



# Rolls-Royce

**Rolls-Royce Engine Services-Oakland Inc.**

7200 Earhart Road  
Oakland, California 94621-4504  
(510) 613-1000

November 8, 2012

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

**RECEIVED**

11:10 am, Nov 13, 2012

Alameda County  
Environmental Health

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

I have reviewed the attached routine groundwater monitoring report dated November 7, 2012.

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

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

Sincerely,

Dave Goldberg  
Facilities HS&E Specialist



November 7, 2012

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

**Subject:       Second Semi-Annual 2012 Event  
Groundwater Monitoring and Sampling Report  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road, Oakland, California  
Alameda County Site #RO0002606**

Mr. Nowell,

On behalf of Rolls-Royce Engine Services-Oakland Inc. (R-R), Gettler-Ryan Inc. (GR) has prepared this Second Semi-Annual 2012 Event, Groundwater Monitoring and Sampling Report for the site referenced above. This report describes the field and analytical methods, provides a summary of groundwater monitoring results, and presents conclusions and recommendations regarding groundwater conditions at the site.

## **SITE LOCATION AND DESCRIPTION**

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

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

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

## **GROUNDWATER MONITORING**

On September 18, 2012, GR personnel conducted semi-annual groundwater monitoring of nineteen wells (MW-1 through MW-15, MW-17, MW-18, NPORD MW-3 and NPORD MW-4). Work at the site included measuring static groundwater levels, evaluating groundwater in the wells for the presence of petroleum hydrocarbons, and purging and sampling the wells for laboratory analysis. Groundwater monitoring and sampling were performed in accordance with GR Field Methods and Procedures, Groundwater Sampling (attached).

On September 18, 2012, GR collected depth to groundwater measurements in nineteen wells (MW-1 through MW-15, MW-17, MW-18, NPORD MW-3 and NPORD MW-4) and checked groundwater for the presence of Separate-Phase Hydrocarbons (SPH). No SPH were detected in any of the wells. Water level data, groundwater elevations, and SPH thicknesses are presented in attached Table 1. SPH thicknesses and approximate SPH volumes purged are summarized in Table 3. Field data sheets for this event are attached.

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

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

## **ANALYTICAL METHODS**

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

## **RESULTS**

### **Groundwater Gradient**

On September 18, 2012, the groundwater flow direction was to the southeast at a hydraulic gradient of 0.03 ft/ft. A Potentiometric Map is presented as Figure 3.

### **Analytical Results**

TPHd was detected in groundwater samples collected from twelve wells at concentrations ranging from 62 parts per billion (ppb) in well MW-8 to 210,000 ppb in well MW-18. Concentrations of TPHmo were detected in sixteen wells at levels ranging from 120 ppb in well MW-3 to 190,000 ppb in well MW-18. TPHjf was detected in seventeen wells at concentrations ranging from 50 ppb in well MW-15 to 290,000 ppb in well MW-18.

TPHg was detected in wells MW-13, MW-14 and MW-18 at concentrations of 51 ppb, 280 ppb and 2,100 ppb, respectively. Concentrations of TPHg were reported below the laboratory method detection limits in water samples collected from the remaining wells.

BTEX constituents were reported as below the laboratory method detection limits in all of the wells except for 0.68 ppb of benzene detected in MW-13 and 2.4 ppb of total Xylenes detected in well MW-18. MtBE was detected in wells MW-3, MW-13, MW-14 and MW-18 at concentrations of 0.62 ppb, 2.3 ppb, 1.0 ppb and 2.0 ppb, respectively. Naphthalene was detected in wells MW-10 and MW-13 at concentrations 0.51 ppb and 0.89 ppb, respectively.

TPHg, TPHd, TPHmo, TPHjf, BTEX, MtBE and naphthalene were reported below the laboratory method detection limits well NPORD MW-3. TPHg, TPHd, TPHmo and TPHjf concentrations are presented on Figure 4.

## CONCLUSIONS AND RECOMMENDATIONS

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

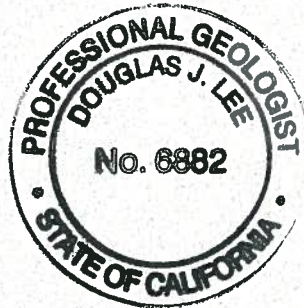
- Concentrations of TPHd, TPHmo and TPHjf in groundwater samples were generally consistent with those observed during the previous monitoring and sampling events;
- Concentrations of TPHg were limited to the vicinity of wells MW-13, MW-14 and MW-18;
- No measurable thickness of Separate-Phase Hydrocarbons was detected in MW-18;
- Petroleum hydrocarbon concentrations were very low to not detected in wells located along the northeast edge of the site; and
- GR recommends the continuation of the current semi-annual monitoring and sampling program for the site. SPH will continue to be removed from well MW-18 on a periodic basis.

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

Sincerely,  
**Gettler-Ryan Inc.**



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



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

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

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>MW-1</b>															
10/03/07	7.17	3.04	0.00	4.13	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	7.17	3.02	0.00	4.15	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.17	3.38	0.00	3.79	<50	<50	<100	51 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.17	3.03	0.00	4.14	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.17	2.82	0.00	4.35	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.17	3.30	0.00	3.87	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.17	2.57	0.00	4.60	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.17	3.08	0.00	4.09	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.17	2.21	0.00	4.96	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	7.17	2.95	0.00	4.22	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.17	2.31	0.00	4.86	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.17	2.94	0.00	4.23	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.17	3.00	0.00	4.17	<50	<50	280 <sup>23</sup>	72 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>7.17</b>	<b>3.15</b>	<b>0.00</b>	<b>4.02</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>160</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>
<b>MW-2</b>															
10/03/07	7.03	2.80	0.00	4.23	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	7.03	2.94	0.00	4.09	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.03	3.32	0.00	3.71	<50	<50	<100	97 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.03	2.75	0.00	4.28	<50	<50	<100	410 <sup>16</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.03	2.54	0.00	4.49	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.03	3.15	0.00	3.88	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.03	2.52	0.00	4.51	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.03	2.87	0.00	4.16	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.03	2.15	0.00	4.88	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	7.03	2.79	0.00	4.24	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.03	1.92	0.00	5.11	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.03	2.70	0.00	4.33	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.03	2.41	0.00	4.62	<50	62 <sup>6</sup>	340	170 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>7.03</b>	<b>3.03</b>	<b>0.00</b>	<b>4.00</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>190</b>	<b>51<sup>9</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>MW-3</b>															
10/02/07	6.73	4.56	0.00	2.17	<50	<50	<100	410	<0.50	<0.50	<0.50	<0.50	1.6 <sup>4</sup>	<0.50	NA
03/14/08	6.73	3.98	0.00	2.75	<50	<50	<100	120 <sup>9</sup>	<0.50	<0.50	<0.50	<0.50	0.99	<0.50	NA
06/26/08	6.73	4.21	0.00	2.52	<50	<50	<100	610 <sup>7</sup>	<0.50	1.7	<0.50	<0.50	0.93	<0.50	NA
09/25/08	6.73	4.25	0.00	2.48	<50	<50	<100	650 <sup>16</sup>	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	NA
12/19/08	6.73	4.25	0.00	2.48	<50	<50	<100	520 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	NA
03/26/09	6.73	3.82	0.00	2.91	<50	<50	<100	400 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	0.69	<0.50	NA
06/24/09	6.73	4.21	0.00	2.52	<50	<50	<100	460	<0.50	<0.50	<0.50	<0.50	0.80	<0.50	NA
09/24/09	6.73	4.33	0.00	2.40	<50	<50	<100	400	<0.50	<0.50	<0.50	<0.50	0.70	<0.50	NA
01/15/10	6.73	3.92	0.00	2.81	<50	<50	110	420 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	0.70	<0.50	NA
09/09/10	6.73	4.52	0.00	2.21	<50	<50	<100	450	<0.50	<0.50	<0.50	<0.50	0.62	<0.50	NA
03/21/11	6.73	3.20	0.00	3.53	<50	<50	500	400	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	6.73	4.48	0.00	2.25	<50	70	340	590 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	0.68	<0.50	NA
04/17/12	6.73	3.66	0.00	3.07	<50	56 <sup>6</sup>	870	680 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>6.73</b>	<b>4.54</b>	<b>0.00</b>	<b>2.19</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>120</b>	<b>470</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>0.62</b>	<b>&lt;0.50</b>	<b>NA</b>
<b>MW-4</b>															
10/2/07 <sup>4</sup>	9.79	5.81	0.00	3.98	<50	86	<100	280	<0.50	0.63	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	9.79	5.82	0.00	3.97	<50	3,300	2,400	3,400 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	9.79	6.08	0.00	3.71	<50	2,300	1,900	2,700 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	9.79	5.98	0.00	3.81	<50	1,600	1,400	2,100 <sup>16</sup>	<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 <sup>19</sup>	<100 <sup>19</sup>	440 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	9.79	5.65	0.00	4.14	<50	720	550	1,000 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	9.79	5.72	0.00	4.07	<50	<50	<100	480 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	9.79	5.85	0.00	3.94	<50	1,300	1,100	1,700 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	9.79	4.86	0.00	4.93	<50	210	280	580 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50 <sup>21,22</sup>
09/09/10	9.79	5.75	0.00	4.04	<50	380 <sup>6</sup>	510	680 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	9.79	4.95	0.00	4.84	<50	<50	<100	220	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	9.79	5.76	0.00	4.03	<50	60	<100	490 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	9.79	4.98	0.00	4.81	<50	240 <sup>6</sup>	920	1,000 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>9.79</b>	<b>5.92</b>	<b>0.00</b>	<b>3.87</b>	<b>&lt;50</b>	<b>200<sup>6</sup></b>	<b>600</b>	<b>780<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>MW-5</b>															
10/02/07	8.35	4.75	0.00	3.60	<50	5,600	11,000	5,300	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	8.35	4.40	0.00	3.95	<50	1,200 <sup>6</sup>	1,700	1,100 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	8.35	4.68	0.00	3.67	<50	1,400 <sup>6</sup>	3,200	2,000 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	8.35	4.52	0.00	3.83	<50	670 <sup>6</sup>	1,200	940 <sup>16</sup>	<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 <sup>6</sup>	4,100	1,900 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	8.35	4.25	0.00	4.10	<50	2,400 <sup>6</sup>	5,500	2,600 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	8.35	4.38	0.00	3.97	<50	1,300 <sup>6</sup>	2,700	990 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	8.35	4.47	0.00	3.88	<50	1,400 <sup>6</sup>	3,000	1,400 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	8.35	3.47	0.00	4.88	<50	450 <sup>6</sup>	1,800	870 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	8.35	4.34	0.00	4.01	<50	890 <sup>6</sup>	2,200	600 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	8.35	3.59	0.00	4.76	<50	670 <sup>6</sup>	1,600	460 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	8.35	4.39	0.00	3.96	<50	310 <sup>6</sup>	760	450 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	8.35	3.88	0.00	4.47	<50	450 <sup>6</sup>	960	1,500 <sup>18</sup>	<0.50	0.57	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>8.35</b>	<b>4.54</b>	<b>0.00</b>	<b>3.81</b>	<b>&lt;50</b>	<b>190<sup>6</sup></b>	<b>470</b>	<b>470<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>
<b>MW-6</b>															
10/02/07	9.51	5.90	0.00	3.61	<50	3,000 <sup>6</sup>	7,700	2,500 <sup>7</sup>	<0.50	<0.50	0.86	1.1	<0.50	0.53	NA
03/14/08	9.51	5.55	0.00	3.96	<50	3,600 <sup>10</sup>	7,600	2,800 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	9.51	5.80	0.00	3.71	<50	3,200 <sup>10</sup>	9,400	3,200 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	9.51	5.69	0.00	3.82	<50	3,500 <sup>10</sup>	8,800	3,800 <sup>16</sup>	<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 <sup>10</sup>	5,500	1,200 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	9.51	5.38	0.00	4.13	<50	2,400 <sup>6</sup>	6,800	1,800 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	9.51	5.46	0.00	4.05	<50	490 <sup>6</sup>	1,600	450 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	9.51	5.60	0.00	3.91	<50	1,100 <sup>10</sup>	3,400	860 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	9.51	4.57	0.00	4.94	<50	450 <sup>6</sup>	2,700	790 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50 <sup>21,22</sup>
09/09/10	9.51	5.45	0.00	4.06	<50	620 <sup>6</sup>	2,800	370 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	9.51	4.68	0.00	4.83	<50	<50	200	100 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	9.51	5.50	0.00	4.01	<50	310 <sup>6</sup>	970	260 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	9.51	5.25	0.00	4.26	<50	62 <sup>1</sup>	130 <sup>23</sup>	650 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>9.51</b>	<b>5.64</b>	<b>0.00</b>	<b>3.87</b>	<b>&lt;50</b>	<b>400<sup>6</sup></b>	<b>1,300</b>	<b>500<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>MW-7</b>															
10/02/07	9.23	5.68	0.00	3.55	<50	12,000 <sup>6</sup>	34,000	9,100 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	0.76	NA
03/14/08	9.23	5.32	0.00	3.91	<50	7,900 <sup>6</sup>	20,000	5,500 <sup>11</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	3.5	NA
06/26/08	9.23	5.56	0.00	3.67	<50	3,300 <sup>6</sup>	10,000	3,300 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	9.23	5.46	0.00	3.77	<50	5,300 <sup>10</sup>	13,000	6,000 <sup>16</sup>	<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 <sup>19</sup>	<100 <sup>19</sup>	350 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	9.23	5.11	0.00	4.12	<50	710 <sup>6</sup>	2,300	790 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	9.23	5.22	0.00	4.01	<50	<50	<100	390	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	9.23	5.38	0.00	3.85	<50	950 <sup>6</sup>	2,600	980 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	9.23	4.38	0.00	4.85	<50	910 <sup>6</sup>	4,900	1,200 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50 <sup>21,22</sup>
09/09/10	9.23	5.25	0.00	3.98	<50	1,800 <sup>6</sup>	6,800	850 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	9.23	4.49	0.00	4.74	<50	<50	160	240 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	9.23	5.28	0.00	3.95	<50	2,100 <sup>6</sup>	6,200	1,200 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	9.23	4.78	0.00	4.45	<50	810 <sup>6</sup>	2,600	2,200 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>9.23</b>	<b>5.31</b>	<b>0.00</b>	<b>3.92</b>	<b>&lt;50</b>	<b>510<sup>6</sup></b>	<b>1,700</b>	<b>700<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>
<b>MW-8</b>															
09/14/07	8.25	4.65	0.00	3.60	<50	790 <sup>3</sup>	2,700	1,000 <sup>2</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
07/03/04	8.25	4.49	0.00	3.76	<50	1,200 <sup>6</sup>	4,400	1,800 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	8.25	4.41	0.00	3.84	<50	<50	130	140 <sup>16</sup>	<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 <sup>6</sup>	840	340 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	8.25	4.05	0.00	4.20	<50	470 <sup>3</sup>	1,500	570 <sup>2</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	8.25	4.21	0.00	4.04	<50	<50	<100	650 <sup>2</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	8.25	4.32	0.00	3.93	<50	130 <sup>10</sup>	330	340 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	8.25	3.57	0.00	4.68	<50	120 <sup>6</sup>	640	410 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	8.25	4.17	0.00	4.08	<50	82 <sup>6</sup>	430	260 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	8.25	3.38	0.00	4.87	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	8.25	4.22	0.00	4.03	<50	63 <sup>6</sup>	<100	240 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	8.25	3.70	0.00	4.55	<50	69 <sup>6</sup>	340	370 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>8.25</b>	<b>4.33</b>	<b>0.00</b>	<b>3.92</b>	<b>&lt;50</b>	<b>62<sup>6</sup></b>	<b>210</b>	<b>490<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>



