049	1	04/08/15 16:14	04/22/15 21:02	94114-58-6	4V
TPH - Motor Oil	**0.77**	mg/L	0.097	1	04/08/15 16:14	04/22/15 21:02	64742-65-0	
Surrogates								
n-Octacosane (S)	129	%.	70-130	1	04/08/15 16:14	04/22/15 21:02	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**0.16**	mg/L	0.049	1	04/08/15 16:14	04/12/15 08:31		DM
Surrogates								
n-Octacosane (S)	124	%.	70-130	1	04/08/15 16:14	04/12/15 08:31	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 17:21	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 17:21	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 17:21		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 17:21	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 17:21	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 17:21	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 17:21	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%.	70-130	1		04/09/15 17:21	17060-07-0	
Toluene-d8 (S)	102	%.	70-130	1		04/09/15 17:21	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	70-130	1		04/09/15 17:21	460-00-4	

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-12 **Lab ID: 1245003013** Collected: 03/26/15 13:30 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	ND	mg/L	0.048	1	04/08/15 16:14	04/22/15 18:35	94114-58-6	
TPH - Motor Oil	ND	mg/L	0.096	1	04/08/15 16:14	04/22/15 18:35	64742-65-0	
Surrogates								
n-Octacosane (S)	122	%.	70-130	1	04/08/15 16:14	04/22/15 18:35	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.048	1	04/08/15 16:14	04/12/15 03:16		
Surrogates								
n-Octacosane (S)	110	%.	70-130	1	04/08/15 16:14	04/12/15 03:16	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 17:45	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 17:45	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 17:45		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 17:45	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 17:45	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 17:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 17:45	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	70-130	1		04/09/15 17:45	17060-07-0	
Toluene-d8 (S)	99	%.	70-130	1		04/09/15 17:45	2037-26-5	
4-Bromofluorobenzene (S)	88	%.	70-130	1		04/09/15 17:45	460-00-4	

Sample: MW-13 **Lab ID: 1245003014** Collected: 03/26/15 13:00 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**1.5**	mg/L	0.048	1	04/08/15 16:14	04/22/15 19:04	94114-58-6	2V
TPH - Motor Oil	**0.23**	mg/L	0.096	1	04/08/15 16:14	04/22/15 19:04	64742-65-0	1V,DH
Surrogates								
n-Octacosane (S)	130	%.	70-130	1	04/08/15 16:14	04/22/15 19:04	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.048	1	04/08/15 16:14	04/12/15 01:31		3V
Surrogates								
n-Octacosane (S)	109	%.	70-130	1	04/08/15 16:14	04/12/15 01:31	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	**0.61**	ug/L	0.50	1		04/09/15 11:24	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 11:24	100-41-4	
Gasoline Range Organics	**192**	ug/L	50.0	1		04/09/15 11:24		
Methyl-tert-butyl ether	**1.9**	ug/L	0.50	1		04/09/15 11:24	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 11:24	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 11:24	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 11:24	1330-20-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-13 **Lab ID: 1245003014** Collected: 03/26/15 13:00 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260B							
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	70-130	1		04/09/15 11:24	17060-07-0	
Toluene-d8 (S)	106	%.	70-130	1		04/09/15 11:24	2037-26-5	
4-Bromofluorobenzene (S)	116	%.	70-130	1		04/09/15 11:24	460-00-4	

Sample: MW-14 **Lab ID: 1245003015** Collected: 03/26/15 11:25 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.79**	mg/L	0.048	1	04/08/15 16:14	04/22/15 20:03	94114-58-6	4V
TPH - Motor Oil	**0.73**	mg/L	0.096	1	04/08/15 16:14	04/22/15 20:03	64742-65-0	
Surrogates								
n-Octacosane (S)	133	%.	70-130	1	04/08/15 16:14	04/22/15 20:03	630-02-4	S5
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**0.048**	mg/L	0.048	1	04/08/15 16:14	04/12/15 02:06		DM
Surrogates								
n-Octacosane (S)	129	%.	70-130	1	04/08/15 16:14	04/12/15 02:06	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 13:12	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 13:12	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 13:12		
Methyl-tert-butyl ether	**0.69**	ug/L	0.50	1		04/09/15 13:12	1634-04-4	
Naphthalene	**0.50**	ug/L	0.50	1		04/09/15 13:12	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 13:12	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 13:12	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	70-130	1		04/09/15 13:12	17060-07-0	
Toluene-d8 (S)	108	%.	70-130	1		04/09/15 13:12	2037-26-5	
4-Bromofluorobenzene (S)	117	%.	70-130	1		04/09/15 13:12	460-00-4	

