APEX CONSULTING SERVICES, INC.

APEX

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January 9, 2015

Ms. Susana Lara-Mesa
K.P. Kauffman Company, Inc.
World Trade Center
1675 Broadway, Suite 2800
Denver, CO 80202-4825

Re: December 2014, Groundwater Monitoring, Wattenberg Disposal Facility, Weld County, Colorado

Dear Ms. Lara-Mesa:

Apex Consulting Services, Inc. (APEX) has completed the December 2014 (semi-annual) groundwater monitoring at the Wattenberg Disposal Facility (Facility) in Weld County, Colorado (Figure 1). This letter report presents a summary of the work performed, the results of the groundwater analysis, and our conclusions.

BACKGROUND

The Facility was originally constructed in 1972 by the Amoco Production Company to dispose of production water from oil and gas wells in the D-J Basin. Wright's Disposal, Inc. purchased the Facility from Amoco in June 1989 and K.P. Kaufman Company, Inc. (KPK) purchased the Facility in June 1998. KPK currently operates the Facility for deep injection disposal of non-hazardous Class I and Class II liquid waste as defined in 40 CFR 144.6. The Facility is operated under the U.S. EPA Underground Injection Control Program, Final Permit No. CO 1516-2115. Three groundwater observation wells (OW-1, OW-2, and OW-3) are located around the periphery of the Facility to monitor groundwater flow direction, gradient, and quality. A groundwater monitoring plan was prepared by Nationwide Environmental Services, Inc. on January 3, 2002. The monitoring plan was subsequently approved by the Solid Waste Unit of the Colorado Department of Public Health and Environment. The monitoring plan included semi-annual groundwater monitoring (OW-1, OW-2, and OW-3) for major cations (calcium, magnesium, potassium, and sodium), major anions (bicarbonate, carbonate, chloride, nitrate, nitrite, and sulfate), Total Organic Carbon (TOC), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and Total Petroleum Hydrocarbons (TPH). During the January 2007 sampling event, product was encountered on the groundwater in observation well OW-3. Contaminated soils in the vicinity of observation well OW-3 were excavated and replaced with clean fill. Observation well OW-3 was removed during the excavation of the contaminated soils. Following the removal of the contaminated soil, a new observation well (OW-3) was installed at the previous location. At the request of the Colorado Department of Public Health and Environment, an additional observation well (OW-4) was installed to the north of the Facility in June 2009. In July and October 2013, confirmation sampling for BTEX compounds confirmed the presence of benzene in observation well OW-1. In a September 2013 meeting with CDPHE, KPK noted that a release from an up-gradient facility occurred in 2008. In the meeting, KPK agreed to analyze laboratory data from OW-1 (from 2008 to the present) and to include STIFF diagrams in the December 2013 monitoring report. On March 4, 2014, an additional observation well (OW-5) was completed to the southeast of the Facility. The observation well was completed to a total depth of 24 feet. To date, groundwater has not been measured in the observation well. In a May 2014 meeting at the Facility with CDPHE, KPK agreed to compare and contrast laboratory data from the observation wells to laboratory data from the production water. A report detailing the work will be submitted in a separate document.

GROUNDWATER SAMPLING

Groundwater samples were collected for laboratory analyses from observation wells OW-1, OW-2, OW-3 and OW-4 on December 9, 2014. Groundwater was not present in observation well OW-5. Prior to groundwater sampling, groundwater elevations were measured and recorded in each of the aforementioned observation wells

located at the Property. Due to the presence of benzene, groundwater samples were collected for laboratory analyses from observation wells OW-1 and OW-2 on January 2, 2015. The locations of the observation wells are illustrated on Figure 2. Each of the wells was surveyed to a local datum. Shallow groundwater was present in the wells at depths ranging from approximately 11.7 (OW-1) to 20.3 (OW-4) feet below the ground surface (bgs). Relative groundwater elevations are shown on Figure 2. Groundwater flow direction was determined to be to the north-northwest for this monitoring period. Free product was not present on the groundwater in any of the wells. The observation wells were prepared for sampling by purging three wet well volumes of groundwater from each well with a dedicated bailer. During purging of each observation well, pH, specific conductance, and temperature were measured. The probes were calibrated before (within 2 hours) taking the measurements. Specific conductance was measured using equivalent EPA standard method 9050. Temperature and pH were measured using a standard probe equivalent to EPA standard method 9040 or 150.1. Groundwater was sampled from the observation wells with a dedicated bailer when pH, specific conductance, and temperature parameters were stable. The pH, specific conductance, and temperature measurements recorded for each sample are summarized on Tables 1, 2, and 3.