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WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>MW-9</b>															
10/03/07	9.44	5.81	0.00	3.63	<50	7,700	10,000	6,700	<0.50	<0.50	<0.50	<0.50	<0.50 <sup>4</sup>	<0.50	NA
03/14/08	9.44	5.51	0.00	3.93	<50	6,400	8,000	4,000 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	9.44	5.72	0.00	3.72	<50	1,600 <sup>10</sup>	1,800	1,800 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	9.44	5.59	0.00	3.85	<50	5,900 <sup>10</sup>	9,300	6,300 <sup>16</sup>	<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 <sup>6</sup>	8,500	4,000 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	9.44	5.26	0.00	4.18	<50	6,900 <sup>6</sup>	9,700	5,600 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	9.44	5.42	0.00	4.02	<50	2,900 <sup>6</sup>	5,200	1,800 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	9.44	5.53	0.00	3.91	<50	600 <sup>10</sup>	1,100	720 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	9.44	4.69	0.00	4.75	<50	1,300 <sup>6</sup>	3,100	1,600 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50 <sup>21,22</sup>
09/09/10	9.44	5.43	0.00	4.01	<50	1,900 <sup>6</sup>	4,500	960 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	9.44	4.58	0.00	4.86	<50	280 <sup>6</sup>	780	460 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	9.44	5.39	0.00	4.05	<50	250 <sup>6</sup>	500	700 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	9.44	4.85	0.00	4.59	<50	1,200 <sup>6</sup>	2,500	2,700 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>9.44</b>	<b>5.57</b>	<b>0.00</b>	<b>3.87</b>	<b>&lt;50</b>	<b>750<sup>6</sup></b>	<b>1,700</b>	<b>940<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>
<b>MW-10</b>															
10/03/07	7.51	3.89	0.00	3.62	110	4,200	1,300	4,500	<0.50	<0.50	<0.50	<0.50	<0.50 <sup>4</sup>	<0.50	NA
03/14/08	7.51	3.68	0.00	3.83	53	420	270	420 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	NA
06/26/08	7.51	3.80	0.00	3.71	120	1,200	1,000	2,000	<0.50	<0.50	<0.50	<0.50	<0.50	5.0	NA
09/25/08	7.51	3.68	0.00	3.83	<50	3,100 <sup>10</sup>	2,200	3,600	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.51	3.54	0.00	3.97	<50	1,700	1,200	1,900 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.51	3.36	0.00	4.15	53	1,500 <sup>8</sup>	1,300	2,900	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	NA
06/24/09	7.51	3.54	0.00	3.97	<50	710 <sup>8</sup>	750	1,400	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.51	3.61	0.00	3.90	<50	480 <sup>10</sup>	600	1,100 <sup>18</sup>	<0.50	<0.50	<0.50	0.69	<0.50	<0.50	NA
01/15/10	7.51	2.81	0.00	4.70	<50	180	210	500 <sup>18</sup>	<0.50	<0.50	0.66	3.5	<0.50	3.4	<10 - <50 <sup>21,22</sup>
09/09/10	7.51	3.48	0.00	4.03	<50	66 <sup>8</sup>	<100	380 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	NA
03/21/11	7.51	2.70	0.00	4.81	<50	<50	<100	610 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.51	3.51	0.00	4.00	<50	93	260 <sup>23</sup>	890 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.51	2.97	0.00	4.54	<50	<50	<100	670 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>7.51</b>	<b>3.64</b>	<b>0.00</b>	<b>3.87</b>	<b>&lt;50</b>	<b>77</b>	<b>180</b>	<b>600<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>0.51</b>	<b>NA</b>

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<b>MW-11</b>															
10/03/07	7.60	4.01	0.00	3.59	80	250	490	610	<0.50	<0.50	<0.50	<0.50	<0.50 <sup>4</sup>	<0.50	NA
03/14/08	7.60	3.71	0.00	3.89	61	410 <sup>6</sup>	1,200	520 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.60	3.92	0.00	3.68	<50	2,700 <sup>10</sup>	7,300	3,600 <sup>15</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.60	3.82	0.00	3.78	<50	2,800 <sup>10</sup>	5,900	3,800 <sup>16</sup>	<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 <sup>6</sup>	3,700	1,800 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.60	3.49	0.00	4.11	<50	2,300 <sup>6</sup>	4,200	2,800 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.60	3.70	0.00	3.90	<50	1,100 <sup>6</sup>	2,600	1,200 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.60	3.37	0.00	4.23	<50	1,400 <sup>10</sup>	3,800	1,800 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.60	3.02	0.00	4.58	<50	260 <sup>6</sup>	860	620 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10 - <50 <sup>21,22</sup>
09/09/10	7.60	3.63	0.00	3.97	<50	510 <sup>10</sup>	1,200	520 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.60	2.85	0.00	4.75	<50	83 <sup>6</sup>	280	410 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.60	3.70	0.00	3.90	<50	470 <sup>6</sup>	990	720 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.60	3.13	0.00	4.47	<50	95 <sup>6</sup>	220	1,300 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	0.50	<0.50	NA
<b>09/18/12</b>	<b>7.60</b>	<b>3.83</b>	<b>0.00</b>	<b>3.77</b>	<b>&lt;50</b>	<b>230</b>	<b>600</b>	<b>660<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>
<b>MW-12</b>															
10/03/07	7.32	3.61	0.00	3.71	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50 <sup>4</sup>	<0.50	NA
03/14/08	7.32	3.35	0.00	3.97	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.32	3.60	0.00	3.72	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.32	3.50	0.00	3.82	<50	<50	<100	51 <sup>16</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.32	3.09	0.00	4.23	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.32	3.13	0.00	4.19	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.32	3.21	0.00	4.11	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.32	3.38	0.00	3.94	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.32	2.80	0.00	4.52	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	7.32	3.39	0.00	3.93	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.32	2.30	0.00	5.02	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.32	3.36	0.00	3.96	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.32	2.72	0.00	4.60	<50	<50	<100	99 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>7.32</b>	<b>3.56</b>	<b>0.00</b>	<b>3.76</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;100</b>	<b>97<sup>9</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>

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**Groundwater Monitoring Data and Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>MW-13</b>															
10/03/07	6.10	2.86	0.00	3.24	160	70 <sup>8</sup>	<100	660	<0.50	<0.50	<0.50	<0.50	1.2 <sup>4</sup>	1.7	NA
03/14/08	6.10	1.96	0.00	4.14	350 <sup>12</sup>	490	130 <sup>13</sup>	1,200	0.89	<0.50	<0.50	<0.50	2.0	8.9	NA
06/26/08	6.10	2.57	0.00	3.53	720	200 <sup>8</sup>	<100	4,100 <sup>15</sup>	2.0	<0.50	<0.50	0.60	3.3	3.3	NA
09/25/08	6.10	2.48	0.00	3.62	600	<200 <sup>17</sup>	130 <sup>13</sup>	1,900 <sup>16</sup>	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 <sup>8</sup>	<100	1,300 <sup>18</sup>	0.89	<0.50	<0.50	<0.50	1.7	4.8	NA
03/26/09	6.10	2.44	0.00	3.66	310	86	120 <sup>13</sup>	1,800 <sup>18</sup>	0.81	<0.50	<0.50	<0.50	1.7	2.2	NA
06/24/09	6.10	2.91	0.00	3.19	330	170 <sup>8</sup>	<100	2,000 <sup>19</sup>	1.0	<0.50	<0.50	<0.50	1.9	5.2	NA
09/24/09	6.10	2.81	0.00	3.29	380	180	130 <sup>13</sup>	5,400 <sup>18</sup>	1.5	<0.50	<0.50	<0.50	2.5	6.8	NA
01/15/10	6.10	1.58	0.00	4.52	230	140	<100	1,600 <sup>18</sup>	0.58	<0.50	<0.50	<0.50	1.4	3.1	NA
09/09/10	6.10	2.20	0.00	3.90	230	180 <sup>8</sup>	<100	1,400 <sup>18</sup>	0.95	<0.50	<0.50	<0.50	2.3	3.6	NA
03/21/11	6.10	1.10	0.00	5.00	260	76 <sup>8</sup>	<100	2,400 <sup>18</sup>	1.0	<0.50	<0.50	<0.50	1.7	3.1	NA
09/02/11	6.10	2.23	0.00	3.87	380 <sup>12</sup>	500	260	1,400 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	1.4	1.4	NA
04/17/12	6.10	1.50	0.00	4.60	310	190	110	3,400 <sup>18</sup>	1.0	<0.50	<0.50	<0.50	2.6	1.4	NA
<b>09/18/12</b>	<b>6.10</b>	<b>2.25</b>	<b>0.00</b>	<b>3.85</b>	<b>280</b>	<b>190</b>	<b>140</b>	<b>1,800<sup>18</sup></b>	<b>0.68</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>2.3</b>	<b>0.89</b>	<b>NA</b>
<b>MW-14</b>															
10/02/07	6.42	2.40	0.00	4.02	67	300	870	1,400	<0.50	<0.50	<0.50	<0.50	1.4 <sup>4</sup>	6.1	NA
03/14/08	6.42	2.44	0.00	3.98	50	250 <sup>6</sup>	350	500 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	1.7	5.0	NA
06/26/08	6.42	2.62	0.00	3.80	<50	570 <sup>10</sup>	2,700	2,000 <sup>15</sup>	<0.50	<0.50	<0.50	<0.50	1.4	3.1	NA
09/25/08	6.42	2.58	0.00	3.84	<50	510 <sup>10</sup>	1,700	1,800 <sup>16</sup>	<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 <sup>6</sup>	2,100	1,200 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	NA
03/26/09	6.42	2.23	0.00	4.19	<50	79 <sup>6</sup>	540	1,000 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	0.89	<0.50	NA
06/24/09	6.42	2.33	0.00	4.09	<50	<50	290	1,100 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	1.2	0.52	NA
09/24/09	6.42	2.47	0.00	3.95	<50	88 <sup>10</sup>	350	1,200 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	0.83	<0.50	NA
01/15/10	6.42	1.95	0.00	4.47	<50	60 <sup>6</sup>	490	1,100 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	1.0	<0.50	NA
09/09/10	6.42	2.52	0.00	3.90	<50	150 <sup>10</sup>	500	890 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	NA
03/21/11	6.42	1.40	0.00	5.02	<50	<50	230	730 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	1.3	<0.50	NA
09/02/11	6.42	2.49	0.00	3.93	<50	140 <sup>6</sup>	550	900 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	0.98	<0.50	NA
04/17/12	6.42	1.83	0.00	4.59	<50	140 <sup>6</sup>	800	2,400 <sup>18</sup>	<0.50	0.69	<0.50	<0.50	1.2	<0.50	NA
<b>09/18/12</b>	<b>6.42</b>	<b>2.65</b>	<b>0.00</b>	<b>3.77</b>	<b>51</b>	<b>130<sup>6</sup></b>	<b>680</b>	<b>1,300<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>1.0</b>	<b>&lt;0.50</b>	<b>NA</b>

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WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>MW-15</b>															
10/02/07	7.51	4.85	0.00	2.66	<50	99	<100	120	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	7.51	4.62	0.00	2.89	<50	<50	<100	88 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/26/08	7.51	4.81	0.00	2.70	<50	<50	<100	84 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	7.51	4.81	0.00	2.70	<50	<50	<100	53	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	7.51	4.67	0.00	2.84	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	7.51	4.45	0.00	3.06	<50	<50	<100	110 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	7.51	4.68	0.00	2.83	<50	<50	<100	59	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	7.51	4.75	0.00	2.76	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	7.51	4.29	0.00	3.22	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	7.51	4.78	0.00	2.73	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	7.51	2.71	0.00	4.80	<50	<50	<100	200 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	7.51	4.77	0.00	2.74	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	7.51	3.65	0.00	3.86	<50	<50	120 <sup>23</sup>	170 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>7.51</b>	<b>4.89</b>	<b>0.00</b>	<b>2.62</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;100</b>	<b>50<sup>9</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>
<b>MW-17</b>															
09/14/07	0.04	4.10	0.00	-4.06	<50	<50	220	150 <sup>2</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
07/03/08	0.04	1.98	0.00	-1.94	<50	<50	<100	84 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
9/25/08 <sup>14</sup>	0.04	4.77	0.00	-4.73	<50	<50	120	110 <sup>16</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	0.04	2.24	0.00	-2.20	<50	<50	<100	54	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	0.04	1.85	0.00	-1.81	<50	<50	<100	71 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	Not able to sample well-Oakland Airport security failed to provide access to well														
09/24/09	0.04	2.97	0.00	-2.93	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
1/15/10 <sup>14</sup>	0.04	2.49	0.00	-2.45	<50	<50	<100	59 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	0.04	2.79	0.00	-2.75	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	0.04	2.25	0.00	-2.21	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	0.04	2.69	0.00	-2.65	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	0.04	2.49	0.00	-2.45	<50	<50	<100	240 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>0.04</b>	<b>2.96</b>	<b>0.00</b>	<b>-2.92</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>140<sup>23</sup></b>	<b>84<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>

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WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>MW-18</b>															
10/02/07	7.05	4.15	0.55	3.34**	Not developed or sampled due to presence of SPH										
03/14/08	7.05	3.62	0.63	3.93**	Not sampled due to presence of SPH										
06/26/08	7.05	4.11	1.14	3.85**	Not sampled due to presence of SPH										
09/25/08	7.05	3.77	0.56	3.73**	Not sampled due to presence of SPH										
12/19/08	7.05	3.30	0.36	4.04**	Not sampled due to presence of SPH										
03/26/09	7.05	3.28	0.55	4.21**	Not sampled due to presence of SPH										
06/24/09	7.05	3.53	0.48	3.90**	Not sampled due to presence of SPH										
09/24/09	7.05	3.57	0.46	3.85**	Not sampled due to presence of SPH										
01/15/10	7.05	3.02	0.66	4.56**	Not sampled due to presence of SPH										
09/09/10	7.05	3.18	0.10	3.95**	Not sampled due to presence of SPH										
03/21/11	7.05	1.99	0.15	5.18**	Not sampled due to presence of SPH										
09/02/11	7.05	3.49	0.51	3.97**	Not sampled due to presence of SPH										
04/17/12	7.05	2.52	0.15	4.65**	Not sampled due to presence of SPH										
<b>09/18/12</b>	<b>7.05</b>	<b>3.14</b>	<b>0.00</b>	<b>3.91</b>	<b>2,100</b>	<b>210,000<sup>10</sup></b>	<b>190,000</b>	<b>290,000</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>2.4</b>	<b>2.0</b>	<b>&lt;2.0</b>	<b>NA</b>
<b>NPORD MW-3</b>															
09/14/07	8.11	4.43	0.00	3.68	<50	<50	<100	64 <sup>2</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
07/03/08	8.11	3.96	0.00	4.15	<50	<50	<100	99 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	8.11	4.06	0.00	4.05	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	8.11	3.78	0.00	4.33	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	8.11	4.22	0.00	3.89	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	8.11	4.02	0.00	4.09	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	8.11	4.19	0.00	3.92	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	8.11	3.51	0.00	4.60	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	8.11	3.96	0.00	4.15	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	8.11	3.28	0.00	4.83	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	8.11	4.10	0.00	4.01	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	8.11	4.00	0.00	4.11	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>8.11</b>	<b>4.18</b>	<b>0.00</b>	<b>3.93</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;100</b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

WELL ID/ DATE	TOC* (ft.)	DTW (ft.)	SPHT (ft.)	GWE (msl)	TPH-G (µg/L)	TPH-D <sup>1</sup> (µg/L)	TPH-MO (µg/L)	TPH-JF (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Napthalene (µg/L)	SVOC (µg/L)
<b>NPORD MW-4</b>															
09/14/07	10.06	6.48	0.00	3.58	50	1,000 <sup>3</sup>	1,400	2,000 <sup>2</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	Not able to sample well-no access agreement between Rolls-Royce and Port of Oakland														
07/03/08	10.06	6.26	0.00	3.80	<50	360 <sup>6</sup>	700	960 <sup>7</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	10.06	6.28	0.00	3.78	<50	150 <sup>6</sup>	240	820 <sup>16</sup>	<0.50	<0.50	<0.50	<0.50	<0.50 <sup>4</sup>	<0.50	NA
12/19/08	10.06	6.15	0.00	3.91	<50	320 <sup>10</sup>	640	1,400 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	10.06	5.91	0.00	4.15	<50	95	160	520 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	10.06	6.10	0.00	3.96	<50	200 <sup>6</sup>	100	1,000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	10.06	6.20	0.00	3.86	<50	200 <sup>10,20</sup>	180 <sup>20</sup>	500 <sup>18,20</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	10.06	5.45	0.00	4.61	<50	93	<100	770 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	10.06	6.06	0.00	4.00	<50	<50	<100	290 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	10.06	5.31	0.00	4.75	<50	<50	<100	270	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	10.06	6.11	0.00	3.95	<50	95	<100	320 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	10.06	5.58	0.00	4.48	<50	64	130 <sup>23</sup>	940 <sup>18</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>10.06</b>	<b>6.27</b>	<b>0.00</b>	<b>3.79</b>	<b>&lt;50</b>	<b>150</b>	<b>250</b>	<b>800<sup>18</sup></b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>
<b>QA</b>															
09/14/07	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
10/02/07	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/14/08	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
6/26/08 <sup>14</sup>	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
07/03/08	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/25/08	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
12/19/08	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/26/09	--	--	--	--	<50	<50	<100	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
06/24/09	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/24/09	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
01/15/10	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/09/10	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
03/21/11	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
09/02/11	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
04/17/12	--	--	--	--	<50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA
<b>09/18/12</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>&lt;50</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>NA</b>

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

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**EXPLANATIONS:**

TOC = Top of Casing Elevation

DTW = Depth to Water

GWE = Groundwater Elevation

ft = feet

SPHT = Separate Phase Hydrocarbon Thickness

TPH-G= Total Petroleum Hydrocarbons as Gasoline

TPH-D = Total Petroleum Hydrocarbons as Diesel

TPH-MO = Total Petroleum Hydrocarbons as Motor Oil

TPH-JF = Total Petroleum Hydrocarbons as Jet Fuel

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total Xylenes

MTBE = Methyl Tertiary Butyl Ether

SVOC = Semi-Volatile Organic Compounds

(µg/L) = Micrograms per liter

NA = Not Analyzed

-- = Not Measured

QA = Trip Blank

**ANALYTICAL METHODS:**

Kiff Analytical LLC (NELAP #08263CA)

TPH-G, BTEX, MTBE, and Naphthalene by EPA Method 8260B

TPH-D, TPH-MO, and TPH-JF by modified EPA Method 8015

SVOC by EPA Method 8270C

\* TOC elevations surveyed relative to mean sea level by Morrow Surveying (PLS #5161) on October 8, 2007

\*\* = GWE corrected for the presence of SPH [(TOC-DTW) + (SPH thickness x SPH specific gravity)]. Specific gravity of SPH is assumed to be 0.8.

