

## Kevin Schneider

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**From:** Clifford Yantz  
**Sent:** Monday, January 21, 2013 4:20 PM  
**To:** Kaysen.Michelle@epamail.epa.gov  
**Cc:** Bhooma Sundar (Sundar.Bhooma@epamail.epa.gov); GARY CYGAN (Cygan.Gary@epamail.epa.gov); Dave Favero; Scott Cormier; Kevin Schneider  
**Subject:** RACER Trust - Dort Hwy Land - GWI Update - 3rd Quarter Results  
**Attachments:** GWI Update - 3rd Quarter Results 2012.pdf

Michelle,

The analytical results for the third quarterly sampling event for the RACER Dort Highway Land site (#12960) is attached. Tables 1 and 2 provide summaries of the water levels and analytical results, respectively, for the site for the three sampling events. Figure 6 provides the current groundwater contours and exceedances (Figures 1 through 4 were provided in the original GWI Report and Figure 5 was provided in the second quarterly sampling event update).

The groundwater elevations range from 828.33 feet above mean sea level (ft aMSL) at MW-9 to 820.08 ft aMSL at MW2-1, and even though groundwater levels were inadvertently only collected from the monitoring wells sampled during the third quarterly event, the resulting contours are considered a reasonable representation of the piezometric heads (vs. groundwater table) for the Site. The groundwater contours provide an indication of the groundwater flow direction at the Site, which indicate a flow pattern originating from the southeastern portion of the Site with a general overall westerly flow direction. The groundwater contours during this event indicate a similar flow pattern as observed previously, except without the water level from MW-1 it does not indicate the southerly component of flow observed previously in the northern portion of the Site. Furthermore, it appears that the storm water retention basin located in the southwestern corner of the site, which temporarily retains water during seasonally wetter periods, affected the water level from MW-4, which was about three feet higher than it had been in June and September 2012. A full round of groundwater levels will be collected during the fourth quarterly sampling event.

The samples were analyzed for arsenic and lead during this round. Arsenic was detected in four of the five monitoring wells; arsenic remains undetected in monitoring well MW-4. Lead was not detected in any of the monitoring wells during this event. Arsenic was detected above the Michigan Department of Environmental Quality (MDEQ) nonresidential drinking water and groundwater surface water interface (GSI) criteria of 0.01 mg/L at MW-2 and MW2-1. These results are similar to the June and September 2012 monitoring event results, except that the arsenic concentrations in MW-7 equaled, not exceeded, the arsenic criteria. In fact, the concentrations in MW-7 have decreased and in the remaining wells stayed similar or decreased slightly over time. The total arsenic detections ranged from 0.003 mg/L at MW-9 to 0.035 mg/L at MW-2 (Co-Located sample). The dissolved arsenic detections ranged from 0.003 mg/L at MW-9 to 0.031 mg/L at MW-2. Lead, which had been detected above the nonresidential drinking water criterion at MW-9 in June 2012, has either not been detected or was detected at the nonresidential criterion of 0.004 mg/L during the last two sampling rounds (September and December 2012).

We will plan on collecting the next round of samples in March 2012 and will update the tables and create a new figure summarizing those results in April 2013.

Thank you and have a great week,  
CSY

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**O'BRIEN & GERE**  
Clifford S. Yantz

TECHNICAL ASSOCIATE

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**O'BRIEN & GERE**

37000 Grand River Ave. | Suite 260

Farmington Hills, MI 48335-2887

*p* 248-477-5701 ext. 16 | *f* 248-477-5962

*c* 313-333-0211

[clifford.yantz@obg.com](mailto:clifford.yantz@obg.com)    [www.obg.com](http://www.obg.com)