Sample: MW-15 **Lab ID: 1245003016** Collected: 03/26/15 10:15 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	ND	mg/L	0.048	1	04/08/15 16:14	04/22/15 20:32	94114-58-6	
TPH - Motor Oil	ND	mg/L	0.096	1	04/08/15 16:14	04/22/15 20:32	64742-65-0	
Surrogates								
n-Octacosane (S)	128	%.	70-130	1	04/08/15 16:14	04/22/15 20:32	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.048	1	04/08/15 16:14	04/11/15 22:00		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-15 **Lab ID: 1245003016** Collected: 03/26/15 10:15 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
Surrogates								
n-Octacosane (S)	112	%.	70-130	1	04/08/15 16:14	04/11/15 22:00	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 13:45	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 13:45	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 13:45		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 13:45	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 13:45	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 13:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 13:45	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	70-130	1		04/09/15 13:45	17060-07-0	
Toluene-d8 (S)	109	%.	70-130	1		04/09/15 13:45	2037-26-5	
4-Bromofluorobenzene (S)	115	%.	70-130	1		04/09/15 13:45	460-00-4	

Sample: MW-17 **Lab ID: 1245003017** Collected: 03/26/15 09:35 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	ND	mg/L	0.049	1	04/08/15 16:14	04/22/15 22:59	94114-58-6	1V
TPH - Motor Oil	ND	mg/L	0.097	1	04/08/15 16:14	04/22/15 22:59	64742-65-0	1V
Surrogates								
n-Octacosane (S)	121	%.	70-130	1	04/08/15 16:14	04/22/15 22:59	630-02-4	
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.049	1	04/08/15 16:14	04/11/15 22:36		3V
Surrogates								
n-Octacosane (S)	110	%.	70-130	1	04/08/15 16:14	04/11/15 22:36	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 14:12	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 14:12	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 14:12		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 14:12	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 14:12	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 14:12	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 14:12	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1		04/09/15 14:12	17060-07-0	
Toluene-d8 (S)	107	%.	70-130	1		04/09/15 14:12	2037-26-5	
4-Bromofluorobenzene (S)	118	%.	70-130	1		04/09/15 14:12	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: MW-18 **Lab ID: 1245003018** Collected: 03/26/15 12:30 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**41.7**	mg/L	4.8	100	04/08/15 16:14	04/22/15 23:28	94114-58-6	4V
TPH - Motor Oil	**72.7**	mg/L	9.6	100	04/08/15 16:14	04/22/15 23:28	64742-65-0	
Surrogates								
n-Octacosane (S)	0	%.	70-130	100	04/08/15 16:14	04/22/15 23:28	630-02-4	S4
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**31.8**	mg/L	0.048	1	04/08/15 16:14	04/11/15 23:10		
Surrogates								
n-Octacosane (S)	136	%.	70-130	1	04/08/15 16:14	04/11/15 23:10	630-02-4	S5
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 14:39	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 14:39	100-41-4	
Gasoline Range Organics	**640**	ug/L	50.0	1		04/09/15 14:39		
Methyl-tert-butyl ether	**1.3**	ug/L	0.50	1		04/09/15 14:39	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 14:39	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 14:39	108-88-3	
Xylene (Total)	**1.1**	ug/L	1.0	1		04/09/15 14:39	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	70-130	1		04/09/15 14:39	17060-07-0	
Toluene-d8 (S)	110	%.	70-130	1		04/09/15 14:39	2037-26-5	
4-Bromofluorobenzene (S)	121	%.	70-130	1		04/09/15 14:39	460-00-4	

