Rolls-Royce

Rolls-Royce Engine Services-Oakland Inc.
7200 Earhart Road
Oakland, California 94621-4504

Tel: (510) 613-1000

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1:53 pm, Oct 25, 2010

Alameda County
Environmental Health

October 20, 2010

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 October 22, 2010.

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

140193.11

GETTLER-RYAN INC.

October 22, 2010

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

Subject: **Second Semi-Annual 2010 Event**
Groundwater Monitoring and Sampling Report
Rolls-Royce Engine Services Test Facility
6701 Old Earhart Road, Oakland, California
Alameda County Site #RO0002606

Mr. Plunkett,

On behalf of Rolls-Royce Engine Services-Oakland Inc. (R-R), Gettler-Ryan Inc. (GR) has prepared this Second Semi-Annual 2010 Event, Groundwater Monitoring and Sampling Report for the above-referenced site. 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 September 9, 2010, GR personnel conducted quarterly 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 September 9, 2010, 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). Approximately 0.10 ft of SPH were observed in well MW-18. Approximately 0.01 gallon (40 milliliters) of SPH were bailed from well MW-18 and were stored onsite in a 55-gallon DOT approved drum pending disposal. Water level data, groundwater elevations, and SPH thicknesses are presented in attached Table 1. SPH thicknesses and and approximate SPH volumes purged are summarized in Table 2. Field data sheets for this event are attached.

At the request of R-R, PES Environmental, Incorporated (PES) has been periodically removing SPH present in well MW-18. SPH removal logs prepared by PES for the most recent 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. Well MW-18 was not sampled due to presence of 0.10 feet of SPH. Groundwater samples were submitted under chain-of-custody protocol to Kiff 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.

At the request of R-R, groundwater samples from wells MW-1, MW-4 through MW-9, and NPORD MW-3 were also analyzed for Ferrous Iron by SM 3500 Fe D, Ferric Iron by EPA Method 200.7/SM 3500 Fe D, Nitrate and Sulfate by EPA Method 300.0, and Methane by RSK-175M. Groundwater analytical results are presented in Tables 1 and 2.

RESULTS

Groundwater Gradient

On September 9, 2010, the groundwater flow direction was toward the south-southeast with hydraulic gradients ranging between 0.003 ft/ft to 0.032 ft/ft. A Potentiometric Map is presented as Figure 3.

Analytical Results

Concentrations of TPHg, TPHd, TPHmo, TPHjf, BTEX, MtBE and naphthalene were reported below the laboratory method detection limits in groundwater samples collected from wells MW-1, MW-2, MW-12, MW-15, MW-17 and NPORD MW-3.

TPHg was detected in the water sample collected from well MW-13 at a concentration of 230 parts per billion (ppb). Concentrations of TPHg were reported below the laboratory method detection limits in water samples collected from the remaining wells.

TPHd was detected in ten wells at concentrations ranging from 66 ppb in well MW-10 to 1,900 ppb in well MW-9. Concentrations of TPHmo were detected in eight wells at levels ranging from 430 ppb in well MW-8 to 6,800 ppb in well MW-7. TPHjf was detected in twelve wells at concentrations ranging from 260 ppb in well MW-8 to 1,400 ppb in MW-13.

BTEX constituents were reported as below the laboratory method detection limits in all of the wells, except for benzene detected in well MW-13 at a concentration of 0.95 ppb. MtBE was detected in wells MW-3, MW-13, MW-14 at concentrations of 0.62 ppb, 2.3 ppb, and 1.2 ppb, respectively. Naphthalene was detected in wells MW-10 and MW-13 at concentrations of 1.6 ppb and 3.6 ppb, respectively. TPHg, TPHd, TPHmo and TPHjf concentrations are presented on Figure 4.

Ferric Iron was detected in wells MW-1, MW-4 through MW-9, and NPORD MW-3 at concentrations ranging from 3.2 parts per million (ppm) in wells MW-1 and NPORD MW-3 to 340 ppm in MW-7. Ferrous iron concentrations were below detection limits in wells MW-6 and MW-9, and in six wells ranged from 0.81 ppm in MW-1 to 18 ppm in MW-7. Nitrate concentrations were below detection limits in wells MW-1, MW-4 through MW-9, and NPORD MW-3. In wells MW-5 and MW-7, sulfate concentrations were below detection limits, and in six wells ranged between 3.9 ppm in MW-8 to 2,000 ppm in MW-1. Methane was detected in MW-1, MW-4 through MW-9, and NPORD MW-3 at concentrations ranging from 27.8 ppb in NPORD MW-3 to 8,500 ppb in MW-8. Ferric and ferrous iron, nitrate, sulfate and methane analytical results are presented in Table 2.

CONCLUSIONS

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

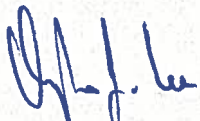
- Non-detectable concentrations of dissolved petroleum hydrocarbons were present in wells MW-1, MW-2, MW-12, MW-15 and NPORD MW-3 located along the northeast edge of the site;
- Detectable dissolved concentrations of TPHg appear limited to the vicinity of well MW-13;
- Separate-phase hydrocarbons continue to be limited to the vicinity of MW-18;
- Detectable dissolved concentrations of TPHd, TPHmo and TPHjf were present in a majority of the site wells. The highest concentrations have been detected in the vicinity of Test Cells 1, 5, 6, and 7.

RECOMMENDATIONS

- The groundwater analytical results collected to date show stable to decreasing concentrations of TPHd, TPHmo and TPHjf in the monitoring wells at the site. Based on these conditions, GR recommends the reducing the frequency of monitoring and sampling to annual for the subject site. MW-18 will continue to be purged of SPH on a routine basis.
- Naphthalene has been present at very low concentrations in three wells (MW-10, MW-13 and MW-14) at the site, and has not been detected in the remaining wells during the last six monitoring and sampling events. Therefore, GR recommends discontinuing analysis for naphthalene in all wells except for MW-10, MW-13 and MW-14.

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

Sincerely,
Gettler-Ryan Inc.



Douglas J. Lee
Project Manager, P.G. No. 6882

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: Dave Goldberg, Rolls-Royce Engine Services-Oakland Inc
Dale Klettke, 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**
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**
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**

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	<10 - <50[21,22]
09/09/10	**9.79**	**5.75**	**0.00**	**4.04**	**<50**	**380[6]**	**510**	**680[18]**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**
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**
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**

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	<10 - <50[21,22]
09/09/10	**9.23**	**5.25**	**0.00**	**3.98**	**<50**	**1,800[6]**	**6,800**	**850[18]**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**
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														
07/03/04	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**
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	<10 - <50[21,22]
09/09/10	**9.44**	**5.43**	**0.00**	**4.01**	**<50**	**1,900[6]**	**4,500**	**960[18]**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**

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**
MW-11															
10/03/07	7.60	4.01	0.00	3.59	80	250	490	610	<0.50	<0.50	<0.50	<0.50	<0.50[4]	<0.50	NA
03/14/08	7.60	3.71	0.00	3.89	61	410[6]	1,200	520[7]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.60	3.92	0.00	3.68	<50	2,700[10]	7,300	3,600[15]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.60	3.82	0.00	3.78	<50	2,800[10]	5,900	3,800[16]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.60	3.71	0.00	3.89	<50	1,500[6]	3,700	1,800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.60	3.49	0.00	4.11	<50	2,300[6]	4,200	2,800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.60	3.70	0.00	3.90	<50	1,100[6]	2,600	1,200[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.60	3.37	0.00	4.23	<50	1,400[10]	3,800	1,800[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.60	3.02	0.00	4.58	<50	260[6]	860	620[18]	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50[21,22]
09/09/10	**7.60**	**3.63**	**0.00**	**3.97**	**<50**	**510[10]**	**1,200**	**520[18]**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**
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**

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**
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**
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**

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**
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**				**--**	**--**	**--**	**--**	**--**	**--**	**--**
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**

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**
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

EXPLANATIONS:

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

ANALYTICAL METHODS:

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

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

[1] Analyzed with Silica Gel Cleanup
[2] Discrete peaks, higher boiling hydrocarbons present in sample that are atypical for Jet Fuel
[3] Discrete peaks, higher boiling hydrocarbons present in sample that are atypical for Diesel Fuel
[4] Matrix spike/matrix spike duplicate results associated with these samples for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.
[5] Due to the formation of an emulsion in this sample, the sample was centrifruged 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.

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

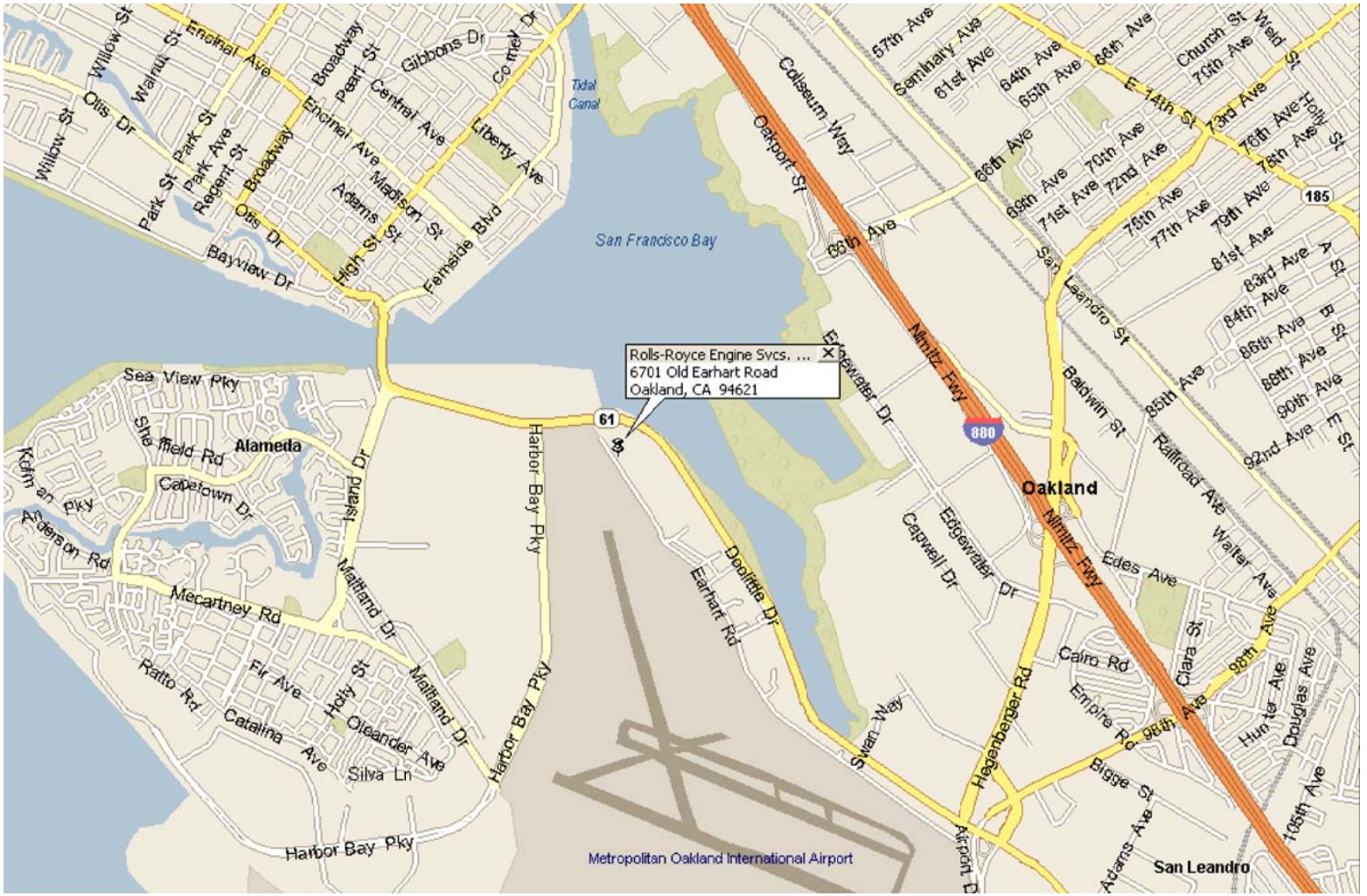
SPH Thickness and Volumes Purged - MW-18

