**Seymour**

Environmental Services, Inc.

Tel: 608-838-9120
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December 1, 2011

Comm #: 53563-1032-02

Ms. Janet DiMaggio
WDNR – Bureau of Remediation and Redevelopment
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711

RE: Groundwater Monitoring Update
Former Bob's Citgo - Milton, Wisconsin,
BRRTS # 03-54-000193

Dear Ms. DiMaggio:

Seymour Environmental Services, Inc. (Seymour) is pleased to present the accompanying information related to the ongoing contamination assessment for your review. Recent activities conducted include installation of three downgradient water-table monitoring wells and a round of groundwater monitoring as proposed in our June 2011 workplan. The results are presented in this document along with conclusions and recommendations.

RECENT ENVIRONMENTAL ACTIVITIES**Monitoring Well Installation and Sampling**

On September 6 and 7, 2011 three monitoring wells (MW-4 thru MW-6) were installed to the west of the previously-identified groundwater contamination. The well locations are consistent with those recommended in our letter report from June 2011 and are downgradient based on the groundwater flow direction determined using the wells installed previously. Drilling was accomplished using hollow-stem augering methods. Borings were blind drilled so no soil samples were collected for analysis. Each of the borings were advanced to a depth of approximately 65 feet to facilitate well installation.

Sediments encountered during drilling were logged based on the drill cutting. Soils encountered during drilling varied from sandy clay to gravelly sand. From the surface to a depth of approximately 12 feet soils were sandy clay and/or sandy silt. This material was underlain by fine sand with silt. At a depth of approximately 30 feet below grade sediments coarsened. Sediments from 30 feet below grade to the maximum drilling depth were sand and gravels. Groundwater was encountered at a depth of approximately 56 to 58 feet.

Water-table monitoring wells were constructed in each of the three borings. The wells ranged in total depth from 55.9 to 57.9 feet. Each of the monitoring wells was constructed with a 15-foot screen. On September 8, 2011 the drillers returned to the site and developed the monitoring wells using a combination of surging, bailing, and pumping. Well construction details are summarized in Table 1. Boring logs, well construction forms, and development forms are included in Attachment A.

On September 15, 2011 groundwater monitoring was conducted at the site. Groundwater levels, product thickness, and groundwater samples were collected at each of the six wells. Additionally, the top of casing elevations for the newly installed wells were surveyed. Samples from the new wells were analyzed for volatile organic compounds (VOCs) and samples from the older wells were analyzed for PVOCs + naphthalene. The samples were submitted to PACE Analytical in Green Bay for analysis.

Groundwater level data collected on September 15, 2011 confirm that groundwater at the site is ~54 to 58 feet below grade. Free-phase product was noted in one monitoring well (MW-2). The well with free-phase product is located about 20 feet east of the tank bed. We were unable to determine the apparent thickness of the product during the monitoring because it was thicker than the bailer (3 feet). The water level data from the wells was plotted and a water-table contour map was constructed. This map indicates that groundwater flow at the site is toward the west (Figure 1). The horizontal hydraulic gradient is approximately 0.013 ft/ft. Well construction details and groundwater level data are summarized in Table 1.

Petroleum-related contaminants were present above NR140 groundwater quality standards in all of the monitoring wells at the site. MTBE was present above the NR140 PAL in all six of the monitoring wells (Figure 2A). MTBE concentrations ranged from 53.8 ug/l (MW-6) to 867 ug/l (MW-1). Benzene was noted in 5 of the 6 wells (Figure 2B). The benzene level detected in each of the well exceeded the NR140 ES and ranged from 289 ug/l (MW-6) to 7550 ug/l (MW-1). In addition to MTBE and benzene, the concentrations of the remaining PVOCs and naphthalene substantially exceeded the NR140 ES in the three monitoring wells located on the subject parcel. The most severe contamination is present near MW-1 (immediately downgradient from tank bed) where PVOC concentrations were 4 to 20 times the ES (except benzene). Intermediate contaminant levels were present at MW-2 (upgradient from the tank bed where product was noted). PVOC levels in this area were 5 to 14 times the ES (except benzene). Lower contaminant levels were noted in the monitoring well near the dispensers (MW-3). The PVOC concentrations in this area were 1 to 7 times the ES. Analytical data from the September 2011 monitoring event is compiled in Table 2 and the analytical report is included in Attachment B.

DISCUSSION OF RESULTS

The data collected to date at the site indicates that petroleum-related contamination is widespread. Soil data collected during previous drilling indicates that soil contamination exceeding WDNR standards is present around the main tank bed, the former kerosene tank bed, and both dispenser areas (Figure 3). No contamination was identified in shallow soils. The known soil contamination at the site extends from ~6 feet below grade to the groundwater (~53 feet blg). The majority of the identified soil contamination is fairly deep. Groundwater analytical data indicate that petroleum contaminants have adversely impacted the groundwater quality. However, the existing dataset is insufficient to determine both the extent of the impacted groundwater and whether the contaminant levels in the groundwater are changing over time. Data from MW-1, which has been sampled on three occasions since November 2010, seem to indicate that the contaminant levels in the groundwater immediately downgradient from the tank bed are fairly stable. Over the last year contaminant levels in this well have varied +/- 20% from the mean. No obvious temporal trend was noted for most of the contaminants. However, trimethylbenzenes and naphthalene concentrations at MW-1 have shown a small but steady increase over the last year.

RECOMMENDATIONS

Based on the data collected we believe additional contamination assessment activities are warranted at the site. Specifically we recommend that:

- 1) A second round of sampling should be collected at the existing monitoring network to confirm the general distribution of contaminants in the groundwater throughout the source area.
- 2) Additional water table monitoring wells should be installed around the identified contamination to try to delimit the lateral extent of contamination exceeding groundwater quality standards. Specifically, one well should be installed to the east of MW-2 to evaluate the extent of free-phase product and possibly identify the upgradient limit of impacted groundwater. Jim's Towing directly to the east have indicated an unwillingness to allow the installation of monitoring wells on their property. Several wells should be installed to the west of the identified contamination to characterize the downgradient contamination distribution. Suggested well locations are shown on Figure 4.
- 3) Conduct groundwater monitoring at the site including the new wells. If the data show that the proposed monitoring well network is sufficient to characterize the distribution of groundwater contamination then four rounds of quarterly monitoring should be performed to assess the temporal changes in contaminant levels.
- 4) Perform product removal during the monitoring events and collect soil and product samples to evaluate the mobility potential of the free-phase product at the site.

If you have any questions about the site please feel free to give Mark Fryman or me a call at (608) 838-9120.

Sincerely,
Seymour Environmental Services



Robyn Seymour
Hydrogeologist

Enclosures: Tables (3)
Figures (4)
Attachments (2)

cc: Mr. Robert Richardson – RP
Mr. Ralph Smith - PECFA

TABLES

TABLE 1
SUMMARY OF WELL CONSRUCTION INFORMATION AND WATER LEVEL DATA
Former Bob's CITGO
602 West Madison Avenue - Milton, Wisconsin

WELL CONSTRUCTION DETAILS

Well	Date Installed	TOC Elevation	Well Depth	Screen Length	Top of Screen Elevation	Base of Screen Elevation
MW-1	10/25/2010	874.49	62.55	10	821.94	811.94
MW-2	2/23/2011	873.96	61.99	10	821.97	811.97
MW-3	2/23/2011	875.05	63.05	10	822.00	812.00
MW-4	9/6/2011	874.60	63.50	15	826.10	811.10
MW-5	9/7/2011	875.20	63.18	15	827.02	812.02
MW-6	9/7/2011	874.80	64.08	15	825.72	810.72

GROUNDWATER LEVEL DATA

Date	11/4/10			3/3/11			9/15/11		
WELL	GW Depth	Product	GW Elev.	GW Depth	Product	GW Elev.	GW Depth	Product	GW Elev.
MW-1	53.15	0	821.34	53.92	0	820.57	54.85	0	819.64
MW-2	--	--	--	51.18	0	822.78	59.17	>3 ft	unknown
MW-3	--	--	--	54.02	0	821.03	54.67	0	820.38
MW-4	--	--	--	--	--	--	55.90	0	818.70
MW-5	--	--	--	--	--	--	57.85	0	817.35
MW-6	--	--	--	--	--	--	57.06	0	817.74

- All data is listed in feet
- Elevation data is listed in feet above mean sea level

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL DATA (Sept. 15, 2011)
Former Bob's CITGO
602 West Madison Avenue - Milton, Wisconsin

Sample I.D.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	NR140	
Select VOCs							ES	PAL
Benzene	7550	4760	2670	<0.41	623	289	5	0.5
1,2 Dichloroethane	na	na	na	2.3	<1.8	<0.36	5	0.5
Ethylbenzene	2540	3720	2610	<0.54	58.5	75.6	700	140
Methyl-tert-butyl ether	867	280	74.3	154	776	53.8	60	12
Toluene	15300	10900	6420	<0.67	6.3	1.7	800	160
1,3,5 Trimethylbenzenes	443	758	622	<0.83	<4.2	18.9	ns	ns
1,2,4 Trimethylbenzenes	1710	2480	2310	<0.97	<4.8	8.3	ns	ns
Total Trimethylbenzenes	2153	3238	2932	<1.80	<9.0	27.2	480	96
Xylenes, -m, -p	8250	11500	7560	<1.8	<9.0	3.3	ns	ns
Xylene, -o	3910	5050	3100	<0.83	271	3.6	ns	ns
Total Xylenes	12160	16550	10660	<2.63	271	6.9	2000	400
Naphthalene	640	891	680	<0.89	<4.4	19.2	100	10
sec-Butylbenzene	na	na	na	<0.89	<4.4	<0.89	ns	ns
Isopropylbenzene	na	na	na	<0.59	<3.0	7.3	ns	ns
n-Propylbenzene	na	na	na	<0.81	<4.0	7.3	ns	ns
p-Isopropyltoluene	na	na	na	<0.67	<3.4	<0.67	ns	ns
Methylene Chloride	na	na	na	<0.43	<2.2	<0.43	5	0.5
Chloromethane	na	na	na	0.33	<1.2	<0.24	30	3

- All results are listed in ug/l
- na = not analyzed
- ns = no standard established

- NR140 PAL = Preventative Action Limit (exceedances bold)
- NR140 ES = Enforcement Standard (exceedances shaded)

TABLE 3 (page 1 of 2)
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Former Bob's CITGO
602 West Madison Avenue - Milton, Wisconsin

Sample I.D.	DATE	Benzene	1,2 Dichloroethane	Ethylbenzene	Methyl-tert-butyl ether	Toluene	1,3,5 Trimethylbenzene	1,2,4 Trimethylbenzene	Total Trimethylbenzenes	Xylenes, -m, -p	Xylene, -o	Total Xylenes	Naphthalene	sec-Butylbenzene	Isopropylbenzene	n-Propylbenzene	p-Isopropyltoluene	Methylene Chloride	Chloromethane
MW-1	11/04/10	6950	<72.0	2380	912	17000	284	1280	1564	7730	3410	11140	426	<178	<118	<162	<134	<86.0	<48.0
	03/03/11	8700	<72.0	2810	914	18300	416	1720	2136	9460	4190	13650	478	<178	<118	208	<134	113 *	<48.0
	09/15/11	7550	na	2540	867	15300	443	1710	2153	8250	3910	12160	640	na	na	na	na	na	na
MW-2	03/03/11	5260	<36.0	3270	284	11100	577	2310	2887	10700	4570	15270	529	<89.0	101	294	<67.0	66.5 *	<24.0
	09/15/11	4760	na	3720	280	10900	758	2480	3238	11500	5050	16550	891	na	na	na	na	na	na
MW-3	03/03/11	3150	<45.0	3230	<76.2	10500	568	2320	2888	9940	4190	14130	589	<111	105	284	<83.8	65.6 *	<30.0
	09/15/11	2670	na	2610	74.3	6420	622	2310	2932	7560	3100	10660	680	na	na	na	na	na	na
MW-4	09/15/11	<0.41	2.3	<0.54	154	<0.67	<0.83	<0.97	<1.80	<1.8	<0.83	<2.63	<0.89	<0.89	<0.59	<0.81	<0.67	<0.43	0.33
MW-5	09/15/11	623	<1.8	58.5	776	6.3	<4.2	<4.8	<9.0	<9.0	271	271	<4.4	<4.4	<3.0	<4.0	<3.4	<2.2	<1.2
MW-6	09/15/11	289	<0.36	75.6	53.8	1.7	18.9	8.3	27.2	3.3	3.6	6.9	19.2	<0.89	7.3	7.3	<0.67	<0.43	<0.24
NR140	ES	5	5	700	60	800	ns	ns	480	ns	ns	2000	100	ns	ns	ns	ns	5	30
	PAL	0.5	0.5	140	12	160	ns	ns	96	ns	ns	400	10	ns	ns	ns	ns	0.5	3