Sample: NPORDMW-3 **Lab ID: 1245003019** Collected: 03/26/15 14:15 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	ND	mg/L	0.048	1	04/08/15 16:14	04/22/15 16:08	94114-58-6	
TPH - Motor Oil	ND	mg/L	0.097	1	04/08/15 16:14	04/22/15 16:08	64742-65-0	
Surrogates								
n-Octacosane (S)	134	%.	70-130	1	04/08/15 16:14	04/22/15 16:08	630-02-4	S3
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	ND	mg/L	0.048	1	04/08/15 16:14	04/11/15 23:45		
Surrogates								
n-Octacosane (S)	112	%.	70-130	1	04/08/15 16:14	04/11/15 23:45	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 15:06	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 15:06	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 15:06		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 15:06	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 15:06	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 15:06	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 15:06	1330-20-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Sample: NPORDMW-3 **Lab ID: 1245003019** Collected: 03/26/15 14:15 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260B							
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1		04/09/15 15:06	17060-07-0	
Toluene-d8 (S)	108	%.	70-130	1		04/09/15 15:06	2037-26-5	
4-Bromofluorobenzene (S)	114	%.	70-130	1		04/09/15 15:06	460-00-4	

Sample: NPORDMW-4 **Lab ID: 1245003020** Collected: 03/26/15 12:30 Received: 03/27/15 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS THC-Diesel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH - Jet Fuel	**0.47**	mg/L	0.048	1	04/08/15 16:14	04/23/15 00:27	94114-58-6	4V
TPH - Motor Oil	**0.27**	mg/L	0.096	1	04/08/15 16:14	04/23/15 00:27	64742-65-0	
Surrogates								
n-Octacosane (S)	131	%.	70-130	1	04/08/15 16:14	04/23/15 00:27	630-02-4	S5
8015 GCS THC-Diesel Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3510							
TPH-DRO (C10-C28)	**0.091**	mg/L	0.048	1	04/08/15 16:14	04/12/15 00:20		DM
Surrogates								
n-Octacosane (S)	117	%.	70-130	1	04/08/15 16:14	04/12/15 00:20	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		04/09/15 15:33	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		04/09/15 15:33	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		04/09/15 15:33		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		04/09/15 15:33	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		04/09/15 15:33	91-20-3	
Toluene	ND	ug/L	0.50	1		04/09/15 15:33	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		04/09/15 15:33	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1		04/09/15 15:33	17060-07-0	
Toluene-d8 (S)	108	%.	70-130	1		04/09/15 15:33	2037-26-5	
4-Bromofluorobenzene (S)	116	%.	70-130	1		04/09/15 15:33	460-00-4	

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

QC Batch: DAOP/1047 Analysis Method: EPA 8015B
QC Batch Method: EPA 3510 Analysis Description: 8015 GCS
Associated Lab Samples: 1245003002, 1245003003, 1245003004, 1245003005, 1245003006, 1245003007, 1245003008, 1245003009, 1245003010, 1245003011, 1245003012, 1245003013, 1245003014, 1245003015, 1245003016, 1245003017, 1245003018, 1245003019, 1245003020

METHOD BLANK: 198342 Matrix: Water
Associated Lab Samples: 1245003002, 1245003003, 1245003004, 1245003005, 1245003006, 1245003007, 1245003008, 1245003009, 1245003010, 1245003011, 1245003012, 1245003013, 1245003014, 1245003015, 1245003016, 1245003017, 1245003018, 1245003019, 1245003020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH - Jet Fuel	mg/L	ND	0.050	04/22/15 15:10	
TPH - Motor Oil	mg/L	ND	0.10	04/22/15 15:10	
n-Octacosane (S)	%.	132	70-130	04/22/15 15:10	S3

LABORATORY CONTROL SAMPLE: 198343

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Octacosane (S)	%.			107	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 198344 198345

Parameter	Units	1245003002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
n-Octacosane (S)	%.						119	109	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

QC Batch: DAOP/1046 Analysis Method: EPA 8015B
QC Batch Method: EPA 3510 Analysis Description: 8015 GCS
Associated Lab Samples: 1245003002, 1245003003, 1245003004, 1245003005, 1245003006, 1245003007, 1245003008, 1245003009, 1245003010, 1245003011, 1245003012, 1245003013, 1245003014, 1245003015, 1245003016, 1245003017, 1245003018, 1245003019, 1245003020

