Rolls-Royce

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

RECEIVED
By Alameda County Environmental Health 9:29 am, May 18, 2016

April 26, 2016

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 May, 3, 2016.

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
Facilities HS&E Specialist

GETTLER-RYAN INC.

May 3, 2016

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

Subject: **First Semi-Annual 2016 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 2016 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 29, 2016, 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 29, 2016, 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). SPH was detected in one well, MW-18 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, 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 Pace Analytical (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 29, 2016, 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 fourteen wells at concentrations ranging from 54 parts per billion (ppb) in well MW-14 to 570 ppb in well MW-9. Concentrations of TPHmo were detected in eleven wells at levels ranging from 130 ppb in well NPORDMW-4 to 2,400 ppb in well MW-9. TPHjf were detected in six wells at concentrations ranging from 82 ppb in well MW-3 to 540 ppb in well MW-13.

TPHg was detected in one well, MW-13 at a concentration of 169 ppb. 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. MtBE was detected in wells MW-13 and MW-14 at concentrations of 1.6 ppb and 0.52 ppb, respectively. Concentrations of Naphthalene were reported below the laboratory method detection limits in water samples collected from all the wells. 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;
- Separate-Phase Hydrocarbons was detected in MW-18 at a thickness of .04 feet;
- 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

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
09/29/15	7.17	2.67	0.00	4.50	<50	<47.8	<98.6	<98.6[25]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**7.17**	**2.85**	**0.00**	**4.32**	**<50**	**<47**	**<94**	**<150[26]**	**<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

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)															
09/02/11	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
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	<0.50	<0.50	<0.50	NA
09/29/15	7.03	2.00	0.00	5.03	<50	<46.6	248	93.6[18, 25]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**7.03**	**2.64**	**0.00**	**4.39**	**<50**	**120[30]**	**400**	**<150[26,27]**	**<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	<0.50	<0.50	<0.50	NA
09/29/15	6.73	4.25	0.00	2.48	<50	<49.3	806	1,110[18,25]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**6.73**	**3.68**	**0.00**	**3.05**	**<50**	**110[31]**	**530**	**82[28,29]**	**<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-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
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	NA
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	<10 - <50[21,22]
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
09/29/15	9.79	5.57	0.00	4.22	<50	<48.2	232[13]	634[18]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**9.79**	**5.03**	**0.00**	**4.76**	**<50**	**70**	**290[23]**	**<50**	**<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

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-5 (cont)															
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	<0.50	<0.50	<0.50	NA
09/29/15	8.35	4.19	0.00	4.16	<50	<47.4	197[13]	646[18]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**8.35**	**3.69**	**0.00**	**4.66**	**<50**	**330[30]**	**1,400**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	1.1	NA
														<0.50	**NA**
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
09/29/15	9.51	5.24	0.00	4.27	<50	151[6]	1,340	406[18,25]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**9.51**	**4.75**	**0.00**	**4.76**	**<50**	**210[30]**	**1,200**	**<50**	**<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-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	NA
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	<10 - <50[21,22]
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
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
09/29/15	9.23	5.07	0.00	4.16	<50	<48.6	167[13]	637[18]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**9.23**	**4.59**	**0.00**	**4.64**	**<50**	**550[30]**	**<470**	**<500[26]**	**<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

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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-8 (cont)															
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
09/29/15	8.25	4.01	0.00	4.24	<50	<48.6	408	299[18]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**8.25**	**3.37**	**0.00**	**4.88**	**<50**	**64[30]**	**150**	**<50**	**<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
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	NA
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	<10 - <50[21,22]
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
09/29/15	9.44	5.25	0.00	4.19	<50	813[6]	4,570	1,310[18,25]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**9.44**	**4.61**	**0.00**	**4.83**	**<50**	**570[30]**	**2,400**	**<500[26]**	**<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-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	NA
09/29/15	7.51	3.43	0.00	4.08	<50	<46.8	<93.7	269[18]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**7.51**	**2.78**	**0.00**	**4.73**	**<50**	**84**	**<95**	**130[28]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**<0.50**	**<0.50**	**NA**
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	NA
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	<10 - <50[21,22]
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

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 (cont)															
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	<0.50	<0.50	<0.50	NA
09/29/15	7.60	3.57	0.00	4.03	<50	<47.2	156[13]	340[18]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**7.60**	**2.90**	**0.00**	**4.70**	**<50**	**76**	**250**	**91[28]**	**<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
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	<0.50	<0.50	<0.50	NA
09/29/15	7.32	3.00	0.00	4.32	<50	<47.1	<94.2	<94.2	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**7.32**	**2.83**	**0.00**	**4.49**	**<50**	**<47**	**<94**	**<50**	**<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-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
09/29/15	6.10	2.21	0.00	3.89	254	89	211[13]	3,060[18]	0.9	<0.50	<0.50	<1.0	2.1	0.59	NA
03/29/16	**6.10**	**1.17**	**0.00**	**4.93**	**169**	**140**	**140**	**540[28,29]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**1.6**	**<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
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

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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)															
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
09/29/15	6.42	2.03	0.00	4.39	<50	<48.7	574	1,070	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**6.42**	**1.90**	**0.00**	**4.52**	**<50**	**54**	**430**	**150[28]**	**<0.50**	**<0.50**	**<0.50**	**<1.0**	**0.52**	**<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
09/29/15	7.51	4.47	0.00	3.04	<50	<47.2	<94.5	<94.5	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**7.51**	**3.84**	**0.00**	**3.67**	**<50**	**66[24]**	**<94**	**<50**	**<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
09/29/15	0.04	2.88	0.00	-2.84	<50	<48.3	<96.5	110	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**0.04**	**2.15**	**0.00**	**-2.11**	**<50**	**<47**	**<95**	**<50**	**<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				--	--	--	--	--	--	--

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)															
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
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
09/29/15	7.05	2.88	0.00	4.17	608	23,600[6]	47,100	31,900[18,25]	<0.50	<0.50	<0.50	<0.50	1.1	0.52	NA
03/29/16	**7.05**	**2.36**	**0.04**	**4.72****	**Not sampled due to presence of SPH**				--	--	--	--	--	--	--
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
09/29/15	8.11	3.65	0.00	4.46	<50	<47.2	<94.4	<94.4	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**8.11**	**3.86**	**0.00**	**4.25**	**<50**	**<46**	**<92**	**<50**	**<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)
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
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
09/29/15	10.06	6.01	0.00	4.05	<50	140	711	771[18,25]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	**10.06**	**5.37**	**0.00**	**4.69**	**<50**	**100**	**130**	**290[28]**	**<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

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)															
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
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	<0.50	<0.50	<0.50	NA
09/29/15	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	NA
03/29/16	--	--	--	--	**<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) prior to 2015
Pace Analytical (CA Certification #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.

[25] The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

[26] Sample diluted due to high organic content.

[27] Aqueous sample that contains greater than ~1 vol % sediment.

[28] Diesel range compounds are significant; no recognizable pattern.

[29] Kerosene/kerosene range/jet fuel range.

[30] Higher-boiling hydrocarbons present, atypical for Diesel Fuel.

[31] Lower and higher-boiling hydrocarbons present, 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

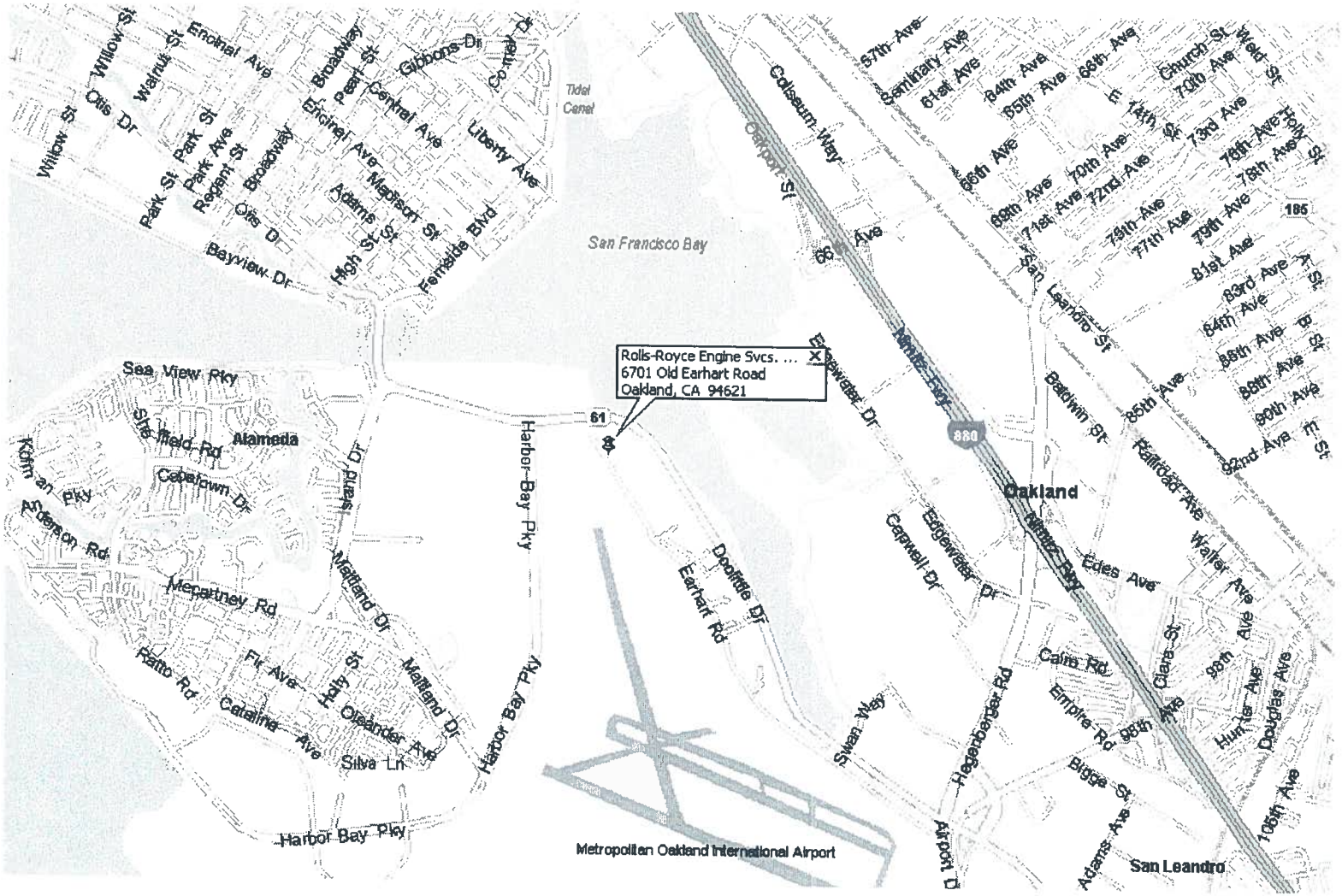
Ferrous Iron by SM 3500 Fe D

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
9/29/2015	0.00	NA	4.00	0.00
3/29/2016	**0.04**	**2.32**	**0.00**	**0.00**
		Totals:	**35.66**	**4.21**