- All results are listed in ug/l
- na = not analyzed
- ns = no standard established

- NR140 PAL = Preventative Action Limit (exceedances bold)
- NR140 ES = Enforcement Standard (exceedances shaded)
* - Concentration estimated by laboratory / compounds detected in equipment blank

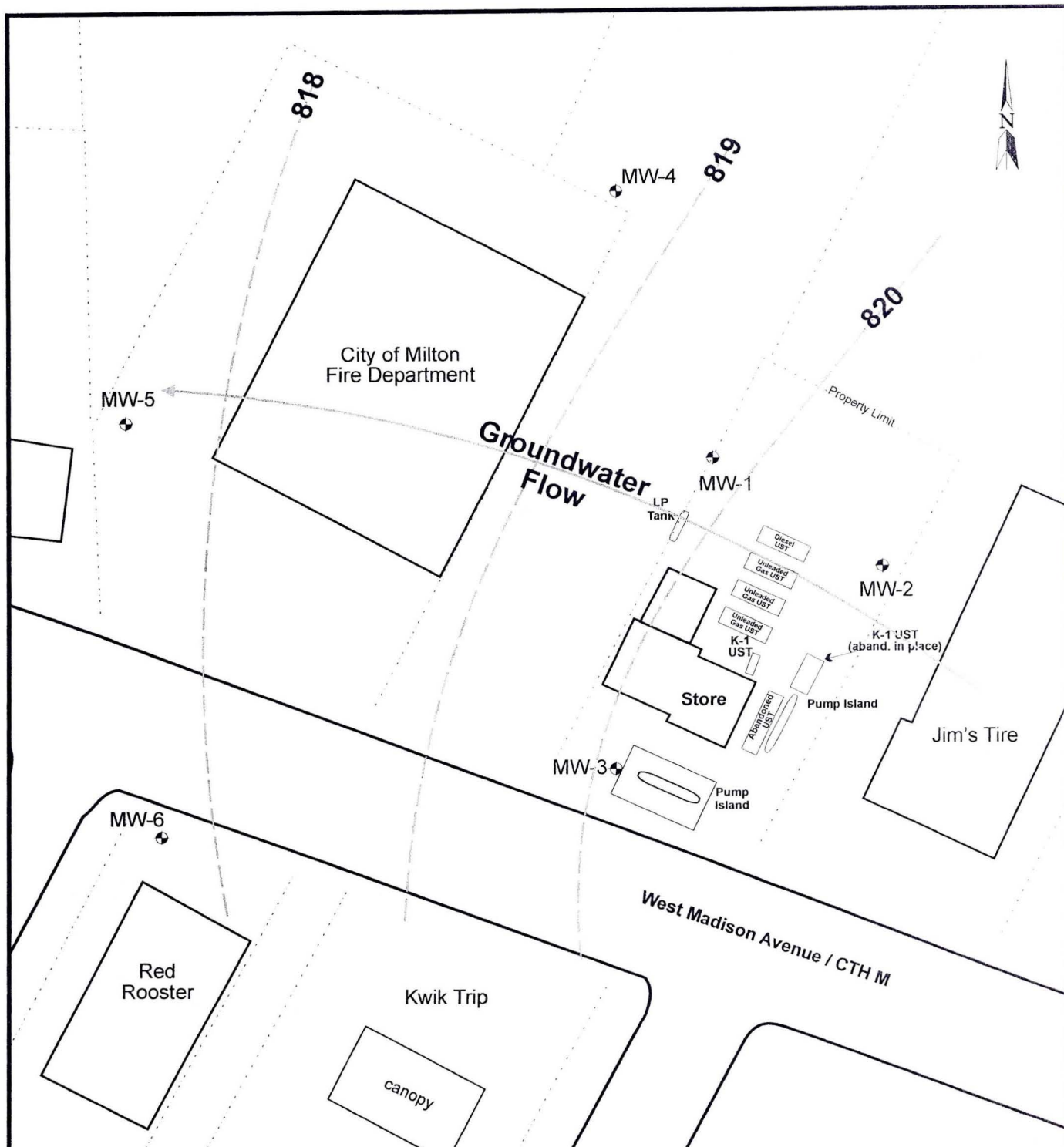
TABLE 3 (page 2 of 2)
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Former Bob's CITGO
602 West Madison Avenue - Milton, Wisconsin

Sample I.D.	DATE	Acenaphthrene	Acenaphthalene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Indeno(1,2,3-cd)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	2-Methylnaphthalene	1-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
MW-1	11/04/10	0.12	<0.076	<0.12	<0.077	<0.061	<0.072	<0.10	<0.093	<0.099	<0.074	<0.068	<0.093	<0.10	97.6	51.2	489	<0.17	<0.10
	03/03/11	<0.45	<0.36	<0.57	<0.36	<0.29	<0.34	<0.48	<0.44	<0.47	<0.35	<0.32	<0.44	<0.48	128	79.4	527	<0.81	<0.47
	09/15/11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2	03/03/11	0.61	0.33	0.20	0.073	<i>0.020</i>	<i>0.022</i>	<i>0.031</i>	<i>0.013</i>	<i>0.0088</i>	0.047	<i>0.0042</i>	0.13	0.76	304	160	750	<8.1	0.26
	09/15/11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-3	03/03/11	<0.45	<0.36	<0.57	<0.36	<0.29	<0.34	<0.48	<0.44	<0.47	<0.35	<0.32	<0.44	<0.48	191	106	597	<0.81	<0.47
	09/15/11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-4	09/15/11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-5	09/15/11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-6	09/15/11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
NR140	ES	ns	ns	3000	ns	0.2	0.2	ns	ns	ns	0.2	ns	400	400	ns	ns	100	ns	250
	PAL	ns	ns	600	ns	0.02	0.02	ns	ns	ns	0.02	ns	80	80	ns	ns	10	ns	50

- All results are listed in ug/l
- na = not analyzed
- ns = no standard established

- NR140 PAL = Preventative Action Limit (exceedances bold)
- NR140 ES = Enforcement Standard (exceedances shaded)
- Italicized values below limit of quantitation so were estimated by laboratory

FIGURES



LEGEND

MW-1
- Monitoring Well

0 50' 100'

1 INCH = 50 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\BOBSCITGO\Bob's-basemap.cdr

DATE: 10/21/2011

PREPARED: MDF APPROVED:

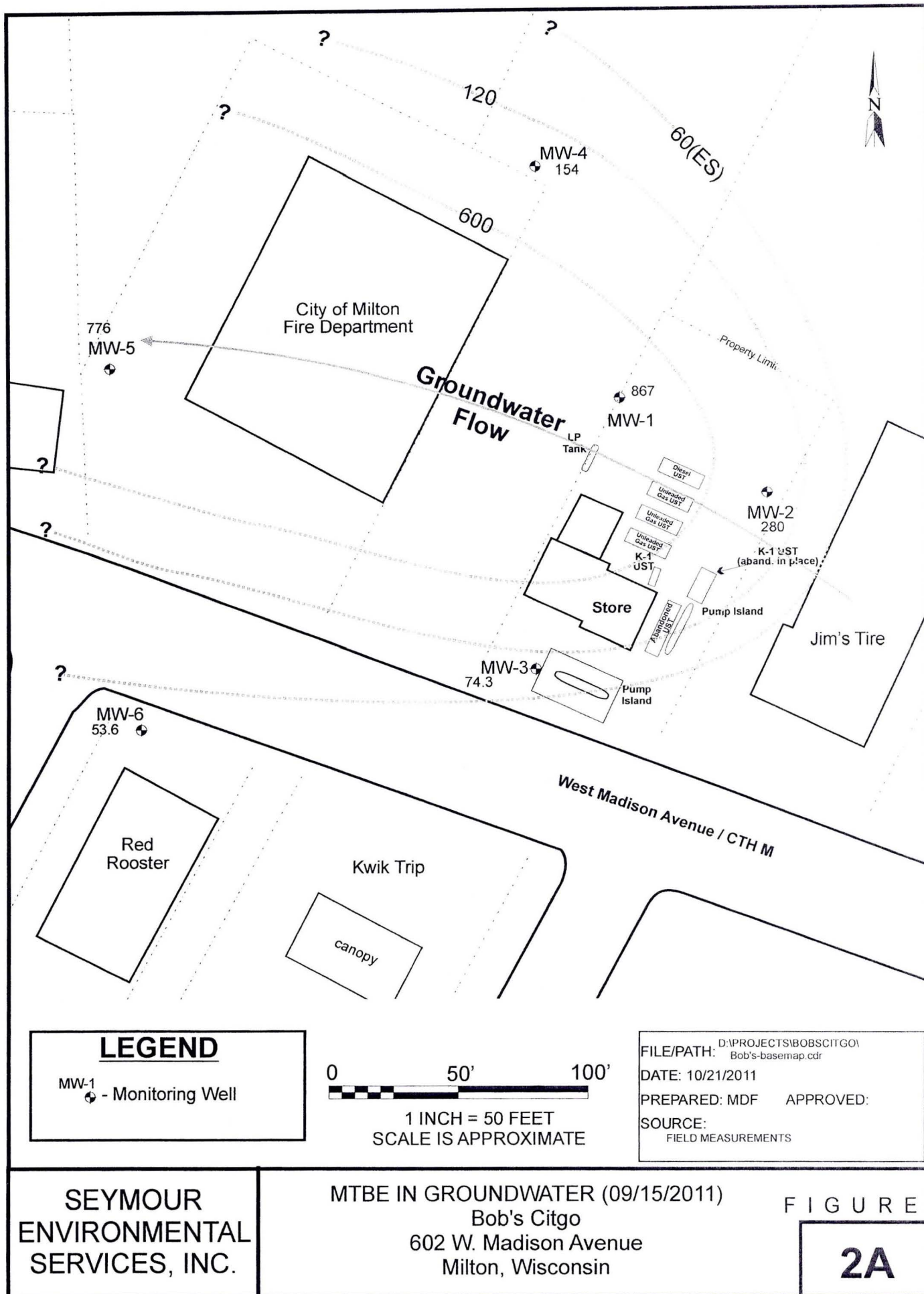
SOURCE:
FIELD MEASUREMENTS

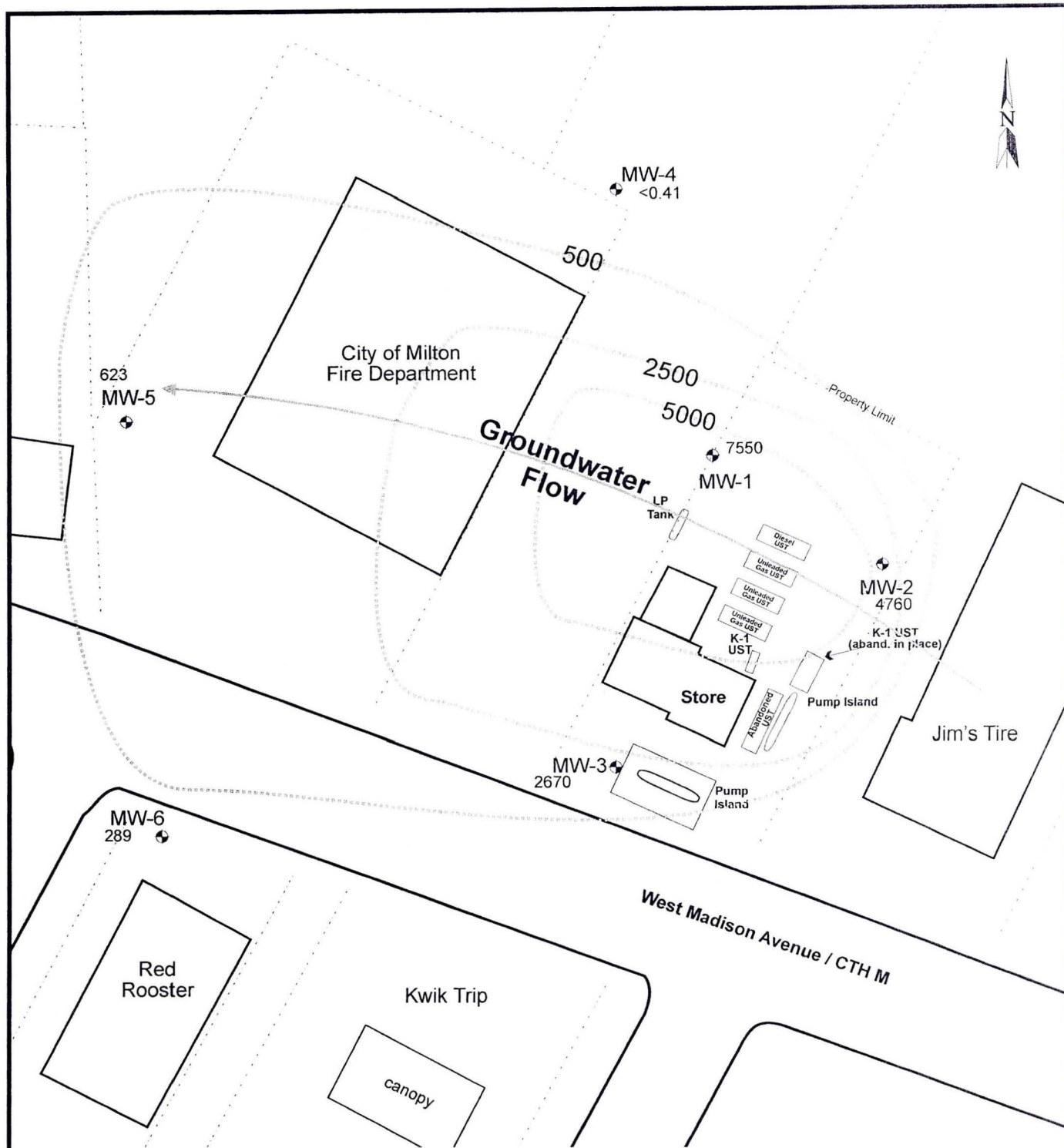
SEYMOUR
ENVIRONMENTAL
SERVICES, INC.

WATER-TABLE CONTOUR MAP (09/15/2011)
Bob's Citgo
602 W. Madison Avenue
Milton, Wisconsin

FIGURE

1





LEGEND

MW-1 - Monitoring Well

0 50' 100'

1 INCH = 50 FEET
SCALE IS APPROXIMATE

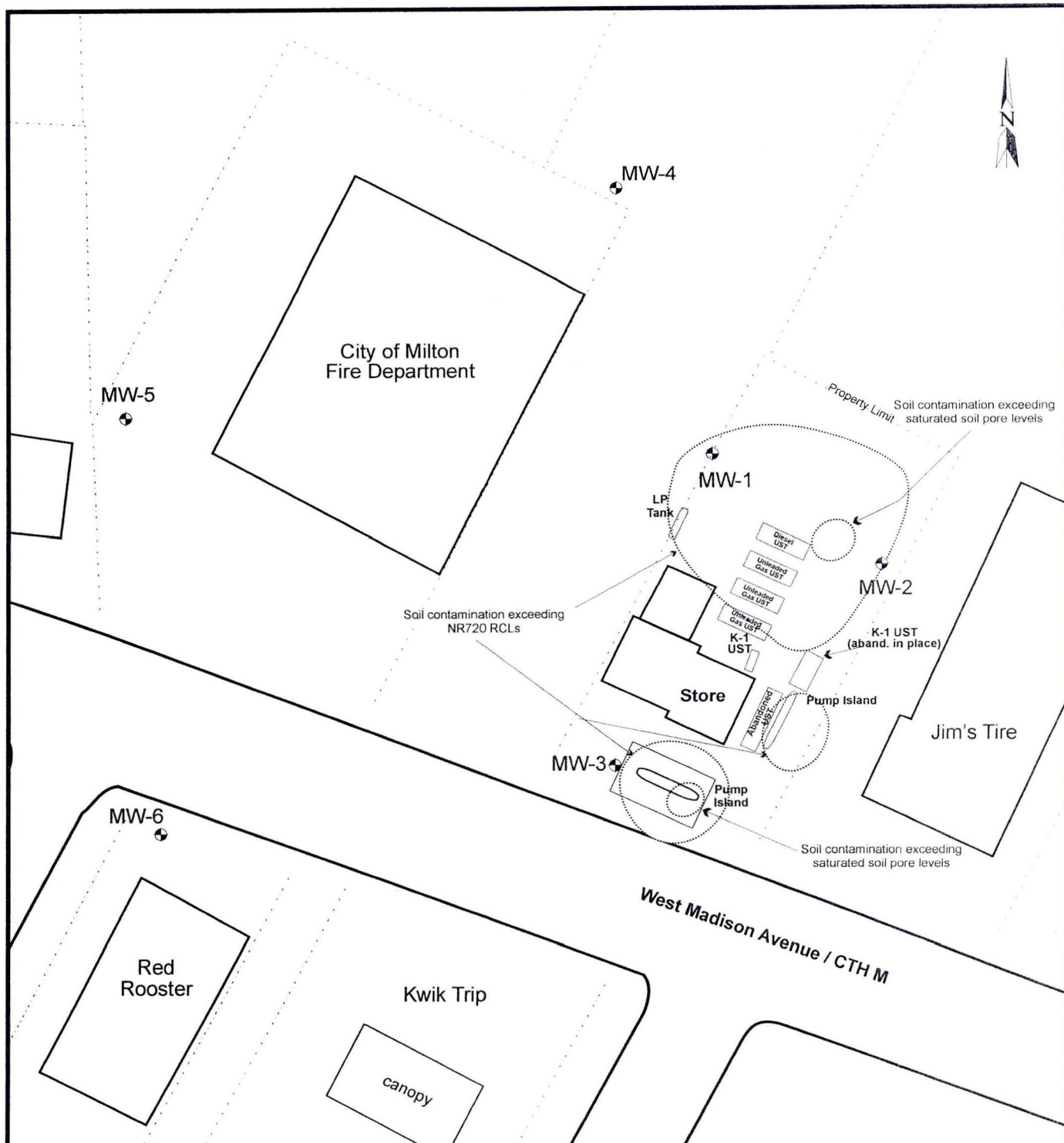
FILE/PATH: D:\PROJECTS\BOBSCITGO\Bob's-basemap.cdr
DATE: 10/21/2011
PREPARED: MDF APPROVED:
SOURCE: FIELD MEASUREMENTS

SEYMOUR
ENVIRONMENTAL
SERVICES, INC.

BENZENE IN GROUNDWATER (09/15/2011)
Bob's Citgo
602 W. Madison Avenue
Milton, Wisconsin

FIGURE

2B



LEGEND

MW-1
 - Monitoring Well

0 50' 100'

1 INCH = 50 FEET
 SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\BOBSCITGO\Bob's-basemap.cdr

DATE: 10/21/2011

PREPARED: MDF APPROVED:

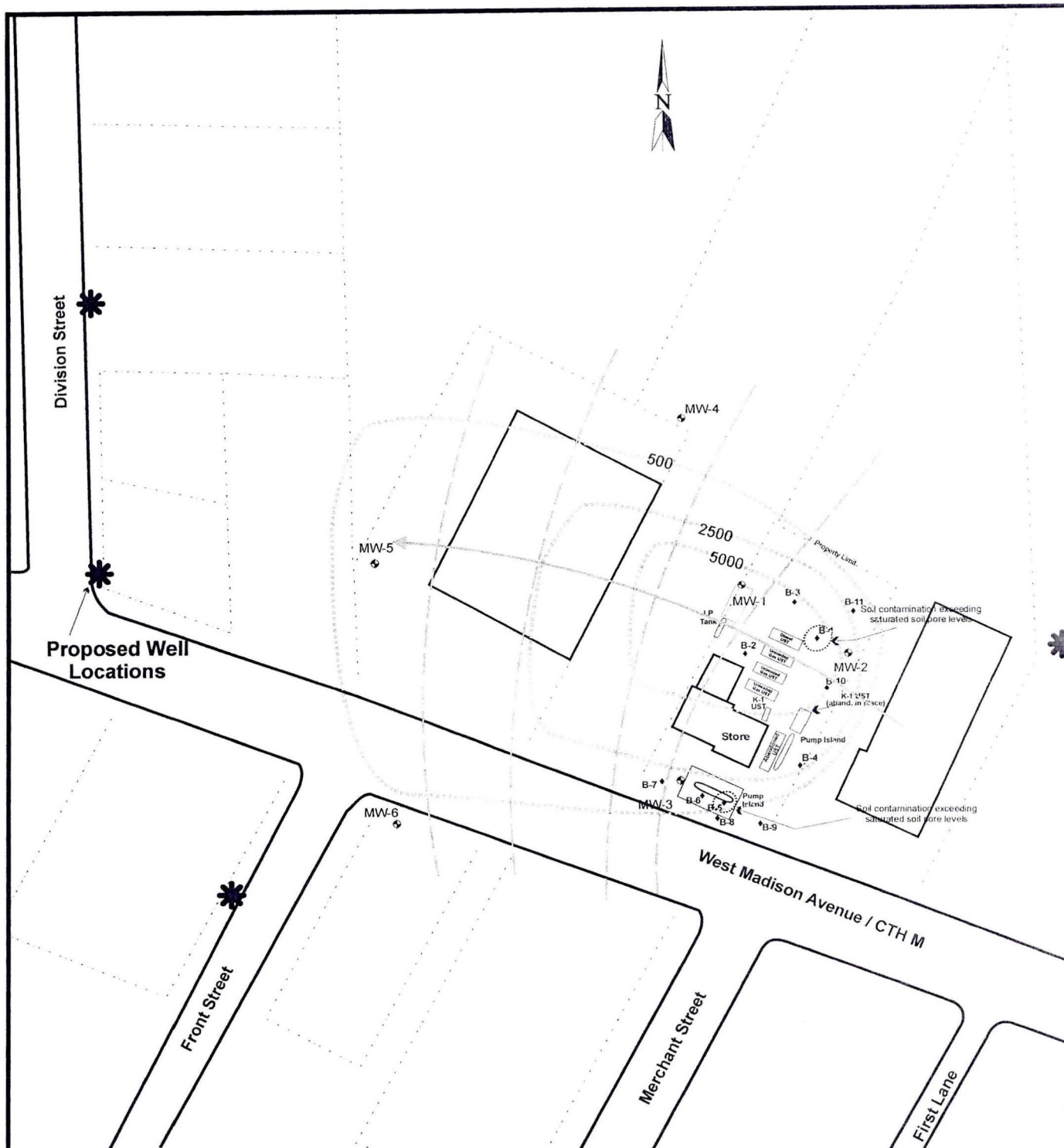
SOURCE:
 FIELD MEASUREMENTS

SEYMOUR
 ENVIRONMENTAL
 SERVICES, INC.

IDENTIFIED SOIL CONTAMINATION
 Bob's Citgo
 602 W. Madison Avenue
 Milton, Wisconsin

FIGURE

3



LEGEND

◆ - Geoprobe Location

MW-1
⊕ - Monitoring Well

0 80' 160'

1 INCH = 80 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\BOBSCITGO\Bob's-basemap.cdr

DATE: 10/21/2011

PREPARED: MDF APPROVED:

SOURCE: FIELD MEASUREMENTS

SEYMOUR
ENVIRONMENTAL
SERVICES, INC.