<sup>1</sup> Analyzed with Silica Gel Cleanup

<sup>2</sup> Discrete peaks, higher boiling hydrocarbons present in sample that are atypical for Jet Fuel

<sup>3</sup> Discrete peaks, higher boiling hydrocarbons present in sample that are atypical for Diesel Fuel

<sup>4</sup> 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.

<sup>5</sup> Due to the formation of an emulsion in this sample, the sample was centrifuged and decanted prior to extraction.

<sup>6</sup> Hydrocarbons present in this sample are higher-boiling than typical Diesel Fuel.

<sup>7</sup> Hydrocarbons present in this sample are higher-boiling than typical Jet Fuel.

<sup>8</sup> Lower boiling hydrocarbons are present in this sample that are atypical for Diesel Fuel.

<sup>9</sup> Discrete peaks present in this sample that are atypical for Jet Fuel.

<sup>10</sup> Some lower-boiling hydrocarbons than Diesel and some higher-boiling hydrocarbons than Diesel are present in this sample.

<sup>11</sup> Both lower-boiling and higher-boiling hydrocarbons than Jet Fuel are present in this sample.

<sup>12</sup> Sample contained primarily compounds not found in typical Gasoline.

<sup>13</sup> Hydrocarbons present in this sample are lower-boiling than typical Motor Oil

<sup>14</sup> Sample was analyzed by EPA Method 8260B using bottles that contained headspace bubbles greater than 1/4-inch in diameter.

<sup>15</sup> Lower boiling hydrocarbons are present in this sample that are atypical for Jet Fuel.

<sup>16</sup> Chromatographic pattern not typical for Jet Fuel.

<sup>17</sup> Diesel method reporting limit for this sample was increased due to interference from Gasoline range hydrocarbons.

<sup>18</sup> Higher-boiling hydrocarbons are present in this sample that are atypical for Jet Fuel.

<sup>19</sup> Laboratory confirmed results

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

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**EXPLANATIONS:**

- <sup>20</sup> 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.
- <sup>21</sup> All analytes were ND or less than their respective reporting limits
- <sup>22</sup> Analysis for SVOC requested by Client.
- <sup>23</sup> Discrete peaks in Motor Oil range, atypical for Motor Oil.



**Table 2**  
**Field Measurements and Groundwater Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

WELL ID/ DATE	D.O.	D.O.	ORP	ORP	Ferric	Ferrous	Nitrate as.	Sulfate as.	Methane
	Pre-Purge (mg/L)	Post-Purge (mg/L)	Pre-Purge (mV)	Post-Purge (mV)	Iron (mg/L)	Iron (mg/L)	NO <sub>3</sub> (mg/L)	SO <sub>4</sub> (mg/L)	
<b>MW-1</b> 09/09/10	0.00	0.74	-462.4	-124.7	3.2	0.81	<10	2,000	117
<b>MW-2</b> 09/09/10	0.03	0.29	-261.9	-233.5	--	--	--	--	--
<b>MW-3</b> 09/09/10	0.38	0.24	-149.2	-123.5	--	--	--	--	--
<b>MW-4</b> 09/09/10	0.09	0.06	-295.2	-299.4	91	2.4	<2.5	8.6	6,590
<b>MW-5</b> 09/09/10	0.84	0.05	-374	-459	68	12	<2.5	<2.5	4,760
<b>MW-6</b> 09/09/10	0.22	0.20	-271.8	-273.5	40	<0.10	<2.5	540	3,280
<b>MW-7</b> 09/09/10	0.07	0.09	-260.7	-257.4	340	18	<2.5	<2.5	6,350
<b>MW-8</b> 09/09/10	0.14	0.11	-276	-281	23	2.1	<2.5	3.9	8,500
<b>MW-9</b> 09/09/10	0.00	0.65	-548.1	-501.4	13	<0.10	<2.5	23	8,310
<b>MW-10</b> 09/09/10	0.11	0.58	-333.3	-391.2	--	--	--	--	--
<b>MW-11</b> 09/09/10	0.84	0.96	-399.4	-370.1	--	--	--	--	--
<b>MW-12</b> 09/09/10	0.15	0.49	-340.1	-348.2	--	--	--	--	--
<b>MW-13</b> 09/09/10	0.45	0.82	-142.9	-130.5	--	--	--	--	--
<b>MW-14</b> 09/09/10	0.20	0.14	-264.6	-223.9	--	--	--	--	--

**Table 2**  
**Field Measurements and Groundwater Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

WELL ID/ DATE	D.O.	D.O.	ORP	ORP	Ferric	Ferrous	Nitrate as.	Sulfate as.	Methane
	Pre-Purge (mg/L)	Post-Purge (mg/L)	Pre-Purge (mV)	Post-Purge (mV)	Iron (mg/L)	Iron (mg/L)	NO <sub>3</sub> (mg/L)	SO <sub>4</sub> (mg/L)	
<b>MW-15</b> 09/09/10	0.51	0.63	196.1	180.2	--	--	--	--	--
<b>MW-17</b> 09/09/10	0.40	0.51	168.4	149.1	--	--	--	--	--
<b>NPORD MW-3</b> 09/09/10	0.46	0.50	-208.2	-211.6	3.2	3.2	<10	1,200	27.8

**Table 2**  
**Field Measurements and Groundwater Analytical Results**  
Rolls-Royce Engine Services Test Facility  
6701 Old Earhart Road  
Oakland, California

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**EXPLANATIONS:**

ORP = Oxidation Reduction Potential  
D.O. = Dissolved Oxygen  
(mV) = Millivolts  
( $\mu\text{g/L}$ ) = Micrograms per liter  
(mg/L) = Milligrams per liter  
-- = Not Measured

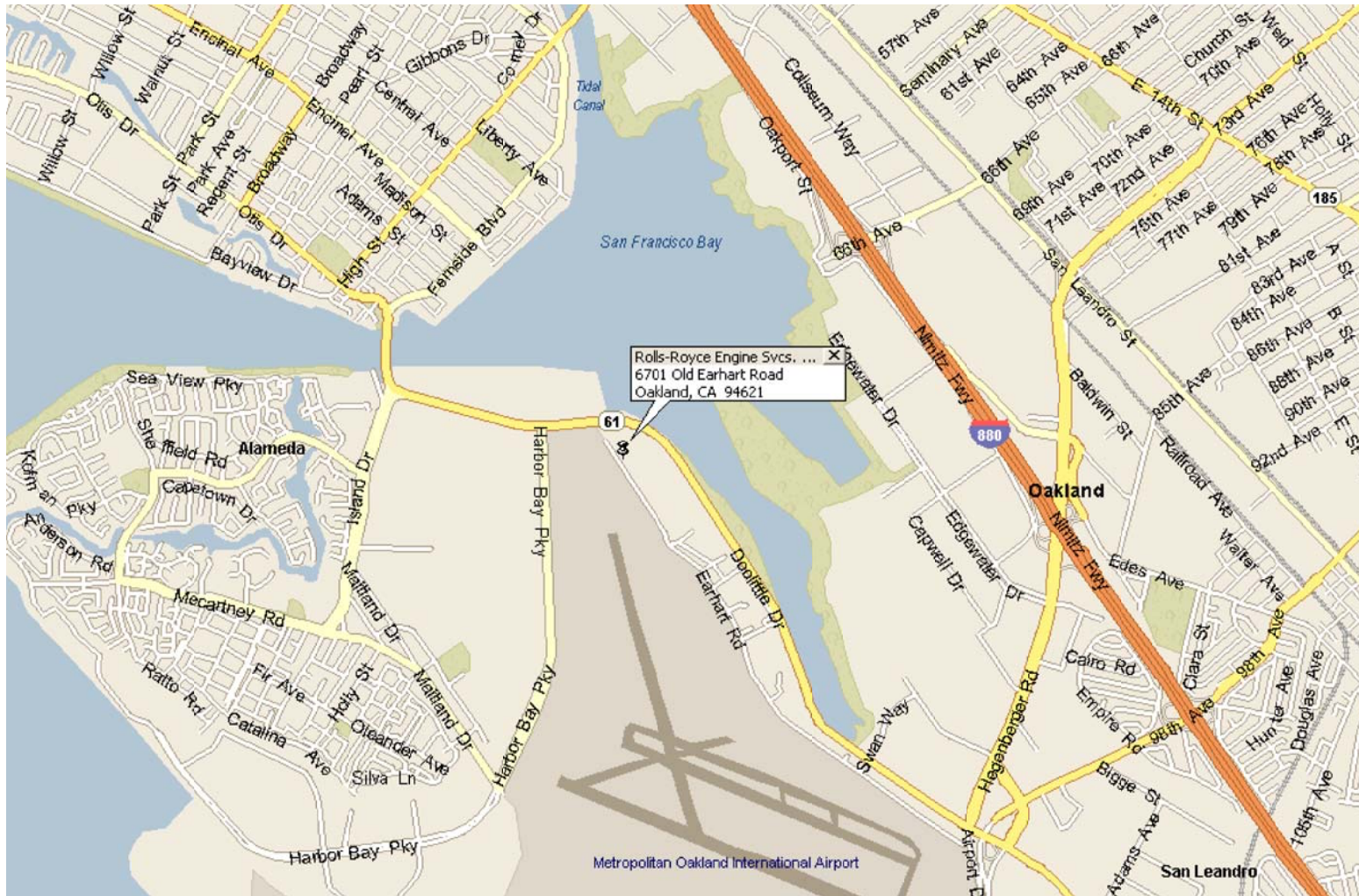
**ANALYTICAL METHODS:**

Nitrate as  $\text{NO}_3$  and Sulfate as  $\text{SO}_3$  by EPA Method 300.0  
Ferric Iron by 200.7/SM 3500 Fe D  
Ferrous Iron by SM 3500 Fe D  
Methane by Method RSK-175M

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

<b>Date</b>	<b>SPH Thickness (feet)</b>	<b>Depth To SPH From Top of Casing (feet)</b>	<b>Approximate Volume of Water Purged (gallons)</b>	<b>Approximate Volume of SPH Purged (gallons)</b>
9/14/07	0.55	3.60	2.00	2.50
3/14/08	0.63	2.99	0.80	0.30
6/26/08	1.14	2.97	1.00	0.13
9/25/08	0.56	3.21	2.00	0.07
12/19/08	0.36	2.94	0.13	0.16
3/26/09	0.55	2.73	0.08	0.08
6/24/09	0.48	3.05	0.05	0.06
9/24/09	0.46	3.11	0.00	0.07
1/15/10	0.66	2.36	2.00	0.14
9/9/10	0.10	3.08	0.13	0.01
3/21/11	0.15	1.84	0.26	0.03
9/2/11	0.51	2.98	0.16	0.26
4/17/12	0.15	2.37	0.05	0.26
<b>9/18/12</b>	<b>0.00</b>	<b>NA</b>	<b>3.50</b>	<b>0.00</b>
<b>Totals:</b>			<b>12.16</b>	<b>4.06</b>

NA = Not Applicable



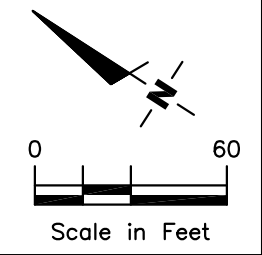
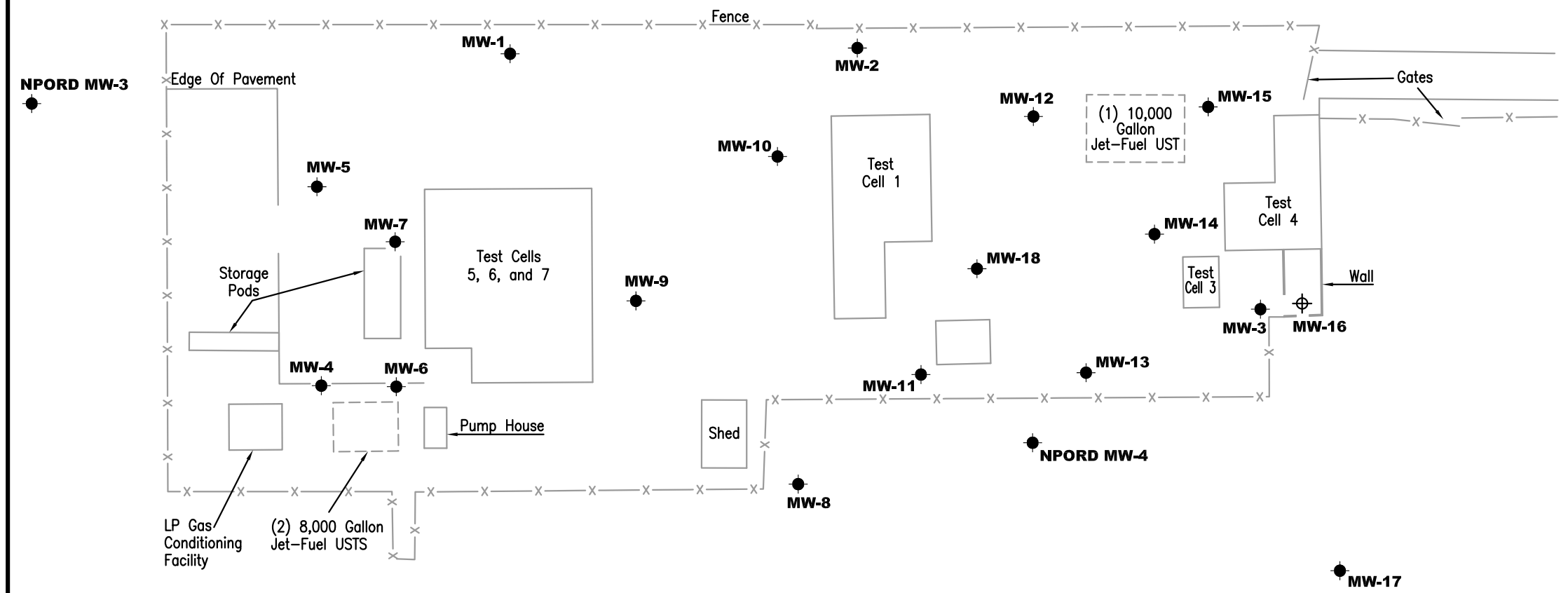
**SITE LOCATION MAP**  
 ROLLS-ROYCE ENGINE SERVICES TEST FACILITY  
 6701 OLD EARHART RD.  
 OAKLAND, CA