METHOD BLANK: 198338 Matrix: Water
Associated Lab Samples: 1245003002, 1245003003, 1245003004, 1245003005, 1245003006, 1245003007, 1245003008, 1245003009, 1245003010, 1245003011, 1245003012, 1245003013, 1245003014, 1245003015, 1245003016, 1245003017, 1245003018, 1245003019, 1245003020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO (C10-C28)	mg/L	ND	0.050	04/10/15 10:01	
n-Octacosane (S)	%.	111	70-130	04/10/15 10:01	

LABORATORY CONTROL SAMPLE: 198339

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO (C10-C28)	mg/L	1	0.87	87	70-130	
n-Octacosane (S)	%.			111	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 198340 198341

Parameter	Units	1245003002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO (C10-C28)	mg/L	ND	.96	.96	0.95	0.94	98	97	70-130	1	25	
n-Octacosane (S)	%.						118	110	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

QC Batch: DAVM/1142 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 1245003001, 1245003002, 1245003003, 1245003004, 1245003005, 1245003006, 1245003007, 1245003008, 1245003009, 1245003010, 1245003011, 1245003012, 1245003013

METHOD BLANK: 198936 Matrix: Water
Associated Lab Samples: 1245003001, 1245003002, 1245003003, 1245003004, 1245003005, 1245003006, 1245003007, 1245003008, 1245003009, 1245003010, 1245003011, 1245003012, 1245003013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	0.50	04/09/15 10:39	
Ethylbenzene	ug/L	ND	0.50	04/09/15 10:39	
Gasoline Range Organics	ug/L	ND	50.0	04/09/15 10:39	
Methyl-tert-butyl ether	ug/L	ND	0.50	04/09/15 10:39	
Naphthalene	ug/L	ND	0.50	04/09/15 10:39	
Toluene	ug/L	ND	0.50	04/09/15 10:39	
TPH as Gas	ug/L	ND	50.0	04/09/15 10:39	
Xylene (Total)	ug/L	ND	1.0	04/09/15 10:39	
1,2-Dichloroethane-d4 (S)	%.	93	70-130	04/09/15 10:39	
4-Bromofluorobenzene (S)	%.	92	70-130	04/09/15 10:39	
Toluene-d8 (S)	%.	97	70-130	04/09/15 10:39	

LABORATORY CONTROL SAMPLE: 198937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	40	41.7	104	70-130	
Ethylbenzene	ug/L	40	41.1	103	70-130	
Methyl-tert-butyl ether	ug/L	40	42.3	106	70-130	
Naphthalene	ug/L	40	40.4	101	70-130	
Toluene	ug/L	40	40.5	101	70-130	
Xylene (Total)	ug/L	120	121	101	70-130	
1,2-Dichloroethane-d4 (S)	%.			96	70-130	
4-Bromofluorobenzene (S)	%.			94	70-130	
Toluene-d8 (S)	%.			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 198938 198939

Parameter	Units	1245003002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	40	40	41.3	42.8	103	107	70-130	4	25	
Ethylbenzene	ug/L	ND	40	40	39.3	40.6	98	101	70-130	3	25	
Methyl-tert-butyl ether	ug/L	ND	40	40	43.4	44.3	108	111	70-130	2	25	
Naphthalene	ug/L	ND	40	40	49.6	50.3	124	126	70-130	1	25	
Toluene	ug/L	ND	40	40	39.6	41.4	99	104	70-130	4	25	
Xylene (Total)	ug/L	ND	120	120	115	119	96	99	70-130	3	25	
1,2-Dichloroethane-d4 (S)	%.						100	102	70-130			
4-Bromofluorobenzene (S)	%.						94	95	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 198938 198939

Parameter	Units	1245003002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%.						101	100	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

QC Batch: DAVM/1143 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 1245003014, 1245003015, 1245003016, 1245003017, 1245003018, 1245003019, 1245003020