GROUNDWATER LABORATORY ANALYSES

The groundwater samples were handled with clean, new, nitrile gloves and placed in laboratory supplied vials and bottles. The samples and a trip blank (distilled water) were stored on ice in a cooler and delivered to Accutest Laboratories (ACCUTEST) under chain-of-custody documentation. The groundwater samples collected from the observation wells were analyzed for calcium, magnesium, potassium, sodium, chloride, nitrate, nitrite, sulfate, TOC, bicarbonate, carbonate, BTEX, and TPH. Laboratory results are summarized on Tables 1, 2, and 3. Laboratory reports provided by ACCUTEST are included in Attachment I.

CONCLUSIONS

Groundwater samples were collected for laboratory analysis from the observation wells OW-1, OW-2, OW-3 and OW-4 on December 9, 2014. The analytical results for this monitoring event are consistent with the results from previous monitoring events. Benzene was detected at an estimated concentration of 0.96 ug/L in the sample collected from observation well OW-1. Also, benzene was detected at a concentration of 1.6 ug/L in the sample collected from observation well OW-2. In accordance with the Facility groundwater monitoring plan, confirmatory samples were collected from BTEX analysis from observation wells OW-1 and OW-2 on January 2, 2015. BTEX compounds were not detected above the method detection limits in the confirmatory samples collected from observation wells OW-1 or OW-2.

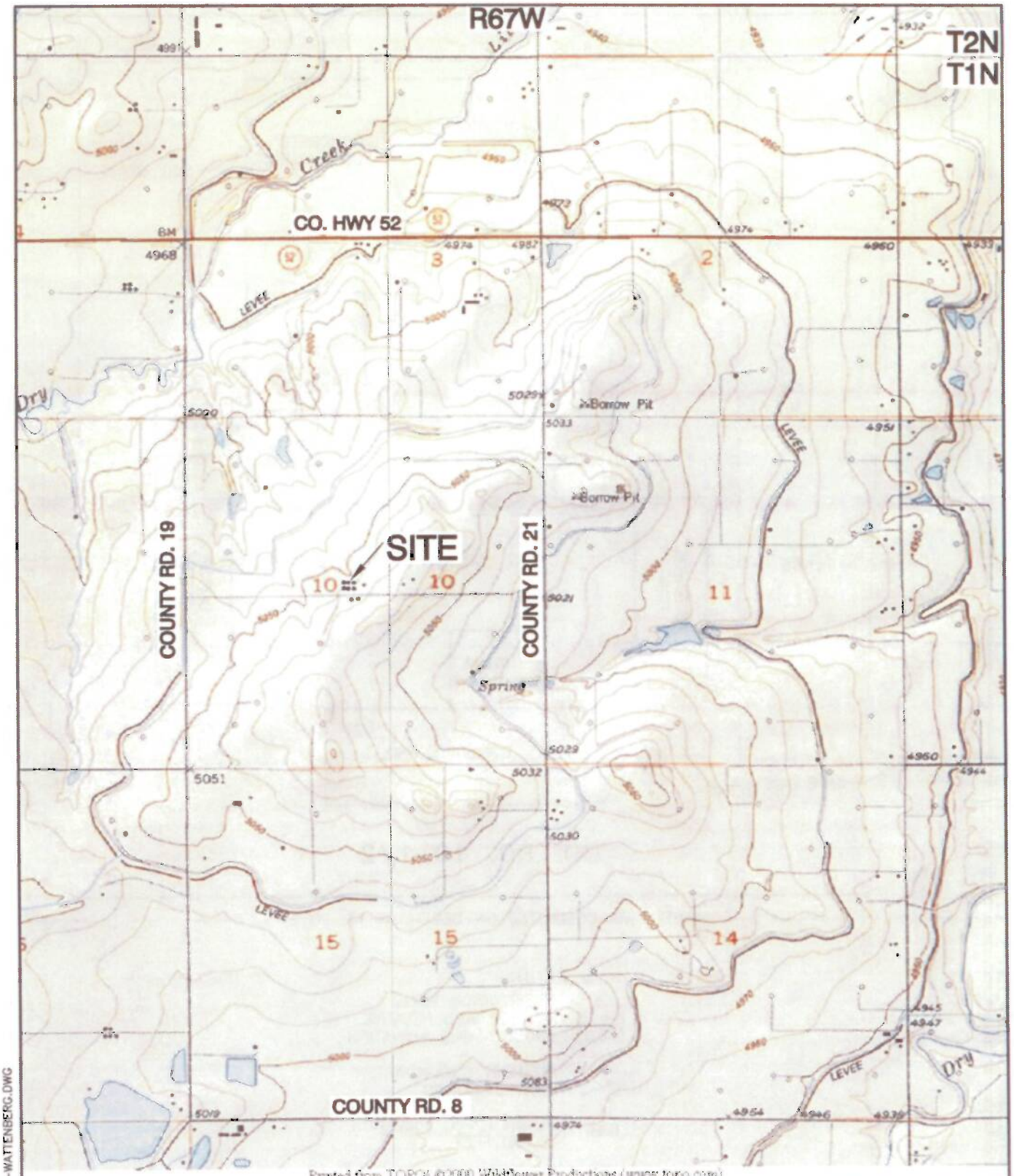
The next semi-annual groundwater monitoring event is scheduled for June 2015. Following the conclusion of the next semi-annual groundwater monitoring event, the data will be evaluated to determine if there is a significant change in groundwater elevation and/or quality.