PROPOSED SAMPLING LOCATIONS
Bob's Citgo
602 W. Madison Avenue
Milton, Wisconsin

FIGURE

4

ATTACHMENT A

WELL CONSTRUCTION AND DEVELOPMENT FORMS

Flush Mount

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name Bob's Citeo		Local Grid Location of Well ft. ☐ N. ☐ S. ☐ E. ☐ W.		Well Name MWL-4	
Facility License, Permit or Monitoring No.		Local Grid Origin (estimated: ☐) or Well Location ☐		Wis. Unique Well No. VY661 DNR Well ID No.	
Facility ID		St. Plane _____ ft. N. _____ ft. E. S/C/N		Date Well Installed 09/06/2011	
Type of Well		Section Location of Waste/Source 1/4 of _____ 1/4 of Sec. _____ T. _____ N, R. ☐ E ☐ W		Well Installed By: Name (first, last) and Firm Bob McCumber BSD	
Well Code _____		Location of Well Relative to Waste/Source u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known		Gov. Lot Number	
Distance from Waste/Source _____ ft.		Enf. Stds. Apply ☐			

A. Protective pipe, top elevation Flush ft. MSL	1. Cap and lock? ☒ Yes ☐ No
B. Well casing, top elevation 2 ft. MSL	2. Protective cover pipe: a. Inside diameter: 9.6 in. b. Length: 1.0 ft. c. Material: Steel ☒ 0.4 Other ☐
C. Land surface elevation _____ ft. MSL	d. Additional protection? ☐ Yes ☒ No If yes, describe: _____
D. Surface seal, bottom _____ ft. MSL or _____ ft.	3. Surface seal: Bentonite ☐ 3.0 Concrete ☒ 0.1 Other ☐
12. USCS classification of soil near screen: GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐ SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐ Bedrock ☐	
13. Sieve analysis performed? ☐ Yes ☒ No	4. Material between well casing and protective pipe: Bentonite ☐ 3.0 Other ☒
14. Drilling method used: Rotary ☐ 5.0 Hollow Stem Auger ☒ 4.1 Other ☐	5. Annular space seal: a. Granular/Chipped Bentonite ☒ 3.3 b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 3.5 c. _____ Lbs/gal mud weight ... Bentonite slurry ☐ 3.1 d. _____ % Bentonite ... Bentonite-cement grout ☐ 5.0 e. _____ Ft ³ volume added for any of the above f. How installed: Tremie ☐ 0.1 Tremie pumped ☐ 0.2 Gravity ☒ 0.8
15. Drilling fluid used: Water ☐ 0.2 Air ☐ 0.1 Drilling Mud ☐ 0.3 None ☒ 9.9	6. Bentonite seal: a. Bentonite granules ☐ 3.3 b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3.2 c. _____ Other ☐
16. Drilling additives used? ☐ Yes ☒ No	7. Fine sand material: Manufacturer, product name & mesh size a. 40-60 Ohio b. Volume added _____ ft ³
Describe _____	8. Filter pack material: Manufacturer, product name & mesh size a. 1.0-2.0 Ohio b. Volume added _____ ft ³
17. Source of water (attach analysis, if required):	9. Well casing: Flush threaded PVC schedule 40 ☒ 2.3 Flush threaded PVC schedule 80 ☐ 2.4 Other ☐
E. Bentonite seal, top _____ ft. MSL or 2 ft.	10. Screen material: Sch 40 PVC a. Screen type: Factory cut ☒ 1.1 Continuous slot ☐ 0.1 Other ☐
F. Fine sand, top _____ ft. MSL or 46 ft.	b. Manufacturer Mexco-Hel c. Slot size: 0.010 in. d. Slotted length: 1.5 ft.
G. Filter pack, top _____ ft. MSL or 47 ft.	11. Backfill material (below filter pack): None ☒ 1.4 Other ☐
H. Screen joint, top _____ ft. MSL or 49 ft.	
I. Well bottom _____ ft. MSL or 64 ft.	
J. Filter pack, bottom _____ ft. MSL or 64 ft.	
K. Borehole, bottom _____ ft. MSL or 64 ft.	
L. Borehole, diameter 8 in.	
M. O.D. well casing 2.3 in.	
N. I.D. well casing 2 in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature **Mark ...** Firm **Badger State Drilling, Inc.**

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route to: Watershed/Wastewater ☐

Waste Management ☐

Remediation/Redevelopment ☒

Other ☐

Facility/Project Name <u>Bob's Cito</u>	County Name <u>Rock</u>	Well Name <u>MW-4</u>
Facility License, Permit or Monitoring Number	County Code ---	Wis. Unique Well Number ---
		DNR Well ID Number ---

1. Can this well be purged dry?

☒ Yes ☐ No

2. Well development method

- ☐ 41 surged with bailer and bailed
☐ 61 surged with bailer and pumped
☐ 42 surged with block and bailed
☐ 62 surged with block and pumped
☒ 70 surged with block, bailed and pumped
☐ 20 compressed air
☐ 10 bailed only
☐ 51 pumped only
☐ 50 pumped slowly
 Other _____

3. Time spent developing well

30 min.

4. Depth of well (from top of well casing)

64.0 ft.

5. Inside diameter of well

2.0 in.

6. Volume of water in filter pack and well casing

_____ gal.

7. Volume of water removed from well

15 gal.

8. Volume of water added (if any)

_____ gal.

9. Source of water added

10. Analysis performed on water added?
(If yes, attach results)

☐ Yes ☐ No

17. Additional comments on development:

11. Depth to Water (from top of well casing)

Before Development	After Development
a. <u>56.00</u> ft.	<u>58.5</u> ft.

Date

b. 09/08/2011 09/08/2011
m m d d y y y y m m d d y y y y

Time

c. 6:30 a.m. 7:00 a.m.
p.m. p.m.

12. Sediment in well bottom

0 inches 0 inches

13. Water clarity

Clear ☐ 10 Turbid ☒ 1-5
 (Describe) (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids _____ mg/l _____ mg/l

15. COD _____ mg/l _____ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: R. W. Robert Last Name: McLumber
 Firm: BSD

Name and Address of Facility Contact/Owner/Responsible Party

First Name: _____ Last Name: _____

Facility/Firm: _____

Street: _____

City/State/Zip: _____

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: _____

Print Name: _____

Firm: _____

NOTE: See instructions for more information including a list of county codes and well type codes.

FIELD BORING LOG

Sheet

1

C

STOUGHTON, WISCONSIN

FOR Bob's Citco

LOCATION

Mitten

WI

ELEV.

Job No. Q 5650

Boring No. MW-5

GROUND
WATER

While drilling

58

Time after drilling

Before casing removal

Depth to water

After casing removal

Depth to cave-in

Start 4-6-76

Unit D-120

Chief KO, BMW

[illegible]

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name Boss Cuto		Local Grid Location of Well ft. ☐ N. ☐ S. ☐ E. ☐ W.		Well Name MW-5	
Facility License, Permit or Monitoring No.		Local Grid Origin (estimated: ☐) or Well Location ☐		Wis. Unique Well No. 11662 DNR Well ID No.	
Facility ID		St. Plane _____ ft. N. _____ ft. E. S/C/N		Date Well Installed 09/07/2011	
Type of Well		Section Location of Waste/Source 1/4 of _____ 1/4 of Sec. _____ T. _____ N. R. ☐ E. ☐ W.		Well Installed By: Name (first, last) and Firm Boss McCumber	
Well Code _____		Location of Well Relative to Waste/Source u ☐ Upgradient s ☐ Sidegradient		Gov. Lot Number	
Distance from Waste/Source _____ ft.		d ☐ Downgradient n ☐ Not Known		_____	
Enf. Stds. Apply ☐					

A. Protective pipe, top elevation Flush ft. MSL		1. Cap and lock? ☒ Yes ☐ No	
B. Well casing, top elevation 2 ft. MSL		2. Protective cover pipe: a. Inside diameter: 9 in. b. Length: 6 ft. c. Material: Steel ☐ 04 Other ☐	
C. Land surface elevation _____ ft. MSL		d. Additional protection? ☐ Yes ☒ No If yes, describe: _____	
D. Surface seal, bottom 45 ft. MSL or		3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐	
12. USCS classification of soil near screen: GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐ SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐ Bedrock ☐		4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐	
13. Sieve analysis performed? ☐ Yes ☒ No		5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33 b. _____ Lbs/gal mud weight... Bentonite-sand slurry ☐ 35 c. _____ Lbs/gal mud weight... Bentonite slurry ☐ 31 d. _____ % Bentonite... Bentonite-cement grout ☐ 50 e. _____ Ft ³ volume added for any of the above	
14. Drilling method used: Rotary ☐ 50 Hollow Stem Auger ☐ 41 Other ☐		f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08	
15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☐ 99		6. Bentonite seal: a. Bentonite granules ☐ 33 b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32 c. _____ Other ☐	
16. Drilling additives used? ☐ Yes ☒ No		7. Fine sand material: Manufacturer, product name & mesh size a. OHIO #4000 b. Volume added 7 ft ³	
Describe _____		8. Filter pack material: Manufacturer, product name & mesh size a. OHIO #45 b. Volume added 4.2 ft ³	
17. Source of water (attach analysis, if required):		9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐	
E. Bentonite seal, top _____ ft. MSL or 00 ft.		10. Screen material: Sch 40 PVC a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐	
F. Fine sand, top _____ ft. MSL or 45 ft.		b. Manufacturer Monoflex c. Slot size: 0.010 in. d. Slotted length: 15 ft.	
G. Filter pack, top _____ ft. MSL or 47 ft.		11. Backfill material (below filter pack): None ☒ 14 Other ☐	
H. Screen joint, top _____ ft. MSL or 59.5 ft.			
I. Well bottom _____ ft. MSL or 64.5 ft.			
J. Filter pack, bottom _____ ft. MSL or 65 ft.			
K. Borehole, bottom _____ ft. MSL or 65 ft.			
L. Borehole, diameter 8 in.			
M. O.D. well casing 2 in.			
N. I.D. well casing 2 in.			

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature **Mark Reid**

Firm **Badger State Drilling Inc**

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route to: Watershed/Wastewater ☐

Waste Management ☐

Remediation/Redevelopment ☒

Other ☐

Facility/Project Name <u>BBS Ciba</u>	County Name <u>Rock</u>	Well Name <u>MW-5</u>
Facility License, Permit or Monitoring Number	County Code	DNR Well ID Number

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method

- ☐ 41 surged with bailer and bailed
☐ 61 surged with bailer and pumped
☐ 42 surged with block and bailed
☐ 62 surged with block and pumped
☒ 70 surged with block, bailed and pumped
☐ 20 compressed air
☐ 10 bailed only
☐ 51 pumped only
☐ 50 pumped slowly
☐ Other

3. Time spent developing well

30 min.

4. Depth of well (from top of well casing)

64.5 ft.

5. Inside diameter of well

2.0 in.

6. Volume of water in filter pack and well casing

_____ gal.

7. Volume of water removed from well

10 gal.

8. Volume of water added (if any)

_____ gal.

9. Source of water added

10. Analysis performed on water added?
(If yes, attach results)

☐ Yes ☐ No

17. Additional comments on development:

11. Depth to Water (from top of well casing)

Before Development	After Development
a. <u>58.5</u> ft.	<u>59</u> ft.

Date

b. 09, 08, 2011 09, 08, 2011
m m d d y y y y m m d d y y y y

Time

c. 7:30 a.m. 8:00 a.m.
p.m. p.m.

12. Sediment in well bottom

8 inches 0 inches

13. Water clarity

Clear ☒ 10 Turbid ☐ 20
 (Describe) (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids _____ mg/l _____ mg/l

15. COD _____ mg/l _____ mg/l

16. Well developed by Name (first, last) and Firm

First Name: Robert Last Name: McCumber

Firm:

BSD

Name and Address of Facility Contact/Owner/Responsible Party

First Name: _____ Last Name: _____

Facility/Firm: _____

Street: _____

City/State/Zip: _____

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature:

Mark Barwick

Print Name:

Mark Barwick

Firm:

Badger State Drilling, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

FIELD BORING LOG

Sheet 1 Of 1

STOUGHTON, WISCONSIN
FOR Robb Litch

Job No. 5656

LOCATION Mitten WZ

ELEV.