**Table 1**  
**RACER Trust- Dort Hwy Land**  
**Depth to Groundwater Levels in Monitoring Wells**

Well	Top Of Casing Elev. (ft) *	Top of Sand Pack Elev. (ft)	Bottom of Sand Pack Elev. (ft)	Date	Depth To Water (ft)	Static Water Elev. (ft)
MW-1	831.76	825.69	819.69	27-Jun-12	6.06	825.70
				27-Sep-12	8.96	822.80
MW-2	829.31	814.64	806.84	27-Jun-12	7.09	822.22
				27-Sep-12	9.05	820.26
				19-Dec-12	9.08	820.23
MW2-1	832.33	821.05	812.35	27-Jun-12	8.69	823.64
				27-Sep-12	10.56	821.77
				19-Dec-12	12.25	820.08
MW-3	824.99	816.81	807.81	27-Jun-12	5.30	819.69
				27-Sep-12	4.32	820.67
MW-4	824.03	818.12	812.12	27-Jun-12	5.60	818.43
				27-Sep-12	5.43	818.60
				19-Dec-12	2.47	821.56
MW-5	829.58	811.43	803.43	27-Jun-12	21.00	808.58
				27-Sep-12	7.76	821.82
MW-6	828.63	816.25	808.25	27-Jun-12	3.95	824.68
				27-Sep-12	7.20	821.43
MW-7	834.20	818.26	811.86	27-Jun-12	9.51	824.69
				27-Sep-12	11.04	823.16
				19-Dec-12	10.96	823.24
MW-8	833.22	820.20	811.20	27-Jun-12	5.39	827.83
				27-Sep-12	8.15	825.07
MW-9	835.45	817.48	809.98	27-Jun-12	8.05	827.40
				27-Sep-12	8.13	827.32
				19-Dec-12	7.12	828.33

**Notes**

\* Casing elevations were provided by CTI Engineers and are in feet relative to National Geodetic Vertical Datum

**Table 2  
Summary of Detected Groundwater Analytical Results  
RACER Trust  
Grand Blanc, Michigan**

Parameter		MDEQ Criteria				MW-1		MW-2								MW2-1						MW-3				
		Nonresidential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	28-Jun-12		28-Jun-12		27-Sep-12		(CO-LOCATED) 27-Sep-12		(CO-LOCATED) 19-Dec-12		19-Dec-12		28-Jun-12		27-Sep-12		19-Dec-12		29-Jun-12		
						Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Total
<b>Metals</b>																										
Arsenic	mg/L	0.01 (A)	0.01	NLV	4.3	<0.002	<0.002	0.027	0.028	0.035	0.034	0.034	0.035	0.031	0.032	0.030	0.035	0.020	0.018	0.026	0.032	0.020	0.019	<0.002		
Barium	mg/L	2 (A)	0.67 (G,X)	NLV	14000	0.084	0.098	0.042	0.045	--	--	--	--	--	--	--	--	0.081	0.083	--	--	--	--	0.094		
Lead (Total)	mg/L	0.004 (L)	0.014 (G,X)	NLV	ID	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	0.004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003	<0.003		
<b>SVOCs</b>																										
Dimethyl phthalate	µg/L	210,000	NA	NLV	4.2E+06 (S)	<5	10*	<5	5*	--	--	--	--	--	--	--	--	<5	8*	--	--	--	--	<5		
<b>VOCs</b>																										
Bromodichloromethane	µg/L	80 (A,W)	ID	37,000	14,000	<1	<1	<1	<1	--	--	--	--	--	--	--	--	<1	<1	--	--	--	--	<1		
Chloroform	µg/L	80 (A,W)	350	1.80E+05	1.50E+05	<1	<1	<1	<1	--	--	--	--	--	--	--	--	<1	<1	--	--	--	--	<1		
1,1-Dichloroethane	µg/L	2,500	740	2.30E+06	2.40E+06	<1	<1	<1	<1	--	--	--	--	--	--	--	--	<1	<1	--	--	--	--	6		

Notes:  
Exceeds residential drinking water criteria or both GSI and drinking water criteria  
 \* Compound also found in associated method blank.  
 (A) Criterion is the state of Michigan drinking water standard.  
 (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water.  
 (S) Criterion defaults to the hazardous substance-specific water solubility limit.  
 (L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.  
 (W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.  
 (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.  
 (NLV) Means hazardous substance is not likely to volatilize under most conditions.  
 (ID) Means insufficient data to develop criterion.  
 (ND) Not detected.