If you have any questions or comments, please call.

Sincerely,

APEX CONSULTING SERVICES, INC.

Michael D. Hattel, P.G., P.E.S.
Principal
Attachments
C:\Users\Owner\Documents\KPK (025)\Wattenberg\Rpts\KPK.GW.RPT 1214.rtf



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APEX JOB: 1-0025.001.00

NORTH

0 1000 2000

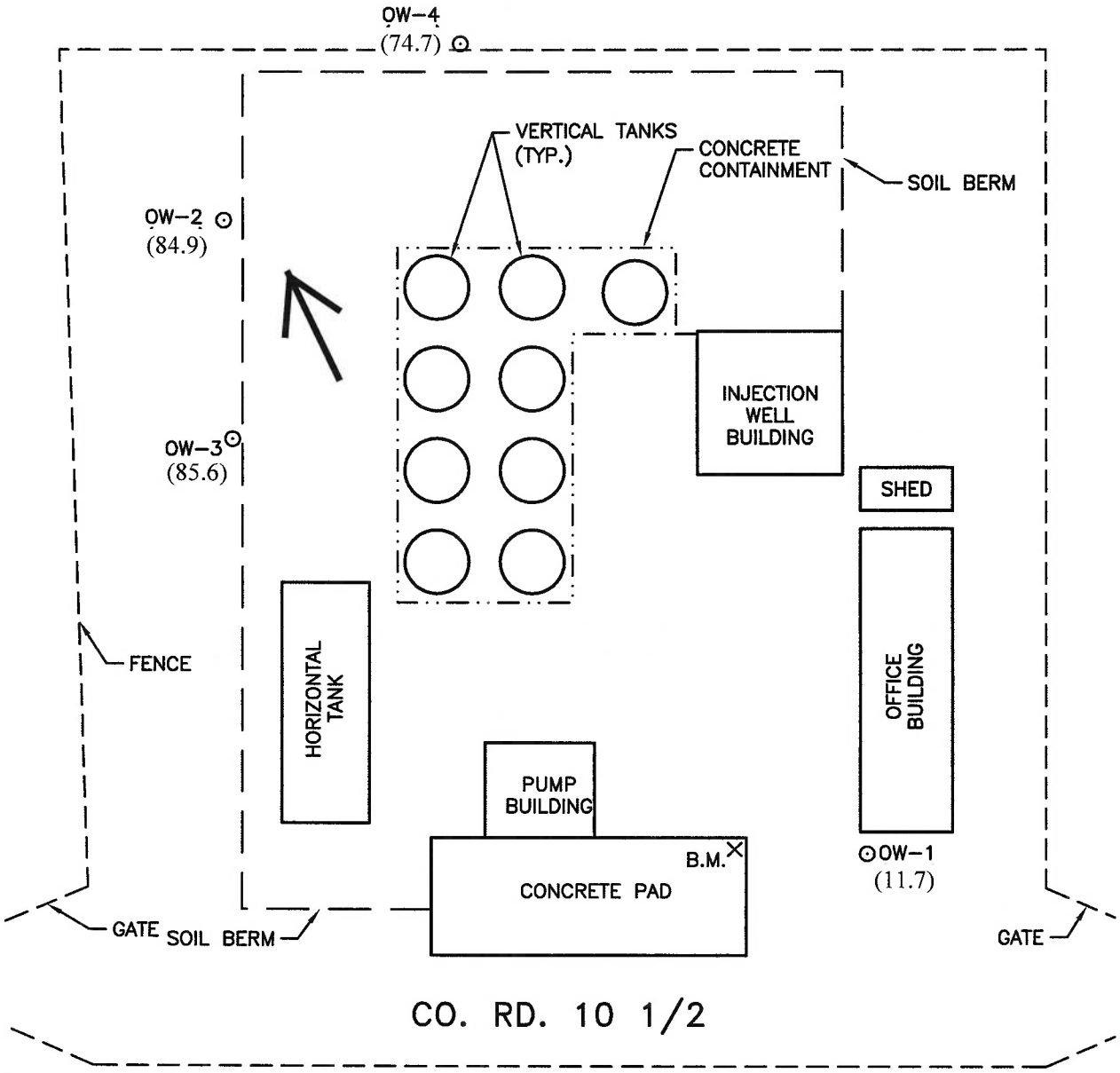
SCALE: 1" = 2000'