FIGURE

1

**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.

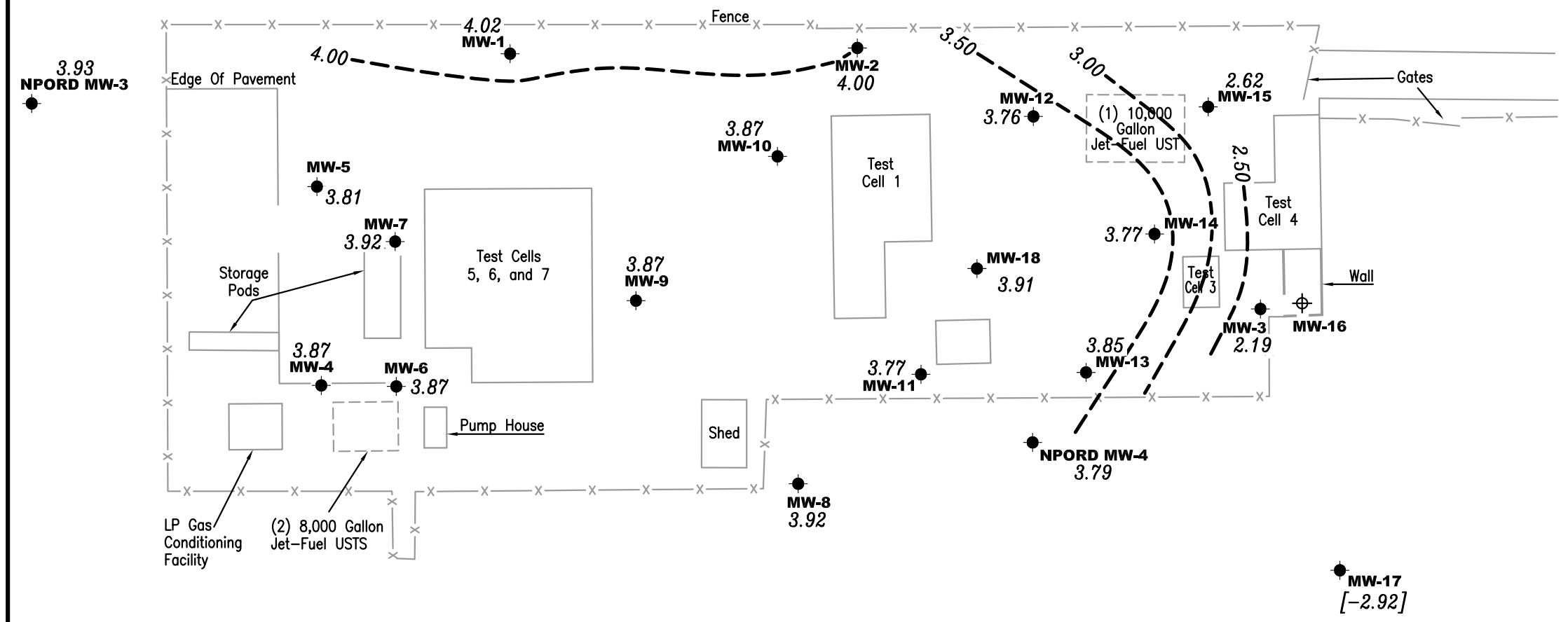
**SITE PLAN**  
 Rolls-Royce Engine Services Test Facility  
 6701 Old Earhart Road  
 Oakland, CA

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

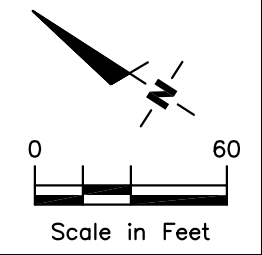
PROJECT NUMBER: 948218.2  
 REVIEWED BY: [Signature]  
 DATE: 11/07  
 REVISED DATE: [Blank]

**EXPLANATION**

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



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



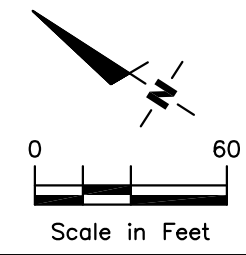
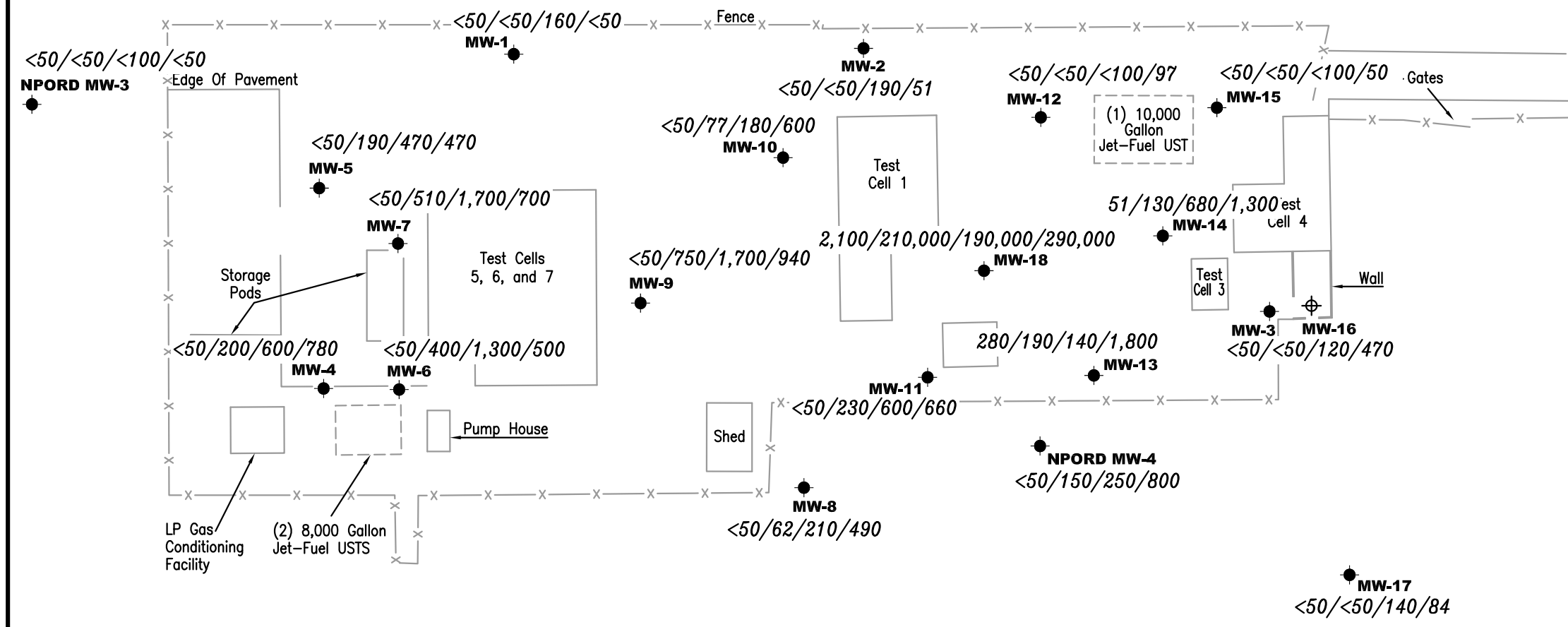
Source: Figure modified from drawing provided by Morrow Surveying, Dated: 10/8/07.

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

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

**EXPLANATION**

- Groundwater monitoring well
- ⊕ Proposed monitoring well – not installed location inaccessible by drill rig
- A/B/C/D Total Petroleum Hydrocarbons (TPH) as Gasoline/TPH as Diesel/TPH as Motor Oil/TPH as Jet Fuel concentrations in µg/L



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

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

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



## GR FIELD METHODS AND PROCEDURES - GROUNDWATER SAMPLING

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

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

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

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

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

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









# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9.18.12 (inclusive)  
 City: Oakland, CA Sampler: FT

Well ID: MW-1 Date Monitored: 9.18.12  
 Well Diameter: 2 1/4 in.  
 Total Depth: 8.48 ft.  
 Depth to Water: 3.15 ft.  Check if water column is less than 0.50 ft.  
5.33 xVF .17 = .90 x3 case volume = Estimated Purge Volume: 3.0 gal.  
 Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.94

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

### 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): 0930 Weather Conditions: FOG  
 Sample Time/Date: 0950 19.18.12 Water Color: CLEAR Odor: DN SLIGHT  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: NONE  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 3.19

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm - <u>DS</u> )	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
<u>0933</u>	<u>1.0</u>	<u>7.15</u>	<u>2523</u>	<u>21.1</u>		
<u>0936</u>	<u>2.0</u>	<u>7.12</u>	<u>2530</u>	<u>21.0</u>		
<u>0939</u>	<u>3.0</u>	<u>7.06</u>	<u>2537</u>	<u>20.9</u>		

### LABORATORY INFORMATION

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

COMMENTS: BOUNT L. 8" (3SF)

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: 9/18/12 (inclusive)  
 Sampler: GM

Well ID: MW-2  
 Well Diameter: 2.4 in.  
 Total Depth: 11.75 ft.  
 Depth to Water: 3.03 ft.

Date Monitored: 9/18/12

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

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.72 xVF 0.17 = 1.48 x3 case volume = Estimated Purge Volume: 4.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.77

### 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): 1205  
 Sample Time/Date: 1240 9/18/12  
 Approx. Flow Rate: — gpm.  
 Did well de-water? NO If yes, Time: \_\_\_\_\_

Weather Conditions: Sunny / WIND  
 Water Color: COUNTY Odor: (Y) N SLIGHT  
 Sediment Description: CLAY  
 Volume: \_\_\_\_\_ gal. DTW @ Sampling: 3.67

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
<u>1208</u>	<u>1.5</u>	<u>7.51</u>	<u>OUT OF RANGE</u>	<u>21.9</u>	_____	_____
<u>1211</u>	<u>3</u>	<u>7.49</u>	<u>OUT OF RANGE</u>	<u>21.7</u>	_____	_____
<u>1214</u>	<u>4.5</u>	<u>7.49</u>	<u>OUT OF RANGE</u>	<u>21.7</u>	_____	_____

### LABORATORY INFORMATION

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

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

Job Number: 25-948218.1  
 Event Date: 9-18-12 (inclusive)  
 Sampler: AW

Well ID: MW-3  
 Well Diameter: 214 in.  
 Total Depth: 12.10 ft.  
 Depth to Water: 4.54 ft.  
7.56 xVF .17 = 1.28

Date Monitored: 9-18-12

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

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.05 x3 case volume = Estimated Purge Volume: 4.0 gal.

**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): 1125 Weather Conditions: Sunny  
 Sample Time/Date: 1155 / 9-18-12 Water Color: Cloudy Odor: Y/N  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: Cloudy  
 Did well de-water?  If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 6.00

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - 68)	Temperature (°C / F)	D.O. (mg/L)	ORP (mV)
<u>1130</u>	<u>1.5</u>	<u>6.67</u>	<u>1205</u>	<u>21.3</u>		
<u>1135</u>	<u>3.0</u>	<u>6.79</u>	<u>1250</u>	<u>21.7</u>		
<u>1140</u>	<u>4.0</u>	<u>6.82</u>	<u>1293</u>	<u>21.8</u>		

### LABORATORY INFORMATION

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

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9/18/12 (inclusive)  
 City: Oakland, CA Sampler: GM

Well ID: MW-4  
 Well Diameter: (2) 4 in.  
 Total Depth: 10.08 ft.  
 Depth to Water: 5.92 ft.  
4.16 xVF 0.17 = 0.71

Date Monitored: 9/18/12

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

Check if water column is less than 0.50 ft.

x3 case volume = Estimated Purge Volume: 2.5 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.75

### 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:	_____ gal
Product Transferred to:	_____

Start Time (purge): 0905 Weather Conditions: Cloudy  
 Sample Time/Date: 0935 9/18/12 Water Color: SL BLACK Odor: Y/N SLIGHT  
 Approx. Flow Rate: - gpm. Sediment Description: SILT  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 6.01

Time (2400 hr.)	Volume (gal.)	pH	Conductivity ( $\mu\text{mhos/cm} - \mu\text{S}$ )	Temperature (C) (F)	D.O. (mg/L)	ORP (mV)
<u>0907</u>	<u>1.75</u>	<u>6.94</u>	<u>4.45</u>	<u>20.4</u>	_____	_____
<u>0909</u>	<u>1.5</u>	<u>6.92</u>	<u>4.45</u>	<u>20.2</u>	_____	_____
<u>0911</u>	<u>2.5</u>	<u>6.92</u>	<u>4.45</u>	<u>20.0</u>	_____	_____

### LABORATORY INFORMATION

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

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_





# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9-18-12 (inclusive)  
 City: Oakland, CA Sampler: FR

Well ID: MW-5 Date Monitored: 9-18-12  
 Well Diameter: 2 1/4 in.  
 Total Depth: 9.69 ft.  
 Depth to Water: 4.54 ft.  Check if water column is less than 0.50 ft.  
5.15 x VF .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]: 5.57

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

**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 / Absorbent Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1010 Weather Conditions: FDL  
 Sample Time/Date: 1030 / 9-18-12 Water Color: LT. GRAY Odor: DI N SLIGHT  
 Approx. Flow Rate: ✓ gpm. Sediment Description: S. SILTY  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 4.57

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - (uS))	Temperature (°C / F)	D.O. (mg/L)	ORP (mV)
<u>1013</u>	<u>.75</u>	<u>7.72</u>	<u>2352</u>	<u>22.0</u>	_____	_____
<u>1016</u>	<u>1.5</u>	<u>7.69</u>	<u>2304</u>	<u>22.3</u>	_____	_____
<u>1019</u>	<u>2.5</u>	<u>7.67</u>	<u>2299</u>	<u>22.6</u>	_____	_____

### LABORATORY INFORMATION

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

COMMENTS: MORRISON 8" DL

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: 9/18/12 (inclusive)  
 Sampler: GMI

Well ID: MW-6  
 Well Diameter: 2.4 in.  
 Total Depth: 9.98 ft.  
 Depth to Water: 5.64 ft.  
4.34 xVF

Date Monitored: 9/18/12

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

Check if water column is less than 0.50 ft.

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

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.50

### 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): 0950  
 Sample Time/Date: 1020 9/18/12  
 Approx. Flow Rate: \_\_\_\_\_ gpm.  
 Did well de-water? NO If yes, Time: \_\_\_\_\_

Weather Conditions: partly cloudy / sunny  
 Water Color: SL BLACK Odor: DN SLIGHT  
 Sediment Description: SILT  
 Volume: \_\_\_\_\_ gal. DTW @ Sampling: 5.83

Time (2400 hr.)	Volume (gal.)	pH	Conductivity $\mu S$ (umhos/cm - $\mu S$ )	Temperature (C F)	D.O. (mg/L)	ORP (mV)
<u>0952</u>	<u>1</u>	<u>6.90</u>	<u>4.44</u>	<u>20.9</u>		
<u>0954</u>	<u>1.25</u>	<u>6.83</u>	<u>4.44</u>	<u>20.7</u>		
<u>0957</u>	<u>2.5</u>	<u>6.89</u>	<u>4.43</u>	<u>20.6</u>		

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>7</u> 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: 9-18-12 (inclusive)  
 City: Oakland, CA Sampler: FT

Well ID: MW-7  
 Well Diameter: Ø14 in.  
 Total Depth: 10.10 ft.  
 Depth to Water: 5.31 ft.  
4.79 xVF .17 = .81

Date Monitored: 9-18-12

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

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.26 gal.

### 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 / Absorbent Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1045 Weather Conditions: Fog / Sunny  
 Sample Time/Date: 1105 / 9-18-12 Water Color: CHALKY / CLR Odor: Ø / N MODERATE  
 Approx. Flow Rate: ✓ gpm. Sediment Description: S. SILTY  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 5.33

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - <u>US</u> )	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1048</u>	<u>.75</u>	<u>7.67</u>	<u>2220</u>	<u>19.7</u>		
<u>1051</u>	<u>1.5</u>	<u>7.63</u>	<u>2216</u>	<u>19.5</u>		
<u>1054</u>	<u>2.0</u>	<u>7.60</u>	<u>2210</u>	<u>19.4</u>		

### LABORATORY INFORMATION

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

COMMENTS: MORRISON 8" OK

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9.18.12 (inclusive)  
 City: Oakland, CA Sampler: FT

Well ID: MW-8 Date Monitored: 9.18.12  
 Well Diameter: 2 1/4 in.  
 Total Depth: 9.81 ft.  
 Depth to Water: 4.33 ft.  Check if water column is less than 0.50 ft.

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

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.42  
 $5.48 \times VF .17 = .93$  x3 case volume = Estimated Purge Volume: 3.0 gal.