METHOD BLANK: 198943 Matrix: Water
Associated Lab Samples: 1245003014, 1245003015, 1245003016, 1245003017, 1245003018, 1245003019, 1245003020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	0.50	04/09/15 10:57	
Ethylbenzene	ug/L	ND	0.50	04/09/15 10:57	
Gasoline Range Organics	ug/L	ND	50.0	04/09/15 10:57	
Methyl-tert-butyl ether	ug/L	ND	0.50	04/09/15 10:57	
Naphthalene	ug/L	ND	0.50	04/09/15 10:57	
Toluene	ug/L	ND	0.50	04/09/15 10:57	
Xylene (Total)	ug/L	ND	1.0	04/09/15 10:57	
1,2-Dichloroethane-d4 (S)	%.	99	70-130	04/09/15 10:57	
4-Bromofluorobenzene (S)	%.	114	70-130	04/09/15 10:57	
Toluene-d8 (S)	%.	108	70-130	04/09/15 10:57	

LABORATORY CONTROL SAMPLE: 198944

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	40	38.0	95	70-130	
Ethylbenzene	ug/L	40	36.2	91	70-130	
Methyl-tert-butyl ether	ug/L	40	37.6	94	70-130	
Naphthalene	ug/L	40	31.2	78	70-130	
Toluene	ug/L	40	39.1	98	70-130	
Xylene (Total)	ug/L	120	107	89	70-130	
1,2-Dichloroethane-d4 (S)	%.			97	70-130	
4-Bromofluorobenzene (S)	%.			115	70-130	
Toluene-d8 (S)	%.			108	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 198945 198946

Parameter	Units	1245003014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	0.61	40	40	40.2	41.1	99	101	70-130	2	25	
Ethylbenzene	ug/L	ND	40	40	37.6	38.0	94	95	70-130	1	25	
Methyl-tert-butyl ether	ug/L	1.9	40	40	41.9	40.5	100	96	70-130	3	25	
Naphthalene	ug/L	ND	40	40	35.1	34.4	87	85	70-130	2	25	
Toluene	ug/L	ND	40	40	40.9	41.1	102	103	70-130	0	25	
Xylene (Total)	ug/L	ND	120	120	111	113	93	94	70-130	1	25	
1,2-Dichloroethane-d4 (S)	%.						101	103	70-130			
4-Bromofluorobenzene (S)	%.						120	117	70-130			
Toluene-d8 (S)	%.						107	107	70-130			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALIFIERS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DAV Pace Analytical Services - Davis

ANALYTE QUALIFIERS

1V	Extraction occured outside of hold time for Method EPA 8260B. The hydrochloric acid (HCl) preservation was insufficient to maintain a pH of 2.0 or less required to extend sample hold time from 7 to 14 days.
2V	Extraction occured outside of hold time for Method EPA 8260B. The hydrochloric acid (HCl) preservation was insufficient to maintain a pH of 2.0 or less required to extend sample hold time from 7 to 14 days.
3V	HCL preservative insufficient to extend the hold time from 7 to 14 days.
4V	Higher boiling hydrocarbons present, atypical for Jet Fuel.
DH	Lower boiling hydrocarbons present, atypical for Motor Oil.
DM	Higher boiling hydrocarbons present, atypical for Diesel Fuel.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1245003002	MW-1	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003003	MW-2	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003004	MW-3	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003005	MW-4	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003006	MW-5	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003007	MW-6	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003008	MW-7	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003009	MW-8	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003010	MW-9	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003011	MW-10	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003012	MW-11	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003013	MW-12	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003014	MW-13	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003015	MW-14	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003016	MW-15	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003017	MW-17	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003018	MW-18	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003019	NPORDMW-3	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003020	NPORDMW-4	EPA 3510	DAOP/1047	EPA 8015B	DASG/1046
1245003002	MW-1	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003003	MW-2	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003004	MW-3	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003005	MW-4	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003006	MW-5	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003007	MW-6	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003008	MW-7	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003009	MW-8	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003010	MW-9	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003011	MW-10	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003012	MW-11	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003013	MW-12	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003014	MW-13	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003015	MW-14	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003016	MW-15	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003017	MW-17	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003018	MW-18	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003019	NPORDMW-3	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003020	NPORDMW-4	EPA 3510	DAOP/1046	EPA 8015B	DASG/1045
1245003001	QA	EPA 8260B	DAVM/1142		
1245003002	MW-1	EPA 8260B	DAVM/1142		
1245003003	MW-2	EPA 8260B	DAVM/1142		
1245003004	MW-3	EPA 8260B	DAVM/1142		
1245003005	MW-4	EPA 8260B	DAVM/1142		
1245003006	MW-5	EPA 8260B	DAVM/1142		
1245003007	MW-6	EPA 8260B	DAVM/1142		
1245003008	MW-7	EPA 8260B	DAVM/1142		
1245003009	MW-8	EPA 8260B	DAVM/1142		
1245003010	MW-9	EPA 8260B	DAVM/1142		