WATTENBERG DISPOSAL FACILITY
VICINITY MAP

APEX

FIGURE:
1

MDS FILE: 01-054\VICINITY-WATTENBERG.DWG



NOTE: DATA COLLECTED ON DECEMBER 17, 2012.

LEGEND:

⊙ OW-2 (80.7)	OBSERVATION WELL, NUMBER, AND RELATIVE GROUNDWATER ELEVATION
↖	CURRENT GROUNDWATER FLOW DIRECTION
B.M.	BENCH MARK, ELEVATION 100.00 FEET
ND	NO DATA

NORTH

0 30 60

SCALE: 1" = 60'

APEX JOB: 1-0025.001.00

WATTENBERG DISPOSAL FACILITY
SITE MAP
DECEMBER 19, 2014

APEX

FIGURE:
2

C:\MDS WORK FILES\files\01-054\SITEMAP-WATTENBERG_12-12

TABLE 1

Summary of BTEX[1], TPH[2] and TOC[3] Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[3]	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	TPH (mg/L)	TOC[4] (mg/L)
OW-1	9/18/02	6.46	17.5	>4000	<.15	<.18	<.24	<.63	<1.6	79.0
	12/16/02	6.54	14.9	>4000	<.15	<.18	<.24	<.63	<1.6	29.0
	6/30/03	6.64	13.2	>4000	<1.5	<.18	<.24	<.63	<1.6	250.0
	12/30/03	6.54	14.1	>4000	<.15	<.18	<.24	<.63	<1.6	86.0
	6/30/04	6.19	13.2	>4000	<.18	<.21	<.17	<.96	<1.5	28.0
	12/29/04	6.30	12.9	>4000	<.18	<.21	<.17	<.96	<1.6	33.0
	6/30/05	6.60	13.2	>4000	<.07	<.07	<.07	<.20	<1.5	27.0
	12/28/05	6.85	15.5	>4000	<.07	<.07	<.08	<.20	<1.5	27.0
	6/29/06	6.54	13.5	>4000	1.00	<.07	1.1	5.00	<1.5	140.0
	7/27/06[5]	6.51	13.6	>4000	<.07	<.07	<.08	<.20	NA	NA
	1/25/07	6.81	13.3	>4000	<1.0	<2.0	<2.0	<4.0	5.3	28.7
	7/2/07	6.59	12.9	>4000	<1.0	<2.0	<2.0	<4.0	15.0	30.0
	1/31/08	6.69	12.9	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	30.3
	6/24/08	6.52	12.3	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	31.4
	12/29/08	6.50	14.7	>4000	<1.0	<2.0	<2.0	<4.0	6.2	30.1
	6/29/09	6.52	14.9	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	30.8
	12/15/09	6.51	13.3	>4000	<1.0	<2.0	<2.0	<4.0	5.9	30.6
	6/23/10	6.61	12.4	>4000	<1.0	<2.0	<2.0	<4.0	5.0	31.8
	12/13/10	6.80	14.6	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	31.7
	6/21/11	6.62	12.3	>4000	0.28	<1.0	<1.0	<2.0	7.1	29.2
	7/12/11	6.58	12.4	>4000	<1.0	<2.0	<2.0	<2.0	NA	NA
	12/21/11	6.56	13.8	>4000	1.00	<2.0	<2.0	<2.0	10.3	34.5
	1/13/12	6.55	14.0	>4000	<1.0	<2.0	<2.0	<2.0	NA	NA
	6/19/12	6.76	13.4	>4000	<2.0	<2.0	<2.0	<2.0	<4.9	33.3
	12/17/12	6.80	14.3	>4000	<0.2	<1.0	<1.0	<2.0	5.8	31.8
	06/13/13	6.65	12.6	>4000	1.70	<1.0	<1.0	<2.0	<5.2	26.2
	07/1/13	6.70	12.5	>4000	1.50	<1.0	<1.0	<2.0	NA	NA
	10/10/13	6.71	12.6	>4000	3.60	<1.0	<1.0	<2.0	NA	NA
	12/12/13	6.75	14.1	>4000	3.00	<1.0	<1.0	<2.0	<4.9	22.9
	6/23/14	6.68	12.7	>4000	45.50	<2.0	1.7J	<2.0	<4.8	42.8
	7/9/14	6.60	12.5	>4000	12.00	<1.0	<1.0	<2.0	NS	NS