NA = Not Applicable



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

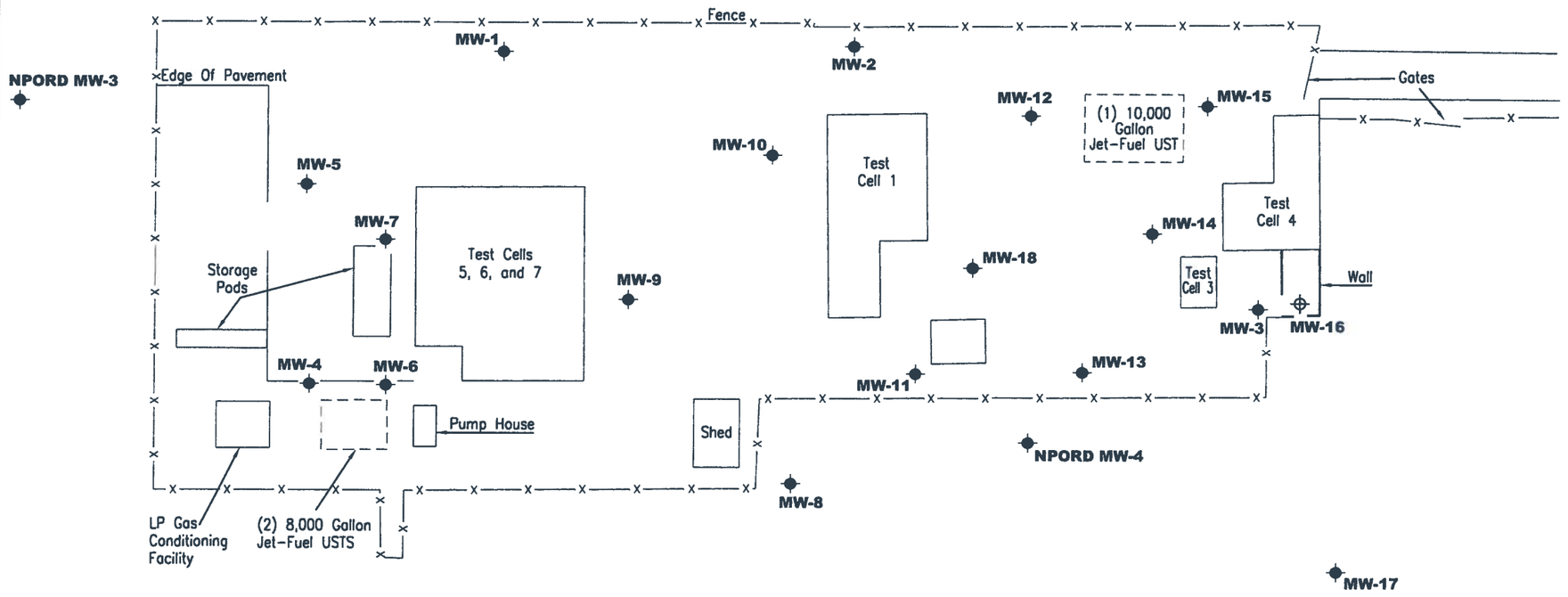
FIGURE
1

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

DATE 11/07

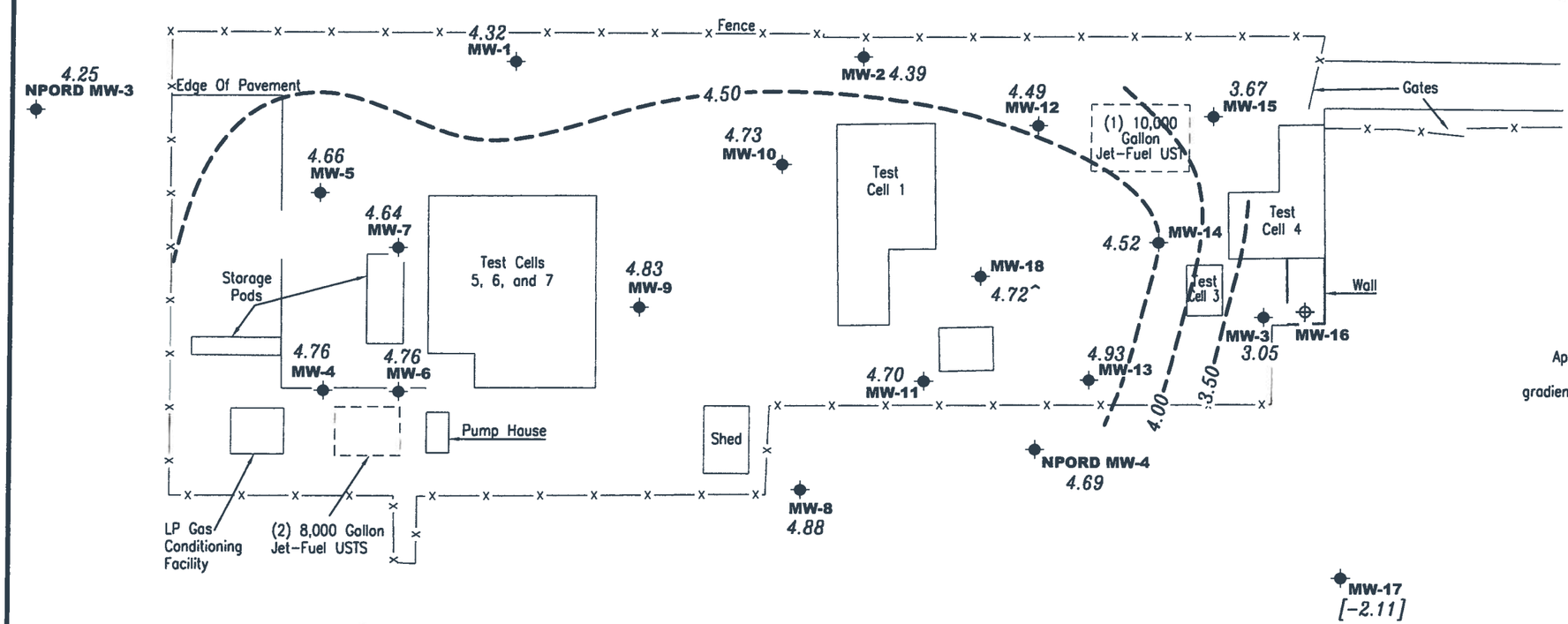
REVIEWED BY

PROJECT NUMBER 948218.2

FILE NAME: P:\Enviro\Rolls Royce\Q16-Rolls Royce - Copy.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
- ^ Groundwater elevation corrected for the presence of separate-phase hydrocarbons



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

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

FIGURE 3

REVISED DATE

DATE March 29, 2016

REVIEWED BY

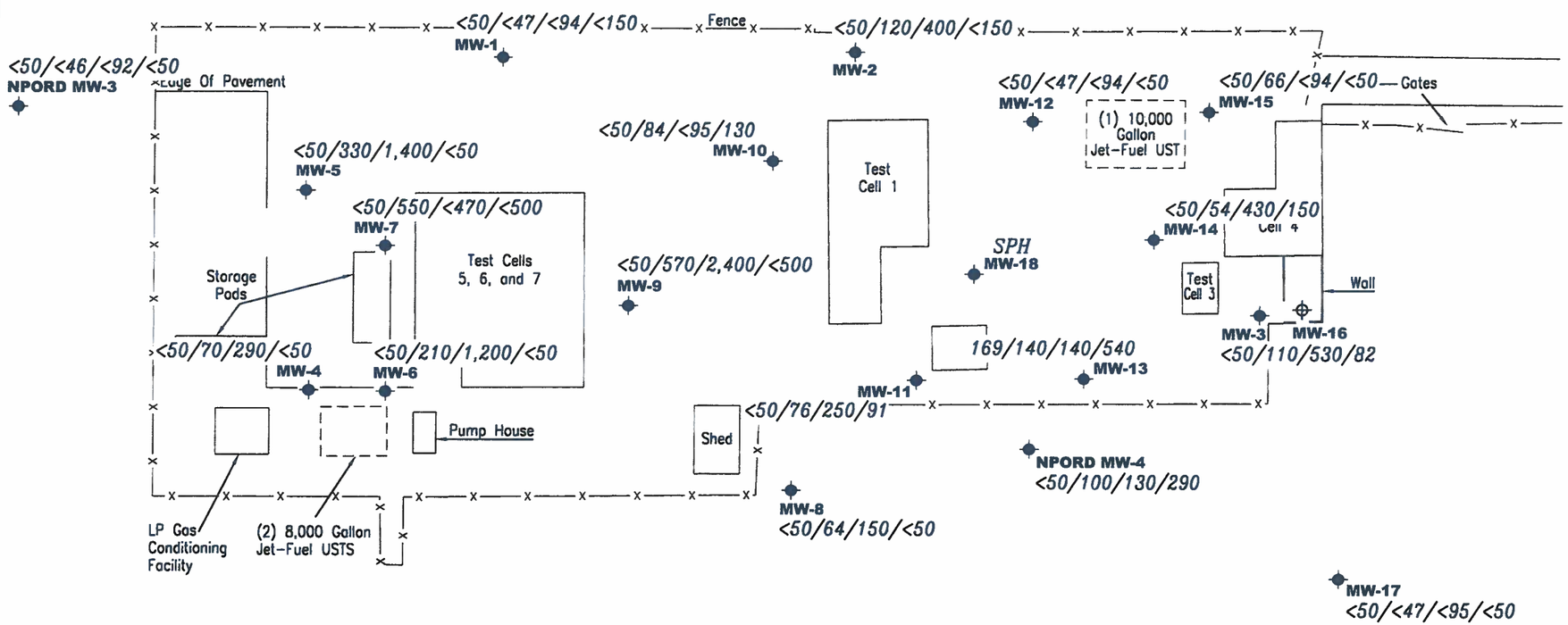
PROJECT NUMBER 948218.2

FILE NAME: P:\Enviro\Rolls Royce\Q16-Rolls Royce - Copy.dwg | Layout Tab: Pot2

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
- *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 Oakport Road
Oakland, CA

FIGURE 4

REVISED DATE

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

PROJECT NUMBER 948218.2

REVIEWED BY

DATE March 29, 2016

FILE NAME: P:\Enviro\Rolls Royce\Q16-Rolls Royce - Copy.dwg | Layout Tab: Con2

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: 3-29-16 (inclusive)
City: **Oakland, CA** Sampler: AW

Well ID MW-1
Well Diameter (2)/4 in.
Total Depth 8.43 ft.
Depth to Water 2.85 ft.
5.58 xVF .17 = 0.94 x3 case volume = Estimated Purge Volume: 3.0 gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.96

Date Monitored: 3-29-16

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.