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**
		Totals:	**8.19**	**3.51**



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

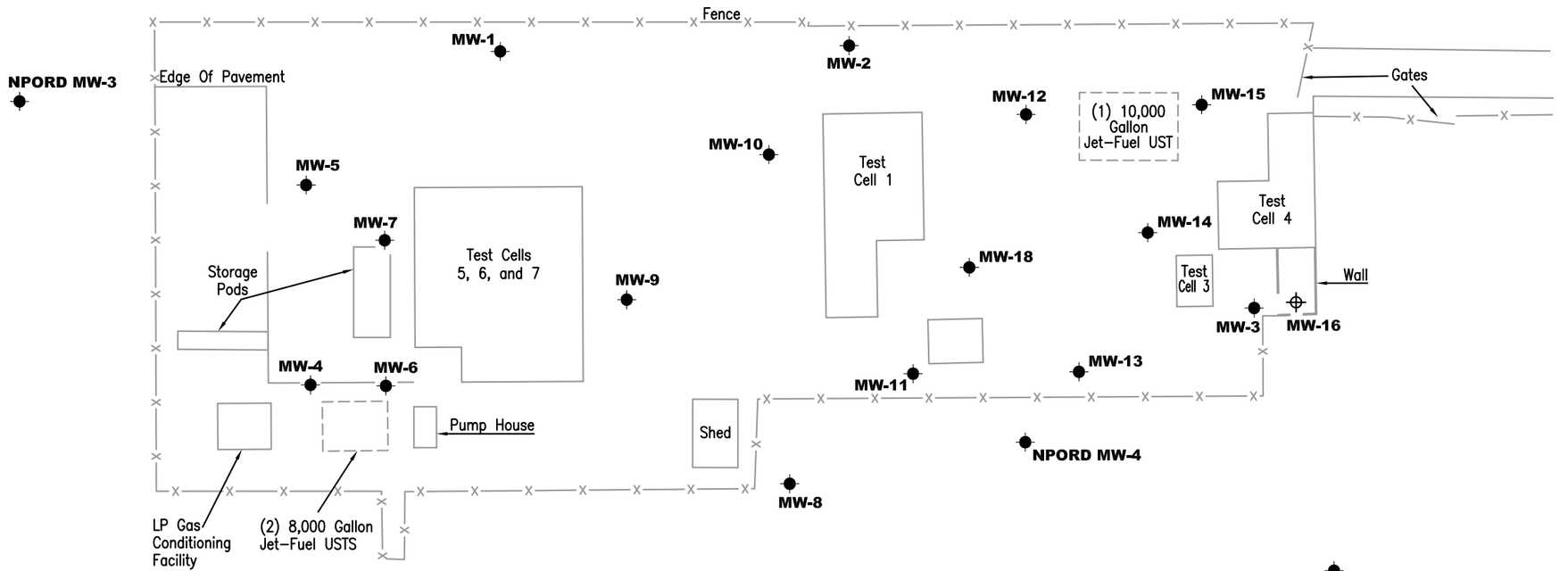
FIGURE
1

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.
6747 Sierra Court, Suite J
Dublin, CA 94568
(925) 551-7555

PROJECT NUMBER 948218.2

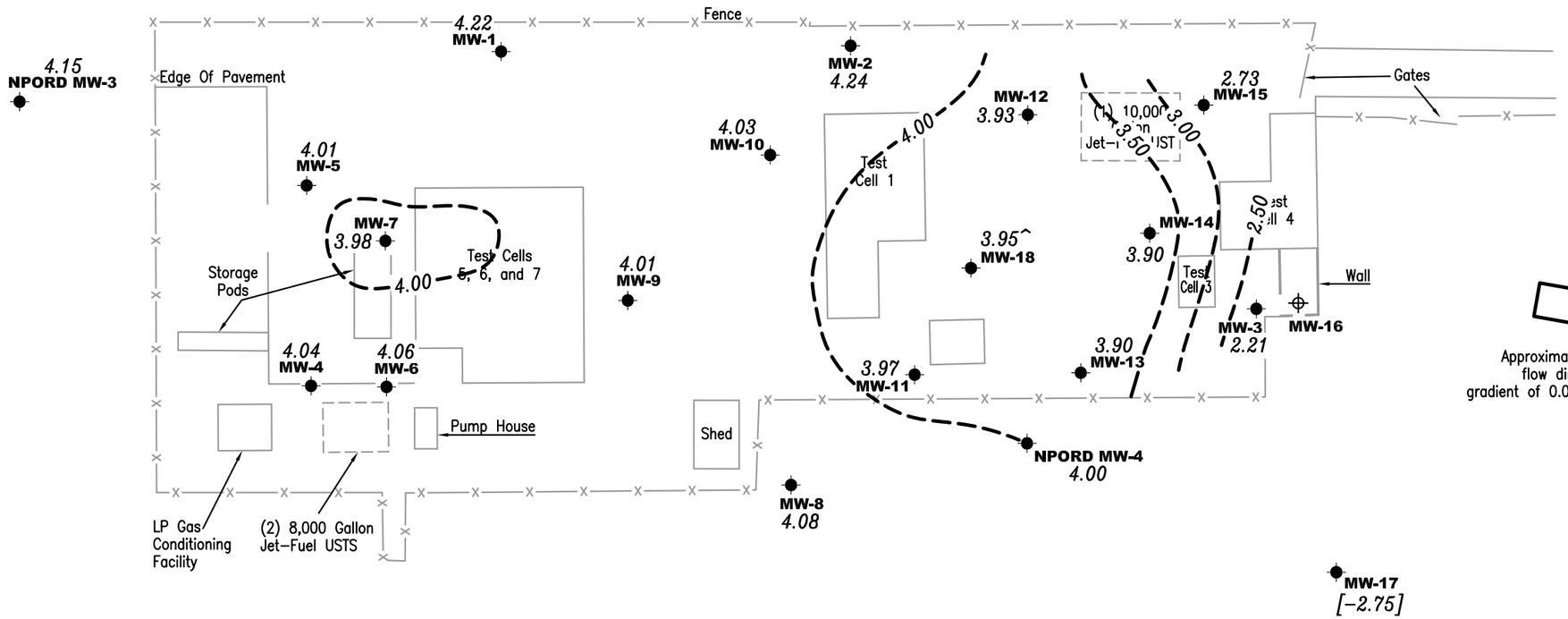
REVIEWED BY

DATE 11/07

FILE NAME: P:\Enviro\Rolls Royce\Q10-Rolls Royce.dwg | Layout Tab: Site Plan

EXPLANATION

- Groundwater monitoring well
- Proposed monitoring well – not installed location inaccessible by drill rig
- *99.99* Groundwater elevation in feet referenced to Mean Sea Level
- -99.99- Groundwater elevation contour, dashed where inferred
- *[99.99]* Not used in contouring
- ^ Groundwater elevation corrected for the presence of separate-phase hydrocarbons



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

FIGURE 3

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

REVISED DATE

DATE
September 9, 2010

REVIEWED BY

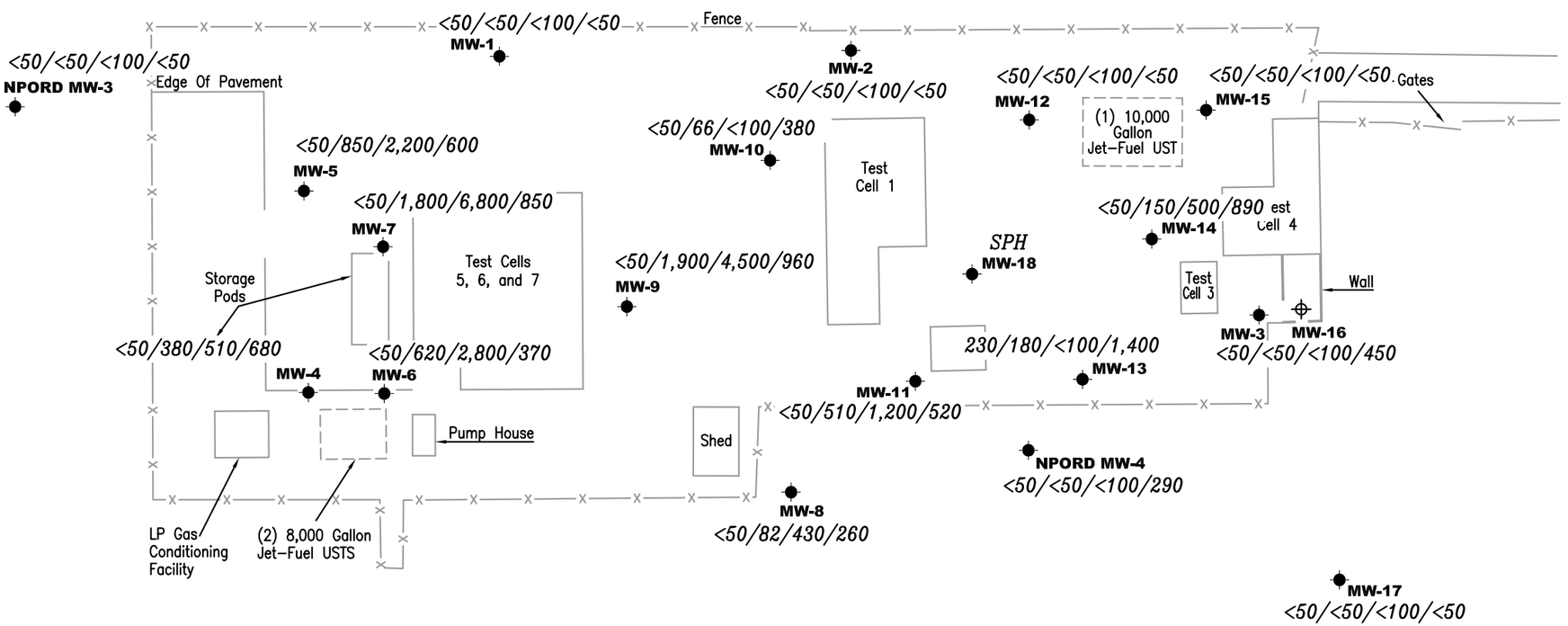
PROJECT NUMBER
948218

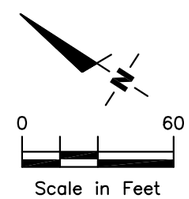
GETTLER-RYAN INC.
6747 Sierra Court, Suite J
Dublin, CA 94568
(925) 551-7555

FILE NAME: P:\Enviro\Rolls Royce\Q10-Rolls Royce.dwg | Layout Tab: Pot3

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 µg/L
- ***SPH*** Separate Phase Hydrocarbons





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

FIGURE **4**

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

REVISED DATE

DATE
September 9, 2010

GETTLER - RYAN INC.
6747 Sierra Court, Suite J
Dublin, CA 94568
(925) 551–7555

PROJECT NUMBER
948218

REVIEWED BY

FILE NAME: P:\Enviro\Rolls Royce\Q10–Rolls Royce.dwg | Layout Tab: Con3

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.