TABLE 1

Summary of BTEX[1], TPH[2] and TOC[3] Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[3]	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	TPH (mg/L)	TOC[4] (mg/L)
OW-1	12/9/14	6.73	12.5	>4000	0.96	<1.0	<1.0	<2.0	6.4	18.8
(Cont.)	1/2/15	6.70	12.3	>4000	<1.0	<2.0	<2.0	<2.0	NS	NS
OW-2	9/18/02	7.05	14.8	>4000	<.15	<.18	<.24	<.63	<1.6	230.0
	12/16/02	7.09	14.0	>4000	<.15	<.18	<.24	<.63	<1.6	60.0
	6/30/03	7.28	12.9	>4000	<.15	<.18	<.24	<.63	<1.7	150.0
	12/30/03	7.23	13.3	>4000	<.15	<.18	<.24	<.63	<1.7	58.0
	6/30/04	6.86	13.0	>4000	<.18	<.21	<.17	<.96	<1.5	37.0
	12/29/04	6.80	12.3	>4000	<.18	<.21	<.17	<.96	<1.4	54.0
	6/30/05	7.18	12.5	>4000	<.07	<.07	<.07	<.20	<1.5	48.0
	12/28/05	7.23	14.5	>4000	<.07	<.07	<.07	<.20	<1.5	48.0
	6/29/06	7.22	12.9	>4000	<.07	<.07	<.08	<.20	<1.5	59.0
	1/25/07	7.37	12.8	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	44.4
	7/2/07	7.18	13.3	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	36.7
	1/31/08	7.27	12.6	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	43.0
	6/24/08	7.18	12.1	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	47.1
	12/29/08	7.13	14.0	>4000	<1.0	<2.0	<2.0	<4.0	<4.0	45.4
	6/29/09	7.15	14.2	>4000	<1.0	<2.0	<2.0	<4.0	5.7	43.9
	12/15/09	7.11	13.0	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	43.1
	6/23/10	7.30	12.4	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	43.5
	12/13/10	7.14	13.6	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	44.5
	6/21/11	7.19	12.5	>4000	<0.2	<1.0	<1.0	<2.0	4.9	37.2
	12/21/11	7.21	12.5	>4000	0.25	<2.0	<2.0	<2.0	12.8	46.4
	1/13/12	7.20	13.0	>4000	<1.0	<2.0	<2.0	<2.0	NA	NA
	6/19/12	7.30	12.4	>4000	<1.0	<2.0	<2.0	<2.0	<4.8	45.4
	12/17/12	7.34	13.2	>4000	<0.2	<1.0	<1.0	<2.0	<4.8	46.2
	6/13/13	7.15	12.5	>4000	<0.2	<1.0	<1.0	<2.0	<4.9	46.2
	12/12/13	7.35	13.8	>4000	<0.2	<1.0	<1.0	<2.0	<4.9	42.6
	6/23/14	7.10	12.5	>4000	<0.2	<1.0	<1.0	<2.0	<4.9	33.6
	12/9/14	7.21	12.2	>4000	1.60	<1.0	<1.0	<2.0	<5.1	33.6
	1/2/15	7.20	12.3	>4000	<1.0	<2.0.	<2.0	<2.0	NS	NS
OW-3	9/18/02	6.88	15.4	>4000	<.15	<.18	<.24	<.63	<5.1	95.0
	12/16/02	7.08	15.3	>4000	<.15	<.18	<.24	<.63	<1.6	63.0