### 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 / Absorbent Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_ gal  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1230 Weather Conditions: SUNNY  
 Sample Time/Date: 1250 19.18.12 Water Color: CLEAR Odor: 0/N MODERATE  
 Approx. Flow Rate: / gpm. Sediment Description: NONE  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 4.35

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - US)	Temperature (° / F)	D.O. (mg/L)	ORP (mV)
<u>1233</u>	<u>1.0</u>	<u>7.47</u>	<u>2341</u>	<u>20.6</u>		
<u>1236</u>	<u>2.0</u>	<u>7.42</u>	<u>2320</u>	<u>20.9</u>		
<u>1239</u>	<u>3.0</u>	<u>7.38</u>	<u>2292</u>	<u>21.1</u>		

### LABORATORY INFORMATION

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

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

Job Number: 25-948218.1  
 Event Date: 9/18/12 (inclusive)  
 Sampler: Gm

Well ID: MW-9  
 Well Diameter: 2.4 in.  
 Total Depth: 9.93 ft.  
 Depth to Water: 5.57 ft.

Date Monitored: 9/18/12

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

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.44  
 xVF 0.17 = 0.74 x3 case volume = Estimated Purge Volume: 2.5 gal.

### 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 / Absorbent Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1035  
 Sample Time/Date: 1100 / 9/18/12  
 Approx. Flow Rate: — gpm.  
 Did well de-water? NO If yes, Time: \_\_\_\_\_

Weather Conditions: PARTLY CLOUDY / SUNNY  
 Water Color: SLURRAC Odor: (N) MODERATE  
 Sediment Description: SILT  
 Volume: \_\_\_\_\_ gal. DTW @ Sampling: 5.7

Time (2400 hr.)	Volume (gal.)	pH	Conductivity $\mu\text{mhos/cm} - \mu\text{S}$	Temperature (°F)	D.O. (mg/L)	ORP (mV)
<u>1037</u>	<u>1</u>	<u>7.13</u>	<u>3.88</u>	<u>22.2</u>	_____	_____
<u>1039</u>	<u>1.25</u>	<u>7.12</u>	<u>3.89</u>	<u>22.0</u>	_____	_____
<u>1041</u>	<u>2.5</u>	<u>7.12</u>	<u>3.88</u>	<u>21.9</u>	_____	_____

### LABORATORY INFORMATION

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

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

Job Number: 25-948218.1  
 Event Date: 9/18/12 (inclusive)  
 Sampler: GM

Well ID: MW-10  
 Well Diameter: 2.4 in.  
 Total Depth: 10.12 ft.  
 Depth to Water: 3.64 ft.  
6.48 xVF 0.17 = 1.10

Date Monitored: 9/18/12

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

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.93

### 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): 1115  
 Sample Time/Date: 1150 9/18/12  
 Approx. Flow Rate: \_\_\_\_\_ gpm.  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal.

Weather Conditions: cloudy / sunny / wind  
 Water Color: CLEAR Odor: NO  
 Sediment Description: SLT SILT  
 DTW @ Sampling: 4.10

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C F)	D.O. (mg/L)	ORP (mV)
<u>1118</u>	<u>1.5</u>	<u>7.50</u>	<u>13.93</u>	<u>22.4</u>		
<u>1121</u>	<u>2.5</u>	<u>7.52</u>	<u>13.92</u>	<u>22.4</u>		
<u>1124</u>	<u>3.5</u>	<u>7.49</u>	<u>13.91</u>	<u>22.2</u>		

### LABORATORY INFORMATION

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

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9/18/12 (inclusive)  
 City: Oakland, CA Sampler: GM

Well ID: MW-11  
 Well Diameter: (2) 4 in.  
 Total Depth: 10.01 ft.  
 Depth to Water: 3.83 ft.  
6.18 xVF 0.17 = 1.05

Date Monitored: 9/18/12

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

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.06 x3 case volume = Estimated Purge Volume: 3.5 gal.

**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 / Absorbent Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_ gal  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1255 Weather Conditions: Sunny  
 Sample Time/Date: 1330 9/18/12 Water Color: Cloudy Odor: YIN  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: SILT  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 4.29

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - µS)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
<u>1258</u>	<u>1.5</u>	<u>7.18</u>	<u>OUT OF RANGE</u>	<u>19.6</u>		
<u>1300</u>	<u>2.5</u>	<u>7.14</u>	<u>OUT OF RANGE</u>	<u>19.4</u>		
<u>1302</u>	<u>3.5</u>	<u>7.16</u>	<u>OUT OF RANGE</u>	<u>19.3</u>		

### LABORATORY INFORMATION

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

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9-18-12 (inclusive)  
 City: Oakland, CA Sampler: AW

Well ID: MW-12 Date Monitored: 9-18-12  
 Well Diameter: 2.14 in.  
 Total Depth: 9.90 ft.  
 Depth to Water: 3.56 ft.  Check if water column is less than 0.50 ft.  
6.34 xVF .17 = 1.07 x3 case volume = Estimated Purge Volume: 3.5 gal.  
 Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.82

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

### 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): 1300 Weather Conditions: Sunny  
 Sample Time/Date: 1330 / 9-18-12 Water Color: Cloudy Odor: (D) Sulfur  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: Cloudy  
 Did well de-water? N If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 4.22

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm @ 25°C)	Temperature (°C / °F)	D.O. (mg/L)	ORP (mV)
<u>1305</u>	<u>1.5</u>	<u>6.93</u>	<u>out of range</u>	<u>23.7</u>		
<u>1310</u>	<u>2.5</u>	<u>7.02</u>	<u>↓</u>	<u>24.0</u>		
<u>1315</u>	<u>3.5</u>	<u>7.07</u>		<u>24.3</u>		

### LABORATORY INFORMATION

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

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_





# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9-18-12 (inclusive)  
 City: Oakland, CA Sampler: HW

Well ID: MW-13 Date Monitored: 9-18-12  
 Well Diameter: 2 1/4 in.  
 Total Depth: 9.48 ft.  
 Depth to Water: 2.25 ft.

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

Check if water column is less than 0.50 ft.  
 Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 3.69  
 $7.23 \times VF .66 = 4.77$  x3 case volume = Estimated Purge Volume: 14.5 gal.

### 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): 1210 Weather Conditions: Sunny  
 Sample Time/Date: 1245 / 9-18-12 Water Color: yellow Odor: Q/N Slight  
 Approx. Flow Rate: 1.0 gpm. Sediment Description: clear  
 Did well de-water? N If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 3.69

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm US)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
<u>1215</u>	<u>5.0</u>	<u>6.87</u>	<u>2668</u>	<u>23.3</u>	_____	_____
<u>1220</u>	<u>10.0</u>	<u>7.02</u>	<u>2774</u>	<u>23.7</u>	_____	_____
<u>1228</u>	<u>14.5</u>	<u>7.10</u>	<u>2832</u>	<u>23.8</u>	_____	_____

### LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-13</u>	<u>7</u> 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  
 Site Address: 6701 Old Earhart Road  
 City: Oakland, CA

Job Number: 25-948218.1  
 Event Date: 9-18-12 (inclusive)  
 Sampler: AW

Well ID: MW-14  
 Well Diameter: 2.14 in.  
 Total Depth: 10.02 ft.  
 Depth to Water: 2.65 ft.

Date Monitored: 9-18-12

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

Depth to Water w/ 80% Recharge  Check if water column is less than 0.50 ft.  
 $7.37 \times VF .17 = 1.25$  x3 case volume = Estimated Purge Volume: 4.0 gal.  
 Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.12

**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): 1040 Weather Conditions: Cloudy  
 Sample Time/Date: 1110 / 9-18-12 Water Color: Cloudy Odor: DM Slight  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: Cloudy  
 Did well de-water? N If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 3.74

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (C / F)	D.O. (mg/L)	ORP (mV)
<u>1045</u>	<u>1.5</u>	<u>6.82</u>	<u>2462</u>	<u>24.0</u>		
<u>1050</u>	<u>3.0</u>	<u>6.89</u>	<u>2661</u>	<u>24.2</u>		
<u>1055</u>	<u>4.0</u>	<u>6.94</u>	<u>2714</u>	<u>24.6</u>		

### LABORATORY INFORMATION

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

COMMENTS: \_\_\_\_\_

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER - RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9-18-12 (inclusive)  
 City: Oakland, CA Sampler: AW

Well ID: MW-5 Date Monitored: 9-18-12  
 Well Diameter: 2.4 in.  
 Total Depth: 9.98 ft.  
 Depth to Water: 4.89 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

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 5.90  
 Check if water column is less than 0.50 ft.  
 xVF .17 = 0.86 x3 case volume = Estimated Purge Volume: 3.0 gal.

### 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): 0955 Weather Conditions: Cloudy  
 Sample Time/Date: 1025 / 9-18-12 Water Color: Cloudy Odor: Y  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: cloudy  
 Did well de-water?  If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 5.67

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm @ 25)	Temperature (°F)	D.O. (mg/L)	ORP (mV)
<u>1000</u>	<u>1.0</u>	<u>6.97</u>	<u>out of range</u>	<u>22.7</u>		
<u>1005</u>	<u>2.0</u>	<u>7.02</u>	<u>↓</u>	<u>22.8</u>		
<u>1010</u>	<u>3.0</u>	<u>7.04</u>		<u>23.0</u>		

### LABORATORY INFORMATION

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

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

Job Number: 25-948218.1  
 Event Date: 9-18-12 (inclusive)  
 Sampler: AW

Well ID: MW-17  
 Well Diameter: 2.14 in.  
 Total Depth: 9.81 ft.  
 Depth to Water: 2.96 ft.  
6.85 xVF = 1.17 = 1.16

Date Monitored: 9-18-12

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

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.33

x3 case volume = Estimated Purge Volume: 3.5 gal.

**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): 0910  
 Sample Time/Date: 0940 / 9-18-12  
 Approx. Flow Rate: - gpm.  
 Did well de-water? N If yes, Time: \_\_\_\_\_

Weather Conditions: Cloudy  
 Water Color: Yellow Odor: Di N / slight  
 Sediment Description: Clear  
 Volume: - gal. DTW @ Sampling: 3.89

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm (µS))	Temperature (°F)	D.O. (mg/L)	ORP (mV)
<u>0915</u>	<u>1.5</u>	<u>6.56</u>	<u>2330</u>	<u>19.6</u>		
<u>0920</u>	<u>2.5</u>	<u>6.74</u>	<u>3215</u>	<u>19.6</u>		
<u>0925</u>	<u>3.5</u>	<u>6.88</u>	<u>3644</u>	<u>19.8</u>		

### LABORATORY INFORMATION

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

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

Job Number: 25-948218.1  
 Event Date: 9-18-12 (inclusive)  
 Sampler: AW

Well ID: MW-18  
 Well Diameter: 2.4 in.  
 Total Depth: 9.95 ft.  
 Depth to Water: 3.14 ft.  
6.81 xVF .17 = 1.15

Date Monitored: 9-18-12

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

Check if water column is less than 0.50 ft.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 4.50 x3 case volume = Estimated Purge Volume: 3.5 gal.

### 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): 1340 Weather Conditions: Sunny  
 Sample Time/Date: 1410 / 9-18-12 Water Color: Cloudy Odor: Oil / Strong  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: Cloudy  
 Did well de-water? N If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 4.11

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm)	Temperature (°F)	D.O. (mg/L)	ORP (mV)
<u>1345</u>	<u>1.5</u>	<u>6.76</u>	<u>1028</u>	<u>25.3</u>		
<u>1350</u>	<u>2.5</u>	<u>7.02</u>	<u>1134</u>	<u>25.3</u>		
<u>1355</u>	<u>3.5</u>	<u>7.09</u>	<u>1190</u>	<u>25.5</u>		

### LABORATORY INFORMATION

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

COMMENTS: sock in well, no detectable SPH. Sample taken. Outside of bailer covered with SPH during sampling

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9-18-12 (inclusive)  
 City: Oakland, CA Sampler: FR

Well ID NPORD MW-3

Date Monitored: 9-18-12

Well Diameter 2 1/4 in.

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

Total Depth 16.46 ft.

Depth to Water 4.18 ft.

Check if water column is less than 0.50 ft.

12-28 xVF .66 = 8.10 x3 case volume = Estimated Purge Volume: 24.0 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 6.63

### 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 / Absorbent Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1130 Weather Conditions: SUNNY  
 Sample Time/Date: 1155 / 9-18-12 Water Color: CLEAN Odor: Y 100  
 Approx. Flow Rate: 2.0 gpm. Sediment Description: NONE  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 4.19

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - US)	Temperature (°C / F)	D.O. (mg/L)	ORP (mV)
<u>1134</u>	<u>8.0</u>	<u>7.16</u>	<u>2367</u>	<u>20.3</u>		
<u>1138</u>	<u>16.0</u>	<u>7.12</u>	<u>2387</u>	<u>20.5</u>		
<u>1142</u>	<u>24.0</u>	<u>7.09</u>	<u>2402</u>	<u>20.8</u>		

### LABORATORY INFORMATION

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

COMMENTS: MORRISON 12" OIL TUBING IN WELL

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_



# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Rolls Royce Engine Test Job Number: 25-948218.1  
 Site Address: 6701 Old Earhart Road Event Date: 9.18.12 (inclusive)  
 City: Oakland, CA Sampler: FC

Well ID: NPORD MW-4 Date Monitored: 9.18.12  
 Well Diameter: 2 1/4 in.  
 Total Depth: 18.81 ft.  
 Depth to Water: 6.27 ft.  Check if water column is less than 0.50 ft.  
12.54 x VF .17 = 2.13 x3 case volume = Estimated Purge Volume: 6.0 gal.  
 Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 8.77

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

### 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 / Absorbent Sock (circle one)  
 Amt Removed from Skimmer: \_\_\_\_\_ gal  
 Amt Removed from Well: \_\_\_\_\_ gal  
 Water Removed: \_\_\_\_\_  
 Product Transferred to: \_\_\_\_\_

Start Time (purge): 1305 Weather Conditions: SUNNY  
 Sample Time/Date: 1330 / 9.18.12 Water Color: CLEAR Odor: DIN MODERATE  
 Approx. Flow Rate: \_\_\_\_\_ gpm. Sediment Description: NONE  
 Did well de-water? NO If yes, Time: \_\_\_\_\_ Volume: \_\_\_\_\_ gal. DTW @ Sampling: 6.29

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (µmhos/cm - DS)	Temperature (°C / F)	D.O. (mg/L)	ORP (mV)
<u>1309</u>	<u>2.0</u>	<u>7.68</u>	<u>2303</u>	<u>20.5</u>	_____	_____
<u>1313</u>	<u>4.0</u>	<u>7.63</u>	<u>2289</u>	<u>20.9</u>	_____	_____
<u>1317</u>	<u>6.0</u>	<u>7.59</u>	<u>2271</u>	<u>21.2</u>	_____	_____

### LABORATORY INFORMATION

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

### COMMENTS:

TUBING IN WELL  
MONUMENT

Add/Replaced Lock: \_\_\_\_\_ Add/Replaced Plug: \_\_\_\_\_ Add/Replaced Bolt: \_\_\_\_\_





Bag weight new BAC  
 20.5 grams / 8 grams



**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
6/27/12	6:10am	MW18				910.00	
7/5/12	6:10am	MW18				327.5	
7/11/12	6:10am	MW18				36.5	
7/19/12	6:10am	MW18				418.5	
7/25/12	6:10am	MW18				321.5	
8/2/12	6:10am	MW18				345.0	
8/8/12	6:10	MW18				333.5	
8/15/12	6:12	MW18				335.0	
AUG 22 2012	7:18pm	MW18				253	
8/28/12	7:36am	MW18				249	
9/5/12	6:30am	MW18				248.5	
9/12/12	6:06am	MW18				274.5	

BAG WEIGHTS  
20.5 GRAMS



**PES Environmental, Inc.**  
Engineering & Environmental Services

LOCATION: TEST COU 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
4/11/12	6:24	MW18				410 Grams	
4/18/12	6:14	MW18				320 Grams	
4/25/12	0700	MW18				405 Grams	
5/2/12	0620	MW18				390 Grams	
5/7/12	0620	MW18				404 Grams	
5/11/12	0700	MW18				394 Grams	
5/16/12	6:06	MW18				339.5 Grams	
5/24/12	6:04	MW18				379.5 Grams	
5/30/12	6:15	MW18				351.5 Grams	
6/6/12	0620	MW18				382 Grams	
6/13/12	0609	MW18				321.5 Grams	
6/20/12	0609	MW18				326.5 Grams	

## Laboratory Results


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

Subject : 20 Water Samples  
Project Name : Rolls-Royce Engine Test Facility  
Project Number : 25-948218.1

Dear Mr. Lee,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC and TNI 2009 standards. 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,



Troy Turpen

Subject : 20 Water Samples  
Project Name : Rolls-Royce Engine Test Facility  
Project Number : 25-948218.1

## Case Narrative

The Method Reporting Limit for Naphthalene has been increased due to the presence of an interfering compound for sample MW-18.