WELL CONDITION STATUS SHEET

Client/Facility #: Rolls Royce Engine Test
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job # 25-948218.1
Event Date: 9/09/10
Sampler: HAIG KEVORK / JH

WELL ID	Vault Frame Condition	Gasket/ O-Ring (M)missing	BOLTS (M) Missing (R) Replaced	Bolt Flanges B= Broken S= Stripped R=Retap	APRON Condition C=Cracked B=Broken G=Gone	Grout Seal (Deficient) inches from TOC	Casing (Condition prevents tight cap seal)	REPLACE LOCK Y / N	REPLACE CAP Y / N	WELL VAULT Manufacture/Size/ # of Bolts	Pictures Taken Yes / No
MW-4	OK						OK	N	N	MORRISON-8"/2	NO
MW-6	OK						OK	N	N		
MW-7	OK						OK	N	N		
MW-8	OK						OK	N	N		
NPORDMW-3	OK						OK	N	N	MORRISON-12"/2	
NPORDMW-4	OK	N/A	N/A	N/A	OK	OK	OK	NO	NO	MONUMENT BOX	
MW-1	o/c			3x5	ok			Y	Y	8" BL 3	
MW-2	o/c			3x5	o/c			Y	Y	"	
MW-5	o/c							Y	Y	8" MORRISON 2	
MW-9	o/c							Y	Y	"	
MW-10	ok							Y	Y	"	
MW-11	o/c							Y	Y	"	
MW-12	o/c							Y	Y	"	

Comments

WELL CONDITION STATUS SHEET

Client/Facility #: Rolls Royce Engine Test
Site Address: 6701 Old Earhart Road
City: Oakland, CA

Job #: 25-948218.1
Event Date: 9.9.10
Sampler: FT

WELL ID	Vault Frame Condition	Gasket/ O-Ring (M)missing	BOLTS (M) Missing (R) Replaced	Bolt Flanges B= Broken S= Stripped R=Retap	APRON Condition C=Cracked B=Broken G=Gone	Grout Seal (Deficient) inches from TOC	Casing (Condition prevents tight cap seal)	REPLACE LOCK Y / N	REPLACE CAP Y / N	WELL VAULT Manufacture/Size/ # of Bolts	Pictures Taken Yes (No)
MW-3	OK	[redacted] OK	M=2	2 BROKEN BOLTS IN FLANGES	OK	OK	OK	N	N	BOART L. | 8" | 3	
MW-13	OK	→	→	→	→	→	→	N	N	MORRISON / 12" / 2	
MW-14	OK	→	→	→	→	→	→	N	N	MORRISON | 8" / 2	
MW-15	OK	→	→	→	→	→	→	N	N	MORRISON | 8" / 2	
MW-17	OK	→	→	→	→	→	→	Y	Y	MORRISON | 8" / 2	
MW-18	OK	OK	M=2	B=2	OK	→	→	N	N	MORRISON | 8" / 2	

Comments

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: 9/9/10 (inclusive)

City: **Oakland, CA** Sampler: JH

Well ID MW-1 Date Monitored: 9/9/10

Well Diameter (2)4 in.

Total Depth 8.53 ft.

Depth to Water 2.95 ft.

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

☐ Check if water column is less then 0.50 ft.

5.58 xVF .17 = .94 x3 case volume = Estimated Purge Volume: 2.84 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.06

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Discrete Bailer	
Suction Pump		Peristaltic Pump	
Grundfos		QED Bladder Pump	
Peristaltic Pump		Other:	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1015 Weather Conditions: Clear

Sample Time/Date: 1050 / 9/9/10 Water Color: Clear Odor: Y / (N)

Approx. Flow Rate: — gpm. Sediment Description:

Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 3.18

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C) / F	D.O. (mg/L)	ORP (mV)
1019	1	6.93	3681	24.0	PRE: 0.00	PRE: -162.4
1024	2	6.98	3744	24.6		
1029	3	7.11	3895	25.1		
					POST: .74	POST: -124.7

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260)
MW-1	1 x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	1 x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	2 x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	1 x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: 8" BL - 3x5

Add/Replaced Lock: X Add/Replaced Plug: X 2" Add/Replaced Bolt:

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: 9/9/10 (inclusive)
City: **Oakland, CA** Sampler: JH

Well ID MW-2 Date Monitored: 9/9/10
Well Diameter (2)4 in.
Total Depth 11.80 ft.
Depth to Water 2.79 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.

9.01 xVF .17 = 1.53 x3 case volume = Estimated Purge Volume: 4.59 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.59

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

Sampling Equipment:
Disposable Bailer X
Pressure Bailer
Discrete Bailer
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1310 Weather Conditions: Clear
Sample Time/Date: 1335 / 9/9/10 Water Color: Cloudy Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: Lt Brn
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 3.34

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C) / F	D.O. (mg/L)	ORP (mV)
1314	1.5	6.78	3824	22.5	PRE: 0.03	PRE: -261.9
1318	3.0	6.70	out of Range	22.6		
1322	4.5	6.64	↓	22.9		
					POST: 0.29	POST: -233.5

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260)
MW-2	x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: 8" DL- 3x5

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

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: 9.9.10 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: MW-3
Well Diameter: 2 4 in.
Total Depth: 12.07 ft.
Depth to Water: 4.52 ft.
Date Monitored: 9.9.10

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.

7.55 xVF .17 = 1.28 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.03

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Discrete Bailer	
Suction Pump		Peristaltic Pump	
Grundfos		QED Bladder Pump	
Peristaltic Pump		Other:	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1145 | Weather Conditions: SUNNY
Sample Time/Date: 1210 / 9.9.10 | Water Color: CLEAR | Odor: (Y) / N SLIGHT
Approx. Flow Rate: ~ gpm. | Sediment Description:
Did well de-water? No | If yes, Time: | Volume: gal. | DTW @ Sampling: 4.54

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1149	1.5	6.95	OUT OF RANGE	22.4	PRE: .38	-149.2
1153	3.0	6.90	"	21.9	"	"
1157	4.0	6.85	"	21.6	POST: .24	-123.5

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-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: BOLT L. 8" (2 BROKEN BOLTS IN FLANGES) REACTION TO HCL

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

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: 9/09/10 (inclusive)
City: **Oakland, CA** Sampler: HAIG K.

Well ID MW-4 Date Monitored: 9/09/10
Well Diameter (2) 4 in.
Total Depth 10.00 ft.
Depth to Water 5.45 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.

4.55 xVF 0.17 = 0.7 x3 case volume = Estimated Purge Volume: 2 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.60

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

Sampling Equipment:
- Disposable Bailer ✓
- Pressure Bailer
- Discrete Bailer
- 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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1158 Weather Conditions: PARTLY SUNNY
Sample Time/Date: 1220 / 9/9/10 Water Color: ~CLEAR Odor: Y / N SLIGHT
Approx. Flow Rate: gpm. Sediment Description:
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 6.30

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm) (µS)	Temperature (C) / F	D.O. (mg/L)	ORP (mV)
1202	0.75	6.81	73999	21.3	PRE: 0.09	PRE: -295.2
1204	1.5	6.75	OUT OF	21.2		
1208	2	6.77	RANGE	21.2	POST: 0.06	POST: -299.4

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)
	1 x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	1 x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	2 x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	1 x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS:

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

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: 9/9/10 (inclusive)

City: **Oakland, CA** Sampler: JH

Well ID MW-5 Date Monitored: 9/9/10

Well Diameter (2) 4 in.

Total Depth 9.85 ft.

Depth to Water 4.34 ft.

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

☐ Check if water column is less then 0.50 ft.

5.51 xVF .17 = .93 x3 case volume = Estimated Purge Volume: 2.81 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.44

Purge Equipment:		**Sampling Equipment:**	
Disposable Bailer	X	Disposable Bailer	X
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Discrete Bailer	
Suction Pump		Peristaltic Pump	
Grundfos		QED Bladder Pump	
Peristaltic Pump		Other:	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 0930 Weather Conditions: Clear

Sample Time/Date: 1000 / 9/9/10 Water Color: clear Odor: (Y) / N Light

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

Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 4.51

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
0935	1	6.94	2157	22.4	PRE: .84	PRE: -374
0938	2	6.83	1574	22.1		
0942	3	6.79	1532	22.1		
					POST: .05	POST: -459

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260)
MW5	1 x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	1 x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	2 x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	1 x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: 8" MORRISON

Add/Replaced Lock: X Add/Replaced Plug: X 2" Add/Replaced Bolt: _____

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: 9/09/10 (inclusive)
City: **Oakland, CA** Sampler: HAIG K.

Well ID MW-6 Date Monitored: 9/09/10
Well Diameter (2)4 in.
Total Depth 10.10 ft.
Depth to Water 5.45 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.

4.65 xVF 0.17 = 0.79 x3 case volume = Estimated Purge Volume: 2.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.38

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

Sampling Equipment:
- Disposable Bailer ✓
- Pressure Bailer
- Discrete Bailer
- 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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1237 Weather Conditions: PARTLY SUNNY
Sample Time/Date: 1300 9/9/10 Water Color: CLOUDY Odor: (Y) N SLIGHT
Approx. Flow Rate: gpm. Sediment Description:
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 6.12

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C) F	D.O. (mg/L)	ORP (mV)
1241	1	6.88	>3999	20.9	PRE: 0.22	PRE: -271.8
1244	2	6.90	OUT OF	20.7		
1248	2.5	6.87	RANGE	20.8	POST: 0.20	POST: -273.5

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)
	1 x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	1 x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	2 x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	1 x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS:

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

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: 9/09/10 (inclusive)

City: **Oakland, CA** Sampler: HAIG K.

Well ID MW-7 Date Monitored: 9/09/10

Well Diameter (2)4 in.

Total Depth 10.10 ft.

Depth to Water 5.25 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.

4.85 xVF 0.17 = 0.8 x3 case volume = Estimated Purge Volume: 2.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.22

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	✓
Pressure Bailer	
Discrete Bailer	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1318 Weather Conditions: PARTLY SUNNY

Sample Time/Date: 1345 / 9/9/10 Water Color: CLOUDY Odor: (Y) N SLIGHT

Approx. Flow Rate: gpm. Sediment Description:

Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 5.86

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm) (µS)	Temperature (C) F	D.O. (mg/L)	ORP (mV)
1322	1	6.74	>3999	21.1	PRE: 0.07	PRE: -260.7
1325	2	6.73	OUT OF	21.4		
1330	2.5	6.71	RANGE	21.2	POST: 0.09	POST: -257.4

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)
	1 x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	1 x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	2 x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	1 x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS:

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

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: 9/09/10 (inclusive)

City: **Oakland, CA** Sampler: HAIG K.

Well ID MW-8 Date Monitored: 9/09/10

Well Diameter (2) 4 in.

Total Depth 9.80 ft.

Depth to Water 4.17 ft.

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

☐ Check if water column is less then 0.50 ft.

5.63 xVF 0.17 = 0.95 x3 case volume = Estimated Purge Volume: 3 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.29

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	✓
Pressure Bailer	
Discrete Bailer	
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: _____ gal
Amt Removed from Well: _____ gal
Water Removed: _____
Product Transferred to: _____

Start Time (purge): 0945 Weather Conditions: SUNNY

Sample Time/Date: 1010/9/9/10 Water Color: CLOUDY Odor (Y) / N SLIGHT

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

Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 4.65

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0949	1	6.79	>3999	18.2	PRE: 0.14	PRE: -276
0952	2	6.74	OUT OF	18.3		
0957	3	6.73	RANGE	18.3	POST: 0.11	POST: -281

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)
	1 x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	1 x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	2 x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	1 x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: _____

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

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: 9/9/10 (inclusive)

City: **Oakland, CA** Sampler: JH

Well ID MW-9 Date Monitored: 9/9/10

Well Diameter (2)4 in.

Total Depth 9.98 ft.

Depth to Water 5.43 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.