TABLE 1

Summary of BTEX[1], TPH[2] and TOC[3] Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[3]	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	TPH (mg/L)	TOC[4] (mg/L)
OW-3	6/30/03	7.05	14.6	>4000	<.15	<.18	<.24	<.63	<1.6	200.0
(Cont.)	12/30/03	7.27	13.4	>4000	<.15	<.18	<.24	<.63	<1.8	85.0
	6/30/04	6.89	12.4	>4000	3.5	1.3	<.17	<.96	<2.0	68.0
	9/9/04[5]	6.86	13.5	>4000	<.18	<.17	<.17	<.96	NA	NA
	12/29/04	6.65	12.3	>4000	<.18	<.21	<.17	<.96	<1.5	78.0
	6/30/05	6.90	12.5	>4000	<.07	<.07	<.09	<.20	<1.6	80.0
	12/28/05	7.12	15.2	>4000	<.07	<.07	<.09	<.20	<1.5	92.0
	6/29/06	7.59	15.8	>4000	<.07	<.07	<.09	<.20	<1.5	82.0
	1/25/07	7.47	12.7	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	62.9
	7/2/07	6.90	13.7	>4000	1500	71000	19000	178000	NA	NA
	1/31/08	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/05/09	7.05	14.0	>4000	<1.0	<2.0	<2.0	<4.0	<5.0	53.0
	6/29/09	7.15	14.1	>4000	1.0	<2.0	<2.0	<4.0	5.0	43.5
	7/27/09	7.11	14.2	>4000	NA	NA	NA	NA	NA	NA
	12/15/09	7.17	13.0	>4000	1.6	<2.0	<2.0	<4.0	<6.33	46.4
	1/04/10	7.15	13.2	>4000	<1.0	<2.0	<2.0	<4.0	NA	NA
	6/23/10	7.35	12.3	>4000	<1.0	<2.0	<2.0	<4.0	<13.0	44.8
	12/13/10	7.05	13.2	>4000	<1.0	<2.0	<2.0	<4.0	7.6	45.0
	6/21/11	7.19	12.3	>4000	1.4	<1.0	<1.0	<2.0	<6.2	40.1
	7/12/11	7.15	12.4	>4000	<1.0	<1.0	<1.0	<1.0	NA	NA
	12/21/11	7.20	12.0	>4000	1.3	<2.0	<2.0	<2.0	7.3	45.9
	1/13/12	7.15	11.9	>4000	<1.0	<2.0	<2.0	<2.0	NA	NA
	6/19/12	7.41	13.3	>4000	<1.0	<2.0	<2.0	<2.0	<5.0	40.5
	12/17/12	7.33	13.5	>4000	<0.2	<1.0	<1.0	<2.0	<5.0	37.3
	6/13/13	7.20	12.3	>4000	2.70	<1.0	<1.0	<2.0	<5.4	37.3
	7/01/13	7.15	12.3	>4000	<0.2	<1.0	<1.0	<2.0	NA	NA
	12/12/13	7.03	13.3	>4000	<0.2	<1.0.	<1.0	<2.0	<5.0	36.0
	6/23/14	7.19	12.4	>4000	2.60	<1.0	<1.0	<2.0	<5.0	32.8
	7/17/14	7.11	12.5	>4000	<0.20	<1.0	<1.0	<2.0	NS	NS
	12/9/14	7.07	12.2	>4000	<0.20	<1.0	<1.0	<2.0	<5.1	43.0