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): 0800 Weather Conditions: Sunny
Sample Time/Date: 0827 / 3-29-16 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: 3.85

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0804	1.0	7.63	out of range	16.0		
0808	2.0	7.59	↓	16.2		
0812	3.0	7.52	↓	16.5		

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:

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: 3/29/16 (inclusive)
City: **Oakland, CA** Sampler: AW

Well ID MW-2
Well Diameter (2) 4 in.
Total Depth 8.93 ft.
Depth to Water 2.64 ft.
6.29 xVF .17 = 1.06 x3 case volume = Estimated Purge Volume: 3.5 gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.89

Date Monitored: 3-29-16

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.

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): 1045 Weather Conditions: Sunny
Sample Time/Date: 1112 / 3-29-16 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: 3.22

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) / mS µmhos/cm)	Temperature (°C) / F)	D.O. (mg/L)	ORP (mV)
1050	1.5	7.64	out of range	17.7		
1055	2.5	7.60	↓	18.0		
1100	3.5	7.58	↓	18.2		

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:

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
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job Number: 25-948218.1
Event Date: 3.29.16 (inclusive)
Sampler: FT

Well ID: MW-3
Well Diameter: (2)4 in.
Total Depth: 12.09 ft.
Depth to Water: 3.68 ft.

Date Monitored: 3.29.16

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.

8.41 xVF .17 = 1.42 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.36

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): 1110
Sample Time/Date: 1130 / 3.29.16
Approx. Flow Rate: — gpm.
Did well de-water? No If yes, Time: ____ Volume: ____ gal. DTW @ Sampling: 3.75

Weather Conditions: SUNNY
Water Color: CLEAR Odor: Y / (N)
Sediment Description: NONE

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1113	1.5	7.41	2453	17.1		
1116	3.0	7.31	3106	17.2		
1119	4.0	7.22	3719	17.4		

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: BOLT L.o. 8" (2 BROKEN BOLTS IN FLANGES) (ISE)

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
Site Address: 6701 Old Earhart Road
City: Oakland, CA
Job Number: 25-948218.1
Event Date: 3/29/16 (inclusive)
Sampler: GM

Well ID: MW-4
Well Diameter: (2) 4 in.
Total Depth: 9.99 ft.
Depth to Water: 5.03 ft.
Date Monitored: 3/29/16

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.

4.96 xVF 0.17 = 0.84 x3 case volume = Estimated Purge Volume: 3 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.02

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
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: 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): 0920
Sample Time/Date: 0950 / 3/29/16
Approx. Flow Rate: gpm.
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 5.69

Weather Conditions: SUNNY
Water Color: CLOUDY Odor: (Y) N MODERATE
Sediment Description: SILT

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / (mS) µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0923	1	7.14	4.94	19.0		
0925	2	7.12	4.92	18.7		
0928	3	7.11	4.91	18.6		

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: 3/29/16 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID MW-5
Well Diameter (2)/4 in.
Total Depth 9.66 ft.
Depth to Water 3.69 ft.
Date Monitored: 3/29/16

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.

5.97 xVF 0.17 = 1.01 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.88

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: 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): 1005 Weather Conditions: SUNNY
Sample Time/Date: 1035 / 3/29/16 Water Color: TAN Odor: (Y) N MODERATE
Approx. Flow Rate: — gpm. Sediment Description: SILT
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 4.53

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS (mS) µmhos/cm)	Temperature ((C) F)	D.O. (mg/L)	ORP (mV)
1008	1.25	7.08	7.16	19.0		
1011	2.5	7.05	7.15	18.7		
1014	3.5	7.04	7.14	18.8		

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: _____ 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: 3/29/16 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID MW-6
Well Diameter (2)4 in.
Total Depth 10.70 ft.
Depth to Water 4.75 ft.
Date Monitored: 3/29/16

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.

5.95 xVF 0.17 = 1.01 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.94

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: 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): 0835 Weather Conditions: SUNNY
Sample Time/Date: 0905 / 3/29/16 Water Color: CLOUDY Odor: (Y) N MODERATE
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)
0838	1.25	7.11	4.34	19.2		
0841	2.5	7.12	4.32	19.1		
0844	3.5	7.10	4.31	19.0		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	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: 3/29/16 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID MW-7
Well Diameter 2 4 in.
Total Depth 10.10 ft.
Depth to Water 4.59 ft.

Date Monitored: 3/29/16

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.

5.51 xVF 0.17 = 0.93 x3 case volume = Estimated Purge Volume: 3 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.69

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): 0750 Weather Conditions: SUNNY
Sample Time/Date: 0820 / 3/29/16 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: 5.22

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS (mS) µmhos/cm)	Temperature (C) / F)	D.O. (mg/L)	ORP (mV)
0752	1	7.19	2.48	17.9		
0755	2	7.17	2.47	17.9		
0800	3	7.15	2.45	17.9		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-7	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: 3/29/16 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID MW-8
Well Diameter (2) 4 in.
Total Depth 9.83 ft.
Depth to Water 3.37 ft.
Date Monitored: 3/29/16

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.

6.46 xVF 0.17 = 1.09 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.66

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
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: 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): 1140
Sample Time/Date: 1210 / 3/29/16
Approx. Flow Rate: — gpm.
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 4.09

Weather Conditions: SUNNY
Water Color: CLOUDY Odor: (Y) N SLIGHT
Sediment Description: SILT

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / (mS) µmhos/cm)	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
1143	1.25	7.51	2.31	19.5		
1146	2.5	7.49	2.30	19.6		
1149	3.5	7.48	2.28	19.5		

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
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job Number: 25-948218.1
Event Date: 3/29/16 (inclusive)
Sampler: AW

Well ID: MW-9
Well Diameter: 2 | 4 in.
Total Depth: 9.95 ft.
Depth to Water: 4.61 ft.

Date Monitored: 3-29-16

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.

5.34 xVF .17 = 0.90 x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.67

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): 0840
Sample Time/Date: 0908 / 3-29-16
Approx. Flow Rate: — gpm.
Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 5.55

Weather Conditions: Sunny
Water Color: Cloudy Odor: Y / (N)
Sediment Description: Cloudy

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0843	1.0	7.27	2764	18.1		
0846	2.0	7.30	2790	18.3		
0850	3.0	7.32	2814	(C) 18.7		

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: _____

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
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job Number: 25-948218.1
Event Date: 3/29/16 (inclusive)
Sampler: AW

Well ID: MW-10
Well Diameter: 2 (4) in.
Total Depth: 10.05 ft.
Depth to Water: 2.78 ft.

Date Monitored: 3/29/16

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.

7.27 xVF .17 = 1.23 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.23

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): 1000
Sample Time/Date: 1028 / 3-29-16
Approx. Flow Rate: — gpm.
Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 3.77

Weather Conditions: Sunny
Water Color: Clear Odor: Y / (N)
Sediment Description: Clear

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1005	1.5	7.70	3648	17.8		
1010	3.0	7.74	3722	18.1		
1015	4.0	7.77	3750	18.3		

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:

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: 3/29/16 (inclusive)
City: Oakland, CA Sampler: AW

Well ID MW-11
Well Diameter (2) 4 in.
Total Depth 9.69 ft.
Depth to Water 2.90 ft.
Date Monitored: 3-29-16

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.

6.79 xVF .17 = 1.15 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.25

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): 0920 Weather Conditions: Sunny
Sample Time/Date: 0950 / 3-29-16 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: 3.76

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0925	1.5	7.19	3640	17.1		
0930	2.5	7.23	3749	17.3		
0935	3.5	7.26	3806	17.6		

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:

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: 3/29/16 (inclusive)
City: **Oakland, CA** Sampler: AW

Well ID MW-12
Well Diameter (2)/4 in.
Total Depth 9.94 ft.
Depth to Water 2.83 ft.
Date Monitored: 3-29-16

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.

7.11 xVF .17 = 1.20 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.25

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): 1125
Sample Time/Date: 1155 / 3-29-16
Approx. Flow Rate: — gpm.
Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 4.06

Weather Conditions: Sunny
Water Color: Cloudy Odor: (Y) / N Slight
Sediment Description: Cloudy

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1130	1.5	8.07	out of range	18.2		
1135	3.0	8.02	↓	18.5		
1140	4.0	7.99		18.7		

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:

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
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job Number: 25-948218.1
Event Date: 3.29.16 (inclusive)
Sampler: FT

Well ID: MW-13
Well Diameter: 2 (4) in.
Total Depth: 9.51 ft.
Depth to Water: 1.17 ft.

Date Monitored: 3.29.16

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.

8.34 xVF .66 = 5.50 x3 case volume = Estimated Purge Volume: 17.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 2.83

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): 1145
Sample Time/Date: 1245 / 3.29.16
Approx. Flow Rate: — gpm.
Did well de-water? YES If yes, Time: 1152 Volume: 6.0 gal. DTW @ Sampling: 2.83

Weather Conditions: SUNNY
Water Color: CLEAR Odor: Y / (N)
Sediment Description: NONE

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1151	5.5	6.96	OFF-SCALE	17.8		

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: MORRISON 12" OIL

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
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job Number: 25-948218.1
Event Date: 3.29.16 (inclusive)
Sampler: FT

Well ID: MW-14
Well Diameter: 2 (1/4) in.
Total Depth: 10.03 ft.
Depth to Water: 1.90 ft.

Date Monitored: 3.29.16

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.

8.13 xVF .17 = 1.38 x3 case volume = Estimated Purge Volume: 4.0 gal.

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

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
Sample Time/Date: 1055 / 3.29.16
Approx. Flow Rate: ~ gpm.
Did well de-water? ND If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 1.90

Weather Conditions: Sunny
Water Color: CLEAR Odor: (Y) / N MODERATE
Sediment Description: NONE

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1043	1.5	7.72	OFF-SCALE	17.4		
1046	3.0	7.76	↓	17.2		
1049	4.0	7.81	↓	17.0		

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: Monitor 8" (2SF)

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
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job Number: 25-948218.1
Event Date: 3.29.16 (inclusive)
Sampler: FT

Well ID: MW-15
Well Diameter: 2 (1/4) in.
Total Depth: 10.00 ft.
Depth to Water: 3.84 ft.

Date Monitored: 3.29.16

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: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.07

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): 1010
Sample Time/Date: 1030 / 3.29.16
Approx. Flow Rate: / gpm.
Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 4.08

Weather Conditions: SUNNY
Water Color: CLEAR Odor: Y / (N)
Sediment Description: NONE

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1013	1.0	7.49	OFF-SCALE	17.4		
1016	2.0	7.41	↓	17.5	/	/
1019	3.0	7.33	↓	17.7	/	/

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
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job Number: 25-948218.1
Event Date: 3.29.16 (inclusive)
Sampler: FT

Well ID: MW-17
Well Diameter: (2) 4 in.
Total Depth: 9.81 ft.
Depth to Water: 2.15 ft.