**Table 2  
Summary of Detected Groundwater Analytical Results  
RACER Trust  
Grand Blanc, Michigan**

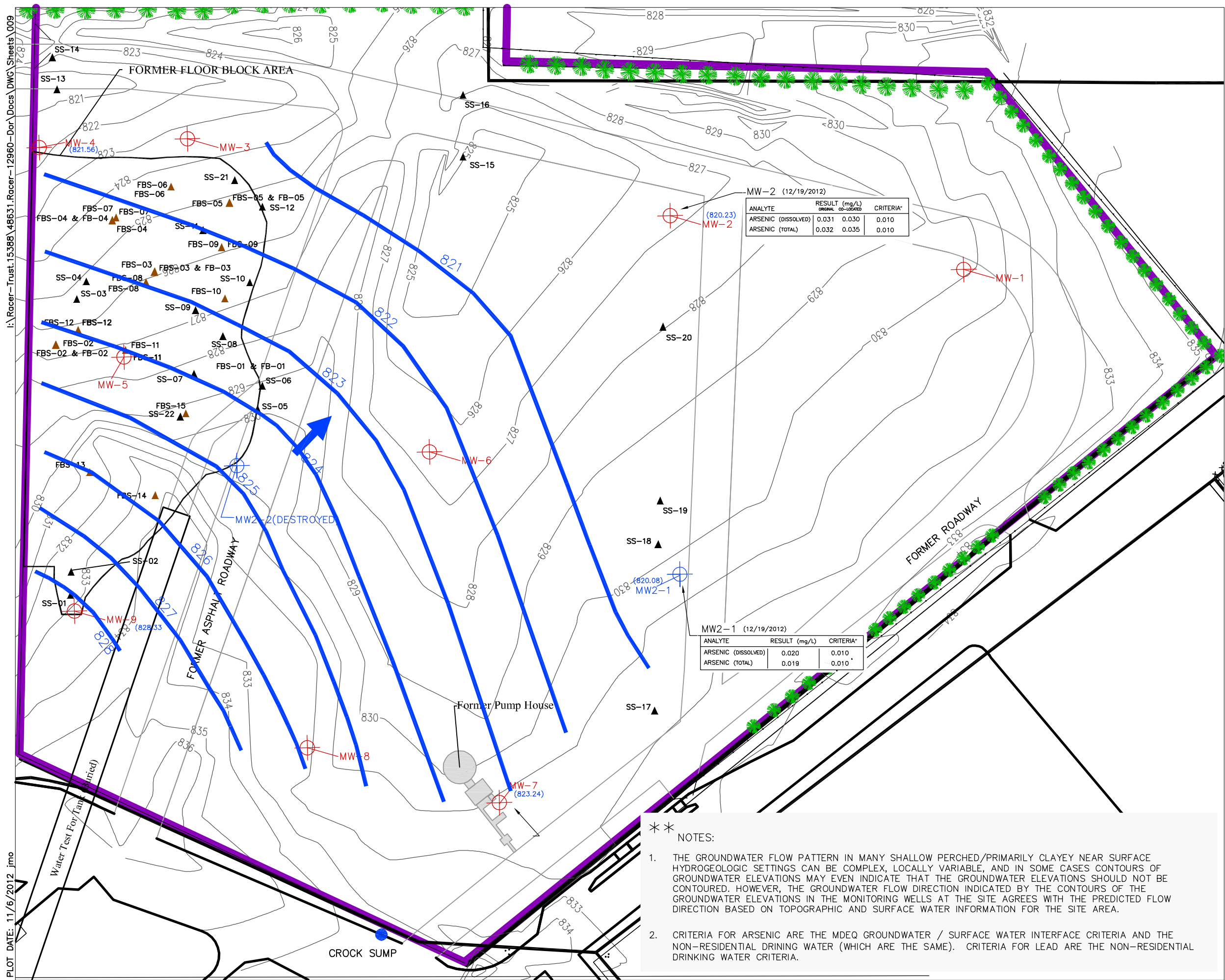
Parameter		MDEQ Criteria				MW-4			MW-5	MW-6	MW-7									
		Nonresidential Drinking Water Criteria & RBSLs	Groundwater Surface Water Interface Criteria & RBSLs	Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs	Groundwater Contact Criteria & RBSLs	29-Jun-12		27-Sep-12		19-Dec-12		29-Jun-12	2-Jul-12	(CO-LOCATED)		27-Sep-12		19-Dec-12		
						Total	Dissolved	Total	Dissolved	Total	Total	Total	28-Jun-12		28-Jun-12		27-Sep-12		19-Dec-12	
													Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
<b>Metals</b>																				
Arsenic	mg/L	0.01 (A)	0.01	NLV	4.3	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.023	0.024	0.024	0.029	0.030	0.028	0.010	0.010
Barium	mg/L	2 (A)	0.67 (G,X)	NLV	14000	0.135	--	--	--	--	0.054	0.046	0.090	0.092	0.090	0.112	--	--	--	--
Lead (Total)	mg/L	0.004 (L)	0.014 (G,X)	NLV	ID	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
<b>SVOCs</b>																				
Dimethyl phthalate	µg/L	210,000	NA	NLV	4.2E+06 (S)	<5	--	--	--	--	8*	<5	<5	<5	<5	<5	--	--	--	--
<b>VOCs</b>																				
Bromodichloromethane	µg/L	80 (A,W)	ID	37,000	14,000	<1	--	--	--	--	<1	<1	<1	<1	<1	<1	--	--	--	--
Chloroform	µg/L	80 (A,W)	350	1.80E+05	1.50E+05	<1	--	--	--	--	<1	<1	<1	<1	<1	<1	--	--	--	--
1,1-Dichloroethane	µg/L	2,500	740	2.30E+06	2.40E+06	<1	--	--	--	--	<1	<1	<1	<1	<1	<1	--	--	--	--