Matrix Spike/Matrix Spike Duplicate results associated with sample QA for the analytes Ethylbenzene and P + M Xylene were affected by the analyte concentrations already present in the un-spiked sample.

Sample MW-17 was analyzed outside of hold time for Method EPA 8260B. The hydrochloric acid (HCl) preservation was insufficient to maintain a pH of 2.0 or less required to extend sample hold time from 7 to 14 days.

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

Project Number : **25-948218.1**

Sample : **QA**

Matrix : Water

Lab Number : 82694-01

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:48
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:48
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:48
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:48
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:48
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/12 14:48
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:48
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/27/12 14:48
Toluene - d8 (Surr)	97.3		% Recovery	EPA 8260B	09/27/12 14:48
4-Bromofluorobenzene (Surr)	97.8		% Recovery	EPA 8260B	09/27/12 14:48

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

Project Number : **25-948218.1**

Sample : **MW-1**

Matrix : Water

Lab Number : 82694-02

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:43
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:43
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:43
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:43
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:43
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/26/12 20:43
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:43
1,2-Dichloroethane-d4 (Surr)	99.1		% Recovery	EPA 8260B	09/26/12 20:43
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	09/26/12 20:43
4-Bromofluorobenzene (Surr)	94.3		% Recovery	EPA 8260B	09/26/12 20:43
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/25/12 20:23
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/26/12 23:26
<b>TPH as Motor Oil</b>	<b>160</b>	100	ug/L	M EPA 8015	09/26/12 23:26
Octacosane (Silica Gel Surr)	116		% Recovery	M EPA 8015	09/25/12 20:23
Octacosane (Diesel Surrogate)	99.6		% Recovery	M EPA 8015	09/26/12 23:26

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

Project Number : **25-948218.1**

Sample : **MW-2**

Matrix : Water

Lab Number : 82694-03

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:44
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:44
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:44
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:44
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:44
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/26/12 20:44
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 20:44
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/26/12 20:44
Toluene - d8 (Surr)	97.6		% Recovery	EPA 8260B	09/26/12 20:44
4-Bromofluorobenzene (Surr)	95.7		% Recovery	EPA 8260B	09/26/12 20:44
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/25/12 20:58
<b>TPH as Jet Fuel</b>	<b>51</b>	50	ug/L	M EPA 8015	09/26/12 23:56
(Note: Discrete peaks present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>190</b>	100	ug/L	M EPA 8015	09/26/12 23:56
Octacosane (Silica Gel Surr)	99.0		% Recovery	M EPA 8015	09/25/12 20:58
Octacosane (Diesel Surrogate)	89.8		% Recovery	M EPA 8015	09/26/12 23:56

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

Project Number : **25-948218.1**

Sample : **MW-3**

Matrix : Water

Lab Number : 82694-04

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 23:59
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 23:59
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 23:59
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 23:59
<b>Methyl-t-butyl ether (MTBE)</b>	<b>0.62</b>	0.50	ug/L	EPA 8260B	09/26/12 23:59
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/26/12 23:59
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/26/12 23:59
1,2-Dichloroethane-d4 (Surr)	104		% Recovery	EPA 8260B	09/26/12 23:59
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	09/26/12 23:59
4-Bromofluorobenzene (Surr)	87.7		% Recovery	EPA 8260B	09/26/12 23:59
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/25/12 21:33
<b>TPH as Jet Fuel</b>	<b>470</b>	50	ug/L	M EPA 8015	09/27/12 00:25
<b>TPH as Motor Oil</b>	<b>120</b>	100	ug/L	M EPA 8015	09/27/12 00:25
Octacosane (Silica Gel Surr)	94.9		% Recovery	M EPA 8015	09/25/12 21:33
Octacosane (Diesel Surrogate)	80.1		% Recovery	M EPA 8015	09/27/12 00:25



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

Project Number : **25-948218.1**

Sample : **MW-4**

Matrix : Water

Lab Number : 82694-05

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:45
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:45
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:45
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:45
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:45
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/12 11:45
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:45
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	09/28/12 11:45
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/28/12 11:45
4-Bromofluorobenzene (Surr)	90.3		% Recovery	EPA 8260B	09/28/12 11:45
<b>TPH as Diesel (Silica Gel)</b>	<b>200</b>	50	ug/L	M EPA 8015	09/25/12 22:07
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
<b>TPH as Jet Fuel</b>	<b>780</b>	50	ug/L	M EPA 8015	09/27/12 00:54
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>600</b>	100	ug/L	M EPA 8015	09/27/12 00:54
Octacosane (Silica Gel Surr)	112		% Recovery	M EPA 8015	09/25/12 22:07
Octacosane (Diesel Surrogate)	97.6		% Recovery	M EPA 8015	09/27/12 00:54

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

Project Number : **25-948218.1**

Sample : **MW-5**

Matrix : Water

Lab Number : 82694-06

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:20
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:20
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:20
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:20
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:20
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/12 12:20
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:20
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	09/28/12 12:20
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	09/28/12 12:20
4-Bromofluorobenzene (Surr)	90.3		% Recovery	EPA 8260B	09/28/12 12:20
<b>TPH as Diesel (Silica Gel)</b>	<b>190</b>	50	ug/L	M EPA 8015	09/25/12 22:42
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
<b>TPH as Jet Fuel</b>	<b>470</b>	50	ug/L	M EPA 8015	09/27/12 01:23
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>470</b>	100	ug/L	M EPA 8015	09/27/12 01:23
Octacosane (Silica Gel Surr)	107		% Recovery	M EPA 8015	09/25/12 22:42
Octacosane (Diesel Surrogate)	96.4		% Recovery	M EPA 8015	09/27/12 01:23

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

Project Number : **25-948218.1**

Sample : **MW-6**

Matrix : Water

Lab Number : 82694-07

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:47
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:47
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:47
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:47
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:47
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/12 11:47
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 11:47
1,2-Dichloroethane-d4 (Surr)	98.4		% Recovery	EPA 8260B	09/28/12 11:47
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	09/28/12 11:47
4-Bromofluorobenzene (Surr)	98.5		% Recovery	EPA 8260B	09/28/12 11:47
<b>TPH as Diesel (Silica Gel)</b>	<b>400</b>	50	ug/L	M EPA 8015	09/25/12 23:16
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
<b>TPH as Jet Fuel</b>	<b>500</b>	50	ug/L	M EPA 8015	09/27/12 01:53
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>1300</b>	100	ug/L	M EPA 8015	09/27/12 01:53
Octacosane (Silica Gel Surr)	109		% Recovery	M EPA 8015	09/25/12 23:16
Octacosane (Diesel Surrogate)	89.1		% Recovery	M EPA 8015	09/27/12 01:53

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

Project Number : **25-948218.1**

Sample : **MW-7**

Matrix : Water

Lab Number : 82694-08

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:19
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:19
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:19
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:19
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:19
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/12 12:19
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:19
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	09/28/12 12:19
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	09/28/12 12:19
4-Bromofluorobenzene (Surr)	97.1		% Recovery	EPA 8260B	09/28/12 12:19
<b>TPH as Diesel (Silica Gel)</b> (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)	<b>510</b>	50	ug/L	M EPA 8015	09/25/12 23:51
<b>TPH as Jet Fuel</b> (Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)	<b>700</b>	50	ug/L	M EPA 8015	09/27/12 02:22
<b>TPH as Motor Oil</b>	<b>1700</b>	100	ug/L	M EPA 8015	09/27/12 02:22
Octacosane (Silica Gel Surr)	109		% Recovery	M EPA 8015	09/25/12 23:51
Octacosane (Diesel Surrogate)	97.6		% Recovery	M EPA 8015	09/27/12 02:22

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

Project Number : **25-948218.1**

Sample : **MW-8**

Matrix : Water

Lab Number : 82694-09

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:51
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:51
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:51
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:51
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:51
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/12 12:51
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:51
1,2-Dichloroethane-d4 (Surr)	99.6		% Recovery	EPA 8260B	09/28/12 12:51
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	09/28/12 12:51
4-Bromofluorobenzene (Surr)	97.6		% Recovery	EPA 8260B	09/28/12 12:51
<b>TPH as Diesel (Silica Gel)</b>	<b>62</b>	50	ug/L	M EPA 8015	09/26/12 00:25
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
<b>TPH as Jet Fuel</b>	<b>490</b>	50	ug/L	M EPA 8015	09/27/12 02:51
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>210</b>	100	ug/L	M EPA 8015	09/27/12 02:51
Octacosane (Silica Gel Surr)	106		% Recovery	M EPA 8015	09/26/12 00:25
Octacosane (Diesel Surrogate)	90.6		% Recovery	M EPA 8015	09/27/12 02:51

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

Project Number : **25-948218.1**

Sample : **MW-9**

Matrix : Water

Lab Number : 82694-10

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:22
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:22
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:22
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:22
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:22
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/12 12:22
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:22
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/28/12 12:22
Toluene - d8 (Surr)	97.7		% Recovery	EPA 8260B	09/28/12 12:22
4-Bromofluorobenzene (Surr)	98.3		% Recovery	EPA 8260B	09/28/12 12:22
<b>TPH as Diesel (Silica Gel)</b>	<b>750</b>	50	ug/L	M EPA 8015	09/26/12 00:59
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
<b>TPH as Jet Fuel</b>	<b>940</b>	50	ug/L	M EPA 8015	09/27/12 03:20
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>1700</b>	100	ug/L	M EPA 8015	09/27/12 03:20
Octacosane (Silica Gel Surr)	117		% Recovery	M EPA 8015	09/26/12 00:59
Octacosane (Diesel Surrogate)	94.0		% Recovery	M EPA 8015	09/27/12 03:20

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

Project Number : **25-948218.1**

Sample : **MW-10**

Matrix : Water

Lab Number : 82694-11

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:55
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:55
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:55
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:55
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 12:55
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/12 12:55
<b>Naphthalene</b>	<b>0.51</b>	0.50	ug/L	EPA 8260B	09/28/12 12:55
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/28/12 12:55
Toluene - d8 (Surr)	97.6		% Recovery	EPA 8260B	09/28/12 12:55
4-Bromofluorobenzene (Surr)	98.8		% Recovery	EPA 8260B	09/28/12 12:55
<b>TPH as Diesel (Silica Gel)</b>	<b>77</b>	50	ug/L	M EPA 8015	09/26/12 01:34
<b>TPH as Jet Fuel</b>	<b>600</b>	50	ug/L	M EPA 8015	09/27/12 03:50
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>180</b>	100	ug/L	M EPA 8015	09/27/12 03:50
Octacosane (Silica Gel Surr)	112		% Recovery	M EPA 8015	09/26/12 01:34
Octacosane (Diesel Surrogate)	100		% Recovery	M EPA 8015	09/27/12 03:50

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

Project Number : **25-948218.1**

Sample : **MW-11**

Matrix : Water

Lab Number : 82694-12

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 22:48
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 22:48
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 22:48
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 22:48
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 22:48
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/12 22:48
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 22:48
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/27/12 22:48
Toluene - d8 (Surr)	97.2		% Recovery	EPA 8260B	09/27/12 22:48
4-Bromofluorobenzene (Surr)	97.9		% Recovery	EPA 8260B	09/27/12 22:48
<b>TPH as Diesel (Silica Gel)</b>	<b>230</b>	50	ug/L	M EPA 8015	09/26/12 02:08
(Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)					
<b>TPH as Jet Fuel</b>	<b>660</b>	50	ug/L	M EPA 8015	09/27/12 04:19
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>600</b>	100	ug/L	M EPA 8015	09/27/12 04:19
Octacosane (Silica Gel Surr)	112		% Recovery	M EPA 8015	09/26/12 02:08
Octacosane (Diesel Surrogate)	97.7		% Recovery	M EPA 8015	09/27/12 04:19



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

Project Number : **25-948218.1**

Sample : **MW-12**

Matrix : Water

Lab Number : 82694-13

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:39
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:39
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:39
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:39
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:39
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/12 14:39
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 14:39
1,2-Dichloroethane-d4 (Surr)	100		% Recovery	EPA 8260B	09/27/12 14:39
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	09/27/12 14:39
4-Bromofluorobenzene (Surr)	94.2		% Recovery	EPA 8260B	09/27/12 14:39
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/26/12 02:43
<b>TPH as Jet Fuel</b>	<b>97</b>	50	ug/L	M EPA 8015	09/27/12 04:48
(Note: Discrete peaks present, atypical for Jet Fuel.)					
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/27/12 04:48
Octacosane (Silica Gel Surr)	104		% Recovery	M EPA 8015	09/26/12 02:43
Octacosane (Diesel Surrogate)	97.6		% Recovery	M EPA 8015	09/27/12 04:48

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

Project Number : **25-948218.1**

Sample : **MW-13**

Matrix : Water

Lab Number : 82694-14

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
<b>Benzene</b>	<b>0.68</b>	0.50	ug/L	EPA 8260B	09/27/12 15:11
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 15:11
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 15:11
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 15:11
<b>Methyl-t-butyl ether (MTBE)</b>	<b>2.3</b>	0.50	ug/L	EPA 8260B	09/27/12 15:11
<b>TPH as Gasoline</b>	<b>280</b>	50	ug/L	EPA 8260B	09/27/12 15:11
<b>Naphthalene</b>	<b>0.89</b>	0.50	ug/L	EPA 8260B	09/27/12 15:11
1,2-Dichloroethane-d4 (Surr)	99.0		% Recovery	EPA 8260B	09/27/12 15:11
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	09/27/12 15:11
4-Bromofluorobenzene (Surr)	94.2		% Recovery	EPA 8260B	09/27/12 15:11
<b>TPH as Diesel (Silica Gel)</b>	<b>190</b>	50	ug/L	M EPA 8015	09/26/12 03:17
<b>TPH as Jet Fuel</b>	<b>1800</b>	50	ug/L	M EPA 8015	09/27/12 05:17
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>140</b>	100	ug/L	M EPA 8015	09/27/12 05:17
Octacosane (Silica Gel Surr)	114		% Recovery	M EPA 8015	09/26/12 03:17
Octacosane (Diesel Surrogate)	103		% Recovery	M EPA 8015	09/27/12 05:17

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

Project Number : **25-948218.1**

Sample : **MW-14**

Matrix : Water

Lab Number : 82694-15

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 15:42
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 15:42
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 15:42
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 15:42
<b>Methyl-t-butyl ether (MTBE)</b>	<b>1.0</b>	0.50	ug/L	EPA 8260B	09/27/12 15:42
<b>TPH as Gasoline</b>	<b>51</b>	50	ug/L	EPA 8260B	09/27/12 15:42
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 15:42
1,2-Dichloroethane-d4 (Surr)	98.1		% Recovery	EPA 8260B	09/27/12 15:42
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	09/27/12 15:42
4-Bromofluorobenzene (Surr)	95.8		% Recovery	EPA 8260B	09/27/12 15:42
<b>TPH as Diesel (Silica Gel)</b> (Note: Hydrocarbons are higher-boiling than typical Diesel Fuel.)	<b>130</b>	50	ug/L	M EPA 8015	09/26/12 03:52
<b>TPH as Jet Fuel</b> (Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)	<b>1300</b>	50	ug/L	M EPA 8015	09/27/12 12:34
<b>TPH as Motor Oil</b>	<b>680</b>	100	ug/L	M EPA 8015	09/27/12 12:34
Octacosane (Silica Gel Surr)	110		% Recovery	M EPA 8015	09/26/12 03:52
Octacosane (Diesel Surrogate)	95.6		% Recovery	M EPA 8015	09/27/12 12:34