Date Monitored: 3.29.16

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.

7.66 xVF .17 = 1.30 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.68

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): 0930
Sample Time/Date: 0950 / 3.29.16
Approx. Flow Rate: / gpm.
Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 3.56

Weather Conditions: SUNNY
Water Color: CLEAR Odor: Y / (N)
Sediment Description: NONE

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS) / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0933	1.5	6.93	OFF-SCALE	14.9		
0936	3.0	6.96	↓	15.3		
0939	4.0	7.03	↓	15.9		

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, 1SE)

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: 3.29.16 (inclusive)

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

Well ID MW-18

Well Diameter 2/4 in.

Total Depth 9.94 ft.

Depth to Water 2.36 ft.

7.58 xVF ___ = ___

Date Monitored: 3.29.16

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.

x3 case volume = Estimated Purge Volume: ___ gal.

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

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: 2.32 ft
Depth to Water: 2.36 ft
Hydrocarbon Thickness: .04 ft
Visual Confirmation/Description: BLK THICK OILY
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: — ltr
Amt Removed from Well: — ltr
Water Removed: — ltr

Start Time (purge): ___ Weather Conditions: ___

Sample Time/Date: ___ / ___ Water Color: ___ Odor: Y / N ___

Approx. Flow Rate: ___ gpm. Sediment Description: ___

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

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

LABORATORY INFORMATION

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

COMMENTS: SPH PRESENT IN H2O

MONITOR 8" (2 BF)

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: 3/29/16 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID: NPORD MW-3
Well Diameter: ~~2~~ 4 in.
Total Depth: 16.49 ft.
Depth to Water: 3.86 ft. ☐ Check if water column is less then 0.50 ft.
12.63 xVF 0.16 = 2.02 x3 case volume = Estimated Purge Volume: 26 gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.38
Date Monitored: 3/29/16

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: ~~X~~
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: 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): 1230
Sample Time/Date: 1310 / 3/29/16
Approx. Flow Rate: 2 gpm.
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 6.19

Weather Conditions: SUNNY
Water Color: CLEAR Odor: (Y) N SLIGHT
Sediment Description: NONE

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1234	8	7.35	OUT OF RANGE	19.9		
1239	18	7.34	"	19.7		
1244	26	7.32	"	19.7		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
NPORD MW-3	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: 3/29/14 (inclusive)
City: **Oakland, CA** Sampler: GM

Well ID NPORDMW-4 Date Monitored: 3/29/14
Well Diameter (2) 4 in.
Total Depth 11.47 ft.
Depth to Water 5.37 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]: 6.59

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
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): 1055 Weather Conditions: SUNNY
Sample Time/Date: 1125 / 3/29/14 Water Color: CLOUDY Odor: (Y) N SLIGHT
Approx. Flow Rate: — gpm. Sediment Description: SILT
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 6.09

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µS / mS µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1057	1.25	7.36	11.63	18.9		
1100	2.5	7.34	11.62	19.1		
1103	3.5	7.31	11.60	19.0		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
NPORDMW-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: TUBE IN WELL

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

2015

80 tons

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
9/28	5:30	MW18				30	
10/5	5:00	MW18				20	
10/12	5:00	MW18				10	
10/19	5:00	MW18				10	
10/26	5:00	MW18				40	
11/2	5:00	MW18				20	
11/9	5:00	MW18				40	
11/16	5:00	MW18				20	
11/30	5:00	MW18				220	
12/7	5:00	MW18				10	
12/14	5:00	MW18				110	
12/21	5:00	MW18				410	

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: BB650 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
12/28/15	05:00	MW18				250	
1/4/16	05:00	MW18				320	
1/11/16	05:00	MW18				410	
1/19/16	05:30	MW18				110	
1/25/16	05:00	MW18				20	
2/1/16	05:00	MW18				360	
2/8/16	05:00	MW18				320	
2/15/16	05:00	MW18				320	
2/22/16	05:00	MW18				360	
2/29/16	05:00	MW18				400	
3/7/16	05:00	MW18				410	
3/14/16	05:00	MW18				410	

PES Environmental, Inc.
Engineering & Environmental Services

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

LOCATION: BREso TEST CELL
PROJECT:
JOB NO.:

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
3/21/16	05:00	MW18				140	
3/28/16	05:00	MW18				370	
4/4/16	05:00	MW18				390	
4/11/16	05:00	MW18				420	
4/18/16	05:00	MW18				410	
4/25/16	05:00	MW18				390	

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

April 08, 2016

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

RE: Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Dear Deanna L. Harding:
Enclosed are the analytical results for sample(s) received by the laboratory on March 30, 2016. 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.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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.: 1263303

Davis Cerification IDs
2795 Second Street Suite 300 Davis, CA 95618
North Dakota Certification #: R-214
Oregon Certification #: CA300002
Washington Certification #: C926-15a
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.: 1263303

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1263303001	QA	Water	03/29/16 00:00	03/30/16 15:22
1263303002	MW-1	Water	03/29/16 08:27	03/30/16 15:22
1263303003	MW-2	Water	03/29/16 11:12	03/30/16 15:22
1263303004	MW-3	Water	03/29/16 11:30	03/30/16 15:22
1263303005	MW-4	Water	03/29/16 09:50	03/30/16 15:22
1263303006	MW-5	Water	03/29/16 10:35	03/30/16 15:22
1263303007	MW-6	Water	03/29/16 09:05	03/30/16 15:22
1263303008	MW-7	Water	03/29/16 08:20	03/30/16 15:22
1263303009	MW-8	Water	03/29/16 12:10	03/30/16 15:22
1263303010	MW-9	Water	03/29/16 09:08	03/30/16 15:22
1263303011	MW-10	Water	03/29/16 10:28	03/30/16 15:22
1263303012	MW-11	Water	03/29/16 09:50	03/30/16 15:22
1263303013	MW-12	Water	03/29/16 11:55	03/30/16 15:22
1263303014	MW-13	Water	03/29/16 12:45	03/30/16 15:22
1263303015	MW-14	Water	03/29/16 10:55	03/30/16 15:22
1263303016	MW-15	Water	03/29/16 10:30	03/30/16 15:22
1263303017	MW-17	Water	03/29/16 09:50	03/30/16 15:22
1263303018	NPORD MW-3	Water	03/29/16 13:10	03/30/16 15:22
1263303019	NPORD MW-4	Water	03/29/16 11:25	03/30/16 15:22

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.: 1263303

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1263303001	QA	EPA 8260B	JCP	10	PASI-DAV
1263303002	MW-1	EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303003	MW-2	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303004	MW-3	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303005	MW-4	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303006	MW-5	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303007	MW-6	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303008	MW-7	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303009	MW-8	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303010	MW-9	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303011	MW-10	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303012	MW-11	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
1263303013	MW-12	EPA 8260B	JCP	10	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JCP	10	PASI-DAV

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SAMPLE ANALYTE COUNT

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1263303014	MW-13	EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JCP	10	PASI-DAV
1263303015	MW-14	EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JCP	10	PASI-DAV
1263303016	MW-15	EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JCP	10	PASI-DAV
1263303017	MW-17	EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JCP	10	PASI-DAV
1263303018	NPORD MW-3	EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JCP	10	PASI-DAV
1263303019	NPORD MW-4	EPA 8015B	DRM	2	PASI-DAV
		EPA 8015B	DRM	2	PASI-DAV
		EPA 8260B	JCP	10	PASI-DAV

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: QA **Lab ID: 1263303001** Collected: 03/29/16 00:00 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 13:26	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 13:26	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 13:26		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 13:26	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 13:26	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 13:26	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 13:26	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 13:26	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 13:26	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	70-130	1		03/31/16 13:26	460-00-4	

Sample: MW-1 **Lab ID: 1263303002** Collected: 03/29/16 08:27 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	ND	mg/L	0.094	1	04/01/16 14:00	04/05/16 18:07	64742-65-0	
Surrogates								
n-Octacosane (S)	104	%.	75-150	1	04/01/16 14:00	04/05/16 18:07	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	ND	mg/L	0.047	1	04/01/16 14:00	04/04/16 11:12		
Surrogates								
n-Octacosane (S)	103	%.	75-139	1	04/01/16 14:00	04/04/16 11:12	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 13:45	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 13:45	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 13:45		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 13:45	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 13:45	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 13:45	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 13:45	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 13:45	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 13:45	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 13:45	460-00-4	

Sample: MW-2 **Lab ID: 1263303003** Collected: 03/29/16 11:12 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**0.40**	mg/L	0.094	1	04/01/16 14:00	04/05/16 09:59	64742-65-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-2 **Lab ID: 1263303003** Collected: 03/29/16 11:12 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
Surrogates								
n-Octacosane (S)	120	%.	75-150	1	04/01/16 14:00	04/05/16 09:59	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.12**	mg/L	0.047	1	04/01/16 14:00	04/01/16 17:50		DM
Surrogates								
n-Octacosane (S)	111	%.	75-139	1	04/01/16 14:00	04/01/16 17:50	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 11:51	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 11:51	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 11:51		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 11:51	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 11:51	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 11:51	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 11:51	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1		03/31/16 11:51	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 11:51	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 11:51	460-00-4	

Sample: MW-3 **Lab ID: 1263303004** Collected: 03/29/16 11:30 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**0.53**	mg/L	0.095	1	04/01/16 14:00	04/05/16 10:34	64742-65-0	
Surrogates								
n-Octacosane (S)	111	%.	75-150	1	04/01/16 14:00	04/05/16 10:34	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.11**	mg/L	0.048	1	04/01/16 14:00	04/01/16 18:22		DK
Surrogates								
n-Octacosane (S)	107	%.	75-139	1	04/01/16 14:00	04/01/16 18:22	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 14:04	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 14:04	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 14:04		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 14:04	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 14:04	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 14:04	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 14:04	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 14:04	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 14:04	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-3 **Lab ID: 1263303004** Collected: 03/29/16 11:30 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Water	Analytical Method: EPA 8260B							
Surrogates								
4-Bromofluorobenzene (S)	99	%.	70-130	1		03/31/16 14:04	460-00-4	

Sample: MW-4 **Lab ID: 1263303005** Collected: 03/29/16 09:50 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**0.29**	mg/L	0.094	1	04/01/16 14:00	04/05/16 11:09	64742-65-0	DF
Surrogates								
n-Octacosane (S)	108	%.	75-150	1	04/01/16 14:00	04/05/16 11:09	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.070**	mg/L	0.047	1	04/01/16 14:00	04/01/16 18:54		
Surrogates								
n-Octacosane (S)	96	%.	75-139	1	04/01/16 14:00	04/01/16 18:54	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 14:23	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 14:23	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 14:23		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 14:23	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 14:23	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 14:23	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 14:23	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	70-130	1		03/31/16 14:23	17060-07-0	
Toluene-d8 (S)	102	%.	70-130	1		03/31/16 14:23	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	70-130	1		03/31/16 14:23	460-00-4	