4.55 xVF .17 = .77 x3 case volume = Estimated Purge Volume: 2.32 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.34

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	X	Disposable Bailer	X
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Discrete Bailer	
Suction Pump		Peristaltic Pump	
Grundfos		QED Bladder Pump	
Peristaltic Pump		Other:	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1105 Weather Conditions: Clear

Sample Time/Date: 1130 / 9/9/10 Water Color: Cloudy Odor: Y / (N)

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

Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 5.31

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - (µS))	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
1108	.75	6.86	2088	23.8	PRE: 0.00	PRE: -548.1
1111	1.5	6.70	1294	22.7		
1114	2.5	6.68	1245	22.5		
					POST: 0.65	POST: -501.4

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260)
	1 x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
MW-9	1 x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	3 x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	1 x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: 8" Morrison

Add/Replaced Lock: X Add/Replaced Plug: X 2" Add/Replaced Bolt: _____

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: 9/9/10 (inclusive)
City: Oakland, CA | Sampler: JH

Well ID: MW-10 | Date Monitored: 9/9/10
Well Diameter: (2) 4 in.
Total Depth: 10.14 ft.
Depth to Water: 3.48 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.

6.66 xVF .17 = 1.13 x3 case volume = Estimated Purge Volume: 3.39 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.81

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Discrete Bailer	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1345 | Weather Conditions: Clear
Sample Time/Date: 1410 / 9/9/10 | Water Color: clear | Odor: Y / (N)
Approx. Flow Rate: — gpm. | Sediment Description: Lt Brn
Did well de-water? NO | If yes, Time: | Volume: gal. | DTW @ Sampling: 3.56

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1349	1	6.71	1816	23.5	PRE: 0.11	PRE: -333.3
1353	2	6.62	1852	23.1		
1358	3.5	6.58	1877	23.0		
					POST: 0.58	POST: -391.2

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260)
MW-10	x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: 8" Morrison

Add/Replaced Lock: X | Add/Replaced Plug: X | Add/Replaced Bolt:

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: 9/9/10 (inclusive)
City: **Oakland, CA** Sampler: JH

Well ID MW-11 Date Monitored: 9/9/10
Well Diameter (2)4 in.
Total Depth 10.03 ft.
Depth to Water 3.63 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.

6.40 xVF .17 = 1.08 x3 case volume = Estimated Purge Volume: 3.26 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.91

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Discrete Bailer	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1145 Weather Conditions: Clear
Sample Time/Date: 1215 / 9/9/10 Water Color: Cloudy Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: Light
Did well de-water? No If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 4.04

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1149	1	6.77	2144	18.9	PRE: .84	PRE: -399.4
1153	2	6.80	1939	20.0		
1157	3.25	6.84	1860	19.7		
					POST: .96	POST: -370.1

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260)
	x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS:

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

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: 9/9/10 (inclusive)
City: Oakland, CA | Sampler: JH

Well ID: MW-12 | Date Monitored: 9/9/10
Well Diameter: 2 (4) in.
Total Depth: 9.86 ft.
Depth to Water: 3.39 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.

6.47 xVF .17 = 1.09 x3 case volume = Estimated Purge Volume: 3.29 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.68

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	X
Pressure Bailer	
Discrete Bailer	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1235 | Weather Conditions: Clear
Sample Time/Date: 1305 / 9/9/10 | Water Color: Clear Odor: Y / (N)
Approx. Flow Rate: — gpm. | Sediment Description: Lt Brn
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 3.80

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - (µS))	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
1239	1	6.79	3418	23.1	PRE: 0.15	PRE: -340.1
1244	2	6.72	3238	23.2		
1249	3.5	6.65	3251	23.5		
					POST: 0.49	POST: -348.2

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260)
MW-12	x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: 8" MORRISON

Add/Replaced Lock: X | Add/Replaced Plug: X | Add/Replaced Bolt:

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: 9.9.10 (inclusive)
City: **Oakland, CA** Sampler: FT

Well ID MW-13 Date Monitored: 9.9.10
Well Diameter 2 (4) in.
Total Depth 9.47 ft.
Depth to Water 2.20 ft. ☐ Check if water column is less then 0.50 ft.

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

7.27 xVF .66 = 4.79 x3 case volume = Estimated Purge Volume: 14.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.65

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Discrete Bailer	
Suction Pump		Peristaltic Pump	
Grundfos		QED Bladder Pump	
Peristaltic Pump		Other:	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1230 Weather Conditions: SUNNY
Sample Time/Date: 1345 / 9.9.10 Water Color: CLEAR Odor: (Y) / N SLIGHT
Approx. Flow Rate: ~ gpm. Sediment Description: NONE
Did well de-water? YES If yes, Time: 1236 Volume: 5.0 gal. DTW @ Sampling: 3.60

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1236	4.5	6.73	2250	23.4	PRE: .45	-142.9
					POST: .82	-130.5

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-13	7 x voa vial	YES	NONE	KIFF	TPH-JET FUEL/TPH-MO/TPH-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: MORRISON 12" OK
STRONG REACTION TO HCL, RINSED OUT VOAS NO HCL.

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

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: 9.9.10 (inclusive)

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

Well ID MW-14

Well Diameter 2 4 in.

Total Depth 10.01 ft.

Depth to Water 2.52 ft.

Date Monitored: 9.9.10

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.

7.49 xVF .17 = 1.27 x3 case volume = Estimated Purge Volume: 4.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.01

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	✓
Pressure Bailer	
Discrete Bailer	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1030 Weather Conditions: SUNNY

Sample Time/Date: 1052 / 9.9.10 Water Color: CLEAR Odor: Ⓨ / N MODERATE

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

Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 2.54

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (Ⓒ / F)	D.O. (mg/L)	ORP (mV)
1034	1.5	7.20	1560	23.8	Pre: .20	-264.6
1038	3.0	7.26	1585	23.5		
1042	4.0	7.31	1600	23.3	Post: .14	-223.9

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-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: MORRISON 8" OK

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

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: 9.9.10 (inclusive)
City: **Oakland, CA** Sampler: FT

Well ID MW-15
Well Diameter 2 | 4 in.
Total Depth 9.93 ft.
Depth to Water 4.78 ft.
Date Monitored: 9.9.10

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.

5.15 xVF .17 = .87 x3 case volume = Estimated Purge Volume: 2.5 gal.

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

Purge Equipment:		Sampling Equipment:	
Disposable Bailer	✓	Disposable Bailer	✓
Stainless Steel Bailer		Pressure Bailer	
Stack Pump		Discrete Bailer	
Suction Pump		Peristaltic Pump	
Grundfos		QED Bladder Pump	
Peristaltic Pump		Other:	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 0945 Weather Conditions: SUNNY
Sample Time/Date: 1010 / 9.9.10 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ~ gpm. Sediment Description: NONE
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 5.00

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0949	.75	7.03	3381	21.9	PRE: .51	PRE: 196.1
0953	1.5	7.01	3340	20.9		
0958	2.5	6.99	3273	20.7	POST: .63	POST: 180.2

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-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: MORRISON 8" OIL

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

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: 9.9.10 (inclusive)
City: **Oakland, CA** Sampler: FT

Well ID MW-17
Well Diameter ②/4 in.
Total Depth 9.82 ft.
Depth to Water 2.79 ft.
Date Monitored: 9.9.10

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.

7.03 xVF .17 = 1.19 x3 case volume = Estimated Purge Volume: 3.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.19

Purge Equipment:
Disposable Bailer ✓
Stainless Steel Bailer
Stack Pump
Suction Pump
Grundfos
Peristaltic Pump
QED Bladder Pump
Other:

Sampling Equipment:
Disposable Bailer ✓
Pressure Bailer
Discrete Bailer
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1110 Weather Conditions: SUNNY
Sample Time/Date: 1130 / 9.9.10 Water Color: CLEAR Odor: Y / (N)
Approx. Flow Rate: ✓ gpm. Sediment Description: NONE
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 3.10

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1113	1.0	6.97	2233	21.6	PRE: .40	168.4
1116	2.0	6.95	2410	21.5		
1120	3.5	6.94	2533	21.3	POST: .51	149.1

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-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: MORRISON 8" DK REACTION TO HCL

Add/Replaced Lock: ✓ Add/Replaced Plug: ✓ (2") Add/Replaced Bolt:

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: 9.9.10 (inclusive)

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

Well ID MW-18

Well Diameter (2) 4 in.

Total Depth 9.93 ft.

Depth to Water 3.18 ft.

Date Monitored: 9.9.10

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.

6.75 xVF ___ = ___ 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
- Suction Pump
- Grundfos
- Peristaltic Pump
- QED Bladder Pump
- Other:

Sampling Equipment:

- Disposable Bailer
- Pressure Bailer
- Discrete Bailer
- Peristaltic Pump
- QED Bladder Pump
- Other:

Time Started: 1300 (2400 hrs)
Time Completed: 1315 (2400 hrs)
Depth to Product: 3.08 ft
Depth to Water: 3.18 ft
Hydrocarbon Thickness: .10 ft
Visual Confirmation/Description: YES | BAIL
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ___ gal
Amt Removed from Well: 40 ML ~~gal~~
Water Removed: 500 ML
Product Transferred to: ON-SITE DRUM

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 (µmhos/cm - µS)	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-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: BAILED PRODUCT FROM WELL. MAJORITY OF PRODUCT COATED ON THE OUTSIDE OF BAILER DUE TO THE SMALL AMOUNT IN THE WELL.

Add/Replaced Lock: ___ Add/Replaced Plug: ___ Add/Replaced Bolt: ___

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: 9/09/10 (inclusive)

City: **Oakland, CA** Sampler: HAIG K.

Well ID NPORDMW-3 Date Monitored: 9/09/10

Well Diameter 2 (4) in.

Total Depth 16.45 ft.

Depth to Water 3.96 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.

12.49 xVF 0.66 = 8.2 x3 case volume = Estimated Purge Volume: 25 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.45

Purge Equipment:

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

Sampling Equipment:

Disposable Bailer	✓
Pressure Bailer	
Discrete Bailer	
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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1105 Weather Conditions: PARTLY SUNNY

Sample Time/Date: 1140 / 9/9/10 Water Color: CLEAR Odor: Y (N)

Approx. Flow Rate: 1.5 gpm. Sediment Description:

Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 4.42

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1112	9	6.90	>3999	19.5	PRE: 0.46	PRE: -208.2
1118	18	6.87	OUT OF	19.7		
1124	25	6.83	RANGE	19.7	POST: 0.50	POST: -211.6

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
NPORDMW-3	17 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260)
	1 x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	1 x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	2 x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	1 x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: 2 TUBES IN WELL.

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

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: 9/09/10 (inclusive)
City: **Oakland, CA** Sampler: HAIG K.

Well ID NPORDMW-4 Date Monitored: 9/09/10
Well Diameter (2) 4 in.
Total Depth 18.38 ft.
Depth to Water 6.06 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.