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1245003

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1245003011	MW-10	EPA 8260B	DAVM/1142		
1245003012	MW-11	EPA 8260B	DAVM/1142		
1245003013	MW-12	EPA 8260B	DAVM/1142		
1245003014	MW-13	EPA 8260B	DAVM/1143		
1245003015	MW-14	EPA 8260B	DAVM/1143		
1245003016	MW-15	EPA 8260B	DAVM/1143		
1245003017	MW-17	EPA 8260B	DAVM/1143		
1245003018	MW-18	EPA 8260B	DAVM/1143		
1245003019	NPORDMW-3	EPA 8260B	DAVM/1143		
1245003020	NPORDMW-4	EPA 8260B	DAVM/1143		

1245003

1 of 2

Global ID #: T06019775776

☐ Yes
☐ No

KIFF Analytical LLC

Chain-of-Custody-Record

Direct Bill To:
Deanna Harding
Gettler-Ryan Inc.
6805 Sierra Court
Suite G
Dublin, CA 94568

Facility: Rolls-Royce Engine Test Facility
Facility Address: 6701 Old Earhart Road, Oakland, CA
Consultant Project #: 25-948218.1
Consultant Name: GETTLER-RYAN INC.
Address: 6805 Sierra Court Suite G, Dublin, CA 94568
Project Contact: (Name) Deanna Harding
(Phone) 925-551-7444 x180 (e-mail) deanna@grinc.com

(Name) Deanna Harding
(Phone) 925-551-7444 x180
Laboratory Name: Kiff Analytical
Laboratory Service Order:
Laboratory Service Code:
Samples Collected by: (Name) Alex Wong
Signature:

State Method: ☑ CA ☐ OR ☐ WA ☐ NW Series ☐ CO ☐ UT ☐ ID

Sample I.D.	Number of Containers	Matrix S= Soil A=Air W=Water C=Charcoal	DATE/SAMPLE COLLECTION TIME	TPH-Jet A Fuel (8015) (HCL)	TPH-MO (8015) (HCL)	TPH-DRO with Silica Gel Cleanup (8015) (HCL)	TPH-GRO/BTEX/MTBE/ Naphthalene (8260) (HCL)	TPH Jet A Fuel (8015) (NP)	TPH-MO (8015) (NP)	TPH-DRO with Silica Gel Cleanup (8015) (NP)	TPH-GRO/BTEX/MTBE/ Naphthalene (8260) (NP)	Remarks: EDF NEEDED — Lab Sample No.
QA	2	W	3-26-15 / —				X					001
MW-1	7	W	/ 0935	X	X	X	X					002
MW-2			/ 1240									003
MW-3			/ 1050									004
MW-4			/ 1010									005
MW-5			/ 0925									006
MW-6			/ 1058									007
MW-7			/ 1140									008
MW-8			/ 1315									009
MW-9			/ 1110									010
MW-10			/ 1155									011
MW-11			/ 1025									012
MW-12			/ 1330									013
MW-13	↓	↓	↓ / 1300	↓	↓	↓	↓					014

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
	Gettler-Ryan	3-27-15 1205	PACE Analytical		032715 1205	
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	Iced (Y/N)

Turn Around Time (Circle Choice)

24 Hrs.
48 Hrs.
5 Days
~~10 Days~~
As Contracted

1245003

2 of 2

Global ID #: T06019775776

☐ Yes
☐ No

KIFF Analytical LLC

Chain-of-Custody-Record

Direct Bill To:
Deanna Harding
Gettler-Ryan Inc.
6805 Sierra Court
Suite G
Dublin, CA 94568

Facility: Rolls-Royce Engine Test Facility
Facility Address: 6701 Old Earhart Road, Oakland, CA
Consultant Project #: 25-948218.1
Consultant Name: GETTLER-RYAN INC.
Address: 6805 Sierra Court Suite G, Dublin, CA 94568
Project Contact: (Name) Deanna Harding
(Phone) 925-551-7444 x180 (e-mail) deanna@grinc.com

(Name) Deanna Harding
(Phone) 925-551-7444 x180
Laboratory Name: Kiff Analytical
Laboratory Service Order:
Laboratory Service Code:
Samples Collected by: (Name) Alex Wong
Signature:

State Method: ☑ CA ☐ OR ☐ WA ☐ NW Series ☐ CO ☐ UT ☐ ID

Sample I.D.	Number of Containers	Matrix S=Soil A=Air W=Water C=Charcoal	DATE/SAMPLE COLLECTION TIME	TPH-Jet A Fuel (8015) (HCL)	TPH-MO (8015) (HCL)	TPH-DRO with Silica Gel Cleanup (8015) (HCL)	TPH-GRO/BTEX/MTBE/ Naphthalene (8260) (HCL)	TPH-Jet A Fuel (8015) (NP)	TPH-MO (8015) (NP)	TPH-DRO with Silica Gel Cleanup (8015) (NP)	TPH-GRO/BTEX/MTBE/ Naphthalene (8260) (NP)	Remarks / Lab Sample No.
MW-14	7	W	3-26-15 / 1125	X	X	X	X					EDF NEEDED
MW-15			/ 1015									015
MW-17			/ 0935									016
MW-18			/ 1230									017
NPORDMW-3			/ 1415									018
NPORDMW-4			/ 1230									019
												020

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
[signature]	Gettler-Ryan	3.27.15 1205	[signature]	Pace Analytical	032715 1205	
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	Iced (Y/N)

Turn Around Time (Circle Choice)

24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 25Feb2015 Page 1 of 1
	Document No.: F-DAV-C-002-rev.02	Issuing Authority: Pace Davis, CA Quality Office

Sample Condition Upon Receipt

Client Name: Gettler Ryan (Rolls-Royce)

Project #:

WO# : 1245003

1245003

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace ☐ OnTrac ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other:

Temp Blank? ☐ Yes ☒ No

Thermom. Used: ☐ DA1434 ☒ DA2285 **Type of Ice:** ☒ Wet ☐ Blue ☐ Dry Ice ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read(°C): 4.8 **Cooler Temp Corrected(°C):** 4.8

Temp should be above freezing to 6°C **Correction Factor:** 0

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Date and Initials of Person Examining Contents: Eug 032715

	Yes	No	N/A	Comments:
Chain of Custody Present?	☒	☐	☐	1.
Chain of Custody Filled Out?	☒	☐	☐	2.
Chain of Custody Relinquished?	☒	☐	☐	3.
Sampler Name and/or Signature on COC?	☒	☐	☐	4.
Samples Arrived within Hold Time?	☒	☐	☐	5.
Short Hold Time Analysis (<72 hr)?	☐	☒	☐	6.
Rush Turn Around Time Requested?	☐	☒	☐	7.
Sufficient Volume?	☒	☐	☐	8.
Correct Containers Used?	☒	☐	☐	9.
-Pace Containers Used?	☐	☒	☐	
Containers Intact?	☒	☐	☐	10.
Filtered Volume Received for Dissolved Tests?	☐	☐	☒	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒	☐	☐	12.
All containers needing acid/base preservation have been checked?	☐	☐	☒	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☐	☐	☒	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☒	☐		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☒	☐	☐	14. Samples -020, one container on Sample -018
Trip Blank Present?	☐	☒	☐	15.
Trip Blank Custody Seals Present?	☐	☐	☒	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Scott Fraser **Date:** 4/2/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)