Boring No. MW-6

GROUND WATER

While drilling

Time after drilling

Start 9-7-2011

Before casing removal

Depth to water

Unit D-120

After casing removal

Depth to cave-in

Chief KD ROL

[illegible]

Facility/Project Name Bab's Citco	Local Grid Location of Well ft. ☐ N. ☐ S. ☐ E. ☐ W.	Well Name MW-6
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. " Long. "	Wis. Unique Well No. V4663 DNR Well ID No.
Facility ID	St. Plane ft. N. ft. E. S/C/N	Date Well Installed 09/07/2011
Type of Well Well Code 1	Section Location of Waste/Source 1/4 of 1/4 of Sec. T. N. R. ☐ E. ☐ W.	Well Installed By: Name (first, last) and Firm BBS McCumber BSD
Distance from Waste/Source ft.	Location of Well Relative to Waste/Source u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	
Enf. Stds. Apply ☐	Gov. Lot Number	

A. Protective pipe, top elevation **Flow** ft. MSL

B. Well casing, top elevation **-3"** ft. MSL

C. Land surface elevation **45** ft. MSL

D. Surface seal, bottom **45** ft. MSL or

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☐ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☐ 41
Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☐ 99

16. Drilling additives used? ☐ Yes ☐ No

Describe _____

17. Source of water (attach analysis, if required): _____

E. Bentonite seal, top **2** ft. MSL or

F. Fine sand, top **45** ft. MSL or

G. Filter pack, top **47** ft. MSL or

H. Screen joint, top **49.5** ft. MSL or

I. Well bottom **64.5** ft. MSL or

J. Filter pack, bottom **65** ft. MSL or

K. Borehole, bottom **65'** ft. MSL or

L. Borehole, diameter **80** in.

M. O.D. well casing **20** in.

N. I.D. well casing **20** in.

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: **20** in.
b. Length: **60** in.
c. Material: Steel ☒ 04
Other ☐

d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30
Concrete ☒ 01
Other ☐

4. Material between well casing and protective pipe:
Bentonite ☒ 30
Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. Lbs/gal mud weight... Bentonite-sand slurry ☐ 35
c. Lbs/gal mud weight... Bentonite slurry ☐ 31
d. % Bentonite... Bentonite-cement grout ☐ 50
e. **Fl**³ volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. **OHIO #4000**
b. Volume added **1** ft³

8. Filter pack material: Manufacturer, product name & mesh size
a. **OHIO #2**
b. Volume added **1** ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐

10. Screen material: **Sen 40 PVC**
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
Other ☐

b. Manufacturer **Monoflex**
c. Slot size: **0.01** in.
d. Slotted length: **15** ft.

11. Backfill material (below filter pack): None ☒ 14
Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature **[Signature]** Firm **Bodger State Drilling, Inc.**

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name <u>Bob's Oilco</u>	County Name <u>Rock</u>	Well Name <u>MW-6</u>
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number
		DNR Well ID Number

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method

- ☐ 41 surged with bailer and bailed
☐ 61 surged with bailer and pumped
☐ 42 surged with block and bailed
☐ 62 surged with block and pumped
☒ 70 surged with block, bailed and pumped
☐ 20 compressed air
☐ 10 bailed only
☐ 51 pumped only
☐ 50 pumped slowly
☐ Other

3. Time spent developing well 30 min.

4. Depth of well (from top of well casing) 64.5 ft.

5. Inside diameter of well 20 in.

6. Volume of water in filter pack and well casing gal.

7. Volume of water removed from well 10.6 gal.

8. Volume of water added (if any) gal.

9. Source of water added

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

17. Additional comments on development:

11. Depth to Water (from top of well casing)
Before Development After Development
a. 59 ft. 59 ft.

Date b. 09,08,2011 09,08,2011
m m d d y y y y m m d d y y y y

Time c. 7: ☒ a.m. 7: 3 ☐ p.m.
☐ p.m.

12. Sediment in well bottom 4 inches 0 inches

13. Water clarity Clear ☐ 10 Clear ☐ 20
Turbid 15 Turbid 25
(Describe) (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended mg/l mg/l
solids

15. COD mg/l mg/l

16. Well developed by: Name (first, last) and Firm

First Name: RM Last Name: McCumber
Firm: B.S.D.

Name and Address of Facility Contact/Owner/Responsible Party

First Name: Last Name:

Facility/Firm:

Street:

City/State/Zip:

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Mark Gorwick

Print Name: Mark Gorwick

Firm: Badger State Drilling, Inc.

NOTE: See instructions for more information including a list of county codes and well type codes.

ATTACHMENT B

**LABORATORY
REPORTS**



Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

September 26, 2011

Robyn Seymour
Seymour Environmental Services, INC.
2531 Dyreson Road
Mc Farland, WI 53558

RE: Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

Dear Robyn Seymour:

Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steven Mleczko for
Alee Her
alee.her@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888

North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

Page 2 of 18

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Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4050933001	MW-1	Water	09/15/11 00:00	09/16/11 10:30
4050933002	MW-2	Water	09/15/11 00:00	09/16/11 10:30
4050933003	MW-3	Water	09/15/11 00:00	09/16/11 10:30
4050933004	MW-4	Water	09/15/11 00:00	09/16/11 10:30
4050933005	MW-5	Water	09/15/11 00:00	09/16/11 10:30
4050933006	MW-6	Water	09/15/11 00:00	09/16/11 10:30

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4050933001	MW-1	WI MOD GRO	SES	10	PASI-G
4050933002	MW-2	WI MOD GRO	SES	10	PASI-G
4050933003	MW-3	WI MOD GRO	SES	10	PASI-G
4050933004	MW-4	EPA 8260	SMT	64	PASI-G
4050933005	MW-5	EPA 8260	SMT	64	PASI-G
4050933006	MW-6	EPA 8260	SMT	64	PASI-G

REPORT OF LABORATORY ANALYSIS

Page 4 of 18

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PROJECT NARRATIVE

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

Method: WI MOD GRO
Description: WIGRO GCV
Client: SEYMOUR ENVIRONMENTAL SERVICES, INC.
Date: September 26, 2011

General Information:

3 samples were analyzed for WI MOD GRO. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: GCV/7234

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

PROJECT NARRATIVE

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

Method: EPA 8260
Description: 8260 MSV
Client: SEYMOUR ENVIRONMENTAL SERVICES, INC.
Date: September 26, 2011

General Information:

3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 6 of 18

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ANALYTICAL RESULTS

Project: 10370.00 BOB'S CITGO

Pace Project No.: 4050933

Sample: MW-1		Lab ID: 4050933001		Collected: 09/15/11 00:00		Received: 09/16/11 10:30		Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	7550	ug/L	125	48.6	125		09/22/11 15:49	71-43-2	
Ethylbenzene	2540	ug/L	125	51.8	125		09/22/11 15:49	100-41-4	
Methyl-tert-butyl ether	867	ug/L	125	47.6	125		09/22/11 15:49	1634-04-4	
Naphthalene	640	ug/L	125	50.6	125		09/22/11 15:49	91-20-3	
Toluene	15300	ug/L	125	52.0	125		09/22/11 15:49	108-88-3	
1,2,4-Trimethylbenzene	1710	ug/L	125	53.8	125		09/22/11 15:49	95-63-6	
1,3,5-Trimethylbenzene	443	ug/L	125	49.4	125		09/22/11 15:49	108-67-8	
m&p-Xylene	8250	ug/L	250	109	125		09/22/11 15:49	179601-23-1	
o-Xylene	3910	ug/L	125	47.6	125		09/22/11 15:49	95-47-6	
a,a,a-Trifluorotoluene (S)	104	%	80-120		125		09/22/11 15:49	98-08-8	

Sample: MW-2		Lab ID: 4050933002		Collected: 09/15/11 00:00		Received: 09/16/11 10:30		Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	4760	ug/L	100	38.9	100		09/22/11 15:24	71-43-2	
Ethylbenzene	3720	ug/L	100	41.4	100		09/22/11 15:24	100-41-4	
Methyl-tert-butyl ether	280	ug/L	100	38.1	100		09/22/11 15:24	1634-04-4	
Naphthalene	891	ug/L	100	40.5	100		09/22/11 15:24	91-20-3	
Toluene	10900	ug/L	100	41.6	100		09/22/11 15:24	108-88-3	
1,2,4-Trimethylbenzene	2840	ug/L	100	43.0	100		09/22/11 15:24	95-63-6	
1,3,5-Trimethylbenzene	758	ug/L	100	39.5	100		09/22/11 15:24	108-67-8	
m&p-Xylene	11500	ug/L	200	87.1	100		09/22/11 15:24	179601-23-1	
o-Xylene	5050	ug/L	100	38.1	100		09/22/11 15:24	95-47-6	
a,a,a-Trifluorotoluene (S)	101	%	80-120		100		09/22/11 15:24	98-08-8	

Sample: MW-3		Lab ID: 4050933003		Collected: 09/15/11 00:00		Received: 09/16/11 10:30		Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV Analytical Method: WI MOD GRO									
Benzene	2670	ug/L	50.0	19.4	50		09/22/11 14:59	71-43-2	
Ethylbenzene	2610	ug/L	50.0	20.7	50		09/22/11 14:59	100-41-4	
Methyl-tert-butyl ether	74.3	ug/L	50.0	19.0	50		09/22/11 14:59	1634-04-4	
Naphthalene	680	ug/L	50.0	20.2	50		09/22/11 14:59	91-20-3	
Toluene	6420	ug/L	50.0	20.8	50		09/22/11 14:59	108-88-3	
1,2,4-Trimethylbenzene	2310	ug/L	50.0	21.5	50		09/22/11 14:59	95-63-6	
1,3,5-Trimethylbenzene	622	ug/L	50.0	19.8	50		09/22/11 14:59	108-67-8	
m&p-Xylene	7560	ug/L	100	43.6	50		09/22/11 14:59	179601-23-1	
o-Xylene	3100	ug/L	50.0	19.0	50		09/22/11 14:59	95-47-6	
a,a,a-Trifluorotoluene (S)	102	%	80-120		50		09/22/11 14:59	98-08-8	

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REPORT OF LABORATORY ANALYSIS

Page 7 of 18

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ANALYTICAL RESULTS

Project: 10370.00 BOB'S CITGO

Pace Project No.: 4050933

Sample: MW-4 Lab ID: 4050933004 Collected: 09/15/11 00:00 Received: 09/16/11 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.41	ug/L	1.0	0.41	1		09/20/11 00:49	71-43-2	
Bromobenzene	<0.82	ug/L	1.0	0.82	1		09/20/11 00:49	108-86-1	
Bromochloromethane	<0.97	ug/L	1.0	0.97	1		09/20/11 00:49	74-97-5	
Bromodichloromethane	<0.56	ug/L	1.0	0.56	1		09/20/11 00:49	75-27-4	
Bromoform	<0.94	ug/L	1.0	0.94	1		09/20/11 00:49	75-25-2	
Bromomethane	<0.91	ug/L	1.0	0.91	1		09/20/11 00:49	74-83-9	
n-Butylbenzene	<0.93	ug/L	1.0	0.93	1		09/20/11 00:49	104-51-8	
sec-Butylbenzene	<0.89	ug/L	5.0	0.89	1		09/20/11 00:49	135-98-8	
tert-Butylbenzene	<0.97	ug/L	1.0	0.97	1		09/20/11 00:49	98-06-6	
Carbon tetrachloride	<0.49	ug/L	1.0	0.49	1		09/20/11 00:49	56-23-5	
Chlorobenzene	<0.41	ug/L	1.0	0.41	1		09/20/11 00:49	108-90-7	
Chloroethane	<0.97	ug/L	1.0	0.97	1		09/20/11 00:49	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		09/20/11 00:49	67-66-3	
Chloromethane	0.33J	ug/L	1.0	0.24	1		09/20/11 00:49	74-87-3	
2-Chlorotoluene	<0.85	ug/L	1.0	0.85	1		09/20/11 00:49	95-49-8	
4-Chlorotoluene	<0.74	ug/L	1.0	0.74	1		09/20/11 00:49	106-43-4	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	5.0	1.7	1		09/20/11 00:49	96-12-8	
Dibromochloromethane	<0.81	ug/L	1.0	0.81	1		09/20/11 00:49	124-48-1	
1,2-Dibromoethane (EDB)	<0.56	ug/L	1.0	0.56	1		09/20/11 00:49	106-93-4	
Dibromomethane	<0.60	ug/L	1.0	0.60	1		09/20/11 00:49	74-95-3	
1,2-Dichlorobenzene	<0.83	ug/L	1.0	0.83	1		09/20/11 00:49	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/L	1.0	0.87	1		09/20/11 00:49	541-73-1	
1,4-Dichlorobenzene	<0.95	ug/L	1.0	0.95	1		09/20/11 00:49	106-46-7	
Dichlorodifluoromethane	<0.99	ug/L	1.0	0.99	1		09/20/11 00:49	75-71-8	
1,1-Dichloroethane	<0.75	ug/L	1.0	0.75	1		09/20/11 00:49	75-34-3	
1,2-Dichloroethane	2.3	ug/L	1.0	0.36	1		09/20/11 00:49	107-06-2	
1,1-Dichloroethene	<0.57	ug/L	1.0	0.57	1		09/20/11 00:49	75-35-4	
cis-1,2-Dichloroethene	<0.83	ug/L	1.0	0.83	1		09/20/11 00:49	156-59-2	
trans-1,2-Dichloroethene	<0.89	ug/L	1.0	0.89	1		09/20/11 00:49	156-60-5	
1,2-Dichloropropane	<0.49	ug/L	1.0	0.49	1		09/20/11 00:49	78-87-5	
1,3-Dichloropropane	<0.61	ug/L	1.0	0.61	1		09/20/11 00:49	142-28-9	
2,2-Dichloropropane	<0.62	ug/L	1.0	0.62	1		09/20/11 00:49	594-20-7	
1,1-Dichloropropene	<0.75	ug/L	1.0	0.75	1		09/20/11 00:49	563-58-6	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/20/11 00:49	10061-01-5	
trans-1,3-Dichloropropene	<0.19	ug/L	1.0	0.19	1		09/20/11 00:49	10061-02-6	
Diisopropyl ether	<0.76	ug/L	1.0	0.76	1		09/20/11 00:49	108-20-3	
Ethylbenzene	<0.54	ug/L	1.0	0.54	1		09/20/11 00:49	100-41-4	
Hexachloro-1,3-butadiene	<0.67	ug/L	5.0	0.67	1		09/20/11 00:49	87-68-3	
Isopropylbenzene (Cumene)	<0.59	ug/L	1.0	0.59	1		09/20/11 00:49	98-82-8	
p-Isopropyltoluene	<0.67	ug/L	1.0	0.67	1		09/20/11 00:49	99-87-6	
Methylene Chloride	<0.43	ug/L	1.0	0.43	1		09/20/11 00:49	75-09-2	
Methyl-tert-butyl ether	154	ug/L	1.0	0.61	1		09/20/11 00:49	1634-04-4	
Naphthalene	<0.89	ug/L	5.0	0.89	1		09/20/11 00:49	91-20-3	
n-Propylbenzene	<0.81	ug/L	1.0	0.81	1		09/20/11 00:49	103-65-1	
Styrene	<0.86	ug/L	1.0	0.86	1		09/20/11 00:49	100-42-5	
1,1,1,2-Tetrachloroethane	<0.92	ug/L	1.0	0.92	1		09/20/11 00:49	630-20-6	