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

Project Number : **25-948218.1**

Sample : **MW-15**

Matrix : Water

Lab Number : 82694-16

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:14
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:14
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:14
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:14
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:14
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/12 16:14
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:14
1,2-Dichloroethane-d4 (Surr)	98.3		% Recovery	EPA 8260B	09/27/12 16:14
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	09/27/12 16:14
4-Bromofluorobenzene (Surr)	93.7		% Recovery	EPA 8260B	09/27/12 16:14
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/26/12 04:26
<b>TPH as Jet Fuel</b>	<b>50</b>	50	ug/L	M EPA 8015	09/27/12 13:03
(Note: Discrete peaks present, atypical for Jet Fuel.)					
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/27/12 13:03
Octacosane (Silica Gel Surr)	116		% Recovery	M EPA 8015	09/26/12 04:26
Octacosane (Diesel Surrogate)	99.3		% Recovery	M EPA 8015	09/27/12 13:03

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

Project Number : **25-948218.1**

Sample : **MW-17**

Matrix : Water

Lab Number : 82694-17

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:45
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:45
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:45
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:45
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:45
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/12 16:45
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 16:45
1,2-Dichloroethane-d4 (Surr)	99.2		% Recovery	EPA 8260B	09/27/12 16:45
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	09/27/12 16:45
4-Bromofluorobenzene (Surr)	96.2		% Recovery	EPA 8260B	09/27/12 16:45
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/26/12 05:01
<b>TPH as Jet Fuel</b>	<b>84</b>	50	ug/L	M EPA 8015	09/27/12 13:33
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>140</b>	100	ug/L	M EPA 8015	09/27/12 13:33
(Note: Discrete peaks in Motor Oil range, atypical for Motor Oil.)					
Octacosane (Silica Gel Surr)	106		% Recovery	M EPA 8015	09/26/12 05:01
Octacosane (Diesel Surrogate)	94.4		% Recovery	M EPA 8015	09/27/12 13:33

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

Project Number : **25-948218.1**

Sample : **MW-18**

Matrix : Water

Lab Number : 82694-18

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 00:34
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 00:34
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/12 00:34
<b>Total Xylenes</b>	<b>2.4</b>	0.50	ug/L	EPA 8260B	09/28/12 00:34
<b>Methyl-t-butyl ether (MTBE)</b>	<b>2.0</b>	0.50	ug/L	EPA 8260B	09/28/12 00:34
<b>TPH as Gasoline</b>	<b>2100</b>	50	ug/L	EPA 8260B	09/28/12 00:34
Naphthalene	< 2.0	2.0	ug/L	EPA 8260B	09/28/12 00:34
1,2-Dichloroethane-d4 (Surr)	99.9		% Recovery	EPA 8260B	09/28/12 00:34
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	09/28/12 00:34
4-Bromofluorobenzene (Surr)	99.1		% Recovery	EPA 8260B	09/28/12 00:34
<b>TPH as Diesel (Silica Gel)</b> (Note: Some hydrocarbons lower-boiling, some higher-boiling than Diesel.)	<b>210000</b>	10000	ug/L	M EPA 8015	09/28/12 13:15
<b>TPH as Jet Fuel</b>	<b>290000</b>	10000	ug/L	M EPA 8015	09/27/12 15:01
<b>TPH as Motor Oil</b>	<b>190000</b>	10000	ug/L	M EPA 8015	09/27/12 15:01
Octacosane (Silica Gel Surr)	Diluted Out		% Recovery	M EPA 8015	09/28/12 13:15
Octacosane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	09/27/12 15:01

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

Project Number : **25-948218.1**

Sample : **NPORD-MW-3**

Matrix : Water

Lab Number : 82694-19

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 17:17
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 17:17
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 17:17
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 17:17
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 17:17
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/12 17:17
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 17:17
1,2-Dichloroethane-d4 (Surr)	99.8		% Recovery	EPA 8260B	09/27/12 17:17
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	09/27/12 17:17
4-Bromofluorobenzene (Surr)	94.6		% Recovery	EPA 8260B	09/27/12 17:17
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/26/12 05:35
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/27/12 14:02
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/27/12 14:02
Octacosane (Silica Gel Surr)	106		% Recovery	M EPA 8015	09/26/12 05:35
Octacosane (Diesel Surrogate)	95.3		% Recovery	M EPA 8015	09/27/12 14:02

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

Project Number : **25-948218.1**

Sample : **NPORD-MW-4**

Matrix : Water

Lab Number : 82694-20

Sample Date :09/18/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 13:43
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 13:43
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 22:59
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 22:59
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 13:43
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/12 13:43
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/12 13:43
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	09/27/12 13:43
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	09/27/12 13:43
4-Bromofluorobenzene (Surr)	99.7		% Recovery	EPA 8260B	09/27/12 13:43
<b>TPH as Diesel (Silica Gel)</b>	<b>150</b>	50	ug/L	M EPA 8015	09/26/12 14:53
<b>TPH as Jet Fuel</b>	<b>800</b>	50	ug/L	M EPA 8015	09/27/12 14:31
(Note: Higher boiling hydrocarbons present, atypical for Jet Fuel.)					
<b>TPH as Motor Oil</b>	<b>250</b>	100	ug/L	M EPA 8015	09/27/12 14:31
Octacosane (Silica Gel Surr)	111		% Recovery	M EPA 8015	09/26/12 14:53
Octacosane (Diesel Surrogate)	89.6		% Recovery	M EPA 8015	09/27/12 14:31



**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	Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel (Silica Gel)	< 50	50	ug/L	M EPA 8015	09/25/2012	Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
TPH as Jet Fuel	< 50	50	ug/L	M EPA 8015	09/25/2012	Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
TPH as Motor Oil	< 100	100	ug/L	M EPA 8015	09/25/2012	Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Octacosane (Silica Gel Surr)	109		%	M EPA 8015	09/25/2012	Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Octacosane (Diesel Surrogate)	87.5		%	M EPA 8015	09/25/2012	Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	1,2-Dichloroethane-d4 (Surr)	104		%	EPA 8260B	09/28/2012
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/2012	Toluene - d8 (Surr)	100		%	EPA 8260B	09/28/2012
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	4-Bromofluorobenzene (Surr)	90.2		%	EPA 8260B	09/28/2012
1,2-Dichloroethane-d4 (Surr)	98.5		%	EPA 8260B	09/27/2012	Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Toluene - d8 (Surr)	100		%	EPA 8260B	09/27/2012	Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
4-Bromofluorobenzene (Surr)	97.7		%	EPA 8260B	09/27/2012	Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012	Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012	Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012	TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/26/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012	Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012	1,2-Dichloroethane-d4 (Surr)	98.7		%	EPA 8260B	09/26/2012
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/26/2012	Toluene - d8 (Surr)	105		%	EPA 8260B	09/26/2012
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012	4-Bromofluorobenzene (Surr)	95.5		%	EPA 8260B	09/26/2012
1,2-Dichloroethane-d4 (Surr)	104		%	EPA 8260B	09/26/2012						
Toluene - d8 (Surr)	101		%	EPA 8260B	09/26/2012						
4-Bromofluorobenzene (Surr)	89.6		%	EPA 8260B	09/26/2012						

**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	Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/2012	TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/26/2012
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012	Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/26/2012
1,2-Dichloroethane-d4 (Surr)	98.8		%	EPA 8260B	09/27/2012	1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	09/26/2012
Toluene - d8 (Surr)	106		%	EPA 8260B	09/27/2012	Toluene - d8 (Surr)	97.3		%	EPA 8260B	09/26/2012
4-Bromofluorobenzene (Surr)	95.3		%	EPA 8260B	09/27/2012	4-Bromofluorobenzene (Surr)	98.1		%	EPA 8260B	09/26/2012
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012	Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012	Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012	Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012	Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012	Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/2012	TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/2012
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012	Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	09/28/2012	1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	09/27/2012
Toluene - d8 (Surr)	102		%	EPA 8260B	09/28/2012	Toluene - d8 (Surr)	97.2		%	EPA 8260B	09/27/2012
4-Bromofluorobenzene (Surr)	99.6		%	EPA 8260B	09/28/2012	4-Bromofluorobenzene (Surr)	98.2		%	EPA 8260B	09/27/2012

**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
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/27/2012
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/27/2012
1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	09/27/2012
Toluene - d8 (Surr)	97.6		%	EPA 8260B	09/27/2012
4-Bromofluorobenzene (Surr)	98.9		%	EPA 8260B	09/27/2012
Benzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	09/28/2012
Naphthalene	< 0.50	0.50	ug/L	EPA 8260B	09/28/2012
1,2-Dichloroethane-d4 (Surr)	100		%	EPA 8260B	09/28/2012
Toluene - d8 (Surr)	96.8		%	EPA 8260B	09/28/2012
4-Bromofluorobenzene (Surr)	96.1		%	EPA 8260B	09/28/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
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## QC Report : Matrix Spike/ Matrix Spike Duplicate

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	885	832	ug/L	M EPA 8015	9/25/12	88.5	83.2	6.19	70-130	25
TPH as Diesel	BLANK	<50	1000	1000	1040	964	ug/L	M EPA 8015	9/25/12	104	96.4	7.49	70-130	25
Benzene	82696-01	2.3	39.7	39.8	43.8	43.1	ug/L	EPA 8260B	9/27/12	104	102	2.09	80-120	25
Ethylbenzene	82696-01	21	39.7	39.8	62.3	61.6	ug/L	EPA 8260B	9/27/12	103	101	2.04	80-120	25
Methyl-t-butyl ether	82696-01	4.1	39.7	39.8	42.3	42.2	ug/L	EPA 8260B	9/27/12	96.2	95.6	0.633	69.7-121	25
Naphthalene	82696-01	10	39.7	39.8	53.4	49.7	ug/L	EPA 8260B	9/27/12	109	99.2	9.38	70.0-130	25
P + M Xylene	82696-01	12	39.7	39.8	52.5	51.9	ug/L	EPA 8260B	9/27/12	103	101	1.76	76.8-120	25
Toluene	82696-01	0.83	39.7	39.8	42.9	42.2	ug/L	EPA 8260B	9/27/12	106	104	2.03	80-120	25
Benzene	82694-04	<0.50	40.0	40.0	41.8	41.7	ug/L	EPA 8260B	9/27/12	104	104	0.268	80-120	25

## QC Report : Matrix Spike/ Matrix Spike Duplicate

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	82694-04	<0.50	40.0	40.0	38.8	38.2	ug/L	EPA 8260B	9/27/12	97.1	95.5	1.69	80-120	25
Methyl-t-butyl ether	82694-04	0.62	40.0	40.0	39.0	38.6	ug/L	EPA 8260B	9/27/12	95.9	94.9	1.09	69.7-121	25
Naphthalene	82694-04	<0.50	40.0	40.0	43.8	44.0	ug/L	EPA 8260B	9/27/12	109	110	0.579	70.0-130	25
P + M Xylene	82694-04	<0.50	40.0	40.0	38.5	37.5	ug/L	EPA 8260B	9/27/12	96.2	93.7	2.62	76.8-120	25
Toluene	82694-04	<0.50	40.0	40.0	40.6	40.6	ug/L	EPA 8260B	9/27/12	102	101	0.185	80-120	25
Ethylbenzene	82702-04	<0.50	40.0	40.0	41.4	39.9	ug/L	EPA 8260B	9/27/12	103	99.7	3.69	80-120	25
P + M Xylene	82702-04	<0.50	40.0	40.0	40.4	39.2	ug/L	EPA 8260B	9/27/12	101	97.9	3.26	76.8-120	25
Benzene	82710-19	97	40.0	40.0	139	137	ug/L	EPA 8260B	9/28/12	104	99.7	4.78	80-120	25
Ethylbenzene	82710-19	9.2	40.0	40.0	50.7	49.3	ug/L	EPA 8260B	9/28/12	104	100	3.55	80-120	25

**QC Report : Matrix Spike/ Matrix Spike Duplicate**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
Methyl-t-butyl ether	82710-19	<0.50	40.0	40.0	40.2	40.2	ug/L	EPA 8260B	9/28/12	100	100	0.0704	69.7-121	25
Naphthalene	82710-19	4.3	40.0	40.0	49.3	49.4	ug/L	EPA 8260B	9/28/12	113	113	0.251	70.0-130	25
P + M Xylene	82710-19	10	40.0	40.0	51.0	50.2	ug/L	EPA 8260B	9/28/12	102	99.7	1.93	76.8-120	25
Toluene	82710-19	3.1	40.0	40.0	46.0	45.4	ug/L	EPA 8260B	9/28/12	107	106	1.30	80-120	25
Benzene	82694-02	<0.50	40.0	40.0	38.3	38.1	ug/L	EPA 8260B	9/26/12	95.6	95.2	0.456	80-120	25
Ethylbenzene	82694-02	<0.50	40.0	40.0	39.8	39.9	ug/L	EPA 8260B	9/26/12	99.5	99.8	0.345	80-120	25
Methyl-t-butyl ether	82694-02	<0.50	40.0	40.0	34.0	34.2	ug/L	EPA 8260B	9/26/12	84.9	85.5	0.733	69.7-121	25
Naphthalene	82694-02	<0.50	40.0	40.0	39.7	40.0	ug/L	EPA 8260B	9/26/12	99.3	100	0.767	70.0-130	25
P + M Xylene	82694-02	<0.50	40.0	40.0	38.9	38.9	ug/L	EPA 8260B	9/26/12	97.2	97.2	0.0913	76.8-120	25

## QC Report : Matrix Spike/ Matrix Spike Duplicate

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
Toluene	82694-02	<0.50	40.0	40.0	40.8	40.2	ug/L	EPA 8260B	9/26/12	102	100	1.54	80-120	25
Benzene	82723-01	75	40.0	40.0	113	112	ug/L	EPA 8260B	9/27/12	95.6	94.7	0.967	80-120	25
Ethylbenzene	82723-01	160	40.0	40.0	202	200	ug/L	EPA 8260B	9/27/12	97.6	90.1	7.97	80-120	25
Methyl-t-butyl ether	82723-01	5.9	40.0	40.0	41.7	42.1	ug/L	EPA 8260B	9/27/12	89.4	90.4	1.10	69.7-121	25
Naphthalene	82723-01	8.6	40.0	40.0	49.1	48.8	ug/L	EPA 8260B	9/27/12	101	101	0.740	70.0-130	25
P + M Xylene	82723-01	110	40.0	40.0	154	153	ug/L	EPA 8260B	9/27/12	98.5	95.4	3.16	76.8-120	25
Toluene	82723-01	24	40.0	40.0	65.2	65.1	ug/L	EPA 8260B	9/27/12	103	103	0.287	80-120	25
Benzene	82710-03	7.3	40.0	40.0	46.5	46.0	ug/L	EPA 8260B	9/28/12	97.8	96.8	1.10	80-120	25
Ethylbenzene	82710-03	3.1	40.0	40.0	44.1	43.7	ug/L	EPA 8260B	9/28/12	102	102	0.970	80-120	25

**QC Report : Matrix Spike/ Matrix Spike Duplicate**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
Methyl-t-butyl ether	82710-03	<0.50	40.0	40.0	37.4	37.2	ug/L	EPA 8260B	9/28/12	93.4	93.0	0.462	69.7-121	25
Naphthalene	82710-03	3.3	40.0	40.0	43.4	43.0	ug/L	EPA 8260B	9/28/12	100	99.3	1.05	70.0-130	25
P + M Xylene	82710-03	5.6	40.0	40.0	46.3	45.6	ug/L	EPA 8260B	9/28/12	102	99.9	1.81	76.8-120	25
Toluene	82710-03	1.3	40.0	40.0	42.1	41.4	ug/L	EPA 8260B	9/28/12	102	100	1.56	80-120	25
Benzene	82694-03	<0.50	40.0	40.0	39.7	38.0	ug/L	EPA 8260B	9/26/12	99.2	94.9	4.37	80-120	25
Ethylbenzene	82694-03	<0.50	40.0	40.0	40.2	37.8	ug/L	EPA 8260B	9/26/12	100	94.5	6.19	80-120	25
Methyl-t-butyl ether	82694-03	<0.50	40.0	40.0	36.7	36.7	ug/L	EPA 8260B	9/26/12	91.8	91.7	0.148	69.7-121	25
Naphthalene	82694-03	<0.50	40.0	40.0	39.3	38.4	ug/L	EPA 8260B	9/26/12	98.2	95.9	2.33	70.0-130	25
P + M Xylene	82694-03	<0.50	40.0	40.0	38.5	36.5	ug/L	EPA 8260B	9/26/12	96.3	91.4	5.31	76.8-120	25