Sample: MW-5 **Lab ID: 1263303006** Collected: 03/29/16 10:35 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**1.4**	mg/L	0.095	1	04/01/16 14:00	04/05/16 11:43	64742-65-0	
Surrogates								
n-Octacosane (S)	98	%.	75-150	1	04/01/16 14:00	04/05/16 11:43	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.33**	mg/L	0.048	1	04/01/16 14:00	04/01/16 19:25		DM
Surrogates								
n-Octacosane (S)	97	%.	75-139	1	04/01/16 14:00	04/01/16 19:25	630-02-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-5 **Lab ID: 1263303006** Collected: 03/29/16 10:35 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 14:42	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 14:42	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 14:42		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 14:42	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 14:42	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 14:42	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 14:42	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	70-130	1		03/31/16 14:42	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 14:42	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 14:42	460-00-4	

Sample: MW-6 **Lab ID: 1263303007** Collected: 03/29/16 09:05 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**1.2**	mg/L	0.095	1	04/01/16 14:00	04/05/16 12:19	64742-65-0	
Surrogates								
n-Octacosane (S)	96	%.	75-150	1	04/01/16 14:00	04/05/16 12:19	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.21**	mg/L	0.047	1	04/01/16 14:00	04/01/16 19:57		DM
Surrogates								
n-Octacosane (S)	100	%.	75-139	1	04/01/16 14:00	04/01/16 19:57	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 15:01	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 15:01	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 15:01		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 15:01	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 15:01	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 15:01	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 15:01	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 15:01	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 15:01	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	70-130	1		03/31/16 15:01	460-00-4	

Sample: MW-7 **Lab ID: 1263303008** Collected: 03/29/16 08:20 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	ND	mg/L	0.47	5	04/01/16 14:00	04/05/16 12:53	64742-65-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-7 **Lab ID: 1263303008** Collected: 03/29/16 08:20 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
Surrogates								
n-Octacosane (S)	114	%.	75-150	5	04/01/16 14:00	04/05/16 12:53	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.55**	mg/L	0.047	1	04/01/16 14:00	04/01/16 20:28		DM
Surrogates								
n-Octacosane (S)	108	%.	75-139	1	04/01/16 14:00	04/01/16 20:28	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 15:21	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 15:21	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 15:21		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 15:21	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 15:21	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 15:21	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 15:21	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 15:21	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 15:21	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 15:21	460-00-4	

Sample: MW-8 **Lab ID: 1263303009** Collected: 03/29/16 12:10 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**0.15**	mg/L	0.094	1	04/01/16 14:00	04/05/16 13:28	64742-65-0	
Surrogates								
n-Octacosane (S)	107	%.	75-150	1	04/01/16 14:00	04/05/16 13:28	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.064**	mg/L	0.047	1	04/01/16 14:00	04/01/16 21:00		DM
Surrogates								
n-Octacosane (S)	108	%.	75-139	1	04/01/16 14:00	04/01/16 21:00	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 15:40	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 15:40	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 15:40		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 15:40	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 15:40	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 15:40	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 15:40	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 15:40	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 15:40	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-8 **Lab ID: 1263303009** Collected: 03/29/16 12:10 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Water	Analytical Method: EPA 8260B							
Surrogates								
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 15:40	460-00-4	

Sample: MW-9 **Lab ID: 1263303010** Collected: 03/29/16 09:08 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**2.4**	mg/L	0.48	5	04/01/16 14:00	04/05/16 14:03	64742-65-0	
Surrogates								
n-Octacosane (S)	107	%.	75-150	5	04/01/16 14:00	04/05/16 14:03	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.57**	mg/L	0.048	1	04/01/16 14:00	04/01/16 21:32		DM
Surrogates								
n-Octacosane (S)	97	%.	75-139	1	04/01/16 14:00	04/01/16 21:32	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 15:59	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 15:59	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 15:59		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 15:59	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 15:59	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 15:59	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 15:59	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 15:59	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 15:59	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	70-130	1		03/31/16 15:59	460-00-4	

Sample: MW-10 **Lab ID: 1263303011** Collected: 03/29/16 10:28 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	ND	mg/L	0.095	1	04/01/16 14:00	04/05/16 14:38	64742-65-0	
Surrogates								
n-Octacosane (S)	108	%.	75-150	1	04/01/16 14:00	04/05/16 14:38	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.084**	mg/L	0.048	1	04/01/16 14:00	04/01/16 22:04		
Surrogates								
n-Octacosane (S)	99	%.	75-139	1	04/01/16 14:00	04/01/16 22:04	630-02-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-10 **Lab ID: 1263303011** Collected: 03/29/16 10:28 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 16:18	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 16:18	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 16:18		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 16:18	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 16:18	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 16:18	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 16:18	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 16:18	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 16:18	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	70-130	1		03/31/16 16:18	460-00-4	

Sample: MW-11 **Lab ID: 1263303012** Collected: 03/29/16 09:50 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**0.25**	mg/L	0.095	1	04/01/16 14:00	04/05/16 15:12	64742-65-0	
Surrogates								
n-Octacosane (S)	116	%.	75-150	1	04/01/16 14:00	04/05/16 15:12	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.076**	mg/L	0.047	1	04/01/16 14:00	04/01/16 23:22		
Surrogates								
n-Octacosane (S)	107	%.	75-139	1	04/01/16 14:00	04/01/16 23:22	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 16:37	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 16:37	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 16:37		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 16:37	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 16:37	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 16:37	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 16:37	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 16:37	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 16:37	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	70-130	1		03/31/16 16:37	460-00-4	

Sample: MW-12 **Lab ID: 1263303013** Collected: 03/29/16 11:55 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	ND	mg/L	0.094	1	04/01/16 14:00	04/05/16 15:47	64742-65-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-12 **Lab ID: 1263303013** Collected: 03/29/16 11:55 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
Surrogates								
n-Octacosane (S)	97	%.	75-150	1	04/01/16 14:00	04/05/16 15:47	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	ND	mg/L	0.047	1	04/01/16 14:00	04/01/16 23:56		
Surrogates								
n-Octacosane (S)	101	%.	75-139	1	04/01/16 14:00	04/01/16 23:56	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 16:56	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 16:56	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 16:56		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 16:56	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 16:56	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 16:56	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 16:56	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	70-130	1		03/31/16 16:56	17060-07-0	
Toluene-d8 (S)	102	%.	70-130	1		03/31/16 16:56	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 16:56	460-00-4	

Sample: MW-13 **Lab ID: 1263303014** Collected: 03/29/16 12:45 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**0.14**	mg/L	0.095	1	04/01/16 14:00	04/05/16 16:22	64742-65-0	
Surrogates								
n-Octacosane (S)	117	%.	75-150	1	04/01/16 14:00	04/05/16 16:22	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.14**	mg/L	0.048	1	04/01/16 14:00	04/02/16 00:31		
Surrogates								
n-Octacosane (S)	104	%.	75-139	1	04/01/16 14:00	04/02/16 00:31	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 17:15	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 17:15	100-41-4	
Gasoline Range Organics	**169**	ug/L	50.0	1		03/31/16 17:15		
Methyl-tert-butyl ether	**1.6**	ug/L	0.50	1		03/31/16 17:15	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 17:15	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 17:15	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 17:15	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 17:15	17060-07-0	
Toluene-d8 (S)	102	%.	70-130	1		03/31/16 17:15	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-13 **Lab ID: 1263303014** Collected: 03/29/16 12:45 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Water	Analytical Method: EPA 8260B							
Surrogates								
4-Bromofluorobenzene (S)	99	%.	70-130	1		03/31/16 17:15	460-00-4	

Sample: MW-14 **Lab ID: 1263303015** Collected: 03/29/16 10:55 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**0.43**	mg/L	0.095	1	04/01/16 14:00	04/05/16 16:57	64742-65-0	
Surrogates								
n-Octacosane (S)	102	%.	75-150	1	04/01/16 14:00	04/05/16 16:57	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.054**	mg/L	0.048	1	04/01/16 14:00	04/02/16 01:06		
Surrogates								
n-Octacosane (S)	109	%.	75-139	1	04/01/16 14:00	04/02/16 01:06	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 17:34	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 17:34	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 17:34		
Methyl-tert-butyl ether	**0.52**	ug/L	0.50	1		03/31/16 17:34	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 17:34	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 17:34	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 17:34	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	70-130	1		03/31/16 17:34	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 17:34	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 17:34	460-00-4	

Sample: MW-15 **Lab ID: 1263303016** Collected: 03/29/16 10:30 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	ND	mg/L	0.094	1	04/01/16 14:00	04/05/16 17:31	64742-65-0	
Surrogates								
n-Octacosane (S)	105	%.	75-150	1	04/01/16 14:00	04/05/16 17:31	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.066**	mg/L	0.047	1	04/01/16 14:00	04/07/16 10:06		DE
Surrogates								
n-Octacosane (S)	101	%.	75-139	1	04/01/16 14:00	04/07/16 10:06	630-02-4	

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: MW-15 **Lab ID: 1263303016** Collected: 03/29/16 10:30 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 17:53	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 17:53	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 17:53		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 17:53	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 17:53	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 17:53	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 17:53	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1		03/31/16 17:53	17060-07-0	
Toluene-d8 (S)	102	%.	70-130	1		03/31/16 17:53	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 17:53	460-00-4	

Sample: MW-17 **Lab ID: 1263303017** Collected: 03/29/16 09:50 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	ND	mg/L	0.095	1	04/01/16 14:00	04/05/16 18:41	64742-65-0	
Surrogates								
n-Octacosane (S)	100	%.	75-150	1	04/01/16 14:00	04/05/16 18:41	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	ND	mg/L	0.047	1	04/01/16 14:00	04/04/16 12:22		
Surrogates								
n-Octacosane (S)	101	%.	75-139	1	04/01/16 14:00	04/04/16 12:22	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 18:12	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 18:12	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 18:12		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 18:12	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 18:12	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 18:12	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 18:12	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	70-130	1		03/31/16 18:12	17060-07-0	
Toluene-d8 (S)	101	%.	70-130	1		03/31/16 18:12	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	70-130	1		03/31/16 18:12	460-00-4	