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REPORT OF LABORATORY ANALYSIS

Page 8 of 18

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ANALYTICAL RESULTS

Project: 10370.00 BOB'S CITGO

Pace Project No.: 4050933

Sample: MW-4 Lab ID: 4050933004 Collected: 09/15/11 00:00 Received: 09/16/11 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.20	ug/L	1.0	0.20	1		09/20/11 00:49	79-34-5	
Tetrachloroethene	<0.45	ug/L	1.0	0.45	1		09/20/11 00:49	127-18-4	
Toluene	<0.67	ug/L	1.0	0.67	1		09/20/11 00:49	108-88-3	
1,2,3-Trichlorobenzene	<0.74	ug/L	1.0	0.74	1		09/20/11 00:49	87-61-6	
1,2,4-Trichlorobenzene	<0.97	ug/L	1.0	0.97	1		09/20/11 00:49	120-82-1	
1,1,1-Trichloroethane	<0.90	ug/L	1.0	0.90	1		09/20/11 00:49	71-55-6	
1,1,2-Trichloroethane	<0.42	ug/L	1.0	0.42	1		09/20/11 00:49	79-00-5	
Trichloroethene	<0.48	ug/L	1.0	0.48	1		09/20/11 00:49	79-01-6	
Trichlorofluoromethane	<0.79	ug/L	1.0	0.79	1		09/20/11 00:49	75-69-4	
1,2,3-Trichloropropane	<0.99	ug/L	1.0	0.99	1		09/20/11 00:49	96-18-4	
1,2,4-Trimethylbenzene	<0.97	ug/L	1.0	0.97	1		09/20/11 00:49	95-63-6	
1,3,5-Trimethylbenzene	<0.83	ug/L	1.0	0.83	1		09/20/11 00:49	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		09/20/11 00:49	75-01-4	
m&p-Xylene	<1.8	ug/L	2.0	1.8	1		09/20/11 00:49	179601-23-1	
o-Xylene	<0.83	ug/L	1.0	0.83	1		09/20/11 00:49	95-47-6	
4-Bromofluorobenzene (S)	102 %		70-130		1		09/20/11 00:49	460-00-4	
Dibromofluoromethane (S)	95 %		70-130		1		09/20/11 00:49	1868-53-7	
Toluene-d8 (S)	106 %		70-130		1		09/20/11 00:49	2037-26-5	

Sample: MW-5 Lab ID: 4050933005 Collected: 09/15/11 00:00 Received: 09/16/11 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	623	ug/L	5.0	2.0	5		09/20/11 07:14	71-43-2	
Bromobenzene	<4.1	ug/L	5.0	4.1	5		09/20/11 07:14	108-86-1	
Bromochloromethane	<4.8	ug/L	5.0	4.8	5		09/20/11 07:14	74-97-5	
Bromodichloromethane	<2.8	ug/L	5.0	2.8	5		09/20/11 07:14	75-27-4	
Bromoform	<4.7	ug/L	5.0	4.7	5		09/20/11 07:14	75-25-2	
Bromomethane	<4.6	ug/L	5.0	4.6	5		09/20/11 07:14	74-83-9	
n-Butylbenzene	<4.6	ug/L	5.0	4.6	5		09/20/11 07:14	104-51-8	
sec-Butylbenzene	<4.4	ug/L	25.0	4.4	5		09/20/11 07:14	135-98-8	
tert-Butylbenzene	<4.8	ug/L	5.0	4.8	5		09/20/11 07:14	98-06-6	
Carbon tetrachloride	<2.4	ug/L	5.0	2.4	5		09/20/11 07:14	56-23-5	
Chlorobenzene	<2.0	ug/L	5.0	2.0	5		09/20/11 07:14	108-90-7	
Chloroethane	<4.8	ug/L	5.0	4.8	5		09/20/11 07:14	75-00-3	
Chloroform	<6.5	ug/L	25.0	6.5	5		09/20/11 07:14	67-66-3	
Chloromethane	<1.2	ug/L	5.0	1.2	5		09/20/11 07:14	74-87-3	
2-Chlorotoluene	<4.2	ug/L	5.0	4.2	5		09/20/11 07:14	95-49-8	
4-Chlorotoluene	<3.7	ug/L	5.0	3.7	5		09/20/11 07:14	106-43-4	
1,2-Dibromo-3-chloropropane	<8.4	ug/L	25.0	8.4	5		09/20/11 07:14	96-12-8	
Dibromochloromethane	<4.0	ug/L	5.0	4.0	5		09/20/11 07:14	124-48-1	
1,2-Dibromoethane (EDB)	<2.8	ug/L	5.0	2.8	5		09/20/11 07:14	106-93-4	
Dibromomethane	<3.0	ug/L	5.0	3.0	5		09/20/11 07:14	74-95-3	

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REPORT OF LABORATORY ANALYSIS

Page 9 of 18

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ANALYTICAL RESULTS

Project: 10370.00 BOB'S CITGO

Pace Project No.: 4050933

Sample: MW-5 Lab ID: 4050933005 Collected: 09/15/11 00:00 Received: 09/16/11 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,2-Dichlorobenzene	<4.2 ug/L		5.0	4.2	5		09/20/11 07:14	95-50-1	
1,3-Dichlorobenzene	<4.4 ug/L		5.0	4.4	5		09/20/11 07:14	541-73-1	
1,4-Dichlorobenzene	<4.8 ug/L		5.0	4.8	5		09/20/11 07:14	106-46-7	
Dichlorodifluoromethane	<5.0 ug/L		5.0	5.0	5		09/20/11 07:14	75-71-8	
1,1-Dichloroethane	<3.8 ug/L		5.0	3.8	5		09/20/11 07:14	75-34-3	
1,2-Dichloroethane	<1.8 ug/L		5.0	1.8	5		09/20/11 07:14	107-06-2	
1,1-Dichloroethene	<2.8 ug/L		5.0	2.8	5		09/20/11 07:14	75-35-4	
cis-1,2-Dichloroethene	<4.2 ug/L		5.0	4.2	5		09/20/11 07:14	156-59-2	
trans-1,2-Dichloroethene	<4.4 ug/L		5.0	4.4	5		09/20/11 07:14	156-60-5	
1,2-Dichloropropane	<2.4 ug/L		5.0	2.4	5		09/20/11 07:14	78-87-5	
1,3-Dichloropropane	<3.0 ug/L		5.0	3.0	5		09/20/11 07:14	142-28-9	
2,2-Dichloropropane	<3.1 ug/L		5.0	3.1	5		09/20/11 07:14	594-20-7	
1,1-Dichloropropene	<3.8 ug/L		5.0	3.8	5		09/20/11 07:14	563-58-6	
cis-1,3-Dichloropropene	<1.0 ug/L		5.0	1.0	5		09/20/11 07:14	10061-01-5	
trans-1,3-Dichloropropene	<0.95 ug/L		5.0	0.95	5		09/20/11 07:14	10061-02-6	
Diisopropyl ether	<3.8 ug/L		5.0	3.8	5		09/20/11 07:14	108-20-3	
Ethylbenzene	58.5 ug/L		5.0	2.7	5		09/20/11 07:14	100-41-4	
Hexachloro-1,3-butadiene	<3.4 ug/L		25.0	3.4	5		09/20/11 07:14	87-68-3	
Isopropylbenzene (Cumene)	<3.0 ug/L		5.0	3.0	5		09/20/11 07:14	98-82-8	
p-Isopropyltoluene	<3.4 ug/L		5.0	3.4	5		09/20/11 07:14	99-87-6	
Methylene Chloride	<2.2 ug/L		5.0	2.2	5		09/20/11 07:14	75-09-2	
Methyl-tert-butyl ether	776 ug/L		5.0	3.0	5		09/20/11 07:14	1634-04-4	
Naphthalene	<4.4 ug/L		25.0	4.4	5		09/20/11 07:14	91-20-3	
n-Propylbenzene	<4.0 ug/L		5.0	4.0	5		09/20/11 07:14	103-65-1	
Styrene	<4.3 ug/L		5.0	4.3	5		09/20/11 07:14	100-42-5	
1,1,1,2-Tetrachloroethane	<4.6 ug/L		5.0	4.6	5		09/20/11 07:14	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0 ug/L		5.0	1.0	5		09/20/11 07:14	79-34-5	
Tetrachloroethene	<2.2 ug/L		5.0	2.2	5		09/20/11 07:14	127-18-4	
Toluene	6.3 ug/L		5.0	3.4	5		09/20/11 07:14	108-88-3	
1,2,3-Trichlorobenzene	<3.7 ug/L		5.0	3.7	5		09/20/11 07:14	87-61-6	
1,2,4-Trichlorobenzene	<4.8 ug/L		5.0	4.8	5		09/20/11 07:14	120-82-1	
1,1,1-Trichloroethane	<4.5 ug/L		5.0	4.5	5		09/20/11 07:14	71-55-6	
1,1,2-Trichloroethane	<2.1 ug/L		5.0	2.1	5		09/20/11 07:14	79-00-5	
Trichloroethene	<2.4 ug/L		5.0	2.4	5		09/20/11 07:14	79-01-6	
Trichlorofluoromethane	<4.0 ug/L		5.0	4.0	5		09/20/11 07:14	75-69-4	
1,2,3-Trichloropropane	<5.0 ug/L		5.0	5.0	5		09/20/11 07:14	96-18-4	
1,2,4-Trimethylbenzene	<4.8 ug/L		5.0	4.8	5		09/20/11 07:14	95-63-6	
1,3,5-Trimethylbenzene	<4.2 ug/L		5.0	4.2	5		09/20/11 07:14	108-67-8	
Vinyl chloride	<0.90 ug/L		5.0	0.90	5		09/20/11 07:14	75-01-4	
m&p-Xylene	<9.0 ug/L		10.0	9.0	5		09/20/11 07:14	179601-23-1	
o-Xylene	271 ug/L		5.0	4.2	5		09/20/11 07:14	95-47-6	
4-Bromofluorobenzene (S)	103 %		70-130		5		09/20/11 07:14	460-00-4	
Dibromofluoromethane (S)	95 %		70-130		5		09/20/11 07:14	1868-53-7	
Toluene-d8 (S)	106 %		70-130		5		09/20/11 07:14	2037-26-5	