12.32 xVF 0.17 = 2.0 x3 case volume = Estimated Purge Volume: 6 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.52

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

Sampling Equipment:
- Disposable Bailer ✓
- Pressure Bailer
- Discrete Bailer
- 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: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 1023 Weather Conditions: PARTLY SUNNY
Sample Time/Date: 1050 / 9/9/10 Water Color: ~CLEAR Odor: (Y) / N MODERATE
Approx. Flow Rate: gpm. Sediment Description:
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 7.21

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1030	2	6.68	>3999	19.2	PRE:	PRE:
1034	4	6.64	OUT OF	19.0		
1039	6	6.62	RANGE	19.0	POST:	POST:

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
NPORDMW-4	17 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DRO w/sgc(8015)/ TPH-GRO/BTEX/MTBE/Naphthalene(8260) ✓
	x 250ml poly	YES	NP	KIFF	NITRATE/SULFATE(EPA 300.0)
	x 250ml poly	YES	NP	KIFF	FERROUS IRON (SM 3500 Fe B)
	x voa vial	YES	HCL	KIFF	METHANE (RSK 175)
	x 250ml poly	YES	HNO3	KIFF	TOTAL IRON/FERRIC IRON (6010)

COMMENTS: 2 TUBES IN WELL

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

BAG WEIGHT 20.5 GRAMS

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: TESTCAL M
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
8/5/10	11:30	MW18				395 GRAMS	
8/12/10	07:30	MW18				418 GRAMS	
8/23/10	13:45	MW18				413 GRAMS	
9/8/10	12:25	MW18				441 GRAMS	
9/15/10	10:35	MW18				373 GRAMS	
9/22/10	7:00	MW18				401 GRAMS	
9/29/10	9:30	MW18				396 GRAMS	
10/11/10	12:20	MW18				400 GRAMS	

BAG WEIGHT
20.5 G

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: TESTCAL NL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
4/30/10	0905	MW18				358 GRAMS	
5/10/10	1030	MW18				245 GRAMS	
5/14/10	0900	MW18				247 GRAMS	
5/21/10	1145	MW18				439 GRAMS	EXTENDED DEPTH 16'
5/28/10	1730	MW18				419 GRAMS	
6/4/10	1145	MW18				392 GRAMS	
6/16/10	0715	MW18				436 GRAMS	
6/25/10	0910	MW18				428 GRAMS	
7/6/10	1045	MW18				392 GRAMS	
7/14/10	9:45	MW18				437 GRAMS	
7/23/10	1:10	MW18				402 GRAMS	
7/28/10	12:30	MW18				389.5 GRAMS	

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Laboratory Results

Doug Lee
Gettler-Ryan Inc.
6747 Sierra Court, Suite J
Dublin, CA 94568

Subject : 19 Water Samples
Project Name : Rolls-Royce Engine Test Facility
Project Number : 25-948218.1

Dear Mr. Lee,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC standard. All soil samples are reported on a total weight (wet weight) basis unless noted otherwise in the case narrative. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Subject : 19 Water Samples
Project Name : Rolls-Royce Engine Test Facility
Project Number : 25-948218.1

Case Narrative

California Laboratory Services provided analytical testing associated with these samples, but is not accredited by the National Environmental Laboratory Accreditation Program (NELAP).

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-1** Matrix : Water Lab Number : 74478-01
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 22:58
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 22:58
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 22:58
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 22:58
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 22:58
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/10/10 22:58
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 22:58
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	09/10/10 22:58
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	09/10/10 22:58
4-Bromofluorobenzene (Surr)	96.5		% Recovery	EPA 8260B	09/10/10 22:58
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/13/10 11:25
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/13/10 13:11
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/13/10 13:11
Octacosane (Silica Gel Surr)	101		% Recovery	M EPA 8015	09/13/10 11:25
Octacosane (Diesel Surrogate)	101		% Recovery	M EPA 8015	09/13/10 13:11

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-2** Matrix : Water Lab Number : 74478-02
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:30
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:30
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:30
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:30
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:30
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/10/10 23:30
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:30
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/10/10 23:30
Toluene - d8 (Surr)	96.3		% Recovery	EPA 8260B	09/10/10 23:30
4-Bromofluorobenzene (Surr)	98.9		% Recovery	EPA 8260B	09/10/10 23:30
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/13/10 12:01
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/13/10 13:47
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/13/10 13:47
Octacosane (Silica Gel Surr)	102		% Recovery	M EPA 8015	09/13/10 12:01
Octacosane (Diesel Surrogate)	100		% Recovery	M EPA 8015	09/13/10 13:47

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-3** Matrix : Water Lab Number : 74478-03
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:01
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:01
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:01
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:01
Methyl-t-butyl ether (MTBE)	**0.62**	0.50	ug/L	EPA 8260B	09/11/10 00:01
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 00:01
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:01
1,2-Dichloroethane-d4 (Surr)	99.8		% Recovery	EPA 8260B	09/11/10 00:01
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	09/11/10 00:01
4-Bromofluorobenzene (Surr)	98.9		% Recovery	EPA 8260B	09/11/10 00:01
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/14/10 00:50
TPH as Jet Fuel	**450**	50	ug/L	M EPA 8015	09/13/10 14:22
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/13/10 14:22
Octacosane (Silica Gel Surr)	95.8		% Recovery	M EPA 8015	09/14/10 00:50
Octacosane (Diesel Surrogate)	96.7		% Recovery	M EPA 8015	09/13/10 14:22

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-4** Matrix : Water Lab Number : 74478-04
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:33
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:33
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:33
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:33
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:33
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 00:33
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:33
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	09/11/10 00:33
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	09/11/10 00:33
4-Bromofluorobenzene (Surr)	98.1		% Recovery	EPA 8260B	09/11/10 00:33
TPH as Diesel (Silica Gel)	**380**	50	ug/L	M EPA 8015	09/14/10 01:24
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Jet Fuel	**680**	50	ug/L	M EPA 8015	09/13/10 14:58
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	**510**	100	ug/L	M EPA 8015	09/13/10 14:58
Octacosane (Silica Gel Surr)	103		% Recovery	M EPA 8015	09/14/10 01:24
Octacosane (Diesel Surrogate)	104		% Recovery	M EPA 8015	09/13/10 14:58

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-5** Matrix : Water Lab Number : 74478-05
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:04
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:04
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:04
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:04
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:04
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 01:04
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:04
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	09/11/10 01:04
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/11/10 01:04
4-Bromofluorobenzene (Surr)	97.3		% Recovery	EPA 8260B	09/11/10 01:04
TPH as Diesel (Silica Gel)	**890**	50	ug/L	M EPA 8015	09/14/10 02:00
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Jet Fuel	**600**	50	ug/L	M EPA 8015	09/13/10 15:33
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	**2200**	100	ug/L	M EPA 8015	09/13/10 15:33
Octacosane (Silica Gel Surr)	105		% Recovery	M EPA 8015	09/14/10 02:00
Octacosane (Diesel Surrogate)	107		% Recovery	M EPA 8015	09/13/10 15:33

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-6** Matrix : Water Lab Number : 74478-06
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:35
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:35
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:35
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:35
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:35
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 01:35
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:35
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	09/11/10 01:35
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	09/11/10 01:35
4-Bromofluorobenzene (Surr)	95.8		% Recovery	EPA 8260B	09/11/10 01:35
TPH as Diesel (Silica Gel)	**620**	50	ug/L	M EPA 8015	09/14/10 02:35
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Jet Fuel	**370**	50	ug/L	M EPA 8015	09/13/10 16:08
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	**2800**	100	ug/L	M EPA 8015	09/13/10 16:08
Octacosane (Silica Gel Surr)	103		% Recovery	M EPA 8015	09/14/10 02:35
Octacosane (Diesel Surrogate)	102		% Recovery	M EPA 8015	09/13/10 16:08

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-7** Matrix : Water Lab Number : 74478-07
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:07
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:07
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:07
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:07
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:07
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 02:07
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:07
1,2-Dichloroethane-d4 (Surr)	98.5		% Recovery	EPA 8260B	09/11/10 02:07
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	09/11/10 02:07
4-Bromofluorobenzene (Surr)	95.8		% Recovery	EPA 8260B	09/11/10 02:07
TPH as Diesel (Silica Gel)	**1800**	50	ug/L	M EPA 8015	09/13/10 11:24
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Jet Fuel	**850**	50	ug/L	M EPA 8015	09/13/10 16:43
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	**6800**	100	ug/L	M EPA 8015	09/13/10 16:43
Octacosane (Silica Gel Surr)	112		% Recovery	M EPA 8015	09/13/10 11:24
Octacosane (Diesel Surrogate)	118		% Recovery	M EPA 8015	09/13/10 16:43

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-8** Matrix : Water Lab Number : 74478-08
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:38
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:38
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:38
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:38
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:38
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 02:38
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 02:38
1,2-Dichloroethane-d4 (Surr)	99.4		% Recovery	EPA 8260B	09/11/10 02:38
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/11/10 02:38
4-Bromofluorobenzene (Surr)	98.1		% Recovery	EPA 8260B	09/11/10 02:38
TPH as Diesel (Silica Gel)	**82**	50	ug/L	M EPA 8015	09/13/10 12:00
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Jet Fuel	**260**	50	ug/L	M EPA 8015	09/13/10 17:18
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	**430**	100	ug/L	M EPA 8015	09/13/10 17:18
Octacosane (Silica Gel Surr)	101		% Recovery	M EPA 8015	09/13/10 12:00
Octacosane (Diesel Surrogate)	102		% Recovery	M EPA 8015	09/13/10 17:18

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-9** Matrix : Water Lab Number : 74478-09
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:09
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:09
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:09
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:09
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:09
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 03:09
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:09
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	09/11/10 03:09
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/11/10 03:09
4-Bromofluorobenzene (Surr)	96.0		% Recovery	EPA 8260B	09/11/10 03:09
TPH as Diesel (Silica Gel)	**1900**	50	ug/L	M EPA 8015	09/14/10 03:10
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Jet Fuel	**960**	50	ug/L	M EPA 8015	09/13/10 17:54
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	**4500**	100	ug/L	M EPA 8015	09/13/10 17:54
Octacosane (Silica Gel Surr)	108		% Recovery	M EPA 8015	09/14/10 03:10
Octacosane (Diesel Surrogate)	108		% Recovery	M EPA 8015	09/13/10 17:54

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-10** Matrix : Water Lab Number : 74478-10
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:41
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:41
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:41
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:41
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 03:41
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 03:41
Naphthalene	**1.6**	0.50	ug/L	EPA 8260B	09/11/10 03:41
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	09/11/10 03:41
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	09/11/10 03:41
4-Bromofluorobenzene (Surr)	98.9		% Recovery	EPA 8260B	09/11/10 03:41
TPH as Diesel (Silica Gel)	**66**	50	ug/L	M EPA 8015	09/14/10 01:43
(Note: Lower boiling hydrocarbons present, atypical for Diesel Fuel.)					
TPH as Jet Fuel	**380**	50	ug/L	M EPA 8015	09/14/10 08:07
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/14/10 08:07
Octacosane (Silica Gel Surr)	100		% Recovery	M EPA 8015	09/14/10 01:43
Octacosane (Diesel Surrogate)	99.8		% Recovery	M EPA 8015	09/14/10 08:07

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-11** Matrix : Water Lab Number : 74478-11
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:12
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:12
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:12
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:12
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:12
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 04:12
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:12
1,2-Dichloroethane-d4 (Surr)	98.8		% Recovery	EPA 8260B	09/11/10 04:12
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/11/10 04:12
4-Bromofluorobenzene (Surr)	96.1		% Recovery	EPA 8260B	09/11/10 04:12
TPH as Diesel (Silica Gel)	**510**	50	ug/L	M EPA 8015	09/14/10 12:15
(Note: Some hydrocarbons lower-boiling, some higher-boiling than Diesel.)					
TPH as Jet Fuel	**520**	50	ug/L	M EPA 8015	09/14/10 02:18
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	**1200**	100	ug/L	M EPA 8015	09/14/10 02:18
Octacosane (Silica Gel Surr)	102		% Recovery	M EPA 8015	09/14/10 12:15
Octacosane (Diesel Surrogate)	104		% Recovery	M EPA 8015	09/14/10 02:18

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-12** Matrix : Water Lab Number : 74478-12
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:43
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:43
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:43
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:43
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:43
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 04:43
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 04:43
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	09/11/10 04:43
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/11/10 04:43
4-Bromofluorobenzene (Surr)	93.6		% Recovery	EPA 8260B	09/11/10 04:43
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/14/10 11:39
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/14/10 02:53
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/14/10 02:53
Octacosane (Silica Gel Surr)	98.0		% Recovery	M EPA 8015	09/14/10 11:39
Octacosane (Diesel Surrogate)	99.0		% Recovery	M EPA 8015	09/14/10 02:53