Sample: NPORD MW-3 **Lab ID: 1263303018** Collected: 03/29/16 13:10 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	ND	mg/L	0.092	1	04/01/16 14:00	04/05/16 21:00	64742-65-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: NPORD MW-3 **Lab ID: 1263303018** Collected: 03/29/16 13:10 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
Surrogates								
n-Octacosane (S)	100	%.	75-150	1	04/01/16 14:00	04/05/16 21:00	630-02-4	
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	ND	mg/L	0.046	1	04/01/16 14:00	04/04/16 12:56		
Surrogates								
n-Octacosane (S)	102	%.	75-139	1	04/01/16 14:00	04/04/16 12:56	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 14:44	71-43-2	M1,R1
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 14:44	100-41-4	M1,R1
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 14:44		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 14:44	1634-04-4	M1,R1
Naphthalene	ND	ug/L	0.50	1		03/31/16 14:44	91-20-3	M1,R1
Toluene	ND	ug/L	0.50	1		03/31/16 14:44	108-88-3	M1,R1
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 14:44	1330-20-7	MS,RS
Surrogates								
1,2-Dichloroethane-d4 (S)	110	%.	70-130	1		03/31/16 14:44	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		03/31/16 14:44	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	70-130	1		03/31/16 14:44	460-00-4	

Sample: NPORD MW-4 **Lab ID: 1263303019** Collected: 03/29/16 11:25 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015 GCS Water	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH - Motor Oil	**0.13**	mg/L	0.094	1	04/01/16 14:00	04/05/16 21:35	64742-65-0	
Surrogates								
n-Octacosane (S)	67	%.	75-150	1	04/01/16 14:00	04/05/16 21:35	630-02-4	S5
8015 GCS Water, Silica Gel	Analytical Method: EPA 8015B Preparation Method: EPA 3511							
TPH-DRO (C10-C28)	**0.10**	mg/L	0.047	1	04/01/16 14:00	04/05/16 10:19		
Surrogates								
n-Octacosane (S)	104	%.	75-139	1	04/01/16 14:00	04/05/16 10:19	630-02-4	
8260 MSV UST Water	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		03/31/16 16:25	71-43-2	
Ethylbenzene	ND	ug/L	0.50	1		03/31/16 16:25	100-41-4	
Gasoline Range Organics	ND	ug/L	50.0	1		03/31/16 16:25		
Methyl-tert-butyl ether	ND	ug/L	0.50	1		03/31/16 16:25	1634-04-4	
Naphthalene	ND	ug/L	0.50	1		03/31/16 16:25	91-20-3	
Toluene	ND	ug/L	0.50	1		03/31/16 16:25	108-88-3	
Xylene (Total)	ND	ug/L	1.0	1		03/31/16 16:25	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1		03/31/16 16:25	17060-07-0	
Toluene-d8 (S)	102	%.	70-130	1		03/31/16 16:25	2037-26-5	

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ANALYTICAL RESULTS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Sample: NPORD MW-4 **Lab ID: 1263303019** Collected: 03/29/16 11:25 Received: 03/30/16 15:22 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Water	Analytical Method: EPA 8260B							
Surrogates								
4-Bromofluorobenzene (S)	94	%.	70-130	1		03/31/16 16:25	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

QC Batch: DAOP/1655 Analysis Method: EPA 8015B
QC Batch Method: EPA 3511 Analysis Description: 8015 GCS Water
Associated Lab Samples: 1263303002, 1263303003, 1263303004, 1263303005, 1263303006, 1263303007, 1263303008, 1263303009, 1263303010, 1263303011, 1263303012, 1263303013, 1263303014, 1263303015, 1263303016, 1263303017, 1263303018, 1263303019

METHOD BLANK: 302234 Matrix: Water
Associated Lab Samples: 1263303002, 1263303003, 1263303004, 1263303005, 1263303006, 1263303007, 1263303008, 1263303009, 1263303010, 1263303011, 1263303012, 1263303013, 1263303014, 1263303015, 1263303016, 1263303017, 1263303018, 1263303019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH - Motor Oil	mg/L	ND	0.10	04/05/16 09:24	
n-Octacosane (S)	%.	97	75-150	04/05/16 09:24	

LABORATORY CONTROL SAMPLE: 302235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Octacosane (S)	%.			111	75-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302236 302237

Parameter	Units	1263303002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
n-Octacosane (S)	%.						103	101	75-150			

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

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QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

QC Batch: DAOP/1656 Analysis Method: EPA 8015B
QC Batch Method: EPA 3511 Analysis Description: 8015 GCS Water, SI Gel
Associated Lab Samples: 1263303002, 1263303003, 1263303004, 1263303005, 1263303006, 1263303007, 1263303008, 1263303009, 1263303010, 1263303011, 1263303012, 1263303013, 1263303014, 1263303015, 1263303016, 1263303017, 1263303018, 1263303019

METHOD BLANK: 302238 Matrix: Water
Associated Lab Samples: 1263303002, 1263303003, 1263303004, 1263303005, 1263303006, 1263303007, 1263303008, 1263303009, 1263303010, 1263303011, 1263303012, 1263303013, 1263303014, 1263303015, 1263303016, 1263303017, 1263303018, 1263303019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO (C10-C28)	mg/L	ND	0.050	04/06/16 13:55	
n-Octacosane (S)	%.	97	75-139	04/06/16 13:55	

LABORATORY CONTROL SAMPLE: 302239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO (C10-C28)	mg/L	1	0.91	91	59-125	
n-Octacosane (S)	%.			111	75-139	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 302240 302241

Parameter	Units	1263303002 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	.94	.94	0.77	0.71	78	72	57-125	8	25	
n-Octacosane (S)	%.						98	102	75-139			

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REPORT OF LABORATORY ANALYSIS

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(530) 297-4800

QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

QC Batch: DAVM/3412 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV UST Water
Associated Lab Samples: 1263303001, 1263303002, 1263303003, 1263303004, 1263303005, 1263303006, 1263303007, 1263303008, 1263303009, 1263303010, 1263303011, 1263303012, 1263303013, 1263303014, 1263303015, 1263303016, 1263303017

METHOD BLANK: 301727 Matrix: Water
Associated Lab Samples: 1263303001, 1263303002, 1263303003, 1263303004, 1263303005, 1263303006, 1263303007, 1263303008, 1263303009, 1263303010, 1263303011, 1263303012, 1263303013, 1263303014, 1263303015, 1263303016, 1263303017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	0.50	03/31/16 11:31	
Ethylbenzene	ug/L	ND	0.50	03/31/16 11:31	
Gasoline Range Organics	ug/L	ND	50.0	03/31/16 11:31	
Methyl-tert-butyl ether	ug/L	ND	0.50	03/31/16 11:31	
Naphthalene	ug/L	ND	0.50	03/31/16 11:31	
Toluene	ug/L	ND	0.50	03/31/16 11:31	
Xylene (Total)	ug/L	ND	1.0	03/31/16 11:31	
1,2-Dichloroethane-d4 (S)	%.	100	70-130	03/31/16 11:31	
4-Bromofluorobenzene (S)	%.	98	70-130	03/31/16 11:31	
Toluene-d8 (S)	%.	101	70-130	03/31/16 11:31	

LABORATORY CONTROL SAMPLE: 301728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	40	41.4	103	75-125	
Ethylbenzene	ug/L	40	42.0	105	75-125	
Methyl-tert-butyl ether	ug/L	40	42.0	105	73-125	
Naphthalene	ug/L	40	43.2	108	69-128	
Toluene	ug/L	40	41.6	104	75-125	
Xylene (Total)	ug/L	120	126	105	75-125	
1,2-Dichloroethane-d4 (S)	%.			99	70-130	
4-Bromofluorobenzene (S)	%.			100	70-130	
Toluene-d8 (S)	%.			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 301729 301730

Parameter	Units	1263303003 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	40.5	42.2	101	106	75-125	4	30	
Ethylbenzene	ug/L	ND	40	40	38.1	40.2	95	100	74-125	5	30	
Methyl-tert-butyl ether	ug/L	ND	40	40	42.6	44.3	106	111	73-129	4	30	
Naphthalene	ug/L	ND	40	40	36.6	40.5	91	101	60-133	10	30	
Toluene	ug/L	ND	40	40	40.1	42.0	100	105	75-125	5	30	
Xylene (Total)	ug/L	ND	120	120	114	120	95	100	61-129	5	30	
1,2-Dichloroethane-d4 (S)	%.						99	99	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 301729 301730

Parameter	Units	1263303003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
4-Bromofluorobenzene (S)	%.						100	99	70-130			
Toluene-d8 (S)	%.						101	101	70-130			

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REPORT OF LABORATORY ANALYSIS

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(530) 297-4800

QUALITY CONTROL DATA

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

QC Batch: DAVM/3413
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260 MSV UST Water
Associated Lab Samples: 1263303018, 1263303019

METHOD BLANK: 301841 Matrix: Water
Associated Lab Samples: 1263303018, 1263303019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	0.50	03/31/16 14:19	
Ethylbenzene	ug/L	ND	0.50	03/31/16 14:19	
Gasoline Range Organics	ug/L	ND	50.0	03/31/16 14:19	
Methyl-tert-butyl ether	ug/L	ND	0.50	03/31/16 14:19	
Naphthalene	ug/L	ND	0.50	03/31/16 14:19	
Toluene	ug/L	ND	0.50	03/31/16 14:19	
Xylene (Total)	ug/L	ND	1.0	03/31/16 14:19	
1,2-Dichloroethane-d4 (S)	%.	103	70-130	03/31/16 14:19	
4-Bromofluorobenzene (S)	%.	97	70-130	03/31/16 14:19	
Toluene-d8 (S)	%.	102	70-130	03/31/16 14:19	

LABORATORY CONTROL SAMPLE: 301842

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	40	39.9	100	75-125	
Ethylbenzene	ug/L	40	41.3	103	75-125	
Methyl-tert-butyl ether	ug/L	40	39.7	99	73-125	
Naphthalene	ug/L	40	34.9	87	69-128	
Toluene	ug/L	40	41.3	103	75-125	
Xylene (Total)	ug/L	120	117	97	75-125	
1,2-Dichloroethane-d4 (S)	%.			100	70-130	
4-Bromofluorobenzene (S)	%.			101	70-130	
Toluene-d8 (S)	%.			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 301845 301846

Parameter	Units	1263303018 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	15.6	39.4	39	98	75-125	86	30	M1,R1
Ethylbenzene	ug/L	ND	40	40	13.3	39.9	33	100	74-125	100	30	M1,R1
Methyl-tert-butyl ether	ug/L	ND	40	40	16.5	41.7	41	104	73-129	86	30	M1,R1
Naphthalene	ug/L	ND	40	40	10.8	40.9	27	102	60-133	116	30	M1,R1
Toluene	ug/L	ND	40	40	15.6	40.7	39	102	75-125	89	30	M1,R1
Xylene (Total)	ug/L	ND	120	120	37.1	113	31	94	61-129	101	30	MS,RS
1,2-Dichloroethane-d4 (S)	%.						104	103	70-130			
4-Bromofluorobenzene (S)	%.						102	100	70-130			
Toluene-d8 (S)	%.						103	103	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