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Page 10 of 18

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ANALYTICAL RESULTS

Project: 10370.00 BOB'S CITGO

Pace Project No.: 4050933

Sample: MW-6 Lab ID: 4050933006 Collected: 09/15/11 00:00 Received: 09/16/11 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	289	ug/L	1.0	0.41	1		09/20/11 01:35	71-43-2	
Bromobenzene	<0.82	ug/L	1.0	0.82	1		09/20/11 01:35	108-86-1	
Bromochloromethane	<0.97	ug/L	1.0	0.97	1		09/20/11 01:35	74-97-5	
Bromodichloromethane	<0.56	ug/L	1.0	0.56	1		09/20/11 01:35	75-27-4	
Bromoform	<0.94	ug/L	1.0	0.94	1		09/20/11 01:35	75-25-2	
Bromomethane	<0.91	ug/L	1.0	0.91	1		09/20/11 01:35	74-83-9	
n-Butylbenzene	<0.93	ug/L	1.0	0.93	1		09/20/11 01:35	104-51-8	
sec-Butylbenzene	<0.89	ug/L	5.0	0.89	1		09/20/11 01:35	135-98-8	
tert-Butylbenzene	<0.97	ug/L	1.0	0.97	1		09/20/11 01:35	98-06-6	
Carbon tetrachloride	<0.49	ug/L	1.0	0.49	1		09/20/11 01:35	56-23-5	
Chlorobenzene	<0.41	ug/L	1.0	0.41	1		09/20/11 01:35	108-90-7	
Chloroethane	<0.97	ug/L	1.0	0.97	1		09/20/11 01:35	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		09/20/11 01:35	67-66-3	
Chloromethane	<0.24	ug/L	1.0	0.24	1		09/20/11 01:35	74-87-3	
2-Chlorotoluene	<0.85	ug/L	1.0	0.85	1		09/20/11 01:35	95-49-8	
4-Chlorotoluene	<0.74	ug/L	1.0	0.74	1		09/20/11 01:35	106-43-4	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	5.0	1.7	1		09/20/11 01:35	96-12-8	
Dibromochloromethane	<0.81	ug/L	1.0	0.81	1		09/20/11 01:35	124-48-1	
1,2-Dibromoethane (EDB)	<0.56	ug/L	1.0	0.56	1		09/20/11 01:35	106-93-4	
Dibromomethane	<0.60	ug/L	1.0	0.60	1		09/20/11 01:35	74-95-3	
1,2-Dichlorobenzene	<0.83	ug/L	1.0	0.83	1		09/20/11 01:35	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/L	1.0	0.87	1		09/20/11 01:35	541-73-1	
1,4-Dichlorobenzene	<0.95	ug/L	1.0	0.95	1		09/20/11 01:35	106-46-7	
Dichlorodifluoromethane	<0.99	ug/L	1.0	0.99	1		09/20/11 01:35	75-71-8	
1,1-Dichloroethane	<0.75	ug/L	1.0	0.75	1		09/20/11 01:35	75-34-3	
1,2-Dichloroethane	<0.36	ug/L	1.0	0.36	1		09/20/11 01:35	107-06-2	
1,1-Dichloroethene	<0.57	ug/L	1.0	0.57	1		09/20/11 01:35	75-35-4	
cis-1,2-Dichloroethene	<0.83	ug/L	1.0	0.83	1		09/20/11 01:35	156-59-2	
trans-1,2-Dichloroethene	<0.89	ug/L	1.0	0.89	1		09/20/11 01:35	156-60-5	
1,2-Dichloropropane	<0.49	ug/L	1.0	0.49	1		09/20/11 01:35	78-87-5	
1,3-Dichloropropane	<0.61	ug/L	1.0	0.61	1		09/20/11 01:35	142-28-9	
2,2-Dichloropropane	<0.62	ug/L	1.0	0.62	1		09/20/11 01:35	594-20-7	
1,1-Dichloropropene	<0.75	ug/L	1.0	0.75	1		09/20/11 01:35	563-58-6	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/20/11 01:35	10061-01-5	
trans-1,3-Dichloropropene	<0.19	ug/L	1.0	0.19	1		09/20/11 01:35	10061-02-6	
Diisopropyl ether	<0.76	ug/L	1.0	0.76	1		09/20/11 01:35	108-20-3	
Ethylbenzene	75.6	ug/L	1.0	0.54	1		09/20/11 01:35	100-41-4	
Hexachloro-1,3-butadiene	<0.67	ug/L	5.0	0.67	1		09/20/11 01:35	87-68-3	
Isopropylbenzene (Cumene)	7.3	ug/L	1.0	0.59	1		09/20/11 01:35	98-82-8	
p-Isopropyltoluene	<0.67	ug/L	1.0	0.67	1		09/20/11 01:35	99-87-6	
Methylene Chloride	<0.43	ug/L	1.0	0.43	1		09/20/11 01:35	75-09-2	
Methyl-tert-butyl ether	53.8	ug/L	1.0	0.61	1		09/20/11 01:35	1634-04-4	
Naphthalene	19.2	ug/L	5.0	0.89	1		09/20/11 01:35	91-20-3	
n-Propylbenzene	7.3	ug/L	1.0	0.81	1		09/20/11 01:35	103-65-1	
Styrene	<0.86	ug/L	1.0	0.86	1		09/20/11 01:35	100-42-5	
1,1,1,2-Tetrachloroethane	<0.92	ug/L	1.0	0.92	1		09/20/11 01:35	630-20-6	

Date: 09/26/2011 09:38 AM

REPORT OF LABORATORY ANALYSIS

Page 11 of 18

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ANALYTICAL RESULTS

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

Sample: MW-6 Lab ID: 4050933006 Collected: 09/15/11 00:00 Received: 09/16/11 10:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.20	ug/L	1.0	0.20	1		09/20/11 01:35	79-34-5	
Tetrachloroethene	<0.45	ug/L	1.0	0.45	1		09/20/11 01:35	127-18-4	
Toluene	1.7	ug/L	1.0	0.67	1		09/20/11 01:35	108-88-3	
1,2,3-Trichlorobenzene	<0.74	ug/L	1.0	0.74	1		09/20/11 01:35	87-61-6	
1,2,4-Trichlorobenzene	<0.97	ug/L	1.0	0.97	1		09/20/11 01:35	120-82-1	
1,1,1-Trichloroethane	<0.90	ug/L	1.0	0.90	1		09/20/11 01:35	71-55-6	
1,1,2-Trichloroethane	<0.42	ug/L	1.0	0.42	1		09/20/11 01:35	79-00-5	
Trichloroethene	<0.48	ug/L	1.0	0.48	1		09/20/11 01:35	79-01-6	
Trichlorofluoromethane	<0.79	ug/L	1.0	0.79	1		09/20/11 01:35	75-69-4	
1,2,3-Trichloropropane	<0.99	ug/L	1.0	0.99	1		09/20/11 01:35	96-18-4	
1,2,4-Trimethylbenzene	8.3	ug/L	1.0	0.97	1		09/20/11 01:35	95-63-6	
1,3,5-Trimethylbenzene	18.9	ug/L	1.0	0.83	1		09/20/11 01:35	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		09/20/11 01:35	75-01-4	
m&p-Xylene	3.3	ug/L	2.0	1.8	1		09/20/11 01:35	179601-23-1	
o-Xylene	3.6	ug/L	1.0	0.83	1		09/20/11 01:35	95-47-6	
4-Bromofluorobenzene (S)	103 %		70-130		1		09/20/11 01:35	460-00-4	
Dibromofluoromethane (S)	94 %		70-130		1		09/20/11 01:35	1868-53-7	
Toluene-d8 (S)	105 %		70-130		1		09/20/11 01:35	2037-26-5	

QUALITY CONTROL DATA

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

QC Batch: GCV/7234 Analysis Method: WI MOD GRO
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water
Associated Lab Samples: 4050933001, 4050933002, 4050933003

METHOD BLANK: 505819 Matrix: Water
Associated Lab Samples: 4050933001, 4050933002, 4050933003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.43	1.0	09/22/11 08:43	
1,3,5-Trimethylbenzene	ug/L	<0.40	1.0	09/22/11 08:43	
Benzene	ug/L	<0.39	1.0	09/22/11 08:43	
Ethylbenzene	ug/L	<0.41	1.0	09/22/11 08:43	
m&p-Xylene	ug/L	<0.87	2.0	09/22/11 08:43	
Methyl-tert-butyl ether	ug/L	<0.38	1.0	09/22/11 08:43	
Naphthalene	ug/L	<0.40	1.0	09/22/11 08:43	
o-Xylene	ug/L	<0.38	1.0	09/22/11 08:43	
Toluene	ug/L	<0.42	1.0	09/22/11 08:43	
a,a,a-Trifluorotoluene (S)	%	103	80-120	09/22/11 08:43	

LABORATORY CONTROL SAMPLE & LCSD: 505820			505821							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	21.2	21.8	106	109	80-120	3	20	
1,3,5-Trimethylbenzene	ug/L	20	21.0	21.4	105	107	80-120	2	20	
Benzene	ug/L	20	21.7	22.4	109	112	80-120	3	20	
Ethylbenzene	ug/L	20	21.1	21.5	105	107	80-120	2	20	
m&p-Xylene	ug/L	40	41.9	42.4	105	106	80-120	1	20	
Methyl-tert-butyl ether	ug/L	20	20.6	22.0	103	110	80-120	6	20	
Naphthalene	ug/L	20	19.3	20.5	97	103	80-120	6	20	
o-Xylene	ug/L	20	21.0	21.3	105	107	80-120	1	20	
Toluene	ug/L	20	21.2	21.7	106	109	80-120	3	20	
a,a,a-Trifluorotoluene (S)	%				103	103	80-120			



QUALITY CONTROL DATA

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

QC Batch: MSV12616 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 4050933004, 4050933005, 4050933006

METHOD BLANK: 504953 Matrix: Water

Associated Lab Samples: 4050933004, 4050933005, 4050933006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.92	1.0	09/19/11 16:07	
1,1,1-Trichloroethane	ug/L	<0.90	1.0	09/19/11 16:07	
1,1,2,2-Tetrachloroethane	ug/L	<0.20	1.0	09/19/11 16:07	
1,1,2-Trichloroethane	ug/L	<0.42	1.0	09/19/11 16:07	
1,1-Dichloroethane	ug/L	<0.75	1.0	09/19/11 16:07	
1,1-Dichloroethene	ug/L	<0.57	1.0	09/19/11 16:07	
1,1-Dichloropropene	ug/L	<0.75	1.0	09/19/11 16:07	
1,2,3-Trichlorobenzene	ug/L	<0.74	1.0	09/19/11 16:07	
1,2,3-Trichloropropane	ug/L	<0.99	1.0	09/19/11 16:07	
1,2,4-Trichlorobenzene	ug/L	<0.97	1.0	09/19/11 16:07	
1,2,4-Trimethylbenzene	ug/L	<0.97	1.0	09/19/11 16:07	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	5.0	09/19/11 16:07	
1,2-Dibromoethane (EDB)	ug/L	<0.56	1.0	09/19/11 16:07	
1,2-Dichlorobenzene	ug/L	<0.83	1.0	09/19/11 16:07	
1,2-Dichloroethane	ug/L	<0.36	1.0	09/19/11 16:07	
1,2-Dichloropropane	ug/L	<0.49	1.0	09/19/11 16:07	
1,3,5-Trimethylbenzene	ug/L	<0.83	1.0	09/19/11 16:07	
1,3-Dichlorobenzene	ug/L	<0.87	1.0	09/19/11 16:07	
1,3-Dichloropropane	ug/L	<0.61	1.0	09/19/11 16:07	
1,4-Dichlorobenzene	ug/L	<0.95	1.0	09/19/11 16:07	
2,2-Dichloropropane	ug/L	<0.62	1.0	09/19/11 16:07	
2-Chlorotoluene	ug/L	<0.85	1.0	09/19/11 16:07	
4-Chlorotoluene	ug/L	<0.74	1.0	09/19/11 16:07	
Benzene	ug/L	<0.41	1.0	09/19/11 16:07	
Bromobenzene	ug/L	<0.82	1.0	09/19/11 16:07	
Bromochloromethane	ug/L	<0.97	1.0	09/19/11 16:07	
Bromodichloromethane	ug/L	<0.56	1.0	09/19/11 16:07	
Bromoform	ug/L	<0.94	1.0	09/19/11 16:07	
Bromomethane	ug/L	<0.91	1.0	09/19/11 16:07	
Carbon tetrachloride	ug/L	<0.49	1.0	09/19/11 16:07	
Chlorobenzene	ug/L	<0.41	1.0	09/19/11 16:07	
Chloroethane	ug/L	<0.97	1.0	09/19/11 16:07	
Chloroform	ug/L	<1.3	5.0	09/19/11 16:07	
Chloromethane	ug/L	<0.24	1.0	09/19/11 16:07	
cis-1,2-Dichloroethene	ug/L	<0.83	1.0	09/19/11 16:07	
cis-1,3-Dichloropropene	ug/L	<0.20	1.0	09/19/11 16:07	
Dibromochloromethane	ug/L	<0.81	1.0	09/19/11 16:07	
Dibromomethane	ug/L	<0.60	1.0	09/19/11 16:07	
Dichlorodifluoromethane	ug/L	<0.99	1.0	09/19/11 16:07	
Diisopropyl ether	ug/L	<0.76	1.0	09/19/11 16:07	
Ethylbenzene	ug/L	<0.54	1.0	09/19/11 16:07	
Hexachloro-1,3-butadiene	ug/L	<0.67	5.0	09/19/11 16:07	
Isopropylbenzene (Cumene)	ug/L	<0.59	1.0	09/19/11 16:07	

Date: 09/26/2011 09:38 AM

REPORT OF LABORATORY ANALYSIS

Page 14 of 18

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QUALITY CONTROL DATA

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

METHOD BLANK: 504953

Matrix: Water

Associated Lab Samples: 4050933004, 4050933005, 4050933006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
m&p-Xylene	ug/L	<1.8	2.0	09/19/11 16:07	
Methyl-tert-butyl ether	ug/L	<0.61	1.0	09/19/11 16:07	
Methylene Chloride	ug/L	<0.43	1.0	09/19/11 16:07	
n-Butylbenzene	ug/L	<0.93	1.0	09/19/11 16:07	
n-Propylbenzene	ug/L	<0.81	1.0	09/19/11 16:07	
Naphthalene	ug/L	<0.89	5.0	09/19/11 16:07	
o-Xylene	ug/L	<0.83	1.0	09/19/11 16:07	
p-Isopropyltoluene	ug/L	<0.67	1.0	09/19/11 16:07	
sec-Butylbenzene	ug/L	<0.89	5.0	09/19/11 16:07	
Styrene	ug/L	<0.86	1.0	09/19/11 16:07	
tert-Butylbenzene	ug/L	<0.97	1.0	09/19/11 16:07	
Tetrachloroethene	ug/L	<0.45	1.0	09/19/11 16:07	
Toluene	ug/L	<0.67	1.0	09/19/11 16:07	
trans-1,2-Dichloroethene	ug/L	<0.89	1.0	09/19/11 16:07	
trans-1,3-Dichloropropene	ug/L	<0.19	1.0	09/19/11 16:07	
Trichloroethene	ug/L	<0.48	1.0	09/19/11 16:07	
Trichlorofluoromethane	ug/L	<0.79	1.0	09/19/11 16:07	
Vinyl chloride	ug/L	<0.18	1.0	09/19/11 16:07	
4-Bromofluorobenzene (S)	%	103	70-130	09/19/11 16:07	
Dibromofluoromethane (S)	%	95	70-130	09/19/11 16:07	
Toluene-d8 (S)	%	106	70-130	09/19/11 16:07	

LABORATORY CONTROL SAMPLE & LCSD: 504954

504955

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	50.3	49.6	101	99	70-133	2	20	
1,1,2,2-Tetrachloroethane	ug/L	50	50.1	49.1	100	98	70-130	2	20	
1,1,2-Trichloroethane	ug/L	50	51.7	51.6	103	103	70-130	.1	20	
1,1-Dichloroethane	ug/L	50	51.2	50.5	102	101	70-130	1	20	
1,1-Dichloroethene	ug/L	50	47.6	47.7	95	95	70-130	.2	20	
1,2,4-Trichlorobenzene	ug/L	50	51.0	50.3	102	101	70-130	1	20	
1,2-Dibromo-3-chloropropane	ug/L	50	44.6	43.0	89	86	50-150	4	20	
1,2-Dibromoethane (EDB)	ug/L	50	51.5	51.4	103	103	70-130	.3	20	
1,2-Dichlorobenzene	ug/L	50	51.7	51.6	103	103	70-130	.2	20	
1,2-Dichloroethane	ug/L	50	49.8	49.6	100	99	70-145	.4	20	
1,2-Dichloropropane	ug/L	50	53.2	54.1	106	108	70-130	2	20	
1,3-Dichlorobenzene	ug/L	50	51.6	51.0	103	102	70-130	1	20	
1,4-Dichlorobenzene	ug/L	50	51.6	51.1	103	102	70-130	1	20	
Benzene	ug/L	50	53.2	52.0	106	104	70-130	2	20	
Bromodichloromethane	ug/L	50	51.5	52.3	103	105	70-130	1	20	
Bromoform	ug/L	50	46.1	45.1	92	90	70-130	2	20	
Bromomethane	ug/L	50	38.5	42.9	77	86	52-155	11	20	
Carbon tetrachloride	ug/L	50	48.1	48.3	96	97	70-153	.5	20	
Chlorobenzene	ug/L	50	53.3	53.2	107	106	70-130	.07	20	
Chloroethane	ug/L	50	47.2	46.7	94	93	70-130	1	20	

Date: 09/26/2011 09:38 AM

REPORT OF LABORATORY ANALYSIS

Page 15 of 18

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QUALITY CONTROL DATA

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

LABORATORY CONTROL SAMPLE & LCSD: 504954			504955							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Chloroform	ug/L	50	51.5	51.2	103	102	70-130	.5	20	
Chloromethane	ug/L	50	44.3	41.9	89	84	50-130	6	20	
cis-1,2-Dichloroethene	ug/L	50	50.8	49.9	102	100	70-130	2	20	
cis-1,3-Dichloropropene	ug/L	50	46.5	47.4	93	95	70-130	2	20	
Dibromochloromethane	ug/L	50	47.9	48.1	96	96	70-130	.4	20	
Dichlorodifluoromethane	ug/L	50	33.9	34.5	68	69	50-150	2	20	
Ethylbenzene	ug/L	50	54.0	54.0	108	108	70-130	.04	20	
Isopropylbenzene (Cumene)	ug/L	50	56.0	56.1	112	112	70-130	.2	20	
m&p-Xylene	ug/L	100	106	107	106	107	70-130	.9	20	
Methyl-tert-butyl ether	ug/L	50	50.1	48.8	100	98	70-130	3	20	
Methylene Chloride	ug/L	50	46.4	47.1	93	94	70-130	2	20	
o-Xylene	ug/L	50	52.5	52.2	105	104	70-130	.6	20	
Styrene	ug/L	50	54.6	54.8	109	110	70-130	.4	20	
Tetrachloroethene	ug/L	50	51.7	52.0	103	104	70-130	.6	20	
Toluene	ug/L	50	52.7	53.2	105	106	70-130	.9	20	
trans-1,2-Dichloroethene	ug/L	50	53.8	52.6	108	105	70-130	2	20	
trans-1,3-Dichloropropene	ug/L	50	45.5	45.5	91	91	70-130	.05	20	
Trichloroethene	ug/L	50	54.0	52.9	108	106	70-130	2	20	
Trichlorofluoromethane	ug/L	50	48.1	47.9	96	96	50-150	.5	20	
Vinyl chloride	ug/L	50	46.2	45.6	92	91	66-130	1	20	
4-Bromofluorobenzene (S)	%				105	107	70-130			
Dibromofluoromethane (S)	%				100	99	70-130			
Toluene-d8 (S)	%				106	106	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 504956			504957									
Parameter	Units	4050812003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.90	50	50	50.6	51.9	101	104	70-133	2	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.20	50	50	49.1	49.6	98	99	70-130	1	20	
1,1,2-Trichloroethane	ug/L	<0.42	50	50	51.3	50.8	103	102	70-130	.9	20	
1,1-Dichloroethane	ug/L	<0.75	50	50	51.0	51.6	102	103	70-133	1	20	
1,1-Dichloroethene	ug/L	<0.57	50	50	46.6	46.4	93	93	70-130	.4	20	
1,2,4-Trichlorobenzene	ug/L	<0.97	50	50	42.6	46.5	85	93	70-130	9	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	50	50	42.7	43.0	85	86	50-150	.6	20	
1,2-Dibromoethane (EDB)	ug/L	<0.56	50	50	50.1	51.9	100	104	70-130	3	20	
1,2-Dichlorobenzene	ug/L	<0.83	50	50	48.1	50.7	96	101	70-130	5	20	
1,2-Dichloroethane	ug/L	<0.36	50	50	49.3	49.9	99	100	70-145	1	20	
1,2-Dichloropropane	ug/L	<0.49	50	50	53.7	53.4	107	107	70-130	.5	20	
1,3-Dichlorobenzene	ug/L	<0.87	50	50	46.3	49.1	93	98	70-130	6	20	
1,4-Dichlorobenzene	ug/L	<0.95	50	50	46.0	49.1	92	98	70-130	6	20	
Benzene	ug/L	<0.41	50	50	52.1	53.2	104	106	70-130	2	20	
Bromodichloromethane	ug/L	<0.56	50	50	51.8	52.1	104	104	70-130	.7	20	
Bromoform	ug/L	<0.94	50	50	44.5	43.5	89	87	70-130	2	20	
Bromomethane	ug/L	<0.91	50	50	41.2	42.9	82	86	52-155	4	20	
Carbon tetrachloride	ug/L	<0.49	50	50	48.5	49.8	97	100	70-158	3	20	
Chlorobenzene	ug/L	<0.41	50	50	50.9	52.4	102	105	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

Page 16 of 18

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QUALITY CONTROL DATA

Project: 10370.00 BOB'S CITGO

Pace Project No.: 4050933

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 504956 504957											
Parameter	Units	4050812003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Chloroethane	ug/L	<0.97	50	50	43.4	46.0	87	92	70-130	6	20
Chloroform	ug/L	<1.3	50	50	51.7	51.9	103	104	70-130	.3	20
Chloromethane	ug/L	<0.24	50	50	36.3	36.0	73	72	46-130	.8	20
cis-1,2-Dichloroethene	ug/L	<0.83	50	50	49.2	50.7	98	101	70-130	3	20
cis-1,3-Dichloropropene	ug/L	<0.20	50	50	47.5	48.7	95	97	70-130	2	20
Dibromochloromethane	ug/L	<0.81	50	50	47.7	49.1	95	98	70-130	3	20
Dichlorodifluoromethane	ug/L	<0.99	50	50	25.3	29.1	51	58	50-150	14	20
Ethylbenzene	ug/L	<0.54	50	50	51.6	53.0	103	106	70-130	3	20
Isopropylbenzene (Cumene)	ug/L	<0.59	50	50	53.9	55.2	108	110	70-130	3	20
m&p-Xylene	ug/L	<1.8	100	100	102	105	102	105	70-130	3	20
Methyl-tert-butyl ether	ug/L	<0.61	50	50	48.5	49.3	97	99	70-130	2	20
Methylene Chloride	ug/L	<0.43	50	50	46.9	48.1	94	96	70-130	2	20
o-Xylene	ug/L	<0.83	50	50	51.1	52.2	102	104	70-130	2	20
Styrene	ug/L	<0.86	50	50	51.6	53.6	103	107	19-157	4	20
Tetrachloroethene	ug/L	<0.45	50	50	49.9	52.1	100	104	70-130	4	20
Toluene	ug/L	<0.67	50	50	51.6	53.1	103	106	70-130	3	20
trans-1,2-Dichloroethene	ug/L	<0.89	50	50	53.0	53.4	106	107	70-130	.7	20
trans-1,3-Dichloropropene	ug/L	<0.19	50	50	45.1	46.6	90	93	70-130	3	20
Trichloroethene	ug/L	<0.48	50	50	51.2	52.7	102	105	70-130	3	20
Trichlorofluoromethane	ug/L	<0.79	50	50	45.6	47.5	91	95	50-150	4	20
Vinyl chloride	ug/L	<0.18	50	50	42.5	43.8	85	88	62-130	3	20
4-Bromofluorobenzene (S)	%						106	104	70-130		
Dibromofluoromethane (S)	%						100	100	70-130		
Toluene-d8 (S)	%						106	107	70-130		



Pace Analytical Services, Inc.
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QUALIFIERS

Project: 10370.00 BOB'S CITGO
Pace Project No.: 4050933

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

BATCH QUALIFIERS

Batch: GCV/7234

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