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-13** Matrix : Water Lab Number : 74478-13
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	**0.95**	0.50	ug/L	EPA 8260B	09/11/10 05:15
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 05:15
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 05:15
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 05:15
Methyl-t-butyl ether (MTBE)	**2.3**	0.50	ug/L	EPA 8260B	09/11/10 05:15
TPH as Gasoline	**230**	50	ug/L	EPA 8260B	09/11/10 05:15
Naphthalene	**3.6**	0.50	ug/L	EPA 8260B	09/11/10 05:15
1,2-Dichloroethane-d4 (Surr)	98.0		% Recovery	EPA 8260B	09/11/10 05:15
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	09/11/10 05:15
4-Bromofluorobenzene (Surr)	98.6		% Recovery	EPA 8260B	09/11/10 05:15
TPH as Diesel (Silica Gel)	**180**	50	ug/L	M EPA 8015	09/14/10 12:50
(Note: Lower boiling hydrocarbons present, atypical for Diesel Fuel.)					
TPH as Jet Fuel	**1400**	50	ug/L	M EPA 8015	09/14/10 03:28
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/14/10 03:28
Octacosane (Silica Gel Surr)	95.0		% Recovery	M EPA 8015	09/14/10 12:50
Octacosane (Diesel Surrogate)	96.7		% Recovery	M EPA 8015	09/14/10 03:28

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-14** Matrix : Water Lab Number : 74478-14
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 05:46
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 05:46
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 05:46
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 05:46
Methyl-t-butyl ether (MTBE)	**1.2**	0.50	ug/L	EPA 8260B	09/11/10 05:46
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 05:46
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 05:46
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	09/11/10 05:46
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/11/10 05:46
4-Bromofluorobenzene (Surr)	96.9		% Recovery	EPA 8260B	09/11/10 05:46
TPH as Diesel (Silica Gel)	**150**	50	ug/L	M EPA 8015	09/14/10 13:26
(Note: Some hydrocarbons lower-boiling, some higher-boiling than Diesel.)					
TPH as Jet Fuel	**890**	50	ug/L	M EPA 8015	09/14/10 04:03
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	**500**	100	ug/L	M EPA 8015	09/14/10 04:03
Octacosane (Silica Gel Surr)	97.9		% Recovery	M EPA 8015	09/14/10 13:26
Octacosane (Diesel Surrogate)	102		% Recovery	M EPA 8015	09/14/10 04:03

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-15** Matrix : Water Lab Number : 74478-15
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:17
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:17
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:17
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:17
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:17
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 06:17
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:17
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	09/11/10 06:17
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	09/11/10 06:17
4-Bromofluorobenzene (Surr)	97.4		% Recovery	EPA 8260B	09/11/10 06:17
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/14/10 14:01
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/13/10 22:29
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/13/10 22:29
Octacosane (Silica Gel Surr)	90.7		% Recovery	M EPA 8015	09/14/10 14:01
Octacosane (Diesel Surrogate)	95.6		% Recovery	M EPA 8015	09/13/10 22:29

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **MW-17** Matrix : Water Lab Number : 74478-16
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:49
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:49
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:49
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:49
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:49
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 06:49
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 06:49
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	09/11/10 06:49
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/11/10 06:49
4-Bromofluorobenzene (Surr)	95.7		% Recovery	EPA 8260B	09/11/10 06:49
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/14/10 14:37
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/13/10 23:04
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/13/10 23:04
Octacosane (Silica Gel Surr)	94.0		% Recovery	M EPA 8015	09/14/10 14:37
Octacosane (Diesel Surrogate)	95.3		% Recovery	M EPA 8015	09/13/10 23:04

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **NPORDMW-3** Matrix : Water Lab Number : 74478-17
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:46
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:46
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:46
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:46
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:46
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/10/10 23:46
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/10/10 23:46
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/10/10 23:46
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	09/10/10 23:46
4-Bromofluorobenzene (Surr)	108		% Recovery	EPA 8260B	09/10/10 23:46
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/13/10 22:29
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/13/10 23:39
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/13/10 23:39
Octacosane (Silica Gel Surr)	97.6		% Recovery	M EPA 8015	09/13/10 22:29
Octacosane (Diesel Surrogate)	96.7		% Recovery	M EPA 8015	09/13/10 23:39

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **NPORDMW-4** Matrix : Water Lab Number : 74478-18
Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:23
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:23
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:23
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:23
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:23
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 00:23
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 00:23
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	09/11/10 00:23
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	09/11/10 00:23
4-Bromofluorobenzene (Surr)	107		% Recovery	EPA 8260B	09/11/10 00:23
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/13/10 23:04
TPH as Jet Fuel	**290**	50	ug/L	M EPA 8015	09/14/10 00:14
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/14/10 00:14
Octacosane (Silica Gel Surr)	100		% Recovery	M EPA 8015	09/13/10 23:04
Octacosane (Diesel Surrogate)	98.8		% Recovery	M EPA 8015	09/14/10 00:14

KIFF Analytical LLC

Report Number : 74478
Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**
Project Number : **25-948218.1**

Sample : **QA** Matrix : Water Lab Number : 74478-19

Sample Date :09/09/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:01
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:01
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:01
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:01
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:01
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/11/10 01:01
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/11/10 01:01
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/11/10 01:01
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	09/11/10 01:01
4-Bromofluorobenzene (Surr)	107		% Recovery	EPA 8260B	09/11/10 01:01

Report Number : 74478

Date : 09/16/2010

QC Report : Method Blank Data

Project Name : **Rolls-Royce Engine Test Facility**

Project Number : **25-948218.1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/13/2010
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/13/2010
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/13/2010
Octacosane (Diesel Surrogate)	98.6		%	M EPA 8015	09/13/2010
Octacosane (Silica Gel Surr)	103		%	M EPA 8015	09/13/2010
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/10/2010
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	09/10/2010
4-Bromofluorobenzene (Surr)	95.4		%	EPA 8260B	09/10/2010
Toluene - d8 (Surr)	101		%	EPA 8260B	09/10/2010
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/10/2010
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/10/2010
1,2-Dichloroethane-d4 (Surr)	104		%	EPA 8260B	09/10/2010
4-Bromofluorobenzene (Surr)	108		%	EPA 8260B	09/10/2010
Toluene - d8 (Surr)	103		%	EPA 8260B	09/10/2010

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**

Project Number : **25-948218.1**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
TPH-D (Si Gel)														
	BLANK	<50	1000	1000	979	979	ug/L	M EPA 8015	9/13/10	97.9	97.9	0.0130	70-130	25
TPH as Diesel														
	BLANK	<50	1000	1000	1000	1040	ug/L	M EPA 8015	9/13/10	100	104	3.34	70-130	25
Benzene														
	74481-01	1.5	40.0	40.0	36.5	36.4	ug/L	EPA 8260B	9/10/10	87.4	87.4	0.0240	80-120	25
Ethylbenzene														
	74481-01	0.83	40.0	40.0	40.6	40.4	ug/L	EPA 8260B	9/10/10	99.3	98.9	0.373	80-120	25
Methyl-t-butyl ether														
	74481-01	<0.50	40.0	40.0	36.7	37.4	ug/L	EPA 8260B	9/10/10	91.8	93.4	1.77	69.7-121	25
Naphthalene														
	74481-01	3.5	40.0	40.0	45.4	45.1	ug/L	EPA 8260B	9/10/10	105	104	0.906	70.0-130	25
O-Xylene														
	74481-01	<0.50	40.0	40.0	41.1	41.2	ug/L	EPA 8260B	9/10/10	103	103	0.177	79.7-120	25
P + M Xylene														
	74481-01	4.4	40.0	40.0	43.1	42.9	ug/L	EPA 8260B	9/10/10	96.9	96.4	0.486	76.8-120	25
Toluene														
	74481-01	<0.50	40.0	40.0	36.5	36.4	ug/L	EPA 8260B	9/10/10	91.2	91.0	0.151	80-120	25

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 09/16/2010

Project Name : **Rolls-Royce Engine Test Facility**

Project Number : **25-948218.1**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene														
	74481-02	1.6	40.0	40.0	38.1	37.8	ug/L	EPA 8260B	9/10/10	91.2	90.4	0.791	80-120	25
Ethylbenzene														
	74481-02	2.9	40.0	40.0	43.2	43.2	ug/L	EPA 8260B	9/10/10	101	101	0.110	80-120	25
Methyl-t-butyl ether														
	74481-02	<0.50	40.0	40.0	38.0	37.8	ug/L	EPA 8260B	9/10/10	95.0	94.6	0.371	69.7-121	25
Naphthalene														
	74481-02	13	40.0	40.0	58.7	58.0	ug/L	EPA 8260B	9/10/10	114	112	1.44	70.0-130	25
O-Xylene														
	74481-02	1.4	40.0	40.0	41.9	42.0	ug/L	EPA 8260B	9/10/10	101	101	0.201	79.7-120	25
P + M Xylene														
	74481-02	31	40.0	40.0	73.1	72.8	ug/L	EPA 8260B	9/10/10	104	103	0.714	76.8-120	25
Toluene														
	74481-02	0.87	40.0	40.0	39.0	38.5	ug/L	EPA 8260B	9/10/10	95.4	94.0	1.50	80-120	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Project Name : **Rolls-Royce Engine Test Facility**

Project Number : **25-948218.1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	9/10/10	95.5	80-120
Ethylbenzene	40.0	ug/L	EPA 8260B	9/10/10	99.9	80-120
Methyl-t-butyl ether	40.0	ug/L	EPA 8260B	9/10/10	89.8	69.7-121
Naphthalene	40.0	ug/L	EPA 8260B	9/10/10	103	70.0-130
P + M Xylene	40.0	ug/L	EPA 8260B	9/10/10	97.7	76.8-120
TPH as Gasoline	506	ug/L	EPA 8260B	9/10/10	93.3	70.0-130
Toluene	40.0	ug/L	EPA 8260B	9/10/10	94.1	80-120
Benzene	39.8	ug/L	EPA 8260B	9/10/10	101	80-120
Ethylbenzene	39.8	ug/L	EPA 8260B	9/10/10	99.4	80-120
Methyl-t-butyl ether	39.8	ug/L	EPA 8260B	9/10/10	106	69.7-121
Naphthalene	39.8	ug/L	EPA 8260B	9/10/10	109	70.0-130
P + M Xylene	39.8	ug/L	EPA 8260B	9/10/10	99.4	76.8-120
TPH as Gasoline	506	ug/L	EPA 8260B	9/10/10	87.7	70.0-130
Toluene	39.8	ug/L	EPA 8260B	9/10/10	105	80-120

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

74478

Global ID #: T06019775776

☐ Yes
☐ No

Chain-of-Custody-Record

Direct Bill To:
Douglas Lee
Gettler-Ryan Inc.
6747 Sierra Court
Sutie J
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: 6747 Sierra Court Suite J, Dublin, CA 94568
Project Contact: (Name) Douglas Lee
(Phone) 925-551-7444 x123 (e-mail) dlee@grinc.com