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

DE	Discrete peaks present, atypical for Diesel Fuel.
DF	Discrete peaks present, atypical for Motor Oil.
DK	Lower and higher boiling hydrocarbons present, atypical for Diesel Fuel.
DM	Higher boiling hydrocarbons present, atypical for Diesel Fuel.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
R1	RPD value was outside control limits.
RS	The RPD value in one of the constituent analytes was outside the control limits.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1263303002	MW-1	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303003	MW-2	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303004	MW-3	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303005	MW-4	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303006	MW-5	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303007	MW-6	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303008	MW-7	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303009	MW-8	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303010	MW-9	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303011	MW-10	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303012	MW-11	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303013	MW-12	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303014	MW-13	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303015	MW-14	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303016	MW-15	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303017	MW-17	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303018	NPORD MW-3	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303019	NPORD MW-4	EPA 3511	DAOP/1655	EPA 8015B	DASG/1620
1263303002	MW-1	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303003	MW-2	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303004	MW-3	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303005	MW-4	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303006	MW-5	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303007	MW-6	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303008	MW-7	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303009	MW-8	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303010	MW-9	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303011	MW-10	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303012	MW-11	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303013	MW-12	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303014	MW-13	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303015	MW-14	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303016	MW-15	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303017	MW-17	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303018	NPORD MW-3	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303019	NPORD MW-4	EPA 3511	DAOP/1656	EPA 8015B	DASG/1621
1263303001	QA	EPA 8260B	DAVM/3412		
1263303002	MW-1	EPA 8260B	DAVM/3412		
1263303003	MW-2	EPA 8260B	DAVM/3412		
1263303004	MW-3	EPA 8260B	DAVM/3412		
1263303005	MW-4	EPA 8260B	DAVM/3412		
1263303006	MW-5	EPA 8260B	DAVM/3412		
1263303007	MW-6	EPA 8260B	DAVM/3412		
1263303008	MW-7	EPA 8260B	DAVM/3412		
1263303009	MW-8	EPA 8260B	DAVM/3412		
1263303010	MW-9	EPA 8260B	DAVM/3412		
1263303011	MW-10	EPA 8260B	DAVM/3412		
1263303012	MW-11	EPA 8260B	DAVM/3412		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rolls-Royce Engine Test Facili
Pace Project No.: 1263303

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1263303013	MW-12	EPA 8260B	DAVM/3412		
1263303014	MW-13	EPA 8260B	DAVM/3412		
1263303015	MW-14	EPA 8260B	DAVM/3412		
1263303016	MW-15	EPA 8260B	DAVM/3412		
1263303017	MW-17	EPA 8260B	DAVM/3412		
1263303018	NPORD MW-3	EPA 8260B	DAVM/3413		
1263303019	NPORD MW-4	EPA 8260B	DAVM/3413		

1263303

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	3-2916 / —				X					
MW-1	7	W	/ 0827	X	X	X	X					001
MW-2			/ 1112									002
MW-3			/ 1130									003
MW-4			/ 0950									004
MW-5			/ 1035									005
MW-6			/ 0905									006
MW-7			/ 0820									007
MW-8			/ 1210									008
MW-9			/ 0908									009
MW-10			/ 1028									010
MW-11			/ 0950									011
MW-12			/ 1155									012
MW-13	↓	↓	↓ / 1245	↓	↓	↓	↓					013
												014

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
	Gettler-Ryan	3-2016 / 1524				
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 033016 / 1522	Iced (Y/N) Y

Turn Around Time (Circle Choice)

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

1263303

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.
MW-14	7	W	3-29-16 / 1055	X	X	X	X					015
MW-15	↓	↓	/ 1030	↓	↓	↓	↓					016
MW-17			/ 0950									017
NPORD MW-3			/ 1310									018
NPORD MW-4			/ 1125									019

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
	Gettler-Ryan	3-30-16 / 1527				
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)
			Pace		033016 / 1522	Y

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: Getter-Ryan

Project #: WO# : 1263303

1263303

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): 0.2 **Cooler Temp Corrected(°C):** 0.4

Temp should be above freezing to 6°C **Correction Factor:** +0.2

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

Date and Initials of Person Examining Contents: 033016 TJB

				Comments:
Chain of Custody Present?	☒Yes	☐No	☐N/A	1.
Chain of Custody Filled Out?	☒Yes	☐No	☐N/A	2.
Chain of Custody Relinquished?	☒Yes	☐No	☐N/A	3.
Sampler Name and/or Signature on COC?	☒Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time?	☒Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72 hr)?	☐Yes	☒No	☐N/A	6.
Rush Turn Around Time Requested?	☐Yes	☒No	☐N/A	7.
Sufficient Volume?	☒Yes	☐No	☐N/A	8.
Correct Containers Used?	☒Yes	☐No	☐N/A	9.
-Pace Containers Used?	☐Yes	☒No	☐N/A	
Containers Intact?	☒Yes	☐No	☐N/A	10.
Filtered Volume Received for Dissolved Tests?	☐Yes	☐No	☒N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒Yes	☐No	☐N/A	12.
All containers needing acid/base preservation have been checked?	☐Yes	☐No	☒N/A	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)	☐Yes	☐No	☒N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☒Yes	☐No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☒Yes	☐No	☐N/A	14. -005 (VOA 7 of 7)
Trip Blank Present?	☒Yes	☐No	☐N/A	15.
Trip Blank Custody Seals Present?	☐Yes	☒No	☐N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐Yes ☐No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Scott Tenbus **Date:** 3/30/16

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)

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1604004

Report Created for: Pace Analytical Services

2795 Second Street, Ste. 300
Davis, CA 95616

Project Contact: Scott Forbes
Project P.O.: 1263303
Project Name: 1263303; Rolls-Royce Engine Test Facility

Project Received: 04/01/2016

Analytical Report reviewed & approved for release on 04/07/2016 by:

Angela Rydelius,
Laboratory Manager

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CDPH ELAP 1644 ♦ NELAP 4033ORELAP

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Pace Analytical Services
Project: 1263303; Rolls-Royce Engine Test Facility
WorkOrder: 1604004

Glossary Abbreviation

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

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Glossary of Terms & Qualifier Definitions

Client: Pace Analytical Services
Project: 1263303; Rolls-Royce Engine Test Facility
WorkOrder: 1604004

Analytical Qualifiers

a3	sample diluted due to high organic content.
b1	aqueous sample that contains greater than ~1 vol. % sediment
e2	diesel range compounds are significant; no recognizable pattern
e8	kerosene/kerosene range/jet fuel range

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Analytical Report

Client:	Pace Analytical Services	**WorkOrder:**	1604004
Date Received:	4/1/16 12:22	**Extraction Method:**	SW3510C
Date Prepared:	4/1/16	**Analytical Method:**	SW8015B
Project:	1263303; Rolls-Royce Engine Test Facility	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1604004-001A	Water	03/29/2016 08:27	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	150	1	04/01/2016 22:37
Surrogates	**REC (%)**	**Limits**		
C9	94	70-130		04/01/2016 22:37

Analyst(s): TK Analytical Comments: a3

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-2	1604004-002A	Water	03/29/2016 11:12	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	150	1	04/02/2016 00:34
Surrogates	**REC (%)**	**Limits**		
C9	93	70-130		04/02/2016 00:34

Analyst(s): TK Analytical Comments: a3,b1

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-3	1604004-003A	Water	03/29/2016 11:30	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	**82**	50	1	04/04/2016 19:28
Surrogates	**REC (%)**	**Limits**		
C9	93	70-130		04/04/2016 19:28

Analyst(s): TK Analytical Comments: e8,e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-4	1604004-004A	Water	03/29/2016 09:50	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	50	1	04/04/2016 18:11
Surrogates	**REC (%)**	**Limits**		
C9	93	70-130		04/04/2016 18:11

Analyst(s): TK

(Cont.)

NELAP 4033ORELAP

Angela Rydelius, Lab Manager

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Analytical Report

Client:	Pace Analytical Services	**WorkOrder:**	1604004
Date Received:	4/1/16 12:22	**Extraction Method:**	SW3510C
Date Prepared:	4/1/16	**Analytical Method:**	SW8015B
Project:	1263303; Rolls-Royce Engine Test Facility	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-5	1604004-005A	Water	03/29/2016 10:35	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	50	1	04/04/2016 23:21
Surrogates	**REC (%)**	**Limits**		
C9	95	70-130		04/04/2016 23:21

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-6	1604004-006A	Water	03/29/2016 09:05	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	50	1	04/04/2016 22:04
Surrogates	**REC (%)**	**Limits**		
C9	95	70-130		04/04/2016 22:04

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-7	1604004-007A	Water	03/29/2016 08:20	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	500	10	04/02/2016 07:42
Surrogates	**REC (%)**	**Limits**		
C9	95	70-130		04/02/2016 07:42

Analyst(s): TK Analytical Comments: a3

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-8	1604004-008A	Water	03/29/2016 12:10	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	50	1	04/04/2016 20:46
Surrogates	**REC (%)**	**Limits**		
C9	94	70-130		04/04/2016 20:46

Analyst(s): TK

(Cont.)

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Analytical Report

Client:	Pace Analytical Services	**WorkOrder:**	1604004
Date Received:	4/1/16 12:22	**Extraction Method:**	SW3510C
Date Prepared:	4/1/16	**Analytical Method:**	SW8015B
Project:	1263303; Rolls-Royce Engine Test Facility	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-9	1604004-009A	Water	03/29/2016 09:08	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	500	10	04/02/2016 10:17
Surrogates	**REC (%)**	**Limits**		
C9	100	70-130		04/02/2016 10:17

Analyst(s): TK Analytical Comments: a3

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-10	1604004-010A	Water	03/29/2016 10:28	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	130	50	1	04/05/2016 01:57
Surrogates	**REC (%)**	**Limits**		
C9	95	70-130		04/05/2016 01:57

Analyst(s): TK Analytical Comments: e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-11	1604004-011A	Water	03/29/2016 09:50	GC39B	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	91	50	1	04/05/2016 03:15
Surrogates	**REC (%)**	**Limits**		
C9	96	70-130		04/05/2016 03:15

Analyst(s): TK Analytical Comments: e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-12	1604004-012A	Water	03/29/2016 11:55	GC39A	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	50	1	04/04/2016 18:11
Surrogates	**REC (%)**	**Limits**		
C9	108	70-130		04/04/2016 18:11

Analyst(s): TK

(Cont.)