Notes:  
Exceeds residential drinking water criteria or both GSI and drinking water criteria  
 \* Compound also found in associated method blank.  
 (A) Criterion is the state of Michigan drinking water standard.  
 (G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water.  
 (S) Criterion defaults to the hazardous substance-specific water solubility limit.  
 (L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.  
 (W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 µg/L.  
 (X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.  
 (NLV) Means hazardous substance is not likely to volatilize under most conditions.  
 (ID) Means insufficient data to develop criterion.  
 (ND) Not detected.





FIGURE 6



- LEGEND**
- MONITORING WELL LOCATION
  - PHASE II ESA MONITORING WELL LOCATION
  - APPROXIMATE RACER TRUST PROPERTY LINE
  - FORMER TANK TEST TRACK AND DIE STORAGE ACCESS ROADS
  - APPROXIMATE FENCE LOCATION
  - DELINEATION/ CONFIRMATION SOIL SAMPLE LOCATION
  - FLOOR BLOCK AREA SOIL SAMPLE LOCATION
  - GROUND WATER CONTOUR
  - GROUND WATER FLOW

RACER TRUST  
DORT HIGHWAY LAND  
GRAND BLANC, MICHIGAN

GROUNDWATER CONTOUR  
MAP (DEC. 19, 2012)  
WITH EXCEEDANCES



- \*\* NOTES:**
- THE GROUNDWATER FLOW PATTERN IN MANY SHALLOW PERCHED/PRIMARILY CLAYEY NEAR SURFACE HYDROGEOLOGIC SETTINGS CAN BE COMPLEX, LOCALLY VARIABLE, AND IN SOME CASES CONTOURS OF GROUNDWATER ELEVATIONS MAY EVEN INDICATE THAT THE GROUNDWATER ELEVATIONS SHOULD NOT BE CONTOURED. HOWEVER, THE GROUNDWATER FLOW DIRECTION INDICATED BY THE CONTOURS OF THE GROUNDWATER ELEVATIONS IN THE MONITORING WELLS AT THE SITE AGREES WITH THE PREDICTED FLOW DIRECTION BASED ON TOPOGRAPHIC AND SURFACE WATER INFORMATION FOR THE SITE AREA.
  - CRITERIA FOR ARSENIC ARE THE MDEQ GROUNDWATER / SURFACE WATER INTERFACE CRITERIA AND THE NON-RESIDENTIAL DRINKING WATER (WHICH ARE THE SAME). CRITERIA FOR LEAD ARE THE NON-RESIDENTIAL DRINKING WATER CRITERIA.