(Name) Douglas Lee
(Phone) 925-551-7444 x123
Laboratory Name: Kiff Analytical
Laboratory Service Order:
Laboratory Service Code:
Samples Collected by: (Name) Jim Herron
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)	NITRATE/SULFATE (EPA 300.0) NON-PRESERVED	FERROUS IRON (SM 3500 Fe B) NON-PRESERVED	METHANE (RSK 175) HCL PRESERVED	Ferric Iron/ Total Iron (6010) HNO3 PRESERVED							Remarks / Lab Sample No.
MW-1	12	W	9/9/10 1050	X	X	X	X					X	X	X	X							01
MW-2	7		1335	X	X	X	X															02
MW-3	7		1210	X	X	X	X															03
MW-4	12		1220	X	X	X	X					X	X	X	X							04
MW-5	12		1000	X	X	X	X					X	X	X	X							05
MW-6	12		1300	X	X	X	X					X	X	X	X							06
MW-7	12		1345	X	X	X	X					X	X	X	X							07
MW-8	12		1010	X	X	X	X					X	X	X	X							08
MW-9	12		1130	X	X	X	X					X	X	X	X							09
MW-10	7		1410	X	X	X	X															10
MW-11	7		1215	X	X	X	X															11
MW-12	7		1305	X	X	X	X															12
MW-13	7		1345					X	X	X	X											13
MW-14	7		1052	X	X	X	X															14

Remarks

EDF NEEDED

Please do not report Total Iron results, report as Ferric Iron

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
	Gettler-Ryan	9/9/10 1445				
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)
				Kiff Analytical LLC	090910/1445	Y

Turn Around Time (Circle Choice)
1 of 2
24 Hrs.
48 Hrs.
5 Days
~~10 Days~~
As Contracted

74478

Global ID #: T06019775776

☐ Yes
☐ No

Chain-of-Custody-Record

Direct Bill To:
Douglas Lee
Gettler-Ryan Inc.
6747 Sierra Court
Sutie J
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: 6747 Sierra Court Suite J, Dublin, CA 94568
Project Contact: (Name) Douglas Lee
(Phone) 925-551-7444 x123 (e-mail) dlee@grinc.com

(Name) Douglas Lee
(Phone) 925-551-7444 x123
Laboratory Name: Kiff Analytical
Laboratory Service Order:
Laboratory Service Code:
Samples Collected by: (Name) Jim Herron
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)	NITRATE/SULFATE (EPA 300.0) NON-PRESERVED	FERROUS IRON (SM 3500 Fe B) NON-PRESERVED	METHANE (RSK 175) HCL PRESERVED	Ferric Iron/ Total Iron (6010) HNO3 PRESERVED							Remarks / Lab Sample No.
MW-15	7	W	9/9/10 1010	X	X	X	X															15
MW-17	↓	↓	1130	X	X	X	X															16
NPORDMW3	12	↓	1140	X	X	X	X					X	X	X	X							17
NPORDMW4	7	↓	1050	X	X	X	X															18
QA	2	↓	↓				X															19

EDF NEEDED

Please do not report Total Iron results, report as Ferric Iron

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
	Gettler-Ryan	9/9/10 1445				
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)
			Kiff Analytical LLC		090910/1445	Y

Turn Around Time (Circle Choice)

2 of 2

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

KIFF Analytical LLC

SAMPLE RECEIPT CHECKLIST

RECEIVER: TJB (Initials)

SRG#: 74478 Date: 090910

Project ID: Rolls-Royce Engine Test Facility

Method of Receipt: ☒ Courier ☐ Over-the-counter ☐ Shipper

COC Inspection

Is COC present?	☒ Yes	☐ No		
Custody seals on shipping container?	☒ Intact	☐ Broken	☐ Not present	☐ N/A
Is COC Signed by Relinquisher? ☒ Yes ☐ No	Dated? ☒ Yes	☐ No		
Is sampler name legibly indicated on COC?	☒ Yes	☐ No		
Is analysis or hold requested for all samples	☒ Yes	☐ No		
Is the turnaround time indicated on COC?	☒ Yes	☐ No		
Is COC free of whiteout and uninitialed cross-outs?	☒ Yes	☐ No, Whiteout	☐ No, Cross-outs	

Sample Inspection

Coolant Present: ☒ Yes ☐ No (includes water)

Temperature °C 4.0 Therm. ID# IR-5 Initial TJB Date/Time 090910 / 1711 ☐ N/A

Are there custody seals on sample containers?	☐ Intact	☐ Broken	☒ Not present	
Do containers match COC? ☒ Yes ☐ No ☐ No, COC lists absent sample(s)	☐ No, Extra sample(s) present			
Are there samples matrices other than soil, water, air or carbon?	☐ Yes	☒ No		
Are any sample containers broken, leaking or damaged?	☐ Yes	☒ No		
Are preservatives indicated? ☒ Yes, on sample containers	☒ Yes, on COC	☐ Not indicated	☐ N/A	
Are preservatives correct for analyses requested?	☒ Yes	☐ No	☐ N/A	
Are samples within holding time for analyses requested?	☒ Yes	☐ No		
Are the correct sample containers used for the analyses requested?	☒ Yes	☐ No		
Is there sufficient sample to perform testing?	☒ Yes	☐ No		
Does any sample contain product, have strong odor or are otherwise suspected to be hot?	☐ Yes	☒ No		

Receipt Details

Matrix WA	Container type VOA	# of containers received 144
Matrix WA	Container type Poly	# of containers received 24
Matrix	Container type	# of containers received

Date and Time Sample Put into Temp Storage Date: 090910 Time: 1732

Quicklog

Are the Sample ID's indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If Sample ID's are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A	
Is the Project ID indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If project ID is listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A	
Are the sample collection dates indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If collection dates are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A	
Are the sample collection times indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If collection times are listed on both COC and containers, do they all match?	☒ Yes	☐ No	☐ N/A	

COMMENTS:

Leaders in Analytical Science and Service

KIFF Analytical LLC

Subcontract Laboratory Report Attachments

2795 Second Street, Suite 300 Davis, CA 95618
tel 530.297.4800 fax 530.297.4808
www.kiffanalytical.com

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

September 17, 2010

CLS Work Order #: CTI0428
COC #: 74478

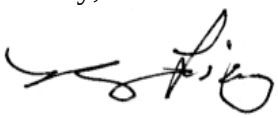
Scott Forbes
KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project Name: Rolls-Royce Engine Test Facility

Enclosed are the results of analyses for samples received by the laboratory on 09/10/10 08:21. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Rolls-Royce Engine Test Facility
Project Number: 25-948218.1
Project Manager: Scott Forbes

CLS Work Order #: CTI0428
COC #: 74478

KIFF Analytical LLC

2795 Second Street, Suite 300
Davis, CA 95618
Lab: 530.297.4800
Fax: 530.297.4808

California Laboratory Services
3249 Fitzgerald Road
Rancho Cordova, CA 95742
916-638-7301

COC No. 74478 Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Scott Forbes
Company/Address: Kiff Analytical
Phone No.: 530-297-4800 FAX No.: 530-297-4808
Project Number: 25-948218.1 P.O. No.: 74478
Project Name: Rolls-Royce Engine Test Facility
Project Address:

EDF Report? YES

Recommended but not mandatory to complete this section:
Sampling Company Log Code: GRD
Global ID: T06019775776
Deliverables to (Email Address): inbox@kiffanalytical.com

Sample Designation	Sampling Date	Sampling Time	Container / Preservative: 250ml Poly None	250ml Poly HNO3	Matrix: Water	Analysis Request: Ferric Iron Calc SUB	ICP-MS 6020 (1)	Iron, Ferrous	TAT: Standard	For Lab Use Only
MW-1	09/09/10	10:50	1	1	X	X	X	X	X	
MW-4	09/09/10	12:20	1	1	X	X	X	X	X	
MW-5	09/09/10	10:00	1	1	X	X	X	X	X	
MW-6	09/09/10	13:00	1	1	X	X	X	X	X	
MW-7	09/09/10	13:45	1	1	X	X	X	X	X	
MW-8	09/09/10	10:10	1	1	X	X	X	X	X	
MW-9	09/09/10	11:30	1	1	X	X	X	X	X	
NPORDMW-3	09/09/10	11:40	1	1	X	X	X	X	X	

Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:

Remarks: Please refer to attached Test Detail.
Please do not report total iron, just ferrous and ferric.

Bill to: Accounts Payable

KIFF Analytical	Project: Rolls-Royce Engine Test Facility	
2795 Second St. Suite 300	Project Number: 25-948218.1	**CLS Work Order #: CTI0428**
Davis, CA 95616	Project Manager: Scott Forbes	COC #: 74478

Test Detail for Kiff Work Order: 74478

Anions by EPA 300.0 SUB (1)
Nitrate as NO3
Sulfate

ICP-MS 6020 (1)
Iron

Page 1 of 1

CALIFORNIA LABORATORY SERVICES

KIFF Analytical	Project: Rolls-Royce Engine Test Facility	
2795 Second St. Suite 300	Project Number: 25-948218.1	**CLS Work Order #: CTI0428**
Davis, CA 95616	Project Manager: Scott Forbes	COC #: 74478

CHANGE OF STATUS

CLS Labs Job # CTI0428

Project Name: Rolls-Royce Engine

Date Sample(s) Were Received: 9/10/10 **Original Date** 9/17/10

Scott Forbes (Client Contacted) of Kiff (Company) called

on 9/10/10. (Date) at _____ (Time).

... and requested the following:

Do not report total Iron to client - only use as calculation.

Turnaround time requested for additional work: _____

(Signature) 9/10/10 (Date)

Updated lab job database and file folder by: _____

Cc: _____

H:\Will\Orellana\ChangeOfStatus.Doc

CALIFORNIA LABORATORY SERVICES

KIFF Analytical	Project: Rolls-Royce Engine Test Facility	
2795 Second St. Suite 300	Project Number: 25-948218.1	**CLS Work Order #: CTI0428**
Davis, CA 95616	Project Manager: Scott Forbes	COC #: 74478

CHANGE OF STATUS

Not an "A" Job
New W.O.

C.L.S. Lab Job No.: CTI 0428

Project Name: Rolls-Royce

Date Sample(s) Were Received: 9/10 **Original Date Due:** 9/17/10

Scott Forbes (Client Contacted) of Kiff (Company) called + emailed Rev. COC

on 9/10/10 (Date) at 15:05 (Time)

... and requested the following

Please run NO3-NO3 + Sulfate on all samples. (-01-08)

Turnaround time requested for additional work: Same

Amanda Bunkelt (Signature) 9/10/10 (Date) 15:06

Updated lab job database and file folder by:

cc:

H:\Alyssam\samprecchangeofstat.DOC

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Rolls-Royce Engine Test Facility
Project Number: 25-948218.1
Project Manager: Scott Forbes

CLS Work Order #: CTI0428
COC #: 74478

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (CTI0428-01) Water	**Sampled: 09/09/10 10:50**	**Received: 09/10/10 08:21**							
Ferric Iron	**3.2**	0.10	mg/L	1	CT06931	09/17/10	09/17/10	200.7/SM3500-Fe D	
Ferrous Iron	**0.81**	0.10	"	"	CT06762	09/10/10	09/10/10	SM3500-Fe D	
Nitrate as NO3	ND	10	"	20	CT06776	09/13/10	09/14/10	EPA 300.0	QRL-5
Sulfate as SO4	**2000**	25	"	50	"	"	"	"	
MW-4 (CTI0428-02) Water	**Sampled: 09/09/10 12:20**	**Received: 09/10/10 08:21**							
Ferric Iron	**91**	0.10	mg/L	1	CT06931	09/17/10	09/17/10	200.7/SM3500-Fe D	
Ferrous Iron	**2.4**	0.20	"	2	CT06762	09/10/10	09/10/10	SM3500-Fe D	
Nitrate as NO3	ND	2.5	"	5	CT06776	09/13/10	09/14/10	EPA 300.0	QRL-5
Sulfate as SO4	**8.6**	2.5	"	"	"	"	"	"	
MW-5 (CTI0428-03) Water	**Sampled: 09/09/10 10:00**	**Received: 09/10/10 08:21**							
Ferric Iron	**68**	0.10	mg/L	1	CT06931	09/17/10	09/17/10	200.7/SM3500-Fe D	
Ferrous Iron	**12**	1.0	"	10	CT06762	09/10/10	09/10/10	SM3500-Fe D	HT-B2
Nitrate as NO3	ND	2.5	"	5	CT06776	09/13/10	09/14/10	EPA 300.0	QRL-5
Sulfate as SO4	ND	2.5	"	"	"	"	"	"	QRL-5
MW-6 (CTI0428-04) Water	**Sampled: 09/09/10 13:00**	**Received: 09/10/10 08:21**							
Ferric Iron	**40**	0.10	mg/L	1	CT06931	09/17/10	09/17/10	200.7/SM3500-Fe D	
Ferrous Iron	ND	0.10	"	"	CT06762	09/10/10	09/10/10	SM3500-Fe D	
Nitrate as NO3	ND	2.5	"	5	CT06776	09/13/10	09/14/10	EPA 300.0	QRL-5
Sulfate as SO4	**540**	10	"	20	"	"	09/14/10	"	
MW-7 (CTI0428-05) Water	**Sampled: 09/09/10 13:45**	**Received: 09/10/10 08:21**							
Ferric Iron	**340**	0.10	mg/L	1	CT06931	09/17/10	09/17/10	200.7/SM3500-Fe D	
Ferrous Iron	**18**	2.5	"	25	CT06762	09/10/10	09/10/10	SM3500-Fe D	
Nitrate as NO3	ND	2.5	"	5	CT06776	09/13/10	09/14/10	EPA 300.0	QRL-5
Sulfate as SO4	ND	2.5	"	"	"	"	"	"	QRL-5