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Analytical Report

Client:	Pace Analytical Services	**WorkOrder:**	1604004
Date Received:	4/1/16 12:22	**Extraction Method:**	SW3510C
Date Prepared:	4/1/16	**Analytical Method:**	SW8015B
Project:	1263303; Rolls-Royce Engine Test Facility	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-13	1604004-013A	Water	03/29/2016 12:45	GC39A	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	540	500	10	04/02/2016 07:42
Surrogates	**REC (%)**	**Limits**		
C9	103	70-130		04/02/2016 07:42

Analyst(s): TK Analytical Comments: e2,e8

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-14	1604004-014A	Water	03/29/2016 10:55	GC39A	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	150	50	1	04/05/2016 01:57
Surrogates	**REC (%)**	**Limits**		
C9	110	70-130		04/05/2016 01:57

Analyst(s): TK Analytical Comments: e2

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-15	1604004-015A	Water	03/29/2016 10:30	GC39A	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	50	1	04/04/2016 19:28
Surrogates	**REC (%)**	**Limits**		
C9	107	70-130		04/04/2016 19:28

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-17	1604004-016A	Water	03/29/2016 09:50	GC39A	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	50	1	04/04/2016 23:21
Surrogates	**REC (%)**	**Limits**		
C9	110	70-130		04/04/2016 23:21

Analyst(s): TK

(Cont.)

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Analytical Report

Client:	Pace Analytical Services	**WorkOrder:**	1604004
Date Received:	4/1/16 12:22	**Extraction Method:**	SW3510C
Date Prepared:	4/1/16	**Analytical Method:**	SW8015B
Project:	1263303; Rolls-Royce Engine Test Facility	**Unit:**	µg/L

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
NPORD MW-3	1604004-017A	Water	03/29/2016 13:10	GC39A	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	ND	50	1	04/04/2016 20:46
Surrogates	**REC (%)**	**Limits**		
C9	108	70-130		04/04/2016 20:46

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
NPORD MW-4	1604004-018A	Water	03/29/2016 11:25	GC39A	118911

Analytes	Result	RL	DF	Date Analyzed
TPH-Jet Fuel (C9-C18)	290	50	1	04/04/2016 22:04
Surrogates	**REC (%)**	**Limits**		
C9	109	70-130		04/04/2016 22:04

Analyst(s): TK Analytical Comments: e2

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Quality Control Report

Client:	Pace Analytical Services	**WorkOrder:**	1604004
Date Prepared:	4/1/16	**BatchID:**	118911
Date Analyzed:	4/1/16	**Extraction Method:**	SW3510C
Instrument:	GC39B	**Analytical Method:**	SW8015B
Matrix:	Water	**Unit:**	µg/L
Project:	1263303; Rolls-Royce Engine Test Facility	**Sample ID:**	MB/LCS/LCSD-118911

QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH-Diesel (C10-C23)	ND	50	-	-	-
TPH-Motor Oil (C18-C36)	ND	250	-	-	-
Surrogate Recovery					
C9	576		625	92	65-122

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	1190	1060	1000	119	106	61-157	10.8	30
Surrogate Recovery								
C9	587	586	625	94	94	65-122	0	30

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1604004 **ClientCode: KIFF**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Scott Forbes
Pace Analytical Services
2795 Second Street, Ste. 300
Davis, CA 95616
(530) 297-4800 FAX: (530) 297-4808

Email: scott.forbes@pacelabs.com
cc/3rd Party:
PO: 1263303
ProjectNo: 1263303; Rolls-Royce Engine Test Facility

Bill to:
Accounts Payable
Pace Analytical Services
2795 2nd Street Ste. 300
Davis, CA 95616

Requested TAT: 5 days;

Date Received: 04/01/2016
Date Logged: 04/01/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1604004-001	MW-1	Water	3/29/2016 8:27	☐	A	A										
1604004-002	MW-2	Water	3/29/2016 11:12	☐		A										
1604004-003	MW-3	Water	3/29/2016 11:30	☐		A										
1604004-004	MW-4	Water	3/29/2016 9:50	☐		A										
1604004-005	MW-5	Water	3/29/2016 10:35	☐		A										
1604004-006	MW-6	Water	3/29/2016 9:05	☐		A										
1604004-007	MW-7	Water	3/29/2016 8:20	☐		A										
1604004-008	MW-8	Water	3/29/2016 12:10	☐		A										
1604004-009	MW-9	Water	3/29/2016 9:08	☐		A										
1604004-010	MW-10	Water	3/29/2016 10:28	☐		A										
1604004-011	MW-11	Water	3/29/2016 9:50	☐		A										
1604004-012	MW-12	Water	3/29/2016 11:55	☐		A										
1604004-013	MW-13	Water	3/29/2016 12:45	☐		A										
1604004-014	MW-14	Water	3/29/2016 10:55	☐		A										
1604004-015	MW-15	Water	3/29/2016 10:30	☐		A										

Test Legend:

1	PREDF REPORT	2	TPH_W	3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Maria Venegas

Comments:

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

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1604004 **ClientCode: KIFF**

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Scott Forbes
Pace Analytical Services
2795 Second Street, Ste. 300
Davis, CA 95616
(530) 297-4800 FAX: (530) 297-4808

Email: scott.forbes@pacelabs.com
cc/3rd Party:
PO: 1263303
ProjectNo: 1263303; Rolls-Royce Engine Test Facility

Bill to:
Accounts Payable
Pace Analytical Services
2795 2nd Street Ste. 300
Davis, CA 95616

Requested TAT: 5 days;
Date Received: 04/01/2016
Date Logged: 04/01/2016

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1604004-016	MW-17	Water	3/29/2016 9:50	☐		A										
1604004-017	NPORD MW-3	Water	3/29/2016 13:10	☐		A										
1604004-018	NPORD MW-4	Water	3/29/2016 11:25	☐		A										

Test Legend:

1	PREDF REPORT	2	TPH_W	3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Maria Venegas

Comments:

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

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WORK ORDER SUMMARY

Client Name: PACE ANALYTICAL SERVICES
Project: 1263303; Rolls-Royce Engine Test Facility
Comments:

QC Level: LEVEL 2
Client Contact: Scott Forbes
Contact's Email: scott.forbes@pacelabs.com

Work Order: 1604004
Date Logged: 4/1/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1604004-001A	MW-1	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 8:27	5 days	Present	☐	
1604004-002A	MW-2	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 11:12	5 days	1%+	☐	
1604004-003A	MW-3	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 11:30	5 days	Present	☐	
1604004-004A	MW-4	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 9:50	5 days	Present	☐	
1604004-005A	MW-5	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 10:35	5 days	Present	☐	
1604004-006A	MW-6	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 9:05	5 days	Present	☐	
1604004-007A	MW-7	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 8:20	5 days	Present	☐	
1604004-008A	MW-8	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 12:10	5 days	Present	☐	
1604004-009A	MW-9	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 9:08	5 days	Present	☐	
1604004-010A	MW-10	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 10:28	5 days	Present	☐	
1604004-011A	MW-11	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 9:50	5 days	Present	☐	
1604004-012A	MW-12	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 11:55	5 days	Present	☐	

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

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

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: PACE ANALYTICAL SERVICES
Project: 1263303; Rolls-Royce Engine Test Facility
Comments:

QC Level: LEVEL 2
Client Contact: Scott Forbes
Contact's Email: scott.forbes@pacelabs.com

Work Order: 1604004
Date Logged: 4/1/2016

☐ WaterTrax ☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1604004-013A	MW-13	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 12:45	5 days	Present	☐	
1604004-014A	MW-14	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 10:55	5 days	Present	☐	
1604004-015A	MW-15	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 10:30	5 days	Present	☐	
1604004-016A	MW-17	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 9:50	5 days	Present	☐	
1604004-017A	NPORD MW-3	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 13:10	5 days	Present	☐	
1604004-018A	NPORD MW-4	Water	SW8015B (TEPHs) <TPH-Jet Fuel (C9-C18)>	2	VOA w/ HCl	☐	3/29/2016 11:25	5 days	Present	☐	

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

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

Chain of Custody 1604004

Pace Analytical®
www.pacelabs.com

Workorder: 1263303 **Workorder Name:** Rolls-Royce Engine Test Facili **Results Requested** ~~4/6/2016~~

Report / Invoice To	Subcontract To
Scott M Forbes Pace Analytical Davis 2795 Second Street Suite 300 Davis, CA 95618 Phone (530) 297-4800 Email: scott.forbes@pacelabs.com	Mc Campbell P.O. 1263303

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers HCL	Requested Analysis TPH as Jet Fuel	LAB USE ONLY
1	MW-1	3/29/2016 08:27	1263303002	Water	2	X	
2	MW-2	3/29/2016 11:12	1263303003	Water	|	X	
3	MW-3	3/29/2016 11:30	1263303004	Water	|	X	
4	MW-4	3/29/2016 09:50	1263303005	Water	|	X	
5	MW-5	3/29/2016 10:35	1263303006	Water	|	X	
6	MW-6	3/29/2016 09:05	1263303007	Water	|	X	
7	MW-7	3/29/2016 08:20	1263303008	Water	|	X	
8	MW-8	3/29/2016 12:10	1263303009	Water	|	X	
9	MW-9	3/29/2016 09:08	1263303010	Water	|	X	
10	MW-10	3/29/2016 10:28	1263303011	Water	|	X	
11	MW-11	3/29/2016 09:50	1263303012	Water	|	X	
12	MW-12	3/29/2016 11:55	1263303013	Water	|	X	
13	MW-13	3/29/2016 12:45	1263303014	Water	|	X	
14	MW-14	3/29/2016 10:55	1263303015	Water	|	X	
15	MW-15	3/29/2016 10:30	1263303016	Water	|	X	
16	MW-17	3/29/2016 09:50	1263303017	Water	|	X	
17	NPORD MW-3	3/29/2016 13:10	1263303018	Water	|	X	
18	NPORD MW-4	3/29/2016 11:25	1263303019	Water	↓	X	
19							
20							
21							

Standard TAT

Wednesday, March 30, 2016 7:35:44 PM

FMT-ALL-C-002rev.00 24March2009

22					
Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[illegible]	033116 1600	[illegible]	4/1/16 0905	Please provide a Geotracker EDF
2					
3					
Cooler Temperature on Receipt °C		Custody Seal Y or N		Received on Ice Y or N	Samples Intact Y or N

Global ID: T0601977577 6

Log Code: GRD

TRK# 0201 7760 0931 8550

4.0

CONDITION	APPROPRIATE CONTAINERS	
[illegible]	PRESERVED IN LAB	
[illegible] IN LAB		
PRESERVATION	VOAs O&G METALS OTHER	

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Sample Receipt Checklist

Client Name:	**Pace Analytical Services**	Date and Time Received:	**4/1/2016 09:05**
Project Name:	**1263303; Rolls-Royce Engine Test Facility**	Date Logged:	**4/1/2016**
WorkOrder №:	**1604004** Matrix: Water	Received by:	Maria Venegas
Carrier:	FedEx	Logged by:	Maria Venegas

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

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

UCMR3 Samples:

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

Comments: