GETTLER-RYAN INC.

March 18, 2010

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

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

Mr. Plunkett,

On behalf of Rolls-Royce Engine Services-Oakland Inc. (RR), Gettler-Ryan Inc. (GR) has prepared this first semi-annual 2010 event groundwater monitoring and sampling report for the above-referenced property. 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 January 15, 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, Quarterly Groundwater Sampling (attached).

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On January 15, 2010, GR collected depth to groundwater measurements in eighteen 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 0.66 ft of SPH were observed in well MW-18. Approximately 0.14 gallon (18 ounces) 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 RR, PES Environmental, Incorporated (PES) has been periodically removing SPH and/or groundwater from the passive skimmer present in well MW-18. SPH removal logs prepared by PES for recent and prior events dating back to February 2009 are attached.

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 0.66 feet of SPH. Groundwater samples were submitted under chain-of-custody protocol to Kiff Analytical (ELAP #2236) 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 RR.

Results

Groundwater Gradient

On January 15, 2010, the groundwater flow direction was toward the south with hydraulic gradients ranging between 0.002 ft/ft to 0.03 ft/ft. A Potentiometric Map is presented as Figure 3.

Analytical Results

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 RR, groundwater samples from wells MW-4, MW-6, MW-7, MW-9, MW-10 and MW-11 were also analyzed for Semi-Volatile Organic Compounds (SVOC) by EPA Method 8270C. Groundwater chemical analytical results for this event are presented in Table 1.

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, 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 twelve wells at concentrations ranging from 60 ppb in well MW-14 to 1,300 ppb in well MW-9. Concentrations of TPHmo were detected in ten wells at levels ranging from 110 ppb in well MW-3 to 4,900 ppb in well MW-7. TPHjf was detected in thirteen wells at concentrations ranging from 59 ppb in well MW-17 to 1,600 ppb in wells MW-9 and 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 0.58 ppb and ethylbenzene and xylenes detected in well MW-10 at concentrations of 0.66 ppb and 3.5 ppb, respectively.

MtBE was detected in wells MW-3, MW-13, MW-14 at concentrations of 0.70 ppb, 1.4 ppb, and 1.0 ppb, respectively. Napthalene was detected in wells MW-10 and MW-13 at concentrations of 3.4 ppb and 3.1 ppb, respectively. SVOC were reported below the laboratory method detection limits in groundwater samples collected from wells MW-4, MW-6, MW-7, MW-9, MW-10 and MW-11. TPHg, TPHd, TPHmo and TPHjf concentrations are presented on Figure 4.

Conclusions and Recommendations

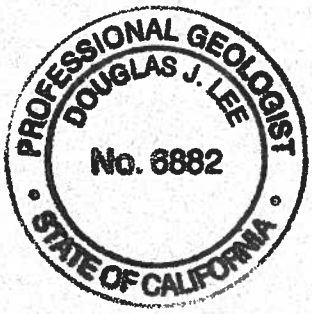
Based on the results of this groundwater monitoring and sampling event, GR concludes and recommends the following:

- 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; and
- GR recommends the continuation of the current semi-annual monitoring and sampling program for the subject site. MW-18 will continue to be monitored and purged of SPH on a quarterly basis.

If you have any questions, please feel free to contact our Rancho Cordova office at (916) 631-1300.

Sincerely,
Gettler-Ryan Inc.

Geoffrey D. Risse
Staff Geologist



Douglas J. Lee
Senior Geologist, P.G. No. 6882

Attachments: Table 1, Groundwater Monitoring Results
Table 2, 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 Results
Rolls-Royce Engine Service Test Facility
6701 Old Earhart Road
Oakland, California

Sample ID	Sample Date	TOC (feet)	DTW (feet)	SPH Thickness (feet)	GWE (feet)	TPHg (ppb)	TPHd[1] (ppb)	TPHmo (ppb)	TPHjf (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MtBE (ppb)	Napthalene (ppb)	SVOC (ppb)
MW-1	10/3/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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**
MW-2	10/3/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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**
MW-3	10/2/07	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
	3/14/08	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
	6/26/08	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

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Sample ID	Sample Date	TOC (feet)	DTW (feet)	SPH Thickness (feet)	GWE (feet)	TPHg (ppb)	TPHd[1] (ppb)	TPHmo (ppb)	TPHjf (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MtBE (ppb)	Napthalene (ppb)	SVOC (ppb)
MW-3	9/25/08	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
(con't)	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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**
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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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]**
MW-5	10/2/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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

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MW-5	6/24/09	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
(con't)	9/24/09	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
	1/15/10	**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**
MW-6	10/2/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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]**
MW-7	10/2/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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]**

Table 1
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Rolls-Royce Engine Service Test Facility
6701 Old Earhart Road
Oakland, California

Sample ID	Sample Date	TOC (feet)	DTW (feet)	SPH Thickness (feet)	GWE (feet)	TPHg (ppb)	TPHd[1] (ppb)	TPHmo (ppb)	TPHjf (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MtBE (ppb)	Napthalene (ppb)	SVOC (ppb)
MW-8	9/14/07	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
	3/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
	7/3/04	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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**
MW-9	10/3/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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]**
MW-10	10/3/07	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
	3/14/08	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
	6/26/08	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

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Sample ID	Sample Date	TOC (feet)	DTW (feet)	SPH Thickness (feet)	GWE (feet)	TPHg (ppb)	TPHd[1] (ppb)	TPHmo (ppb)	TPHjf (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MtBE (ppb)	Napthalene (ppb)	SVOC (ppb)
MW-10	9/25/08	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
(con't)	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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]**
MW-11	10/3/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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]**
MW-12	10/3/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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

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MW-12	6/24/09	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
(con't)	9/24/09	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
	1/15/10	**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**
MW-13	10/3/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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**
MW-14	10/2/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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**

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MW-15	10/2/07	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
	3/14/08	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
	6/26/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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
MW-17	9/14/07	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
	3/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
	7/3/08	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
	3/26/09	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
	6/24/09	Not able to sample well-Oakland Airport security failed to provide access to well														
	9/24/09	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**
MW-18	10/2/07	7.05	4.15	0.55	3.34**	Not developed or sampled due to presence of SPH										
	3/14/08	7.05	3.62	0.63	3.93**	Not sampled due to presence of SPH										
	6/26/08	7.05	4.11	1.14	3.85**	Not sampled due to presence of SPH										

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MW-18	9/25/08	7.05	3.77	0.56	3.73**				Not sampled due to presence of SPH							
(con't)	12/19/08	7.05	3.30	0.36	4.04**				Not sampled due to presence of SPH							
	3/26/09	7.05	3.28	0.55	4.21**				Not sampled due to presence of SPH							
	6/24/09	7.05	3.53	0.48	3.90**				Not sampled due to presence of SPH							
	9/24/09	7.05	3.57	0.46	3.85**				Not sampled due to presence of SPH							
	1/15/10	**7.05**	**3.02**	**0.66**	**4.56****				**Not sampled due to presence of SPH**							
NPORD MW-3	9/14/07	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
	3/14/08				Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland											
	7/3/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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
	9/24/09	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
	1/15/10	**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**
NPORD MW-4	9/14/07	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
	3/14/08				Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland											
	7/3/08	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
	9/25/08	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
	3/26/09	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
	6/24/09	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

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NPORD MW-4	9/24/09	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
(con't)	**1/15/10**	**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**
QA	9/14/07	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
	10/2/07	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
	3/14/08	--	--	--	--	<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
	7/3/08	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
	9/25/08	--	--	--	--	<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
	3/26/09	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
	6/24/09	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
	9/24/09	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
	1/15/10	--	--	--	--	**<50**	**NA**	**NA**	**NA**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**NA**

Explanation:
TOC = Top of Casing Elevation
DTW = Depth to Water
GWE = Groundwater Elevation
ft = feet
SPH = Separate Phase Hydrocarbons
ppb = parts per billion (µg/L)
NA = Not Analyzed

Analytical Laboratory:
Kiff Analytical LLC (ELAP # 2236)

Analytical Methods:
TPHg/BTEX/MtBE/Napthalene by EPA Method 8260B
TPHd/TPHmo/TPHjf by modified EPA Method 8015
SVOC by EPA Method 8270C

Table 1
Groundwater Monitoring Results
Rolls-Royce Engine Service Test Facility
6701 Old Earhart Road
Oakland, California

Explanation: (con't)

-- = Not Applicable
QA = Trip Blank
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHd = Total Petroleum Hydrocarbons as diesel
TPHmo = Total Petroleum Hydrocarbons as motor oil
TPHjf = Total Petroleum Hydrocarbons as jet fuel
B = Benzene
T = Toluene
E = Ethylbenzene
X = total xylenes
MtBE = Methyl tert-Butyl Ether
SVOC = Semi-Volatile Organic Compounds
** = 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.

Notes:

TOC elevations surveyed relative to mean sea level by Morrow Surveying (PLS #5161) on October 8, 2007
[1] With Silica Gel Cleanup
[2] Discrete peaks, higher boiling hydrocarbons present in sample that are atypical for Jet Fuel
[3] Discrete peaks, higher boiling hydrocarbons present in sample that are atypical for Diesel Fuel
[4] Matrix spike/matrix spike duplicate results associated with these samples for the analyte Methyl-t-butyl ether were affected by the analyte concentrations already present in the un-spiked sample.
[5] Due to the formation of an emulsion in this sample, the sample was centrifuged and decanted prior to extraction.
[6] Hydrocarbons present in this sample are higher-boiling than typical Diesel Fuel.
[7] Hydrocarbons present in this sample are higher-boiling than typical Jet Fuel.
[8] Lower boiling hydrocarbons are present in this sample that are atypical for Diesel Fuel.

Table 1
Groundwater Monitoring Results
Rolls-Royce Engine Service Test Facility
6701 Old Earhart Road
Oakland, California

Notes: (con't)

[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

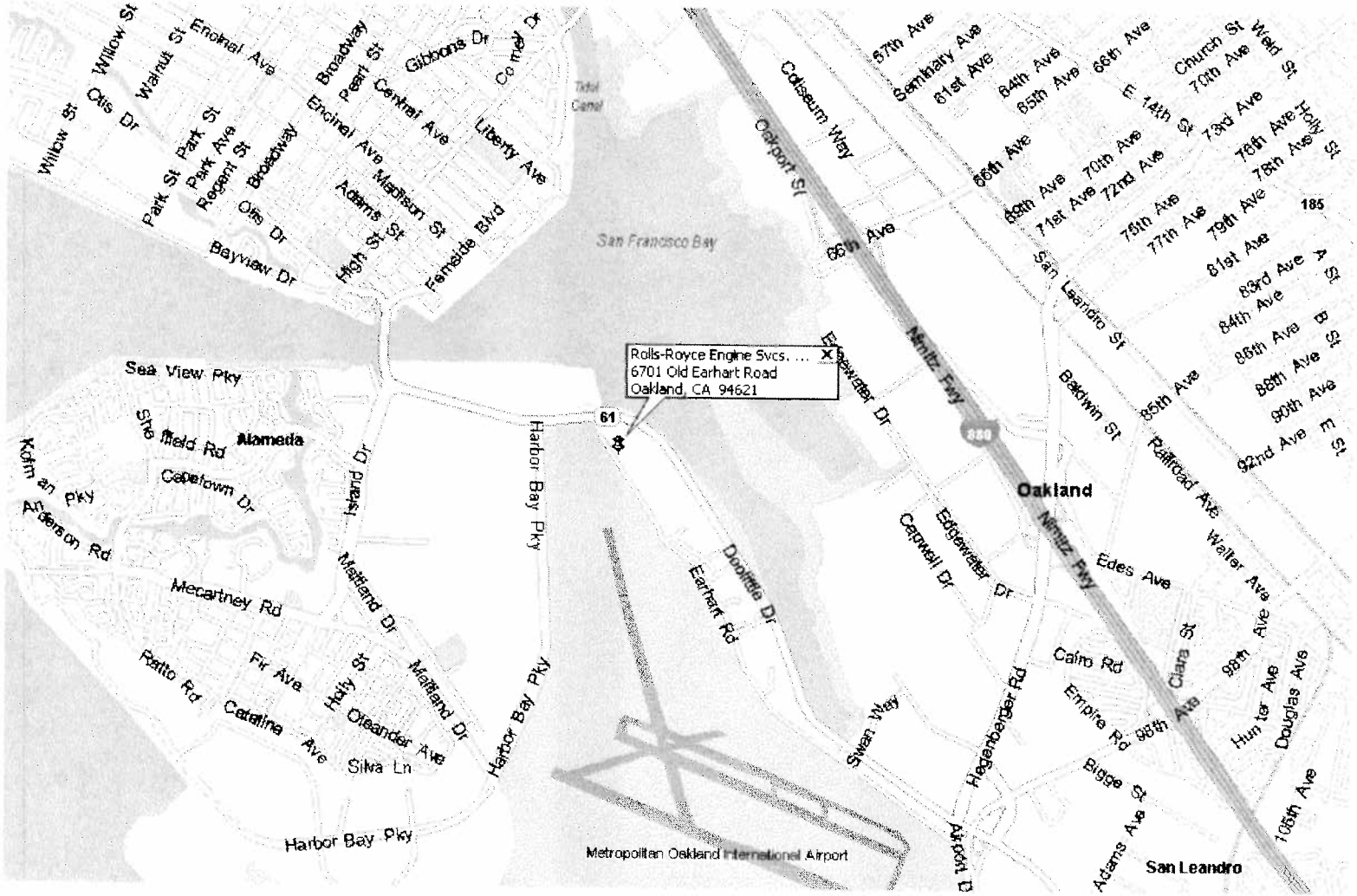
[20] Repeat analysis by Modified EPA Method 8015 yielded inconsistent results for sample NPORD MW-4. The concentrations appear to vary between bottles. The highest concentration results are reported.

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

[22] Analysis for SVOC requested by Client.

Table 2
SPH Thickness and Volumes Purged - MW-18
Rolls-Royce Engine Service 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
		Totals:	8.06	3.50



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

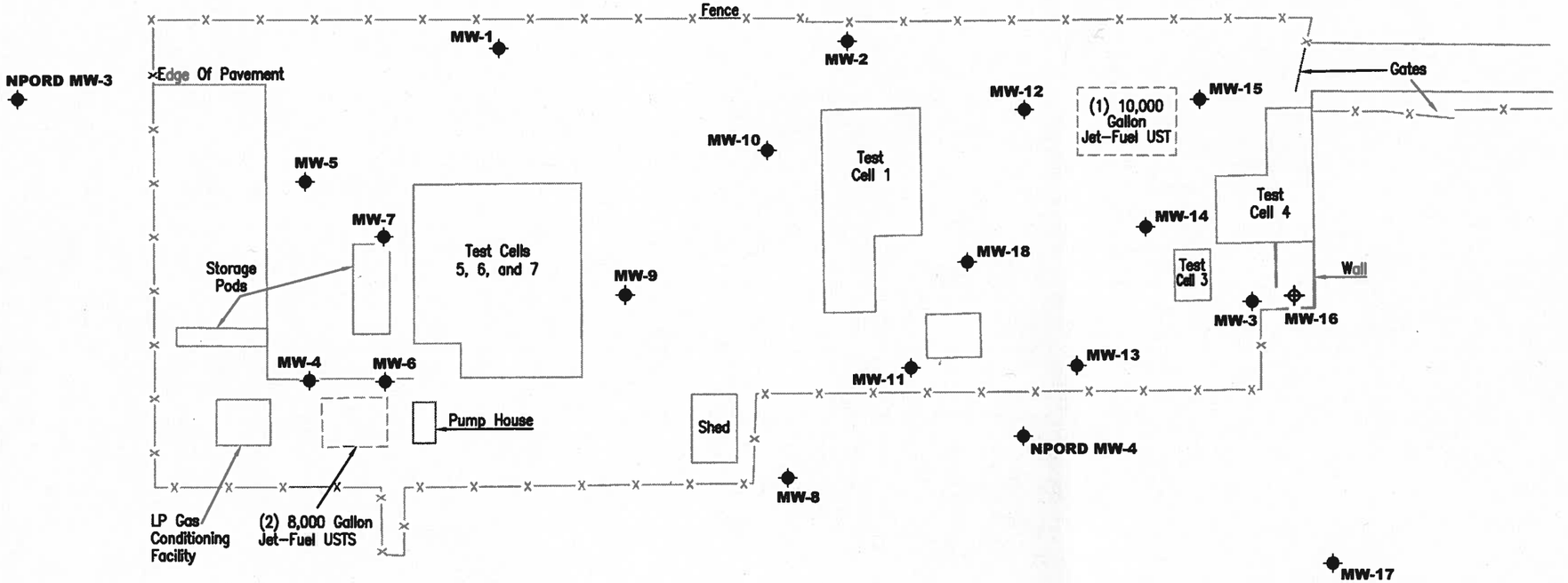
SITE LOCATION MAP
ROLLS-ROYCE ENGINE SERVICES TEST FACILITY
6701 OLD EARHART RD.
OAKLAND, CA

FIGURE
1

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

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\Q07-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
- ^ Groundwater elevation corrected for the presence of separate-phase hydrocarbons
- *[99.99]* Not used in contouring

4.60 NPORD MW-3
Edge Of Pavement
4.96 MW-1
Fence
4.75
MW-2 4.88
4.25
3.75
3.25
4.52 MW-12
(1) 10,000 Gallon Jet-Fuel UST
3.22 MW-15
Gates
4.88 MW-5
MW-10 4.70
Test Cell 1
4.85 MW-7
Test Cells 5, 6, and 7
4.75 MW-9
4.56^ MW-18
4.47 MW-14
Test Cell 4
Test Cell 3
Wall
Storage Pods
4.93 MW-4
4.94 MW-6
MW-3 2.81
MW-16
4.52 MW-13
4.58 MW-11
Pump House
Shed
NPORD MW-4 4.61
MW-8 4.68
LP Gas Conditioning Facility
(2) 8,000 Gallon Jet-Fuel USTS
MW-17 [-2.45]

Approximate groundwater flow direction at a gradient of 0.002 to 0.03 Ft./Ft.

0 60
Scale in Feet

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

DATE January 15, 2010
REVISED DATE

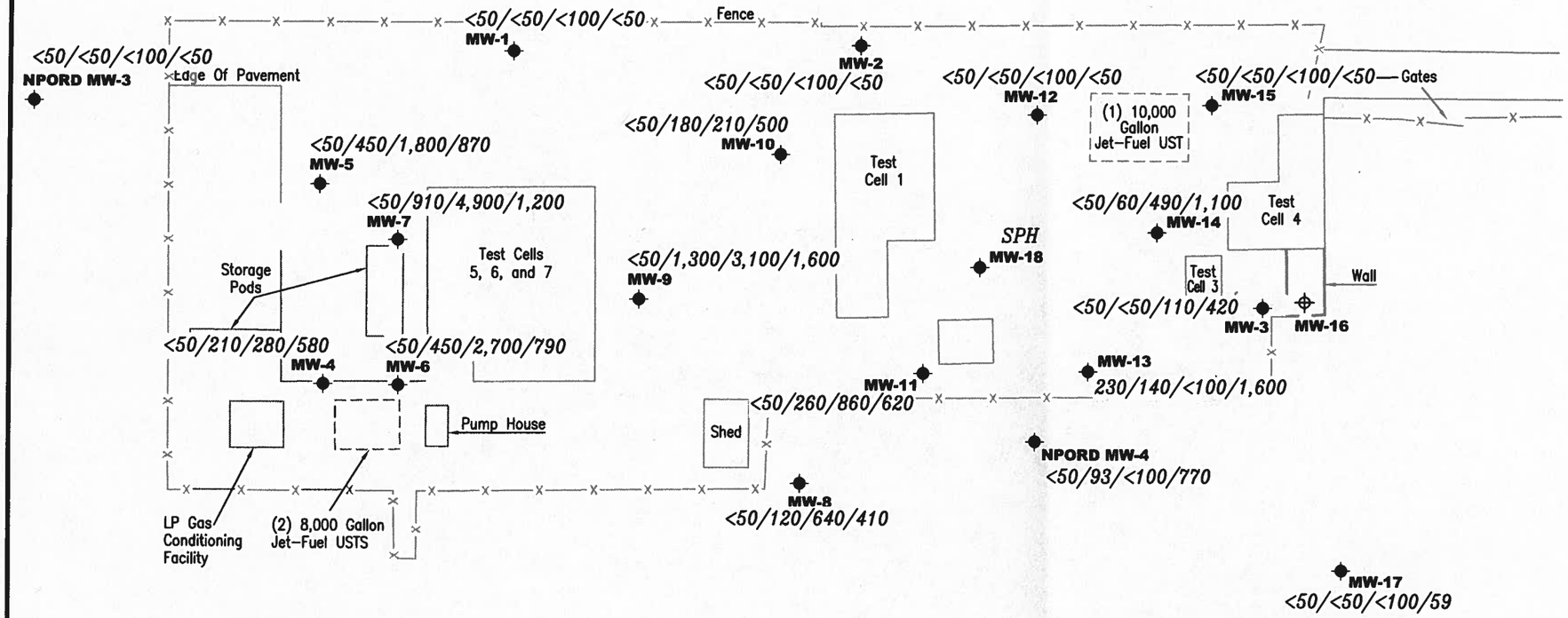
GETTLER-RYAN INC.
6747 Sierra Court, Suite J
Dublin, CA 94568
(925) 551-7555

PROJECT NUMBER 948218
REVIEWED BY

FILE NAME: P:\Enviro\Rolls Royce\Q10-Rolls Royce.dwg | Layout Tab: Pot1

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

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

REVISED DATE

DATE January 15, 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: Con1

STANDARD OPERATING PROCEDURE - QUARTERLY GROUNDWATER SAMPLING

Gettler-Ryan field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analyses by the analytical laboratory. Prior to sample collection, the type of analyses to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analyses is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using a MMC flexi-dip interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is recorded in the field notes. In addition, static water level measurements are collected with the interface probe and are also recorded in the field notes.

After water levels are collected and prior to sampling, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or polyvinyl chloride bailers. Temperature, pH, and electrical conductivity are measured a minimum of three times during purging. 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 possible. 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. The samples are labeled to include job number, sample identification, collection date and time, analyses, preservative (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4 ^{o}C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivery to the laboratory.

The chain of custody includes the job number, type of preservation, if any, analyses 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. For sampling sets greater than 20 samples, 5% trip blanks are included. 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: 1.15.10
Sampler: FT, JH & SH

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									MORRISON/8"/2	
MW-6	OK			S21	OK						
MW-7	OK										
MW-8	OK										
NPORD MW-3	OK									MORRISON/12"/2	
NPORD MW-4	OK	N/A	N/A	N/A	OK					MONUMENT 3'	
MW-12	ok									6" MORRISON	
MW-2	ok										
MW-10	ok										
MW-9	ok										
MW-1	ok										
MW-5	ok										

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: 1-15-~~09~~10
Sampler: SH

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-17	OK									Morrison/8"/2	
MW-11	OK									"	
MW-15	OK									"	
MW-14	OK									"	
MW-3	OK	7	2M	2B	OK					BL/8"/3	
MW-13	OK									Morrison/12"/2	
MW-17	OK									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: 1/15/10 (inclusive)
City: Oakland, CA Sampler: JH

Well ID: MW-1 Date Monitored: 1/15/10
Well Diameter: (2)4 in.
Total Depth: 8.53 ft.
Depth to Water: 2.21 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.

6.32 xVF .17 = 1.07 x3 case volume = Estimated Purge Volume: 3.22 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.47

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): 1325 Weather Conditions: Cloudy
Sample Time/Date: 1355 / 1/15/10 Water Color: Cloudy Odor: (Y) / N / 1.0 Hr
Approx. Flow Rate: — gpm. Sediment Description: / 1.0 Hr
Did well de-water? NO If yes, Time: ____ Volume: ____ gal. DTW @ Sampling: 3.20

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - (µS))	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
1328	1	7.22	out of Range	18.0		
1331	2	7.20	↓	17.7		
1334	3.25	7.14	↓	17.4		

LABORATORY INFORMATION

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

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: 1/15/10 (inclusive)
City: Oakland, CA | Sampler: JH

Well ID: MW-2 | Date Monitored: 1/15/10
Well Diameter: (2) 4 in.
Total Depth: 11.80 ft.
Depth to Water: 2.15 ft. ☐ Check if water column is less then 0.50 ft.

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

9.65 xVF .17 = 1.64 x3 case volume = Estimated Purge Volume: 4.92 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.08

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): 1135 | Weather Conditions: Cloudy
Sample Time/Date: 1205 / 1/15/10 | Water Color: cloudy | Odor: Y / N / Light
Approx. Flow Rate: — gpm. | Sediment Description: light
Did well de-water? NO If yes, Time: ____ Volume: ____ gal. DTW @ Sampling: 2.68

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - mS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1140	1.5	7.33	out of Rng	17.4		
1145	3.0	7.20	↓	17.2		
1152	5.0	7.05	↓	17.1		

LABORATORY INFORMATION

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

COMMENTS:

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

GETTLER-RYAN INC.

MW-3

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: 1-15-10 (inclusive)

City: **Oakland, CA** Sampler: SH

Well ID MW-3

Well Diameter 2 4 in.

Total Depth 12.07 ft.

Depth to Water 3.92 ft.

Date Monitored: 1-15-10

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.

8.15 xVF .17 = 1.39 x3 case volume = Estimated Purge Volume: ~~4.5~~ 4.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.55

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): 1213 Weather Conditions: overcast

Sample Time/Date: 1245 / 1-15-10 Water Color: Cloudy Odor: Y (N)

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

Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 4.27

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm) µS	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1219	1.5	6.59	3576	17.3		
1224	3	6.63	3683	16.8		
1231	4.5	6.72	3692	16.6		

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:

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

Well ID: MW-4
Well Diameter: (2) 4 in.
Total Depth: 10.00 ft.
Depth to Water: 4.86 ft.
Date Monitored: 1.15.10

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.

5.14 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]: 5.88

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): 1330 | Weather Conditions: CLOUDY
Sample Time/Date: 1349 / 1.15.10 | Water Color: LT. CHANCOAL GRY. Odor: Y / N MODERATE
Approx. Flow Rate: ~ gpm. | Sediment Description: S. SILTY
Did well de-water? NO If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 4.92

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1333	.75	6.84	1754	19.0		
1336	1.5	6.80	1735	19.2		
1339	2.5	6.76	1720	19.3		

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-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)
	2 x 1 Ltr. Amber	YES	[redacted] Na2S2O3		SVOC'S (8270C)

COMMENTS: MORRISON 8" OIC

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: 1/15/10 (inclusive)
City: Oakland, CA | Sampler: JH

Well ID: MW-5 | Date Monitored: 1/15/10
Well Diameter: 2 4 in.
Total Depth: 9.85 ft.
Depth to Water: 3.47 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.

6.38 xVF .17 = 1.08 x3 case volume = Estimated Purge Volume: 3.25 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.74

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): 1255 | Weather Conditions: Cloudy
Sample Time/Date: 1315 / 1/15/10 | 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: 4.09

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - US)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1257	1	6.90	out of Range	17.8		
1259	2	6.89	"	17.6		
1301	3	6.78	"	17.8		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-5	8 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

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: 1.15.10 (inclusive)
City: Oakland, CA
Sampler: FT

Well ID: MW-6
Date Monitored: 1.15.10
Well Diameter: (2) / 4 in.
Total Depth: 10.10 ft.
Depth to Water: 4.57 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.

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

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

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): 1405
Weather Conditions: Cloudy
Sample Time/Date: 1422 / 1-15-10
Water Color: Charcoal Gray
Odor: (Y) / N Moderate
Approx. Flow Rate: — gpm.
Sediment Description:
Did well de-water? NO If yes, Time: ____ Volume: ____ gal. DTW @ Sampling: 4.58

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1408	1.0	6.84	1672	17.9		
1411	2.0	6.80	1657	18.2		
1414	3.0	6.77	1645	18.3		

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-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)
	2x 1LTR AMBER	YES	Na2S2O3	→	HVOC'S (8270C)

COMMENTS: MORRISON 8" (15F)

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: 1.15.10 (inclusive)

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

Well ID MW-7 Date Monitored: 1.15.10

Well Diameter (2)4 in.

Total Depth 10.10 ft.

Depth to Water 4.38 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	t2"= 5.80

☐ Check if water column is less then 0.50 ft.

5.72 xVF .17 = .97 x3 case volume = Estimated Purge Volume: 3.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.52

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): 1300 Weather Conditions: CLOUDY

Sample Time/Date: 1318 / 1.15.10 Water Color: CHANGING Odor: (Y) N MODERATE

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

Did well de-water? ND If yes, Time: Volume: gal. DTW @ Sampling: 4.40

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1303	1.0	6.85	2120	16.2		
1306	2.0	6.81	2254	16.3		
1309	3.0	6.78	2308	16.4		

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-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)
	2 x 1 Liter	YES	N925203		
	AMBER				SVOC'S (8270C)

COMMENTS: MORRISON 8" DIL

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

GETTLER-RYAN INC.

WELL MONITORING/SAMPLING FIELD DATA SHEET

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

Job Number: 25-948218.1
Event Date: 1.15.10 (inclusive)
Sampler: FT

Well ID: MW-8
Well Diameter: (2)/ 4 in.
Total Depth: 9.80 ft.
Depth to Water: 3.57 ft.

Date Monitored: 1.15.10

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.

6.23 xVF .17 = 1.05 x3 case volume = Estimated Purge Volume: 3.0 gal.

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

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): 1025
Sample Time/Date: 1044 / 1.15.10
Approx. Flow Rate: ✓ gpm.
Did well de-water? No If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 3.57

Weather Conditions: CLOUDY
Water Color: CHANGE GREY Odor: (Y)/ N MODERATE
Sediment Description: SILTY

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature ((C)/ F)	D.O. (mg/L)	ORP (mV)
1028	1.0	6.92	1451	16.1		
1031	2.0	6.88	1656	16.4		
1034	3.0	6.85	1716	16.6		

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-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: 1/15/10 (inclusive)
City: Oakland, CA | Sampler: JW

Well ID: MW-9
Well Diameter: (2)4 in.
Total Depth: 9.98 ft.
Depth to Water: 4.69 ft.
Date Monitored: 1/15/11

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.

5.29 xVF .17 = .89 x3 case volume = Estimated Purge Volume: 2.69 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.74

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): 1220 | Weather Conditions: cloudy
Sample Time/Date: 1240 / 1/15/10 | Water Color: cloudy | Odor: Y / (N) /
Approx. Flow Rate: — gpm. | Sediment Description: little
Did well de-water? NO | If yes, Time: _____ | Volume: _____ gal. | DTW @ Sampling: 5.05

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - (S))	Temperature ((C) / F)	D.O. (mg/L)	ORP (mV)
1222	1	7.38	out of Range	17.5		
1225	2	7.30	↓	17.3		
1228	3	7.25	↓	17.2		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)
MW-9	2				SVOC's (8270c)

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: 1/15/10 (inclusive)
City: Oakland, CA Sampler: JH

Well ID: MW-10 Date Monitored: 1/15/10
Well Diameter: 2 (4) in.
Total Depth: 10.14 ft.
Depth to Water: 2.81 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	t2"= 5.80

☐ Check if water column is less then 0.50 ft.

7.33 xVF .17 = 1.24 x3 case volume = Estimated Purge Volume: 3.73 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.27

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): 1100 Weather Conditions: Cloudy
Sample Time/Date: 1120 1/15/10 Water Color: Clear Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: light
Did well de-water? no If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 3.09

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1103	1.25	6.78	↓	16.9		
1106	2.5	6.72	↓	16.8		
1109	3.75	6.70	↓	16.3		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-10	6 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)
	2				SVOC's (8270C)

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: 1-15-10 (inclusive)

City: **Oakland, CA** Sampler: SH

Well ID MW-11

Well Diameter (2)4 in.

Total Depth 10.03 ft.

Depth to Water 3.02 ft.

Date Monitored: 1-15-10

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.

7.01 xVF .17 = 1.20 x3 case volume = Estimated Purge Volume: 4 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.42

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): 0957 Weather Conditions: Overcast

Sample Time/Date: 1025 / 1-15-10 Water Color: Black Odor (Y) N Bay Mud odor

Approx. Flow Rate: ~ gpm. Sediment Description: Bit heavy

Did well de-water? N If yes, Time: ~ Volume: ~ gal. DTW @ Sampling: 3.42

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1003	2	6.79	out of range	15.6		
1006	3	6.73	"	16.0		
1009	4	6.85	"	16.3		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-11	7 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)
	2 x 1 liter amber			KIFF	SVOC's

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: 1/15/10 (inclusive)

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

Well ID MW-12 Date Monitored: 1/15/10

Well Diameter (2) 4 in.

Total Depth 9.86 ft.

Depth to Water 2.80 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.

7.06 xVF .17 = 1.20 x3 case volume = Estimated Purge Volume: 3.60 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.36

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): 1020 Weather Conditions: Cloudy

Sample Time/Date: 1045 1/15/10 Water Color: Clear Odor: Y / (N)

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

Did well de-water? no If yes, Time: _____ Volume: _____ gal. DTW @ Sampling: 2.99

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1023	1	6.82	↓	15.7		
1027	2	6.80	↓	15.4		
1030	3.5	6.74	↓	15.3		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-12	3 x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

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: 1-15-10 (inclusive)
City: Oakland, CA | Sampler: SH

Well ID: MW-13
Well Diameter: 2(4) in.
Total Depth: 9.47 ft.
Depth to Water: 1.58 ft.
7.89 xVF .66 = 5.21 x3 case volume = Estimated Purge Volume: 16 gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.16

Date Monitored: 1-15-10

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= t.02	6"= t.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

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): 1306 | Weather Conditions: Overcast
Sample Time/Date: 1340 / 1-15-10 | Water Color: Tan | Odor: Y / (N)
Approx. Flow Rate: — gpm. | Sediment Description: light
Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 2.37

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1312	5	7.21	Out of Range	17.3		
1317	10	7.19	"	17.2		
1322	16	7.08	"	17.0		

LABORATORY INFORMATION

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

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: 1-15-10 (inclusive)

City: **Oakland, CA** Sampler: SH

Well ID MW-14

Well Diameter (2) 4 in.

Total Depth 100.1 ft.

Depth to Water 1.95 ft.

Date Monitored: 1-15-10

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.

8.06 xVF .17 = 1.37 x3 case volume = Estimated Purge Volume: 4.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.56

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): 1132 Weather Conditions: Overcast

Sample Time/Date: 1200 / 1-15-10 Water Color: Clear Odor: Y / (N)

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

Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 2.72

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm) (µS)	Temperature (C) F	D.O. (mg/L)	ORP (mV)
1136	1.5	7.24	out of Rang	14.9		
1142	3	7.11	11	15.4		
1147	4.5	7.01	11	15.3		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-14	7 x 40 voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

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: 1-15-10 (inclusive)
City: **Oakland, CA** Sampler: SH

Well ID MW-15
Well Diameter (2) 4 in.
Total Depth 9.93 ft.
Depth to Water 4.29 ft.
5.64 xVF .17 = 1 x3 case volume = Estimated Purge Volume: 3 gal.
Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.42

Date Monitored: 1-15-10

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	t2"= 5.80

☐ Check if water column is less then 0.50 ft.

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): 1041 Weather Conditions: overcast
Sample Time/Date: 1115 / 1-15-10 Water Color: Grey Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: heavy
Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 5.29

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1045	1	6.87	out of Range	15.8		
1050	2	6.83	"	16.2		
1054	3	6.79	"	16.1		

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:

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: 1-15-10 (inclusive)
City: **Oakland, CA** Sampler: SH

Well ID MW-17
Well Diameter (2) 4 in.
Total Depth 9.82 ft.
Depth to Water 2.49 ft.
Date Monitored: 1-15-10

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.

7.33 xVF .17 = 1.25 x3 case volume = Estimated Purge Volume: 4 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.96

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): 0917 Weather Conditions: overcast
Sample Time/Date: 0945 / 1-15-10 Water Color: clear Odor: Y / (N)
Approx. Flow Rate: — gpm. Sediment Description: light
Did well de-water? N If yes, Time: — Volume: — gal. DTW @ Sampling: 3.62

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
0921	1.5	6.97	452	17.2		
0927	3	6.93	439	16.9		
0935	4	6.87	441	16.7		

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:

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: 1-15-10 (inclusive)
City: **Oakland, CA** Sampler: SH

Well ID MW-18
Well Diameter (2) 4 in.
Total Depth 9.93 ft.
Depth to Water 3.02 ft.
6.91 xVF .17 = 1.18 x3 case volume = Estimated Purge Volume: 4 gal.

Date Monitored: 1-15-10

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= t.02	6"= 1.50	12"= 5.80

☐ Check if water column is less then 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.40

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

Sampling Equipment:
Disposable Bailer NA
Pressure Bailer
Discrete Bailer
Peristaltic Pump
QED Bladder Pump
Other:

Time Started: 1355 (2400 hrs)
Time Completed: 1425 (2400 hrs)
Depth to Product: 2.36 ft
Depth to Water: 3.02 ft
Hydrocarbon Thickness: 0.66 ft
Visual Confirmation/Description: Black Thick
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: 2 gal ~~oz~~
Amt Removed from Well: 16 gal ~~oz~~
Water Removed: 2
Product Transferred to: on-site Drum

Start Time (purge): Weather Conditions: overcast
Sample Time/Date: ~~1-15-10~~ 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)	Temperature (C / F)	D.O (mg/L)	ORP (mV)

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-18	(3) x voa vial	YES	HCL	KIFF	TPH-JET FUEL/TPH-MO/TPH-DROw/sgc(8015)/ TPH-GRO/BTEX/MTBE/NAPHTHALENE(8260)

COMMENTS: SPH Skimmer in Well (≈ 0.2' SPH in Skimmer) Skimmer emptied prior to return to 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: 1.15.10 (inclusive)
City: **Oakland, CA** Sampler: FT

Well ID NPORD MW-3
Well Diameter 2 (4) in.
Total Depth [redacted] ft. 16.45
Depth to Water 3.5[redacted] ft.
Date Monitored: 1.15.10

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.

12.94 xVF .66 = 8.54 x3 case volume = Estimated Purge Volume: 26.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.09

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): 1155 Weather Conditions: Cloudy
Sample Time/Date: 1225 / 1.15.10 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: 3.52

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
1200	8.5	6.88	3969	17.7		
1205	17.0	6.79	OFF SCALE	18.6		
1210	26.0	6.76	OFF SCALE	18.8		

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: MORRISON 12" 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: 1.15.10 (inclusive)
City: Oakland, CA | Sampler: FT

Well ID: NPORD MW-4 | Date Monitored: 1.15.10
Well Diameter: (2) 4 in.
Total Depth: 18.38 ft.
Depth to Water: 5.45 ft. ☐ Check if water column is less then 0.50 ft.

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

12.93 xVF .17 = 2.19 x3 case volume = Estimated Purge Volume: 6.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.03

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): 1100 | Weather Conditions: CLOUDY
Sample Time/Date: 1124 / 1.15.10 | Water Color: LT. GRY. Odor: Ø/ N STRONG
Approx. Flow Rate: — gpm. | Sediment Description: S. SILTY
Did well de-water? NO If yes, Time: Volume: gal. DTW @ Sampling: 5.47

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C) F)	D.O. (mg/L)	ORP (mV)
1105	2.0	6.90	2400	16.1		
1110	4.0	6.86	2525	16.6		
1115	6.5	6.81	2615	16.9		

LABORATORY INFORMATION

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

COMMENTS: MONUMENT

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

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
1/11/10	0810	MW18				.5L BH	NO WATER
1/14/10	0650	MW18				.5L BH	"
1/19/10	0720	MW18				.5L BH	"
1/25/10	0630	MW18				.5L BH	"

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
11/6/09	0650	MW18				.5L GW	ALL WATER
11/13/09	0720	MW18				.5L GW	"
11/19/09	0900	MW18				.5L GW	"
11/27/09	0710	MW18				.5L GW	"
12/3/09	0620	MW18				.5L GW	"
12/8/09	0640	MW18				.5L GW	"
12/11/09	0630	MW18				.5L GW	"
12/15/09	0740	MW18				.5L GW	"
12/18/09	0510	MW18				.5L GW	"
12/21/09	0810	MW18				.5L GW	"
1/5/10	0740	MW18				.5L GW	"
1/8/10	0920	MW18				.5L GW	"

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: TEST Car 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
10-16	6 50	mw 18				Water	
10-19	7 15	mw 18				Water	
10-20	7 30	mw 18				Water	
10-21	7 00	mw 18				Water	
10-22	7 40	mw 18				Water	
10-23	7 45	mw 18				Water	
10-26	7 00	mw 18				Water	
10-27	7 30	mw 18				Water	
10-28	7 30	mw 18				Water	
10-29	6 45	mw 18				Water	
10-30	7 10	mw 18				Water	
10/31	7 40	mw 18				WATER	

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: TEST COIL AA
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
9/28	0740	MW18				All water	RL
9/29	0730	MW 18				water	RL
9/30	1315	MW 18				water	RL
10/1	0655	MW18				Water	RL
10/2	0850	MW18				Water	RL
10/6	810	MW 18				all water	RL
10/7	1020	MW 18				water	RL
10/8	730	MW 18				Water	RL
10/9	730	MW18				Water	RL
10/12	730	MW18				water	RL
10/14	750	MW18				water	RL
10/15	730	MW18				H20	RL

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: Test Cell 1A
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
9/14/09	0710	MW18			.5 L	all water	
9/15/09	0630	MW18			.5 L	all water	
9/16/09	0725	MW18			.5 L	"	
9/17/09	0810	MW18			.5L	"	
9/18/09	0700	MW18			.5L	"	
9/21/09	0650	MW18			.5L	All water	
9/22/09	0640	MW18			.5L	"	
9/23/09	0700	MW18			.5L	"	
9/24/09	0820	MW18			.5L	"	
9/25/09	0940	MW 18			.5L	"	
9/28/09	0710	MW18			.5L	"	
9/29/09	0620	MW18			.5L	"	

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: TEST CELL #1
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
8/27/09	0625	MW1R				.5 GL	MOSTLY WATER
8/28/01	0720	MW1R				.5 GL	" "
8/31/09	0810	MW1R				.5 GL	" "
9/1/09	0930	MW1R				.5 GL	" "
9/2/09	10:15	MW1R				.1 GL	" "
9/3/09	07:15	MW1R				.3 GL	" "
9/4/09	10 20	MW1R				.3 GL	" "
9/7/09	7 20	MW1R				.01 GL	all water
9/8/01	8:20	MW1R				.1 GL	" "
9/9/09	7:00	MW1R				.1 GL	" "
9/10/09	7:05	MW1R				.1 GL	" "
9/11/09	8:10	MW1R				.1 GL	" "

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: TEST CELL RR
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
8/11/09	0645	MW18				.2L SH	MOSTLY WATER
8/12/09	0720	MW18				.2L SH	" "
8/13/09	0620	MW18				.2L SH	" "
8/14/09	0840	MW18				.2L SH	" "
8/17/09	10 05	MW18				.2L (R) SH	ADJUSTED HEIGHT MOSTLY WATER
8/18/09	0710	MW18				.4L SH	MOSTLY HYDROCARBONS
8/19/09	0725	MW18				.5L SH	" " "
8/20/09	0820	MW18				.5L SH	" " "
8/21/09	08 30	MW18				.7 (R) SH	" "
8/24/09	08 05	MW18				.2 (R) SH	" "
8/25/09	09 15	MW18				.2 (R) SH	" "
8/26/09	09 30	MW18				.2 SH	MOSTLY WATER

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: Rolls - Joyce Test Coil
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
7/24/09	0810	MW18				.1L RP	MOSTLY WATER
7/27/09	0725	MW18				.1L RP	" "
7/28/09	0630	MW18				.1L RP	" "
7/29/09	0640	MW18				.1L RP	" "
7/30/09	0805	MW18				.1 RP	all water
7/31/09	0753	MW18				.1 RP	all water
8/3/09	1215	MW 18				.1 RP	Water
8/4/09	1040	MW 18				.1 RP	
8/5/09	815	MW 18				.1 RP	
8/6/09	945	MW 18				.1 RP	
8/7/09	720	MW 18				.1 RP	~~water~~
8/10/09	1230	MW 18				0 RP	all water

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: Rolls - Rotce Test Cell
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
7/8/09	0810	MW18				.5 L GA	MOSTLY HYDROCARBONS
7/9/09	0720	MW18				.5L GA	" "
7/10/09	0900	MW18				.4L GA	50/50 HYDROCARBONS/WATER
7/13/09	07 00	MW18				.3L GA	mostly water
7/14/09	07 40	MW18				.1 L GA	" "
7/15/09	07 15	MW18				.1 L GA	" "
7/16/09	07 05	MW18				.2 L GA	" "
7/17/09	0810	MW18				.2L GA	" "
7/20/09	0745	MW18				.1L GA	" "
7/21/09	0720	MW18				.1L GA	" "
7/22/09	0900	MW18				.1L GA	" "
7/23/09	0745	MW18				.1L GA	" "

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: Rolls-Royce Test Cell
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
6/19/09	0620	MW18				.5L SH	IN HYDROCARBONS
6/22/09	0920	MW18				.5L SH	"
6/23/09	815	MW 18				.1 SH	"
6/24/09	0820	MW 18				.5L SH	RE-ADJUSTED DEPTH IN HYDROCARBONS
6/25/09	0945	MW18				.5L SH	"
6/26/09	0645	MW18				.5L SH	"
6/29/09	0710	MW18				.5L SH	"
6/30/09	0700	MW18				.5L SH	"
7/1/09	0750	MW18				.5L SH	"
7/2/09	0810	MW18				.5L SH	"
7/6/09	0720	MW18				.5L SH	"
7/7/09	0750	MW18				.5L SH	"

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: ROLLS-ROYCE TEST CELL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
6/1/09	0720	MW18				.5L BH	NO HYDROCARBONS
6/2/09	0950	MW18				.5L BH	"
6/3/09	1100	MW 18				.5L BH	"
6/4/09	0740	MW18				.5L BH	"
6/5/09	0620	MW 18				.5L BH	"
6/8/09	0915	MW18				.5L RL	"
6/9/09	0945	MW18				.5L RL	"
6/10/09	0905	MW 18				.3L RL	"
6/15/09	0915	MW 18				.1L RL	" Hardly anything in Tube
6/16/09	725	MW 18				.1L RL	" " "
6/17/09	810	MW 18				.5L BH	ADJUSTED DEPTH. NO HYDROCARBONS
6/18/09	700	MW18				.5L BH	NO HYDROCARBONS

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: Rolls - 10408 BSO TEST COIL
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
5/14/09	0620	MW18				.5L GW	NO HYDROCARBONS
5/15/09	0700	MW18				.5L GW	"
5/18/09	0620	MW18				.5L GW	"
5/19/09	0700	MW18				.5L GW	"
5/20/09	0650	MW18				.5L GW	"
5/21/09	0700	MW18				.5L GW	"
5/22/09	0640	MW18				.5L GW	"
5/26/09	HOLIDAY						
5/26/09	0810	MW18				.5L GW	"
5/27/09	0725	MW18				.5L GW	"
5/28/09	0820	MW18				.5L GW	"
5/29/09	0640	MW18				.5L GW	"

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION:	Rolls-Royce Test Cell
PROJECT:	
JOB NO.:	

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
4/28/09	0640	MW18				.5L [illegible]	[illegible] Hydro carbons
4/29/09	0850	MW18				.5L [illegible]	[illegible] Hydro carbons
4/30/09	1100	MW18				.5L [illegible]	[illegible] Hydro carbons
5/1/09	0740	MW18				.5L [illegible]	[illegible] Hydrocarbons
5/4/09	0910	MW18				.5L [illegible]	[illegible] Hydro carbons
5/5/09	1140	MW18				.5L [illegible]	[illegible] Hydro carbons
5/6/09	0700	MW18				.5L [illegible]	"
5/7/09	0800	MW18				.5L [illegible]	"
5/8/09	0640	MW18				.5L [illegible]	"
5/11/09	0720	MW18				.5L [illegible]	"
5/12/09	0645	MW18				.5L [illegible]	"
5/13/09	0810	MW18				.5L [illegible]	"

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: ROWS - ROYCE TEST CELL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
4/10/09	0820	MW 18				.5L DH	ALL HYDROCARBONS
4/13/09	0620	MW 18				.5L RL	ALL HYDROCARBONS
4/14/09	0710	MW18				.5L RL	ALL HYDROCARBONS
4/15/09	0930	MW18				.5L DH	ALL HYDROCARBONS
4/16/09	0710	MW18				.5L DH	ALL HYDROCARBONS
4/17/09	0700	MW 18				.5L DH	ALL HYDROCARBONS
4/20/09	0625	MW18				.5L RL	ALL HYDROCARBONS
4/21/09	0710	MW18				.5L DH	ALL HYDROCARBONS
4/22/09	0650	MW18				.5L DH	ALL HYDROCARBONS
4/23/09	0720	MW 18				.5L DH	ALL HYDROCARBONS
4/24/09	0645	MW18				.5L DH	ALL HYDROCARBONS
4/27/09	0710	MW18				.5L RL	ALL HYDROCARBONS

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: Rolls-Royce Test Cell
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
3/9/09	0720	MW18				.5L RL	All water
3/10/09	0635	MW18				.5L RL	All water
3/11/09	0750	MW18				.5L RL	All water (Rot. Pickup)
3/12/09	0700	MW18				.5L RL	Hydrocarbons
3/13/09	0625	MW18				.5L RL	Hydrocarbons
3/16/09	0730	MW18				.5L RL	All water (Raining)
3/17/09	0720	MW18				.5L RL	All water
3/18/09	0715	MW18				.5L RL	50/50
3/19/09	0740	MW18				.5L RL	50/50
3/20/09	0730	MW18				.5L RL	50/50
3/23/09	0645	MW18				.5L RL	50/50
3/24/09	0720	MW18				.5L RL	50/50

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: ROLLS-ROYCE TEST CELL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
3/25/09	0710	MW18				.5L DM	50/50
3/26/09	0640	MW18				.5L DM	50/50
3/27/09	0710	MW18				.5L DM	50/50
3/30/09	0800	MW18				.5L RL	20% HYDROCARBONS
3/31/09	0710	MW18				.5L RL	20% HYDROCARBONS
4/1/09	0645	MW18				.5L RM	10% HYDROCARBONS
4/2/09	0900	MW18				5L RM	ALL WATER
4/3/09	0820	MW18				.5L RM	ALL WATER READJUSTED DEPTH
4/6/09	0640	MW18				.5L RL	ALL HYDROCARBONS
4/7/09	0720	MW18				.5L RL	ALL HYDROCARBONS
4/8/09	0650	MW18				.5L DM	ALL HYDROCARBONS
4/9/09	0700	MW18				.5L DM	ALL HYDROCARBONS

PES Environmental, Inc.
Engineering & Environmental Services

LOCATION: Lows - Royal TOT car
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
2/19/09	1145	MW 18				.5L GW	ALL WATER
2/20/09	0800	MW 18				.5L GW	ALL WATER
2/23/09	0700	MW18				.5L GW	ALL WATER
2/24/09	0640	MW18				.5L GW	ALL WATER
2/25/09	0720	MW 18				.5L GW	ALL WATER
2/26/09	0940	MW18				.5L GW	ALL WATER
2/27/09	0610	MW18				.5L GW	ALL WATER
3/2/09	0820	MW18				.5L GW	ALL WATER
3/3/09	0700	MW18				.5L GW	ALL WATER
3/4/09	0620	MW18				.5L GW	ALL WATER
3/5/09	0730	MW18				.5L GW	ALL WATER
3/6/09	0610	MW18				.5L GW	ALL WATER

PES Environmental, Inc.
Engineering & Environmental Services

Mitch - cell 415 497 2744

LOCATION: ROLLS-ROYCE TEST CELL
PROJECT:
JOB NO.:

SEPARATE-PHASE HYDROCARBON REMOVAL LOG

Date	Time	Well ID	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	Amount of Product Removed	Notes
2/4/09	1030	MW-18	3.20	3.87	0.67	0.4 L	- Allowed 30 min. for skimmer to collect product
"	1130	"	3.22	3:58	0.36		- measurement taken after skimmer removed from well
2/5/09	0900	"				.5 L RM	
2/6/09	0800	"				.5L RM	
2/9/09	1000	"				.5 L RM	
2/10/09	0722	"				.5 L RM	
2/11/09	0910	"				.5L RM	
2/12/09	1201	"				.5L RM	
2/13/09	0740	"				.5L RM	
2/16/09	0820	"				.5L RL	
2/17/09	0710	"				.5 L RM	1" HYDRO CARBONS. REST WATER (CLEAN)
2/18/09	1040	"				.5 L RM	ALL WATER RAISED RECEPTICAL TO GET ABOVE THE WATER

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

Laboratory Results

Geoffrey Risse
Gettler-Ryan Inc.
3140 Gold Camp Dr. Suite 170
Rancho Cordova, CA 95670

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

Dear Mr. Risse,

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 : 71633
Date : 01/22/2010

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

Case Narrative

Sample MW-17 was analyzed by EPA Method 8260B using bottles that contained headspace bubbles greater than 1/4 inch in diameter.

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **QA** Matrix : Water Lab Number : 71633-01
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	97.9		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	90.7		% Recovery	EPA 8260B	01/20/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-1** Matrix : Water Lab Number : 71633-02
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	103		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	97.2		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Diesel (Silica Gel)	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	95.9		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	110		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-2** Matrix : Water Lab Number : 71633-03
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	97.5		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	104		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	90.4		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Diesel (Silica Gel)	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	97.2		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	109		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-3** Matrix : Water Lab Number : 71633-04
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**0.70**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	98.2		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	92.3		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**420**	50	ug/L	M EPA 8015	01/21/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**110**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	81.1		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	95.8		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-4** Matrix : Water Lab Number : 71633-05
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	97.1		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**580**	50	ug/L	M EPA 8015	01/21/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**210**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**280**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	95.8		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	111		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-5** Matrix : Water Lab Number : 71633-06
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	96.6		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**870**	50	ug/L	M EPA 8015	01/22/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**450**	50	ug/L	M EPA 8015	01/22/2010
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Motor Oil	**1800**	100	ug/L	M EPA 8015	01/22/2010
Octacosane (Silica Gel Surr)	77.3		% Recovery	M EPA 8015	01/22/2010
Octacosane (Diesel Surrogate)	95.0		% Recovery	M EPA 8015	01/22/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-6** Matrix : Water Lab Number : 71633-07
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.7		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	93.8		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**790**	50	ug/L	M EPA 8015	01/22/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**450**	50	ug/L	M EPA 8015	01/22/2010
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Motor Oil	**2700**	100	ug/L	M EPA 8015	01/22/2010
Octacosane (Silica Gel Surr)	96.3		% Recovery	M EPA 8015	01/22/2010
Octacosane (Diesel Surrogate)	112		% Recovery	M EPA 8015	01/22/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-7** Matrix : Water Lab Number : 71633-08
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	104		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	99.9		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	95.6		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**1200**	50	ug/L	M EPA 8015	01/22/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**910**	50	ug/L	M EPA 8015	01/22/2010
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Motor Oil	**4900**	100	ug/L	M EPA 8015	01/22/2010
Octacosane (Silica Gel Surr)	95.0		% Recovery	M EPA 8015	01/22/2010
Octacosane (Diesel Surrogate)	91.2		% Recovery	M EPA 8015	01/22/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-8** Matrix : Water Lab Number : 71633-09
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	98.3		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	104		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	89.8		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**410**	50	ug/L	M EPA 8015	01/21/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**120**	50	ug/L	M EPA 8015	01/21/2010
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Motor Oil	**640**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	97.3		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	111		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-9** Matrix : Water Lab Number : 71633-10
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.1		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	89.7		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**1600**	50	ug/L	M EPA 8015	01/22/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**1300**	50	ug/L	M EPA 8015	01/22/2010
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Motor Oil	**3100**	100	ug/L	M EPA 8015	01/22/2010
Octacosane (Silica Gel Surr)	92.4		% Recovery	M EPA 8015	01/22/2010
Octacosane (Diesel Surrogate)	100		% Recovery	M EPA 8015	01/22/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-10** Matrix : Water Lab Number : 71633-11
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**0.66**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**3.5**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**3.4**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	92.4		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**500**	50	ug/L	M EPA 8015	01/21/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**180**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**210**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	93.5		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	112		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-11** Matrix : Water Lab Number : 71633-12
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.4		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	94.0		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**620**	50	ug/L	M EPA 8015	01/21/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**260**	50	ug/L	M EPA 8015	01/21/2010
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Motor Oil	**860**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	96.5		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	107		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-12** Matrix : Water Lab Number : 71633-13
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	95.1		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Diesel (Silica Gel)	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	94.1		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	109		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

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Date : 01/22/2010

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

Sample : **MW-13** Matrix : Water Lab Number : 71633-14
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**0.58**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**1.4**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**230**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**3.1**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.8		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	99.8		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	95.2		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**1600**	50	ug/L	M EPA 8015	01/21/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**140**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	84.4		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	104		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-14** Matrix : Water Lab Number : 71633-15
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**1.0**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.4		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	90.9		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**1100**	50	ug/L	M EPA 8015	01/22/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**60**	50	ug/L	M EPA 8015	01/21/2010
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
TPH as Motor Oil	**490**	100	ug/L	M EPA 8015	01/22/2010
Octacosane (Silica Gel Surr)	96.7		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	113		% Recovery	M EPA 8015	01/22/2010

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Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-15** Matrix : Water Lab Number : 71633-16
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.4		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	90.5		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Diesel (Silica Gel)	**< 50**	50	ug/L	M EPA 8015	01/22/2010
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	102		% Recovery	M EPA 8015	01/22/2010
Octacosane (Diesel Surrogate)	113		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **MW-17** Matrix : Water Lab Number : 71633-17
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.6		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	89.4		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**59**	50	ug/L	M EPA 8015	01/22/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**< 50**	50	ug/L	M EPA 8015	01/22/2010
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	01/22/2010
Octacosane (Silica Gel Surr)	91.2		% Recovery	M EPA 8015	01/22/2010
Octacosane (Diesel Surrogate)	102		% Recovery	M EPA 8015	01/22/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **NPORDMW-3** Matrix : Water Lab Number : 71633-18
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	91.0		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Diesel (Silica Gel)	**< 50**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	94.6		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	106		% Recovery	M EPA 8015	01/21/2010

KIFF Analytical LLC

Report Number : 71633
Date : 01/22/2010

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

Sample : **NPORDMW-4** Matrix : Water Lab Number : 71633-19
Sample Date :01/15/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	**< 0.50**	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.6		% Recovery	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	91.1		% Recovery	EPA 8260B	01/20/2010
TPH as Jet Fuel	**770**	50	ug/L	M EPA 8015	01/21/2010
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
TPH as Diesel (Silica Gel)	**93**	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	**< 100**	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	93.9		% Recovery	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	109		% Recovery	M EPA 8015	01/21/2010

Report Number : 71633

Date : 01/22/2010

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	01/21/2010
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	01/21/2010
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	01/21/2010
Octacosane (Diesel Surrogate)	102		%	M EPA 8015	01/21/2010
Octacosane (Silica Gel Surr)	111		%	M EPA 8015	01/21/2010
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	100		%	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	96.5		%	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	100		%	EPA 8260B	01/20/2010
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	96.0		%	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	98.2		%	EPA 8260B	01/20/2010

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Toluene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	01/20/2010
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	01/20/2010
1,2-Dichloroethane-d4 (Surr)	99.8		%	EPA 8260B	01/20/2010
4-Bromofluorobenzene (Surr)	91.2		%	EPA 8260B	01/20/2010
Toluene - d8 (Surr)	104		%	EPA 8260B	01/20/2010

KIFF ANALYTICAL, LLC

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

Report Number : 71633

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 01/22/2010

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	927	957	ug/L	M EPA 8015	1/21/10	92.7	95.7	3.19	70-130	25
TPH as Diesel														
	BLANK	<50	1000	1000	1040	993	ug/L	M EPA 8015	1/21/10	104	99.3	4.68	70-130	25
Benzene														
	71633-02	<0.50	40.6	40.6	37.9	36.6	ug/L	EPA 8260B	1/20/10	93.4	90.4	3.29	80-120	25
Ethyl-tert-butyl ether														
	71633-02	<0.50	40.3	40.3	38.2	39.1	ug/L	EPA 8260B	1/20/10	94.7	97.1	2.45	76.5-120	25
Ethylbenzene														
	71633-02	<0.50	40.3	40.3	40.5	38.9	ug/L	EPA 8260B	1/20/10	100	96.4	4.13	80-120	25
Methyl-t-butyl ether														
	71633-02	<0.50	40.6	40.6	37.8	37.8	ug/L	EPA 8260B	1/20/10	93.0	92.9	0.129	69.7-121	25
P + M Xylene														
	71633-02	<0.50	39.2	39.2	40.4	39.1	ug/L	EPA 8260B	1/20/10	103	99.8	3.09	76.8-120	25
Tert-Butanol														
	71633-02	<5.0	202	202	188	185	ug/L	EPA 8260B	1/20/10	93.3	91.7	1.74	80-120	25
Toluene														
	71633-02	<0.50	40.3	40.3	40.7	39.5	ug/L	EPA 8260B	1/20/10	101	98.0	2.94	80-120	25

KIFF ANALYTICAL, LLC

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

Report Number : 71633

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 01/22/2010

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														
	71633-04	<0.50	40.6	40.6	38.5	39.0	ug/L	EPA 8260B	1/20/10	95.0	96.1	1.14	80-120	25
Ethyl-tert-butyl ether														
	71633-04	<0.50	40.3	40.3	41.5	41.4	ug/L	EPA 8260B	1/20/10	103	103	0.275	76.5-120	25
Ethylbenzene														
	71633-04	<0.50	40.3	40.3	39.5	39.8	ug/L	EPA 8260B	1/20/10	98.0	98.8	0.742	80-120	25
Methyl-t-butyl ether														
	71633-04	0.70	40.6	40.6	40.8	41.1	ug/L	EPA 8260B	1/20/10	98.6	99.3	0.764	69.7-121	25
P + M Xylene														
	71633-04	<0.50	39.2	39.2	38.8	39.4	ug/L	EPA 8260B	1/20/10	98.9	100	1.51	76.8-120	25
Tert-Butanol														
	71633-04	<5.0	202	202	201	210	ug/L	EPA 8260B	1/20/10	99.6	104	4.57	80-120	25
Toluene														
	71633-04	<0.50	40.3	40.3	39.7	40.5	ug/L	EPA 8260B	1/20/10	98.4	100	2.01	80-120	25
Benzene														
	71633-03	<0.50	40.6	40.6	39.3	37.2	ug/L	EPA 8260B	1/20/10	97.0	91.6	5.65	80-120	25
Ethyl-tert-butyl ether														
	71633-03	<0.50	40.3	40.3	37.4	36.8	ug/L	EPA 8260B	1/20/10	92.9	91.3	1.67	76.5-120	25

KIFF ANALYTICAL, LLC

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

Report Number : 71633

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 01/22/2010

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
Ethylbenzene														
	71633-03	<0.50	40.3	40.3	40.4	38.1	ug/L	EPA 8260B	1/20/10	100	94.4	5.94	80-120	25
Methyl-t-butyl ether														
	71633-03	<0.50	40.6	40.6	37.3	37.2	ug/L	EPA 8260B	1/20/10	91.9	91.6	0.266	69.7-121	25
P + M Xylene														
	71633-03	<0.50	39.2	39.2	38.3	35.9	ug/L	EPA 8260B	1/20/10	97.5	91.5	6.42	76.8-120	25
Tert-Butanol														
	71633-03	<5.0	202	202	184	189	ug/L	EPA 8260B	1/20/10	91.3	93.7	2.53	80-120	25
Toluene														
	71633-03	<0.50	40.3	40.3	42.6	40.2	ug/L	EPA 8260B	1/20/10	106	99.6	5.90	80-120	25

KIFF ANALYTICAL, LLC

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

Report Number : 71633

QC Report : Laboratory Control Sample (LCS)

Date : 01/22/2010

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	40.2	ug/L	EPA 8260B	1/20/10	99.1	80-120
Ethylbenzene	40.2	ug/L	EPA 8260B	1/20/10	106	80-120
Methyl-t-butyl ether	40.8	ug/L	EPA 8260B	1/20/10	99.7	69.7-121
Naphthalene	40.2	ug/L	EPA 8260B	1/20/10	107	79.8-121
P + M Xylene	40.2	ug/L	EPA 8260B	1/20/10	105	76.8-120
TPH as Gasoline	509	ug/L	EPA 8260B	1/20/10	87.7	80-120
Toluene	40.2	ug/L	EPA 8260B	1/20/10	103	80-120
Benzene	40.2	ug/L	EPA 8260B	1/20/10	100	80-120
Ethylbenzene	40.2	ug/L	EPA 8260B	1/20/10	101	80-120
Methyl-t-butyl ether	40.8	ug/L	EPA 8260B	1/20/10	106	69.7-121
Naphthalene	40.2	ug/L	EPA 8260B	1/20/10	104	79.8-121
P + M Xylene	40.2	ug/L	EPA 8260B	1/20/10	99.9	76.8-120
TPH as Gasoline	508	ug/L	EPA 8260B	1/20/10	106	80-120
Toluene	40.2	ug/L	EPA 8260B	1/20/10	100	80-120
Benzene	40.0	ug/L	EPA 8260B	1/20/10	97.9	80-120
Ethylbenzene	40.0	ug/L	EPA 8260B	1/20/10	101	80-120
Methyl-t-butyl ether	40.6	ug/L	EPA 8260B	1/20/10	95.4	69.7-121
Naphthalene	40.0	ug/L	EPA 8260B	1/20/10	102	79.8-121
P + M Xylene	40.0	ug/L	EPA 8260B	1/20/10	96.8	76.8-120
TPH as Gasoline	512	ug/L	EPA 8260B	1/20/10	103	80-120

KIFF ANALYTICAL, LLC

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

Report Number : 71633

QC Report : Laboratory Control Sample (LCS)

Date : 01/22/2010

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
Toluene	40.0	ug/L	EPA 8260B	1/20/10	104	80-120

KIFF ANALYTICAL, LLC

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

71633

Global ID #: T06019775776

☐ Yes
☐ No

Chain-of-Custody-Record

Direct Bill To:
Geoffrey Risse
Gettler-Ryan Inc.
3140 Gold Camp Dr.
Rancho Cordova, CA
95670

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: 3140 Gold Camp Dr., Suite 170, Rancho Cordova, CA 95670
Project Contact: (Name) Geoffrey Risse e-mail grisse@grinc.com
(Phone) 916-631-1300x12 (Fax) 916-631-1317

(Name) Geoffrey Risse
(Phone) 916-631-1300x12
Laboratory Name: Kiff Analytical
Laboratory Service Order:
Laboratory Service Code:
Samples Collected by: (Name) J. Herrera
Signature: [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)	SVOC's (8270 SIM)										Remarks: EDF NEEDED 1 of 2 / Lab Sample No.
QA	2	W	1/15/10				X															01
MW-1	7	↓	1355	X	X	X	X															02
MW-2	7	↓	1205	X	X	X	X															03
MW-3	7	↓	1245	X	X	X	X															04
MW-4	9	↓	1349	X	X	X	X					X										05
MW-5	7	↓	1315	X	X	X	X															06
MW-6	9	↓	1422	X	X	X	X					X										07
MW-7	9	↓	1318	X	X	X	X					X										08
MW-8	7	↓	1044	X	X	X	X															09
MW-9	9	↓	1240	X	X	X	X					X										10
MW-10	9	↓	1120	X	X	X	X					X										11
MW-11	9	↓	1025	X	X	X	X					X										12
MW-12	7	↓	1045	X	X	X	X															13
MW-13	7	↓	1340	X	X	X	X															14

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
[signature]	Gettler-Ryan	1/16/10 1000	GETTLER-RYAN FRIDGE	GRINC	01-18-10 0700	
[signature]	GR INC	01-18-10 1500				

Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Date/Time	Iced (Y/N)
			[signature] KIFF Analytical LLC	011810/1500	Y

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted (circled)

Page 28 of 30

71633

Global ID #: T06019775776

☐ Yes
☐ No

Chain-of-Custody-Record

Direct Bill To:
Geoffrey Risse
Gettler-Ryan Inc.
3140 Gold Camp Dr.
Rancho Cordova, CA
95670

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: 3140 Gold Camp Dr., Suite 170, Rancho Cordova, CA 95670
Project Contact: (Name) Geoffrey Risse e-mail grisse@grinc.com
(Phone) 916-631-1300x12 (Fax) 916-631-1317

(Name) Geoffrey Risse
(Phone) 916-631-1300x12
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)	Remarks / Lab Sample No.
MW-14	7	W	1/15/10 1200	X	X	X	X					15
MW-15	7		1115	X	X	X	X					16
MW-17	7		0945	X	X	X	X					17
MPOAL MW-3	7		1225	X	X	X	X					18
MPOAL MW-4	7		1124	X	X	X	X					19

Remarks: EDF NEEDED 2.52

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced (Y/N)
Patrick Sullivan	Gettler-Ryan	1/16/10 1000	GETTLER-RYAN FRIDGE	GRINC	01-18-10 0700	
[illegible]	GRINC	01-18-10 1500				
			Received For Laboratory By (Signature)		Date/Time	Iced (Y/N)
			[illegible] Kiff Analytical LLC		011810/1500	Y

Turn Around Time (Circle Choice)

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

KIFF Analytical LLC

SAMPLE RECEIPT CHECKLIST

RECEIVER: TJB (Initials)

SRG#: 71633 Date: 011810

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 3.2 Therm. ID# IR-5 Initial TJB Date/Time 011810/1758 ☐ 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 128
Matrix WA	Container type Amber	# of containers received 12
Matrix	Container type	# of containers received

Date and Time Sample Put into Temp Storage Date: 011810 Time: 1817

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: Sample 04 VOA 7 of 7 has bubbles present.
Sample 10 VOA 6,7 of 7 have bubbles present.
Sample 12 VOA 7 of 7 has significant bubbles
Sample 14 VOA 6,7 of 7 have bubbles present
Sample 17 VOA 1,2,3,4,5,6,7 of 7 have bubbles. NWP 011810 1925

O:\old_ed\samprec\Forms\Sample Receipt Checklist rev 051409.doc

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

Calscience
Environmental
Laboratories, Inc.

January 26, 2010

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

Subject: **Calscience Work Order No.:** **10-01-1276**
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 1/19/2010 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. 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: 01/19/10
Work Order No: 10-01-1276
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

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-4	**10-01-1276-1-A**	**01/15/10 13:49**	**Aqueous**	**GC/MS TT**	**01/20/10**	**01/23/10 16:55**	**100120L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1		4-Nitrophenol	ND	10	1	
Aniline	ND	10	1		Dibenzofuran	ND	10	1	
Phenol	ND	10	1		2,4-Dinitrotoluene	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1		2,6-Dinitrotoluene	ND	10	1	
2-Chlorophenol	ND	10	1		Diethyl Phthalate	ND	10	1	
1,3-Dichlorobenzene	ND	10	1		4-Chlorophenyl-Phenyl Ether	ND	10	1	
1,4-Dichlorobenzene	ND	10	1		Fluorene	ND	10	1	
Benzyl Alcohol	ND	10	1		4-Nitroaniline	ND	10	1	
1,2-Dichlorobenzene	ND	10	1		Azobenzene	ND	10	1	
2-Methylphenol	ND	10	1		4,6-Dinitro-2-Methylphenol	ND	50	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1		N-Nitrosodiphenylamine	ND	10	1	
3/4-Methylphenol	ND	10	1		4-Bromophenyl-Phenyl Ether	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1		Hexachlorobenzene	ND	10	1	
Hexachloroethane	ND	10	1		Pentachlorophenol	ND	10	1	
Nitrobenzene	ND	25	1		Phenanthrene	ND	10	1	
Isophorone	ND	10	1		Anthracene	ND	10	1	
2-Nitrophenol	ND	10	1		Di-n-Butyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1		Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1		Benzidine	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1		Pyrene	ND	10	1	
2,4-Dichlorophenol	ND	10	1		Pyridine	ND	10	1	
Naphthalene	ND	10	1		Butyl Benzyl Phthalate	ND	10	1	
4-Chloroaniline	ND	10	1		3,3'-Dichlorobenzidine	ND	25	1	
Hexachloro-1,3-Butadiene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1		Bis(2-Ethylhexyl) Phthalate	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1		Di-n-Octyl Phthalate	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
2-Chloronaphthalene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
2-Nitroaniline	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Dimethyl Phthalate	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Acenaphthylene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
3-Nitroaniline	ND	10	1		1-Methylnaphthalene	ND	10	1	
Acenaphthene	ND	10	1		1,2,4-Trichlorobenzene	ND	10	1	
2,4-Dinitrophenol	ND	50	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	69	7-121		Phenol-d6	53	1-127	
Nitrobenzene-d5	89	50-146		2-Fluorobiphenyl	80	42-138	
2,4,6-Tribromophenol	80	41-137		p-Terphenyl-d14	82	47-173	

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: 01/19/10
Work Order No: 10-01-1276
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

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-6	**10-01-1276-2-A**	**01/15/10 14:22**	**Aqueous**	**GC/MS TT**	**01/20/10**	**01/23/10 17:27**	**100120L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1		4-Nitrophenol	ND	10	1	
Aniline	ND	10	1		Dibenzofuran	ND	10	1	
Phenol	ND	10	1		2,4-Dinitrotoluene	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1		2,6-Dinitrotoluene	ND	10	1	
2-Chlorophenol	ND	10	1		Diethyl Phthalate	ND	10	1	
1,3-Dichlorobenzene	ND	10	1		4-Chlorophenyl-Phenyl Ether	ND	10	1	
1,4-Dichlorobenzene	ND	10	1		Fluorene	ND	10	1	
Benzyl Alcohol	ND	10	1		4-Nitroaniline	ND	10	1	
1,2-Dichlorobenzene	ND	10	1		Azobenzene	ND	10	1	
2-Methylphenol	ND	10	1		4,6-Dinitro-2-Methylphenol	ND	50	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1		N-Nitrosodiphenylamine	ND	10	1	
3/4-Methylphenol	ND	10	1		4-Bromophenyl-Phenyl Ether	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1		Hexachlorobenzene	ND	10	1	
Hexachloroethane	ND	10	1		Pentachlorophenol	ND	10	1	
Nitrobenzene	ND	25	1		Phenanthrene	ND	10	1	
Isophorone	ND	10	1		Anthracene	ND	10	1	
2-Nitrophenol	ND	10	1		Di-n-Butyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1		Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1		Benzidine	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1		Pyrene	ND	10	1	
2,4-Dichlorophenol	ND	10	1		Pyridine	ND	10	1	
Naphthalene	ND	10	1		Butyl Benzyl Phthalate	ND	10	1	
4-Chloroaniline	ND	10	1		3,3'-Dichlorobenzidine	ND	25	1	
Hexachloro-1,3-Butadiene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1		Bis(2-Ethylhexyl) Phthalate	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1		Di-n-Octyl Phthalate	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
2-Chloronaphthalene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
2-Nitroaniline	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Dimethyl Phthalate	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Acenaphthylene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
3-Nitroaniline	ND	10	1		1-Methylnaphthalene	ND	10	1	
Acenaphthene	ND	10	1		1,2,4-Trichlorobenzene	ND	10	1	
2,4-Dinitrophenol	ND	50	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	77	7-121		Phenol-d6	57	1-127	
Nitrobenzene-d5	99	50-146		2-Fluorobiphenyl	83	42-138	
2,4,6-Tribromophenol	87	41-137		p-Terphenyl-d14	93	47-173	

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: 01/19/10
Work Order No: 10-01-1276
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

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-7	**10-01-1276-3-A**	**01/15/10 13:18**	**Aqueous**	**GC/MS TT**	**01/20/10**	**01/23/10 17:57**	**100120L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1		4-Nitrophenol	ND	10	1	
Aniline	ND	10	1		Dibenzofuran	ND	10	1	
Phenol	ND	10	1		2,4-Dinitrotoluene	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1		2,6-Dinitrotoluene	ND	10	1	
2-Chlorophenol	ND	10	1		Diethyl Phthalate	ND	10	1	
1,3-Dichlorobenzene	ND	10	1		4-Chlorophenyl-Phenyl Ether	ND	10	1	
1,4-Dichlorobenzene	ND	10	1		Fluorene	ND	10	1	
Benzyl Alcohol	ND	10	1		4-Nitroaniline	ND	10	1	
1,2-Dichlorobenzene	ND	10	1		Azobenzene	ND	10	1	
2-Methylphenol	ND	10	1		4,6-Dinitro-2-Methylphenol	ND	50	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1		N-Nitrosodiphenylamine	ND	10	1	
3/4-Methylphenol	ND	10	1		4-Bromophenyl-Phenyl Ether	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1		Hexachlorobenzene	ND	10	1	
Hexachloroethane	ND	10	1		Pentachlorophenol	ND	10	1	
Nitrobenzene	ND	25	1		Phenanthrene	ND	10	1	
Isophorone	ND	10	1		Anthracene	ND	10	1	
2-Nitrophenol	ND	10	1		Di-n-Butyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1		Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1		Benzidine	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1		Pyrene	ND	10	1	
2,4-Dichlorophenol	ND	10	1		Pyridine	ND	10	1	
Naphthalene	ND	10	1		Butyl Benzyl Phthalate	ND	10	1	
4-Chloroaniline	ND	10	1		3,3'-Dichlorobenzidine	ND	25	1	
Hexachloro-1,3-Butadiene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1		Bis(2-Ethylhexyl) Phthalate	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1		Di-n-Octyl Phthalate	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
2-Chloronaphthalene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
2-Nitroaniline	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Dimethyl Phthalate	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Acenaphthylene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
3-Nitroaniline	ND	10	1		1-Methylnaphthalene	ND	10	1	
Acenaphthene	ND	10	1		1,2,4-Trichlorobenzene	ND	10	1	
2,4-Dinitrophenol	ND	50	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	76	7-121		Phenol-d6	57	1-127	
Nitrobenzene-d5	99	50-146		2-Fluorobiphenyl	81	42-138	
2,4,6-Tribromophenol	87	41-137		p-Terphenyl-d14	93	47-173	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 01/19/10
Work Order No: 10-01-1276
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

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	**10-01-1276-4-A**	**01/15/10 12:40**	**Aqueous**	**GC/MS TT**	**01/20/10**	**01/23/10 18:29**	**100120L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1		4-Nitrophenol	ND	10	1	
Aniline	ND	10	1		Dibenzofuran	ND	10	1	
Phenol	ND	10	1		2,4-Dinitrotoluene	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1		2,6-Dinitrotoluene	ND	10	1	
2-Chlorophenol	ND	10	1		Diethyl Phthalate	ND	10	1	
1,3-Dichlorobenzene	ND	10	1		4-Chlorophenyl-Phenyl Ether	ND	10	1	
1,4-Dichlorobenzene	ND	10	1		Fluorene	ND	10	1	
Benzyl Alcohol	ND	10	1		4-Nitroaniline	ND	10	1	
1,2-Dichlorobenzene	ND	10	1		Azobenzene	ND	10	1	
2-Methylphenol	ND	10	1		4,6-Dinitro-2-Methylphenol	ND	50	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1		N-Nitrosodiphenylamine	ND	10	1	
3/4-Methylphenol	ND	10	1		4-Bromophenyl-Phenyl Ether	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1		Hexachlorobenzene	ND	10	1	
Hexachloroethane	ND	10	1		Pentachlorophenol	ND	10	1	
Nitrobenzene	ND	25	1		Phenanthrene	ND	10	1	
Isophorone	ND	10	1		Anthracene	ND	10	1	
2-Nitrophenol	ND	10	1		Di-n-Butyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1		Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1		Benzidine	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1		Pyrene	ND	10	1	
2,4-Dichlorophenol	ND	10	1		Pyridine	ND	10	1	
Naphthalene	ND	10	1		Butyl Benzyl Phthalate	ND	10	1	
4-Chloroaniline	ND	10	1		3,3'-Dichlorobenzidine	ND	25	1	
Hexachloro-1,3-Butadiene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1		Bis(2-Ethylhexyl) Phthalate	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1		Di-n-Octyl Phthalate	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
2-Chloronaphthalene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
2-Nitroaniline	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Dimethyl Phthalate	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Acenaphthylene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
3-Nitroaniline	ND	10	1		1-Methylnaphthalene	ND	10	1	
Acenaphthene	ND	10	1		1,2,4-Trichlorobenzene	ND	10	1	
2,4-Dinitrophenol	ND	50	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	70	7-121		Phenol-d6	52	1-127	
Nitrobenzene-d5	90	50-146		2-Fluorobiphenyl	72	42-138	
2,4,6-Tribromophenol	77	41-137		p-Terphenyl-d14	85	47-173	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 01/19/10
Work Order No: 10-01-1276
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

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-10	**10-01-1276-5-A**	**01/15/10 11:20**	**Aqueous**	**GC/MS TT**	**01/20/10**	**01/23/10 19:00**	**100120L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1		4-Nitrophenol	ND	10	1	
Aniline	ND	10	1		Dibenzofuran	ND	10	1	
Phenol	ND	10	1		2,4-Dinitrotoluene	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1		2,6-Dinitrotoluene	ND	10	1	
2-Chlorophenol	ND	10	1		Diethyl Phthalate	ND	10	1	
1,3-Dichlorobenzene	ND	10	1		4-Chlorophenyl-Phenyl Ether	ND	10	1	
1,4-Dichlorobenzene	ND	10	1		Fluorene	ND	10	1	
Benzyl Alcohol	ND	10	1		4-Nitroaniline	ND	10	1	
1,2-Dichlorobenzene	ND	10	1		Azobenzene	ND	10	1	
2-Methylphenol	ND	10	1		4,6-Dinitro-2-Methylphenol	ND	50	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1		N-Nitrosodiphenylamine	ND	10	1	
3/4-Methylphenol	ND	10	1		4-Bromophenyl-Phenyl Ether	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1		Hexachlorobenzene	ND	10	1	
Hexachloroethane	ND	10	1		Pentachlorophenol	ND	10	1	
Nitrobenzene	ND	25	1		Phenanthrene	ND	10	1	
Isophorone	ND	10	1		Anthracene	ND	10	1	
2-Nitrophenol	ND	10	1		Di-n-Butyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1		Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1		Benzidine	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1		Pyrene	ND	10	1	
2,4-Dichlorophenol	ND	10	1		Pyridine	ND	10	1	
Naphthalene	ND	10	1		Butyl Benzyl Phthalate	ND	10	1	
4-Chloroaniline	ND	10	1		3,3'-Dichlorobenzidine	ND	25	1	
Hexachloro-1,3-Butadiene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1		Bis(2-Ethylhexyl) Phthalate	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1		Di-n-Octyl Phthalate	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
2-Chloronaphthalene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
2-Nitroaniline	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Dimethyl Phthalate	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Acenaphthylene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
3-Nitroaniline	ND	10	1		1-Methylnaphthalene	ND	10	1	
Acenaphthene	ND	10	1		1,2,4-Trichlorobenzene	ND	10	1	
2,4-Dinitrophenol	ND	50	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	81	7-121		Phenol-d6	62	1-127	
Nitrobenzene-d5	102	50-146		2-Fluorobiphenyl	84	42-138	
2,4,6-Tribromophenol	87	41-137		p-Terphenyl-d14	95	47-173	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 01/19/10
Work Order No: 10-01-1276
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

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-11	**10-01-1276-6-A**	**01/15/10 10:25**	**Aqueous**	**GC/MS TT**	**01/20/10**	**01/25/10 21:29**	**100120L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1		4-Nitrophenol	ND	10	1	
Aniline	ND	10	1		Dibenzofuran	ND	10	1	
Phenol	ND	10	1		2,4-Dinitrotoluene	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1		2,6-Dinitrotoluene	ND	10	1	
2-Chlorophenol	ND	10	1		Diethyl Phthalate	ND	10	1	
1,3-Dichlorobenzene	ND	10	1		4-Chlorophenyl-Phenyl Ether	ND	10	1	
1,4-Dichlorobenzene	ND	10	1		Fluorene	ND	10	1	
Benzyl Alcohol	ND	10	1		4-Nitroaniline	ND	10	1	
1,2-Dichlorobenzene	ND	10	1		Azobenzene	ND	10	1	
2-Methylphenol	ND	10	1		4,6-Dinitro-2-Methylphenol	ND	50	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1		N-Nitrosodiphenylamine	ND	10	1	
3/4-Methylphenol	ND	10	1		4-Bromophenyl-Phenyl Ether	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1		Hexachlorobenzene	ND	10	1	
Hexachloroethane	ND	10	1		Pentachlorophenol	ND	10	1	
Nitrobenzene	ND	25	1		Phenanthrene	ND	10	1	
Isophorone	ND	10	1		Anthracene	ND	10	1	
2-Nitrophenol	ND	10	1		Di-n-Butyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1		Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1		Benzidine	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1		Pyrene	ND	10	1	
2,4-Dichlorophenol	ND	10	1		Pyridine	ND	10	1	
Naphthalene	ND	10	1		Butyl Benzyl Phthalate	ND	10	1	
4-Chloroaniline	ND	10	1		3,3'-Dichlorobenzidine	ND	25	1	
Hexachloro-1,3-Butadiene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1		Bis(2-Ethylhexyl) Phthalate	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1		Di-n-Octyl Phthalate	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
2-Chloronaphthalene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
2-Nitroaniline	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Dimethyl Phthalate	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Acenaphthylene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
3-Nitroaniline	ND	10	1		1-Methylnaphthalene	ND	10	1	
Acenaphthene	ND	10	1		1,2,4-Trichlorobenzene	ND	10	1	
2,4-Dinitrophenol	ND	50	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	88	7-121		Phenol-d6	78	1-127	
Nitrobenzene-d5	101	50-146		2-Fluorobiphenyl	95	42-138	
2,4,6-Tribromophenol	96	41-137		p-Terphenyl-d14	105	47-173	

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: 01/19/10
Work Order No: 10-01-1276
Preparation: EPA 3510C
Method: EPA 8270C
Units: ug/L

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
Method Blank	**095-01-003-2,828**	**N/A**	**Aqueous**	**GC/MS TT**	**01/20/10**	**01/23/10 14:56**	**100120L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
N-Nitrosodimethylamine	ND	10	1		4-Nitrophenol	ND	10	1	
Aniline	ND	10	1		Dibenzofuran	ND	10	1	
Phenol	ND	10	1		2,4-Dinitrotoluene	ND	10	1	
Bis(2-Chloroethyl) Ether	ND	25	1		2,6-Dinitrotoluene	ND	10	1	
2-Chlorophenol	ND	10	1		Diethyl Phthalate	ND	10	1	
1,3-Dichlorobenzene	ND	10	1		4-Chlorophenyl-Phenyl Ether	ND	10	1	
1,4-Dichlorobenzene	ND	10	1		Fluorene	ND	10	1	
Benzyl Alcohol	ND	10	1		4-Nitroaniline	ND	10	1	
1,2-Dichlorobenzene	ND	10	1		Azobenzene	ND	10	1	
2-Methylphenol	ND	10	1		4,6-Dinitro-2-Methylphenol	ND	50	1	
Bis(2-Chloroisopropyl) Ether	ND	10	1		N-Nitrosodiphenylamine	ND	10	1	
3/4-Methylphenol	ND	10	1		4-Bromophenyl-Phenyl Ether	ND	10	1	
N-Nitroso-di-n-propylamine	ND	10	1		Hexachlorobenzene	ND	10	1	
Hexachloroethane	ND	10	1		Pentachlorophenol	ND	10	1	
Nitrobenzene	ND	25	1		Phenanthrene	ND	10	1	
Isophorone	ND	10	1		Anthracene	ND	10	1	
2-Nitrophenol	ND	10	1		Di-n-Butyl Phthalate	ND	10	1	
2,4-Dimethylphenol	ND	10	1		Fluoranthene	ND	10	1	
Benzoic Acid	ND	50	1		Benzidine	ND	50	1	
Bis(2-Chloroethoxy) Methane	ND	10	1		Pyrene	ND	10	1	
2,4-Dichlorophenol	ND	10	1		Pyridine	ND	10	1	
Naphthalene	ND	10	1		Butyl Benzyl Phthalate	ND	10	1	
4-Chloroaniline	ND	10	1		3,3'-Dichlorobenzidine	ND	25	1	
Hexachloro-1,3-Butadiene	ND	10	1		Benzo (a) Anthracene	ND	10	1	
4-Chloro-3-Methylphenol	ND	10	1		Bis(2-Ethylhexyl) Phthalate	ND	10	1	
2-Methylnaphthalene	ND	10	1		Chrysene	ND	10	1	
Hexachlorocyclopentadiene	ND	25	1		Di-n-Octyl Phthalate	ND	10	1	
2,4,6-Trichlorophenol	ND	10	1		Benzo (k) Fluoranthene	ND	10	1	
2,4,5-Trichlorophenol	ND	10	1		Benzo (b) Fluoranthene	ND	10	1	
2-Chloronaphthalene	ND	10	1		Benzo (a) Pyrene	ND	10	1	
2-Nitroaniline	ND	10	1		Benzo (g,h,i) Perylene	ND	10	1	
Dimethyl Phthalate	ND	10	1		Indeno (1,2,3-c,d) Pyrene	ND	10	1	
Acenaphthylene	ND	10	1		Dibenz (a,h) Anthracene	ND	10	1	
3-Nitroaniline	ND	10	1		1-Methylnaphthalene	ND	10	1	
Acenaphthene	ND	10	1		1,2,4-Trichlorobenzene	ND	10	1	
2,4-Dinitrophenol	ND	50	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	65	7-121		Phenol-d6	43	1-127	
Nitrobenzene-d5	108	50-146		2-Fluorobiphenyl	91	42-138	
2,4,6-Tribromophenol	94	41-137		p-Terphenyl-d14	95	47-173	

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

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 10-01-1276
Preparation: EPA 3510C
Method: EPA 8270C

Project: Rolls-Royce Engine Test Facility

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-003-2,828	Aqueous	GC/MS TT	01/20/10	01/23/10	100120L03

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Phenol	44	44	4-142	0-165	0	0-24	
2-Chlorophenol	86	87	53-113	43-123	1	0-17	
1,4-Dichlorobenzene	61	61	50-122	38-134	1	0-19	
N-Nitroso-di-n-propylamine	95	95	56-146	41-161	0	0-22	
Naphthalene	75	75	21-133	2-152	1	0-20	
4-Chloro-3-Methylphenol	94	93	55-121	44-132	0	0-18	
Dimethyl Phthalate	94	95	0-112	0-131	0	0-20	
Acenaphthylene	81	81	33-145	14-164	0	0-20	
Acenaphthene	79	78	55-139	41-153	1	0-17	
4-Nitrophenol	50	50	1-145	0-169	0	0-29	
2,4-Dinitrotoluene	97	97	41-161	21-181	0	0-22	
Fluorene	87	87	59-121	49-131	0	0-20	
Pentachlorophenol	82	82	34-130	18-146	1	0-23	
Pyrene	87	84	38-170	16-192	3	0-27	
Butyl Benzyl Phthalate	98	96	0-152	0-177	2	0-20	
1,2,4-Trichlorobenzene	63	65	49-121	37-133	2	0-19	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 10-01-1276

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.

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

(1276) COC No. 71633 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.: 71633

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

Project Name: Rolls-Royce Engine Test Facility

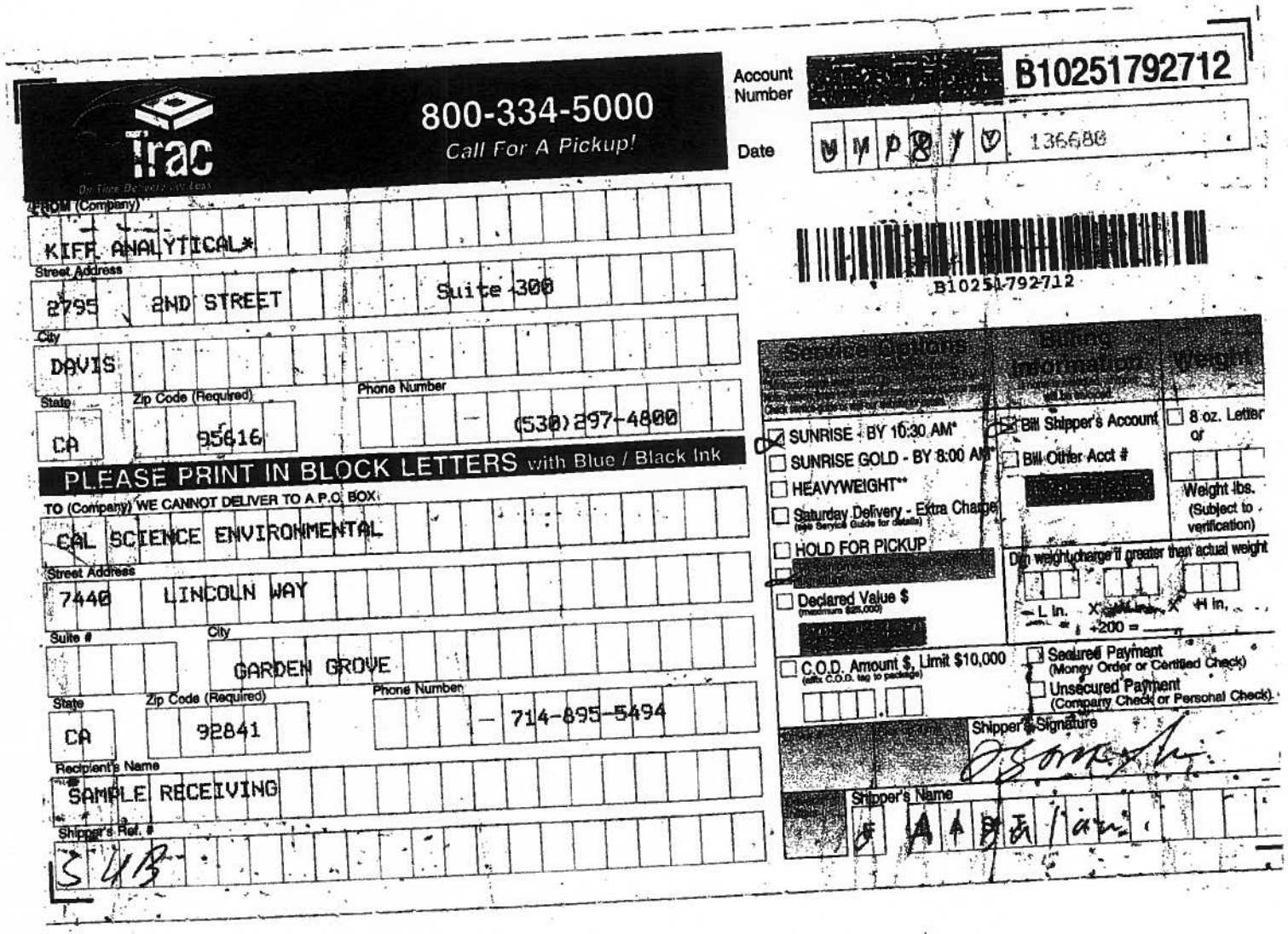
Project Address:

Sample Designation	Sampling Date	Sampling Time	Container / Preservative: 1-L Amber $Na_2S_2O_3$	Matrix: Water	Analysis Request: HOLD	TAT: 4-Days	For Lab Use Only
MW-4	01/15/10	13:49	2	X	X	X	1
MW-6	01/15/10	14:22	2	X	X	X	2
MW-7	01/15/10	13:18	2	X	X	X	3
MW-9	01/15/10	12:40	2	X	X	X	4
MW-10	01/15/10	11:20	2	X	X	X	5
MW-11	01/15/10	10:25	2	X	X	X	6

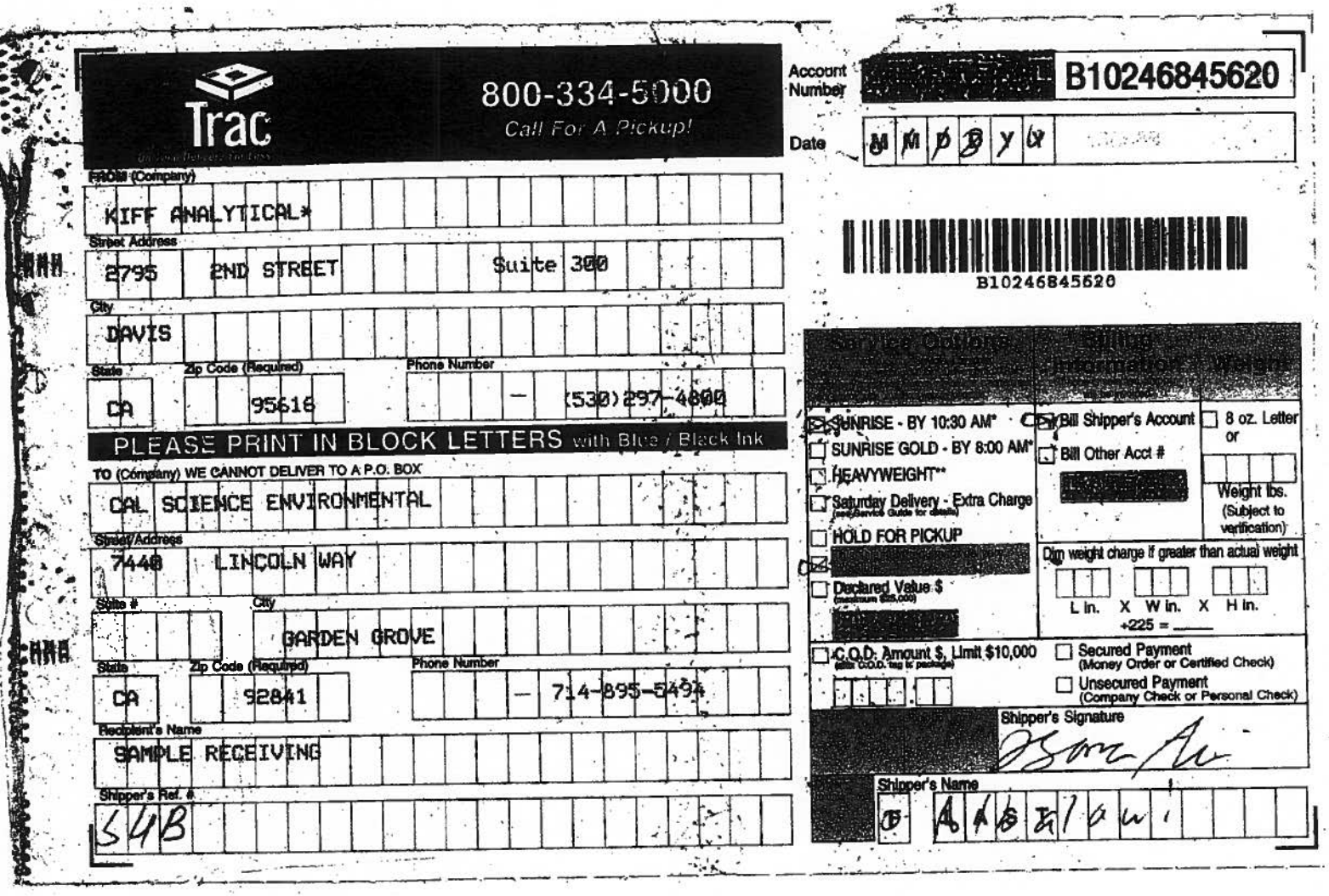
	Date	Time	
Relinquished by: [signature] / Kiff Analytical	01/18/10	1900	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by: ONTRAC	Date 1/19/10	Time 0915	Received by Laboratory: [signature]

Remarks:

Bill to: Accounts Payable



Trac
800-334-5000
Call For A Pickup!
Account Number [redacted] B10251792712
Date MAY 8 136680
B10251792712
FROM (Company) KIFF ANALYTICAL*
Street Address 2795 2ND STREET Suite 300
City DAVIS
State CA Zip Code (Required) 95616 Phone Number (530) 297-4800
PLEASE PRINT IN BLOCK LETTERS with Blue / Black Ink
TO (Company) WE CANNOT DELIVER TO A P.O. BOX CAL SCIENCE ENVIRONMENTAL
Street Address 7440 LINCOLN WAY
Suite # City GARDEN GROVE
State CA Zip Code (Required) 92841 Phone Number 714-895-5494
Recipient's Name SAMPLE RECEIVING
Shipper's Ref. # 548
Service Options
SUNRISE - BY 10:30 AM*
SUNRISE GOLD - BY 8:00 AM*
HEAVYWEIGHT**
Saturday Delivery - Extra Charge (see Service Guide for details)
HOLD FOR PICKUP
Declared Value $ (maximum $25,000)
C.O.D. Amount $, Limit $10,000 (affix C.O.D. tag to package)
Billing Information
Bill Shipper's Account [redacted]
Bill Other Acct #
Secured Payment (Money Order or Certified Check)
Unsecured Payment (Company Check or Personal Check)
Weight
8 oz. Letter or
Weight lbs. (Subject to verification)
Dim weight charge if greater than actual weight
L in. X W in. X H in. ÷ 139 +200 =
Shipper's Signature
Shipper's Name


Trac
800-334-5000
Call For A Pickup!
Account Number
B10246845620
Date
FROM (Company)
KIFF ANALYTICAL*
Street Address
2795 2ND STREET Suite 300
City
DAVIS
State
CA
Zip Code (Required)
95616
Phone Number
(530)297-4800
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CAL SCIENCE ENVIRONMENTAL
Street Address
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State
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Zip Code (Required)
92841
Phone Number
714-895-5494
Recipient's Name
SAMPLE RECEIVING
Shipper's Ref. #
54B
B10246845620
SUNRISE - BY 10:30 AM*
SUNRISE GOLD - BY 8:00 AM*
HEAVYWEIGHT**
Saturday Delivery - Extra Charge
HOLD FOR PICKUP
Declared Value $
Bill Shipper's Account
Bill Other Acct #
8 oz. Letter or
Weight lbs. (Subject to verification)
Dim weight charge if greater than actual weight
L in. X W in. X H in.
+225 = ____
C.O.D. Amount $, Limit $10,000
Secured Payment (Money Order or Certified Check)
Unsecured Payment (Company Check or Personal Check)
Shipper's Signature
Shipper's Name

1276

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 10-01-1276

SAMPLE RECEIPT FORM

Cooler 1 of 2

CLIENT: VAP ANALYTICAL DATE: 01/19/10

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

Temperature 1.9 °C + 0.5 °C (CF) = 2.4 °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:** WB

CUSTODY SEALS INTACT:

☑ Cooler	☐_____	☐ No (Not Intact)	☐ Not Present	☐ N/A	**Initial:** WB
☐ Sample	☐_____	☐ No (Not Intact)	☑ Not Present		**Initial:** WB

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	☑	☐	☐
Correct containers and volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
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 ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☑1AGBna_2 ☐1AGBs

☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna

☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Checked by:** WB

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

Preservative: h: HCL n: HNO3 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:** WB

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 10-01-1276

SAMPLE RECEIPT FORM

Cooler 2 of 2

CLIENT: KIFF ANALYTICAL DATE: 01/19/10

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

Temperature 1.8 °C + 0.5 °C (CF) = 2.3 °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: WB

CUSTODY SEALS INTACT:

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

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: WB

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	☑	☐	☐
Correct containers and volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
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 ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☑1AGBna_2 ☐1AGBs ☐500AGB ☐500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ Checked by: WB

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

Preservative: h: HCL n: HNO3 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: WB

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. **71633** 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.: 71633

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: 1-L Amber Na2S2O3	Matrix: Water	Analysis Request: Semi-Volatile Organics by EPA 8270	TAT: 4-Days	For Lab Use Only
MW-4	01/15/10	13:49	2	X	X	X	
MW-6	01/15/10	14:22	2	X	X	X	
MW-7	01/15/10	13:18	2	X	X	X	
MW-9	01/15/10	12:40	2	X	X	X	
MW-10	01/15/10	11:20	2	X	X	X	
MW-11	01/15/10	10:25	2	X	X	X	

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

Remarks:

Bill to: Accounts Payable