15388/48631.009  
JANUARY 2013



PLOT DATE: 11/6/2012 .jmo  
I:\Racer-Trust\15388\48631.Racer-12960-Doc\DWG\Sheets\009



# Analytical Laboratory Report

Report ID: S55044.01(01)  
Generated on 12/27/2012

## Report to

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Attention: Clifford Yantz  
O'Brien & Gere Engineers, Inc.  
37000 Grand River Ave.  
Suite 260  
Farmington, MI 48335

Phone: 248-477-5701 FAX:  
Email: YantzCS@obg.com/

## Report produced by

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Merit Laboratories, Inc.  
2680 East Lansing Drive  
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

## Contacts for report questions:

Andy Ball (andyball@meritlabs.com)  
Tabitha Faust (tfaust@meritlabs.com)

## Report Summary

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Lab Sample ID(s): S55044.01-S55044.11  
Project: RACER Dort Hwy Land  
Collected Date: 12/19/2012  
Submitted Date/Time: 12/20/2012 16:00  
Sampled by: Chris Cox  
P.O. #: PO125045

## Report Notes

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Results relate only to items tested as received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc..

## Laboratory Certifications:

Michigan DNRE (#9956), DOD/ISO 17025 (#69699), WBENC (#2005110032), Ohio EPA (#CL0002), IN Drinking Water (#C-MI-07), NELAC NY (#11814)

Some analytes reported may not be certified. Full certification lists are available upon request.

Violetta F. Murshak  
Laboratory Director



## Analytical Laboratory Report

### Sample Summary (11 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S55044.01	MW-2	Groundwater	12/19/2012 09:55
S55044.02	MW-2 CoLocated	Groundwater	12/19/2012 09:55
S55044.03	MW-4	Groundwater	12/19/2012 10:55
S55044.04	FB-1	Quality Control	12/19/2012 11:15
S55044.05	MW-9	Groundwater	12/19/2012 11:55
S55044.06	MW-7	Groundwater	12/19/2012 13:50
S55044.07	MW-2-1	Groundwater	12/19/2012 14:45
S55044.08	MW-2-1 MS	Groundwater	12/19/2012 14:45
S55044.09	MW-2-1 MSD	Groundwater	12/19/2012 14:45
S55044.10	Dup-1	Groundwater	12/19/2012 00:01
S55044.11	EB-1	Quality Control	12/19/2012 12:05



# Analytical Laboratory Report

Lab Sample ID: S55044.01  
 Sample Tag: MW-2  
 Collected Date/Time: 12/19/2012 09:55  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.031	mg/L	0.002	E200.8	12/27/12 15:08	PER	7440-38-2	
Arsenic	0.032	mg/L	0.002	E200.8	12/27/12 13:39	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:08	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:39	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:08	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:39	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:08	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:39	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.02  
 Sample Tag: MW-2 CoLocated  
 Collected Date/Time: 12/19/2012 09:55  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.030	mg/L	0.002	E200.8	12/27/12 15:10	PER	7440-38-2	
Arsenic	0.035	mg/L	0.002	E200.8	12/27/12 13:40	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:10	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:40	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:10	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:40	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:10	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:40	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.03  
 Sample Tag: MW-4  
 Collected Date/Time: 12/19/2012 10:55  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	Not detected	mg/L	0.002	E200.8	12/27/12 15:11	PER	7440-38-2	
Arsenic	Not detected	mg/L	0.002	E200.8	12/27/12 13:42	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:11	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:42	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:11	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:42	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:11	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:42	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.04  
Sample Tag: FB-1  
Collected Date/Time: 12/19/2012 11:15  
Matrix: Quality Control  
COC Reference: 71029

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
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### **Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	12/27/12 13:31	PER	7440-38-2	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:31	PER	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:31	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:31	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.05  
 Sample Tag: MW-9  
 Collected Date/Time: 12/19/2012 11:55  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.003	mg/L	0.002	E200.8	12/27/12 15:13	PER	7440-38-2	
Arsenic	0.003	mg/L	0.002	E200.8	12/27/12 13:43	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:13	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:43	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:13	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:43	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:13	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:43	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.06  
 Sample Tag: MW-7  
 Collected Date/Time: 12/19/2012 13:50  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.010	mg/L	0.002	E200.8	12/27/12 15:22	PER	7440-38-2	
Arsenic	0.010	mg/L	0.002	E200.8	12/27/12 15:19	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:22	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 15:19	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:22	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 15:19	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:22	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 15:19	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.07  
 Sample Tag: MW-2-1  
 Collected Date/Time: 12/19/2012 14:45  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.020	mg/L	0.002	E200.8	12/27/12 15:25	PER	7440-38-2	
Arsenic	0.019	mg/L	0.002	E200.8	12/27/12 14:40	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:25	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 14:40	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:25	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 14:40	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:25	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 14:40	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.08  
 Sample Tag: MW-2-1 MS  
 Collected Date/Time: 12/19/2012 14:45  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.298	mg/L	0.002	E200.8	12/27/12 15:36	PER	7440-38-2	
Arsenic	0.304	mg/L	0.002	E200.8	12/27/12 14:48	PER	7440-38-2	
Lead, Dissolved	0.239	mg/L	0.003	E200.8	12/27/12 15:36	PER	7439-92-1	
Lead	0.241	mg/L	0.003	E200.8	12/27/12 14:48	PER	7439-92-1	
Selenium, Dissolved	0.301	mg/L	0.005	E200.8	12/27/12 15:36	PER	7782-49-2	
Selenium	0.307	mg/L	0.005	E200.8	12/27/12 14:48	PER	7782-49-2	
Silver, Dissolved	0.243	mg/L	0.0005	E200.8	12/27/12 15:36	PER	7440-22-4	
Silver	0.249	mg/L	0.0005	E200.8	12/27/12 14:48	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.09  
 Sample Tag: MW-2-1 MSD  
 Collected Date/Time: 12/19/2012 14:45  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.311	mg/L	0.002	E200.8	12/27/12 15:38	PER	7440-38-2	
Arsenic	0.302	mg/L	0.002	E200.8	12/27/12 14:50	PER	7440-38-2	
Lead, Dissolved	0.237	mg/L	0.003	E200.8	12/27/12 15:38	PER	7439-92-1	
Lead	0.239	mg/L	0.003	E200.8	12/27/12 14:50	PER	7439-92-1	
Selenium, Dissolved	0.310	mg/L	0.005	E200.8	12/27/12 15:38	PER	7782-49-2	
Selenium	0.298	mg/L	0.005	E200.8	12/27/12 14:50	PER	7782-49-2	
Silver, Dissolved	0.246	mg/L	0.0005	E200.8	12/27/12 15:38	PER	7440-22-4	
Silver	0.244	mg/L	0.0005	E200.8	12/27/12 14:50	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.10  
 Sample Tag: Dup-1  
 Collected Date/Time: 12/19/2012 00:01  
 Matrix: Groundwater  
 COC Reference: 71029

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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**Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
Metal Digestion	Completed			3015A	12/27/12 10:00	PER		