## QC Report : Matrix Spike/ Matrix Spike Duplicate

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
Toluene	82694-03	<0.50	40.0	40.0	38.4	36.7	ug/L	EPA 8260B	9/26/12	96.1	91.7	4.67	80-120	25
Benzene	82723-03	100	40.0	40.0	143	140	ug/L	EPA 8260B	9/27/12	97.4	88.8	9.24	80-120	25
<b>Ethylbenzene</b>	82723-03	94	40.0	40.0	130	126	ug/L	EPA 8260B	9/27/12	87.7	<b>78.6</b>	10.9	80-120	25
Methyl-t-butyl ether	82723-03	<0.50	40.0	40.0	38.8	39.1	ug/L	EPA 8260B	9/27/12	97.1	97.7	0.601	69.7-121	25
Naphthalene	82723-03	19	40.0	40.0	58.9	58.8	ug/L	EPA 8260B	9/27/12	99.8	99.7	0.186	70.0-130	25
<b>P + M Xylene</b>	82723-03	160	40.0	40.0	193	189	ug/L	EPA 8260B	9/27/12	83.9	<b>72.8</b>	14.2	76.8-120	25
Toluene	82723-03	38	40.0	40.0	77.8	75.8	ug/L	EPA 8260B	9/27/12	98.8	93.7	5.23	80-120	25
Benzene	82699-03	<0.50	40.0	40.0	40.2	39.7	ug/L	EPA 8260B	9/27/12	101	99.4	1.26	80-120	25
Ethylbenzene	82699-03	<0.50	40.0	40.0	41.2	40.0	ug/L	EPA 8260B	9/27/12	103	99.9	3.02	80-120	25

**QC Report : Matrix Spike/ Matrix Spike Duplicate**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
Methyl-t-butyl ether	82699-03	3.0	40.0	40.0	41.0	41.6	ug/L	EPA 8260B	9/27/12	94.8	96.4	1.69	69.7-121	25
Naphthalene	82699-03	<0.50	40.0	40.0	39.6	39.8	ug/L	EPA 8260B	9/27/12	99.0	99.4	0.462	70.0-130	25
P + M Xylene	82699-03	<0.50	40.0	40.0	39.7	38.7	ug/L	EPA 8260B	9/27/12	99.2	96.7	2.57	76.8-120	25
Toluene	82699-03	<0.50	40.0	40.0	39.0	38.5	ug/L	EPA 8260B	9/27/12	97.6	96.2	1.45	80-120	25
Benzene	82710-13	32	40.0	40.0	73.0	70.4	ug/L	EPA 8260B	9/28/12	104	97.2	6.52	80-120	25
Ethylbenzene	82710-13	3.5	40.0	40.0	45.9	43.8	ug/L	EPA 8260B	9/28/12	106	101	5.02	80-120	25
Methyl-t-butyl ether	82710-13	<0.50	40.0	40.0	38.5	39.0	ug/L	EPA 8260B	9/28/12	96.2	97.6	1.46	69.7-121	25
Naphthalene	82710-13	10	40.0	40.0	50.8	50.8	ug/L	EPA 8260B	9/28/12	101	101	0.00002	70.0-130	25
P + M Xylene	82710-13	24	40.0	40.0	66.0	63.0	ug/L	EPA 8260B	9/28/12	106	98.1	7.49	76.8-120	25

**QC Report : Matrix Spike/ Matrix Spike Duplicate**

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
Toluene	82710-13	1.5	40.0	40.0	41.4	40.2	ug/L	EPA 8260B	9/28/12	99.5	96.8	2.83	80-120	25

**QC Report : Laboratory Control Sample (LCS)**Project Name : **Rolls-Royce Engine Test Facility**Project Number : **25-948218.1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	9/27/12	106	80-120
Ethylbenzene	40.0	ug/L	EPA 8260B	9/27/12	110	80-120
Methyl-t-butyl ether	40.0	ug/L	EPA 8260B	9/27/12	92.6	69.7-121
Naphthalene	40.0	ug/L	EPA 8260B	9/27/12	103	70.0-130
P + M Xylene	40.0	ug/L	EPA 8260B	9/27/12	107	76.8-120
Toluene	40.0	ug/L	EPA 8260B	9/27/12	106	80-120
Benzene	40.1	ug/L	EPA 8260B	9/26/12	106	80-120
Ethylbenzene	40.1	ug/L	EPA 8260B	9/26/12	99.1	80-120
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	9/26/12	97.6	69.7-121
Naphthalene	40.1	ug/L	EPA 8260B	9/26/12	108	70.0-130
P + M Xylene	40.1	ug/L	EPA 8260B	9/26/12	99.2	76.8-120
TPH as Gasoline	482	ug/L	EPA 8260B	9/26/12	94.1	70.0-130
Toluene	40.1	ug/L	EPA 8260B	9/26/12	104	80-120
Ethylbenzene	40.0	ug/L	EPA 8260B	9/27/12	102	80-120
P + M Xylene	40.0	ug/L	EPA 8260B	9/27/12	101	76.8-120
Benzene	40.2	ug/L	EPA 8260B	9/28/12	109	80-120
Ethylbenzene	40.2	ug/L	EPA 8260B	9/28/12	102	80-120
Methyl-t-butyl ether	40.2	ug/L	EPA 8260B	9/28/12	95.3	69.7-121
Naphthalene	40.2	ug/L	EPA 8260B	9/28/12	110	70.0-130

## QC Report : Laboratory Control Sample (LCS)

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

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
P + M Xylene	40.2	ug/L	EPA 8260B	9/28/12	101	76.8-120
TPH as Gasoline	480	ug/L	EPA 8260B	9/28/12	100	70.0-130
Toluene	40.2	ug/L	EPA 8260B	9/28/12	107	80-120
Benzene	40.1	ug/L	EPA 8260B	9/26/12	96.2	80-120
Ethylbenzene	40.1	ug/L	EPA 8260B	9/26/12	101	80-120
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	9/26/12	84.4	69.7-121
Naphthalene	40.1	ug/L	EPA 8260B	9/26/12	97.9	70.0-130
P + M Xylene	40.1	ug/L	EPA 8260B	9/26/12	97.7	76.8-120
TPH as Gasoline	481	ug/L	EPA 8260B	9/26/12	96.3	70.0-130
Toluene	40.1	ug/L	EPA 8260B	9/26/12	104	80-120
Benzene	40.1	ug/L	EPA 8260B	9/27/12	97.4	80-120
Ethylbenzene	40.1	ug/L	EPA 8260B	9/27/12	101	80-120
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	9/27/12	91.1	69.7-121
Naphthalene	40.1	ug/L	EPA 8260B	9/27/12	99.2	70.0-130
P + M Xylene	40.1	ug/L	EPA 8260B	9/27/12	97.0	76.8-120
TPH as Gasoline	480	ug/L	EPA 8260B	9/27/12	95.2	70.0-130
Toluene	40.1	ug/L	EPA 8260B	9/27/12	104	80-120
Benzene	40.0	ug/L	EPA 8260B	9/28/12	97.0	80-120
Ethylbenzene	40.0	ug/L	EPA 8260B	9/28/12	101	80-120

**QC Report : Laboratory Control Sample (LCS)**Project Name : **Rolls-Royce Engine Test Facility**Project Number : **25-948218.1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Methyl-t-butyl ether	40.0	ug/L	EPA 8260B	9/28/12	94.5	69.7-121
Naphthalene	40.0	ug/L	EPA 8260B	9/28/12	100	70.0-130
P + M Xylene	40.0	ug/L	EPA 8260B	9/28/12	99.1	76.8-120
TPH as Gasoline	480	ug/L	EPA 8260B	9/28/12	97.1	70.0-130
Toluene	40.0	ug/L	EPA 8260B	9/28/12	99.7	80-120
Benzene	40.1	ug/L	EPA 8260B	9/26/12	101	80-120
Ethylbenzene	40.1	ug/L	EPA 8260B	9/26/12	104	80-120
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	9/26/12	91.0	69.7-121
Naphthalene	40.1	ug/L	EPA 8260B	9/26/12	100	70.0-130
P + M Xylene	40.1	ug/L	EPA 8260B	9/26/12	100	76.8-120
TPH as Gasoline	480	ug/L	EPA 8260B	9/26/12	110	70.0-130
Toluene	40.1	ug/L	EPA 8260B	9/26/12	98.8	80-120
Benzene	39.9	ug/L	EPA 8260B	9/27/12	99.7	80-120
Ethylbenzene	39.9	ug/L	EPA 8260B	9/27/12	103	80-120
Methyl-t-butyl ether	39.9	ug/L	EPA 8260B	9/27/12	95.8	69.7-121
Naphthalene	39.9	ug/L	EPA 8260B	9/27/12	97.7	70.0-130
P + M Xylene	39.9	ug/L	EPA 8260B	9/27/12	99.9	76.8-120
TPH as Gasoline	481	ug/L	EPA 8260B	9/27/12	112	70.0-130
Toluene	39.9	ug/L	EPA 8260B	9/27/12	98.2	80-120

**QC Report : Laboratory Control Sample (LCS)**Project Name : **Rolls-Royce Engine Test Facility**Project Number : **25-948218.1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	39.9	ug/L	EPA 8260B	9/27/12	102	80-120
Ethylbenzene	39.9	ug/L	EPA 8260B	9/27/12	104	80-120
Methyl-t-butyl ether	39.9	ug/L	EPA 8260B	9/27/12	94.6	69.7-121
Naphthalene	39.9	ug/L	EPA 8260B	9/27/12	99.9	70.0-130
P + M Xylene	39.9	ug/L	EPA 8260B	9/27/12	100	76.8-120
TPH as Gasoline	479	ug/L	EPA 8260B	9/27/12	108	70.0-130
Toluene	39.9	ug/L	EPA 8260B	9/27/12	98.9	80-120
Benzene	40.2	ug/L	EPA 8260B	9/28/12	101	80-120
Ethylbenzene	40.2	ug/L	EPA 8260B	9/28/12	103	80-120
Methyl-t-butyl ether	40.2	ug/L	EPA 8260B	9/28/12	93.2	69.7-121
Naphthalene	40.2	ug/L	EPA 8260B	9/28/12	98.2	70.0-130
P + M Xylene	40.2	ug/L	EPA 8260B	9/28/12	99.3	76.8-120
TPH as Gasoline	479	ug/L	EPA 8260B	9/28/12	108	70.0-130
Toluene	40.2	ug/L	EPA 8260B	9/28/12	97.7	80-120

# 82694

Global ID #: T06019775776

Yes  
 No



## Chain-of-Custody-Record

Facility: Rolls-Royce Engine Test Facility  
 Facility Address: 6701 Old Earhart Road, Oakland, CA  
 Consultant Project #: 25-948218.1  
 Consultant Name: GETTLER-RYAN INC.  
 Address: 6747 Sierra Court Suite J, Dublin, CA 94568  
 Project Contact: (Name) Douglas Lee  
 (Phone) 925-551-7444 x123 (e-mail) dlee@grinc.com

(Name) Douglas Lee  
 (Phone) 925-551-7444 x123  
 Laboratory Name: Kiff Analytical  
 Laboratory Service Order: \_\_\_\_\_  
 Laboratory Service Code: \_\_\_\_\_  
 Samples Collected by: (Name) AW, FT, GM  
 Signature: \_\_\_\_\_

Sample I.D.	Number of Containers	Matrix S=Soil A=Air W=Water C=Charcoal	DATE/SAMPLE COLLECTION TIME	State Method: <input checked="" type="checkbox"/> CA <input type="checkbox"/> OR <input type="checkbox"/> WA <input type="checkbox"/> NW										Series	<input type="checkbox"/> CO <input type="checkbox"/> UT <input type="checkbox"/> ID	Remarks	
				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)						
QA	2	W	9-18-12 / N/A														EDF NEEDED pg 1 of 2
MW-1	7	W	9-18-12 / 0950														01
MW-2	7	W	9-18-12 / 1240														02
MW-3	7	W	9-18-12 / 1155														03
MW-4	7	W	9-18-12 / 0935														04
MW-5	7	W	9-18-12 / 1030														05
MW-6	7	W	9-18-12 / 1020														06
MW-7	7	W	9-18-12 / 1105														07
MW-8	7	W	9-18-12 / 1250														08
MW-9	7	W	9-18-12 / 1100														09
MW-10	7	W	9-18-12 / 1150														10
MW-11	7	W	9-18-12 / 1330														11
MW-12	7	W	9-18-12 / 1330														12
MW-13	7	W	9-18-12 / 1245														13
																	14

Relinquished By (Signature) 	Organization Gettler-Ryan	Date/Time 9-18-12 / 1500 HHS	Received By (Signature) GR office	Organization G-R INC	Date/Time 09-18-12 1500	Iced (Y/N)	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) 	Organization G-R INC	Date/Time 09-20-12 1321	Received By (Signature) _____	Organization _____	Date/Time _____	Iced (Y/N)	
Relinquished By (Signature) _____	Organization _____	Date/Time _____	Received For Laboratory By (Signature) Roz M Lee	Organization Kiff Analytical	Date/Time 09-20-12 1321	Iced (Y/N) <input checked="" type="checkbox"/>	



82694

Global ID #: T06019775776

Yes  
 No



**Chain-of-Custody-Record**

Facility Rolls-Royce Engine Test Facility  
 Facility Address: 6701 Old Earhart Road, Oakland, CA  
 Consultant Project #: 25-948218.1  
 Consultant Name: GETTLER-RYAN INC.  
 Address: 6747 Sierra Court Suite J, Dublin, CA 94568  
 Project Contact: (Name) Douglas Lee  
 (Phone) 925-551-7444 x123 (e-mail) dlee@qrinc.com

(Name) Douglas Lee  
 (Phone) 925-551-7444 x123  
 Laboratory Name: Kiff Analytical  
 Laboratory Service Order: \_\_\_\_\_  
 Laboratory Service Code: \_\_\_\_\_  
 Samples Collected by: (Name) AW, FT, GM  
 Signature: \_\_\_\_\_

Sample I.D.	Number of Containers	Matrix S= Soil A=Air W=Water C=Charcoal	DATE/SAMPLE COLLECTION TIME	State Method: <input checked="" type="checkbox"/> CA <input type="checkbox"/> OR <input type="checkbox"/> WA <input type="checkbox"/> NW										Series	<input type="checkbox"/> CO	<input type="checkbox"/> UT	<input type="checkbox"/> ID	Remarks
				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)							
MW-14	7	W	9-18-12/1110	X	X	X	X									EDF NEEDED pg 2 of 2		
MW-15	7	W	9-18-12/1025	X	X	X	X									15		
MW-17	7	W	9-18-12/0940	X	X	X	X									16		
MW-18	7	W	9-18-12/1410	X	X	X	X									17		
MPRO-MW-3	7	W	9-18-12/1155	X	X	X	X									18		
MPRO-MW-4	7	W	9-18-12/1330	X	X	X	X									19		

Relinquished By (Signature) <i>[Signature]</i>	Organization Gettler-Ryan	Date/Time 9-18-12 1500	Received By (Signature) GR Office	Organization GR INC	Date/Time 09-18-12 1500	Iced (Y/N)	Turn Around Time (Circle Choice)  24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) <i>[Signature]</i>	Organization G-R INC	Date/Time 09-20-12 1321	Received By (Signature) _____	Organization	Date/Time	Iced (Y/N)	
Relinquished By (Signature) _____	Organization	Date/Time	Received For Laboratory By (Signature) Kiff Analytical	Organization	Date/Time 092012/ 1321	Iced (Y/N)	

**SAMPLE RECEIPT CHECKLIST**

RECEIVER  
RLM  
Initials

SRG#: 82694 Date: 092012  
Project ID: Rolls-Royce Engine Test Facility  
Method of Receipt:  Courier  Over-the-counter  Shipper  
Shipping Only:  FedEx \*  OnTrac \*  Greyhound  Other \*Service level if not Priority or Sunrise (M-F): \_\_\_\_\_

**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 3.8 Therm. ID# IR-4 Initial RLM Date/Time 092012/1638  N/A  
Are there custody seals on sample containers?  Intact (TB only)  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 135  
Matrix \_\_\_\_\_ Container type \_\_\_\_\_ # of containers received \_\_\_\_\_  
Matrix \_\_\_\_\_ Container type \_\_\_\_\_ # of containers received \_\_\_\_\_  
Date and Time Sample Put into Temp Storage Date: 092012 Time: 1650

**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: Bubbles in samples -03(VOAs 4-7), -13(all), -14(all), -15  
(VOAs 6,7), -17(VOA 7). Sample -18 has visible product inside. Per  
JCP of the lab, this sample was placed in the product  
refrigerator. TJS 092012 1303