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Rolls-Royce Engine Test Facility
Project Number: 25-948218.1
Project Manager: Scott Forbes

CLS Work Order #: CTI0428
COC #: 74478

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-8 (CTI0428-06) Water Sampled: 09/09/10 10:10 Received: 09/10/10 08:21									
Ferric Iron	**23**	0.10	mg/L	1	CT06931	09/17/10	09/17/10	200.7/SM3500-Fe D	
Ferrous Iron	**2.1**	0.20	"	2	CT06762	09/10/10	09/10/10	SM3500-Fe D	HT-B2
Nitrate as NO3	ND	2.5	"	5	CT06776	09/13/10	09/14/10	EPA 300.0	QRL-5
Sulfate as SO4	**3.9**	2.5	"	"	"	"	"	"	
MW-9 (CTI0428-07) Water Sampled: 09/09/10 11:30 Received: 09/10/10 08:21									
Ferric Iron	**13**	0.10	mg/L	1	CT06931	09/17/10	09/17/10	200.7/SM3500-Fe D	
Ferrous Iron	ND	0.10	"	"	CT06762	09/10/10	09/10/10	SM3500-Fe D	
Nitrate as NO3	ND	2.5	"	5	CT06776	09/13/10	09/14/10	EPA 300.0	QRL-5
Sulfate as SO4	**23**	2.5	"	"	"	"	"	"	
NPORDMW-3 (CTI0428-08) Water Sampled: 09/09/10 11:40 Received: 09/10/10 08:21									
Ferric Iron	**3.2**	0.10	mg/L	1	CT06931	09/17/10	09/17/10	200.7/SM3500-Fe D	
Ferrous Iron	**3.2**	0.40	"	4	CT06762	09/10/10	09/10/10	SM3500-Fe D	
Nitrate as NO3	ND	10	"	20	CT06776	09/13/10	09/14/10	EPA 300.0	QRL-5
Sulfate as SO4	**1200**	25	"	50	"	"	"	"	

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Rolls-Royce Engine Test Facility
Project Number: 25-948218.1
Project Manager: Scott Forbes

CLS Work Order #: CTI0428
COC #: 74478

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CT06762 - General Preparation										
Blank (CT06762-BLK1)				Prepared & Analyzed: 09/10/10						
Ferrous Iron	ND	0.10	mg/L							
LCS (CT06762-BS1)				Prepared & Analyzed: 09/10/10						
Ferrous Iron	0.246	0.10	mg/L	0.250		98	80-120			
LCS Dup (CT06762-BSD1)				Prepared & Analyzed: 09/10/10						
Ferrous Iron	0.230	0.10	mg/L	0.250		92	80-120	7	25	
Matrix Spike (CT06762-MS1)		**Source: CTI0428-01**		Prepared & Analyzed: 09/10/10						
Ferrous Iron	1.04	0.10	mg/L	0.250	0.814	92	75-125			
Matrix Spike Dup (CT06762-MSD1)		**Source: CTI0428-01**		Prepared & Analyzed: 09/10/10						
Ferrous Iron	1.05	0.10	mg/L	0.250	0.814	94	75-125	0.5	30	
Batch CT06776 - General Prep										
Blank (CT06776-BLK1)				Prepared & Analyzed: 09/13/10						
Sulfate as SO4	ND	0.50	mg/L							
Nitrate as NO3	ND	0.50	"							
LCS (CT06776-BS1)				Prepared & Analyzed: 09/13/10						
Sulfate as SO4	5.13	0.50	mg/L	5.00		103	80-120			
Nitrate as NO3	2.10	0.50	"	2.00		105	80-120			
LCS Dup (CT06776-BSD1)				Prepared & Analyzed: 09/13/10						
Sulfate as SO4	5.35	0.50	mg/L	5.00		107	80-120	4	20	
Nitrate as NO3	2.20	0.50	"	2.00		110	80-120	4	20	

KIFF Analytical
2795 Second St. Suite 300
Davis, CA 95616

Project: Rolls-Royce Engine Test Facility
Project Number: 25-948218.1
Project Manager: Scott Forbes

CLS Work Order #: CTI0428
COC #: 74478

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch CT06776 - General Prep										
Matrix Spike (CT06776-MS1)	**Source: CTI0463-01**			Prepared & Analyzed: 09/13/10						
Sulfate as SO4	36.1	0.50	mg/L	5.00	32.0	83	75-125			
Nitrate as NO3	4.22	0.50	"	2.00	2.12	105	80-120			
Matrix Spike Dup (CT06776-MSD1)	**Source: CTI0463-01**			Prepared & Analyzed: 09/13/10						
Sulfate as SO4	36.3	0.50	mg/L	5.00	32.0	86	75-125	0.4	25	
Nitrate as NO3	4.26	0.50	"	2.00	2.12	107	80-120	1	20	

KIFF Analytical	Project: Rolls-Royce Engine Test Facility	
2795 Second St. Suite 300	Project Number: 25-948218.1	**CLS Work Order #: CTI0428**
Davis, CA 95616	Project Manager: Scott Forbes	COC #: 74478

Notes and Definitions

QRL-5	The sample was diluted due to the presence of high levels of non-target analytes or matrix interference resulting in elevated reporting limits.
HT-B2	The remaining holding time was less than an hour when the sample was received at the laboratory. Therefore, it was analyzed outside the holding time.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Calscience
Environmental
Laboratories, Inc.

September 17, 2010

Joel Kiff
Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Subject: **Calscience Work Order No.: 10-09-0923**
Client Reference: Rolls-Royce Engine Test Facility

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/11/2010 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Amanda Porter

Calscience Environmental
Laboratories, Inc.
Amanda Porter
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: 09/11/10
Work Order No: 10-09-0923
Preparation: N/A
Method: RSK-175M

Project: Rolls-Royce Engine Test Facility

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-1	**10-09-0923-1-A**	**09/09/10 10:50**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	117	1.00	1		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-4	**10-09-0923-2-A**	**09/09/10 12:20**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	6590	40.0	40		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-5	**10-09-0923-3-A**	**09/09/10 10:00**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	4760	40.0	40		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-6	**10-09-0923-4-A**	**09/09/10 13:00**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	3280	40.0	40		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-7	**10-09-0923-5-A**	**09/09/10 13:45**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	6350	40.0	40		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-8	**10-09-0923-6-A**	**09/09/10 10:10**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	8500	40.0	40		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: 09/11/10
Work Order No: 10-09-0923
Preparation: N/A
Method: RSK-175M

Project: Rolls-Royce Engine Test Facility

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-9	**10-09-0923-7-A**	**09/09/10 11:30**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	8310	40.0	40		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NPORDMW-3	**10-09-0923-8-A**	**09/09/10 11:40**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	27.8	1.00	1		ug/L

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-663-1,079**	**N/A**	**Aqueous**	**GC 52**	**N/A**	**09/11/10 00:00**	**100911L01**

Parameter	Result	RL	DF	Qual	Units
Methane	ND	1.00	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Kiff Analytical		Date Received:	N/A
2795 2nd Street, Suite 300		Work Order No:	10-09-0923
Davis, CA 95616-6593		Preparation:	N/A
		Method:	RSK-175M

Project: Rolls-Royce Engine Test Facility

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-12-663-1,079	**Aqueous**	**GC 52**	**09/11/10**	**SIG1000003**	**100911L01**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Methane	100	91.1	91	79-109	

RPD - Relative Percent Difference , CL - Control Limit

0923

KIFF Analytical LLC

2795 Second Street, Suite 300
Davis, CA 95618
Lab: 530.297.4800
Fax: 530.297.4808

Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1427
714-895-5494

COC No. **74478** Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Scott Forbes

EDF Report? YES

Company/Address: Kiff Analytical

Recommended but not mandatory to complete this section:

Sampling Company Log Code: GRD

Phone No.: 530-297-4800 | FAX No.: 530-297-4808

Global ID: T06019775776

Project Number: 25-948218.1 | P.O. No.: 74478

Deliverables to (Email Address): inbox@kiffanalytical.com

Project Name: Rolls-Royce Engine Test Facility

Project Address:

Sample Designation	Sampling Date	Sampling Time	Container / Preservative: VOA 40 ml HCl	Matrix: Water	Analysis Request: Hydrocarbons in Water by RSK 175 (1)	TAT: 4-Days	For Lab Use Only
MW-1	09/09/10	10:50	2	X	X	X	1
MW-4	09/09/10	12:20	2	X	X	X	2
MW-5	09/09/10	10:00	2	X	X	X	3
MW-6	09/09/10	13:00	2	X	X	X	4
MW-7	09/09/10	13:45	2	X	X	X	5
MW-8	09/09/10	10:10	2	X	X	X	6
MW-9	09/09/10	11:30	2	X	X	X	7
NPORDMW-3	09/09/10	11:40	2	X	X	X	8

Relinquished by:	Date	Time	Received by:
Kiff Analytical LLC	091010	1900	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	09/11/10	1310	CEL

Remarks: Please refer to attached Test Detail.

Bill to: Accounts Payable

0923

Test Detail for Kiff Work Order: 74478

Hydrocarbons in Water by RSK 175 (1)
Methane

OnTrac
On Time Delivery For Less

800.334.5000
ontrac.com

Date Printed 9/10/2010

Tracking#D10010314792999

Shipped From:
KIFF ANALYTICAL
2795 2ND STREET 300
DAVIS, CA 95616

Sent By: SAMPLE RECEIVING
Phone#: (530)297-4800
wgt(lbs): 45
Reference: SUB SRG 74478, 74499
Reference 2:

Ship To Company:
CALSCIENCE ENVIRONMENTAL
7440 LINCOLN WAY
GARDEN GROVE, CA 92841
RECEIVING (714)895-5494

B10207210772

Service: **S**
Sort Code: **ORG**

Special Services:
Saturday Delivery
Signature Required

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 10-09-0923

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: kiff

DATE: 09/11/10

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 2.2 °C + 0.5 °C (CF) = 2.7 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: ☐ Air ☐ Filter ☐ Metals Only ☐ PCBs Only Initial: YL

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Initial: YL

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: [illegible]

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☐	☐	☑
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☑VOA**h** (2) ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na**

☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** [illegible]

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** JSL

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **znna:** $ZnAc_2$+NaOH **f:** Field-filtered **Scanned by:** JSL