**Metals**

Arsenic, Dissolved	0.003	mg/L	0.002	E200.8	12/27/12 15:23	PER	7440-38-2	
Arsenic	0.003	mg/L	0.002	E200.8	12/27/12 13:49	PER	7440-38-2	
Lead, Dissolved	Not detected	mg/L	0.003	E200.8	12/27/12 15:23	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:49	PER	7439-92-1	
Selenium, Dissolved	Not detected	mg/L	0.005	E200.8	12/27/12 15:23	PER	7782-49-2	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:49	PER	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	E200.8	12/27/12 15:23	PER	7440-22-4	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:49	PER	7440-22-4	



# Analytical Laboratory Report

Lab Sample ID: S55044.11  
Sample Tag: EB-1  
Collected Date/Time: 12/19/2012 12:05  
Matrix: Quality Control  
COC Reference: 71029

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	4.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Analyst	CAS #	Flags
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### **Extraction / Prep.**

Metal Digestion	Completed			3015A	12/27/12 10:00	PER		
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### **Metals**

Arsenic	Not detected	mg/L	0.002	E200.8	12/27/12 13:33	PER	7440-38-2	
Lead	Not detected	mg/L	0.003	E200.8	12/27/12 13:33	PER	7439-92-1	
Selenium	Not detected	mg/L	0.005	E200.8	12/27/12 13:33	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	E200.8	12/27/12 13:33	PER	7440-22-4	



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-4034  
 www.meritlabs.com

C.O.C. PAGE # 1 OF 1

71029

**REPORT TO** **CHAIN OF CUSTODY RECORD** **INVOICE TO**

CONTACT NAME Clifford Yantz  
 COMPANY O'Brien + Gere  
 ADDRESS 37000 Grand River Avenue, Suite 260  
 CITY Farmington Hills STATE MI ZIP CODE 48335  
 PHONE NO. 248-477-5701 FAX NO. 248-477-5701 P.O. NO. 125045.07.07  
 E-MAIL ADDRESS Clifford.Yantz@obg.com QUOTE NO.

CONTACT NAME David Favero  SAME  
 COMPANY RACER Trust  
 ADDRESS 2930 Ecorse Rd  
 CITY Ypsilanti STATE MI ZIP CODE 48197  
 PHONE NO. 217-741-6235 E-MAIL ADDRESS

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

PROJECT NO./NAME Racer Dort Hwy Cond SAMPLER(S) - PLEASE PRINT/SIGN NAME Chris Cox/CKC  
 TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER  
 DELIVERABLES REQUIRED  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER

Certifications  
 OHIO VAP  Drinking Water  
 DoD  NPDES  
 Project Locations  
 Detroit  New York  
 Other Grand Blanc  
 Special Instructions

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID  
 SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. <small>FOR LAB USE ONLY</small>	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives							Asenic Selenium Lead Silver (Total)	Asenic Selenium Lead Silver (Dissolved)
	DATE	TIME				NONE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER		
55044.01	12/19/12	0955	MW-2	GW	2			2					X	X
.02		0955	MW-2 Co Located	GW	2			2					X	X
.03		1055	MW-4	GW	2			2					X	X
.04		1115	FB-1	RC	1			1					X	
.05		1155	MW-9	GW	2			2					X	X
.06		1350	MW-7	GW	2			2					X	X
.07		1445	MW 2-1	GW	2			2					X	X
.08/.09		1445	MW 2-1 (MS/MSD)	GW	4			4					X	X
.10			DVP-1	GW	2			2					X	X
.11		1205	EB-1	RC	1			1					X	

RELINQUISHED BY: Chris Cox/O'Brien + Gere  Sampler DATE 12-20-12 TIME 1705  
 RELINQUISHED BY: [Signature] DATE 12-20-12 TIME 1405  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_  
 RELINQUISHED BY: \_\_\_\_\_ DATE \_\_\_\_\_ TIME \_\_\_\_\_

RELINQUISHED BY: [Signature] DATE 12-20-12 TIME 16:00  
 RELINQUISHED BY: Barbara Ball DATE 12/20/12 TIME 16:00  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_ NOTES: TEMP. ON ARRIVAL 4.5  
 SEAL NO. SEAL INTACT YES  NO  INITIALS \_\_\_\_\_