TABLE 1

Summary of BTEX[1], TPH[2] and TOC[3] Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[3]	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	TPH (mg/L)	TOC[4] (mg/L)
OW-4	12/15/09	7.14	12.9	>4000	<1.0	<2.0	<2.0	<4.0	NA	68.9
	6/23/10	7.17	13.5	>4000	<1.0	<2.0	<2.0	<4.0	<7.4	78.4
	12/13/10	7.18	13.1	>4000	<1.0	<2.0	<2.0	<4.0	<11	69.9
	6/21/11	7.23	12.2	>4000	<0.2	<1.0	<1.0	<2.0	<6.4	68.1
	12/21/11	7.12	11.7	>4000	<0.2	<2.0	<2.0	<2.0	8.1	73.8
	6/19/12	7.41	14.0	>4000	<1.0	<2.0	<2.0	<2.0	<5.2	71.3
	12/17/12	7.33	12.7	>4000	<0.2	<1.0	<1.0	<2.0	<6.3	70.5
	6/13/13	7.25	12.3	>4000	<0.2	<1.0	<1.0	<2.0	<7.4	68.3
	12/12/13	7.29	12.9	>4000	<0.2	<1.0	<1.0	<2.0	<5.3	64.8
	6/23/14	7.21	12.4	>4000	<0.2	<1.0	<1.0	<2.0	<6.8	65.8
	12/9/14	7.28	12.4	>4000	<0.2	<1.0	<1.0	<2.0	<5.4	66.1

1 Benzene, toluene, ethylbenzene, and total xylenes by Method 8021B.
2 Total petroleum hydrocarbons by Method 1664.
3 Specific conductance in micro-siemens at 25 degrees Celsius.
4 Total organic carbon by Method 415.1.
5 Second sample collected in accordance with ground water monitoring plan.

J Estimated value.
mg/L milligrams per liter.
NA Not Analyzed
ug/L micrograms per liter.
NS No Sample

TABLE 2

Summary of Major Cation[1] Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[2]	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
OW-1	9/18/02	6.46	17.5	>4000	330	310	11	2300
	12/16/02	6.54	14.9	>4000	370	320	15	2500
	6/30/03	6.64	13.2	>4000	370	350	12	2600
	12/30/03	6.54	14.1	>4000	500	340	12	2600
	6/30/04	6.19	13.2	>4000	300	300	11	2000
	12/29/04	6.30	12.9	>4000	420	360	14	2600
	6/30/05	6.73	13.2	>4000	410	370	12	2500
	12/28/05	6.85	15.5	>4000	420	380	18	2700
	6/29/06	6.54	13.5	>4000	440	410	26	2700
	1/25/07	6.81	13.3	>4000	380	350	14	2300
	7/2/07	6.59	12.9	>4000	450	400	21	2700
	1/31/08	6.69	12.9	>4000	460	420	14	2900B
	6/24/08	6.52	12.3	>4000	410	380	11	2800
	12/29/08	6.50	14.7	>4000	460	420	12	2700
	6/29/09	6.52	14.9	>4000	440	410	11	2800
	12/15/09	6.51	13.3	>4000	470	470	15	2400
	6/23/10	6.61	12.4	>4000	554	501	<50	2810
	12/13/10	6.80	14.6	>4000	472	450	13	2540
	6/21/11	6.62	12.3	>4000	457	415	11.7	2400
	12/21/11	6.56	13.8	>4000	427	407	11.9	2530
	6/19/12	6.76	13.4	>4000	510	463	12.6	2720
	12/17/12	6.80	14.3	>4000	437	417	13.5	2300
	6/13/13	6.65	12.6	>4000	273	253	9.65	1990
	12/12/13	6.75	12.5	>4000	260	210	9.51	1830
	6/23/14	6.68	12.7	>4000	116	144	4.32	1170
	12/9/14	6.73	12.5	>4000	138	127	4.26	1410
OW-2	9/18/02	7.05	14.8	>4000	600	680	18	3800
	12/16/02	7.09	14.0	>4000	690	700	23	3700
	6/30/03	7.28	12.9	>4000	600	660	21	4200

TABLE 2 (continued)

Summary of Major Cation[1] Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[2]	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
OW-2	12/30/03	7.23	13.3	>4000	770	640	21	4300
(Cont.)	6/30/04	6.86	13.0	>4000	480	610	18	3500
	12/29/04	6.80	12.3	>4000	600	630	19	4000
	6/30/05	7.18	12.5	>4000	640	670	19	3800
	12/28/05	7.23	14.5	>4000	550	640	22	4000
	6/29/06	7.22	12.9	>4000	580	670	24	4700
	1/25/07	7.37	12.8	>4000	550	620	25	3600
	7/2/07	7.18	13.3	>4000	620	660	38	4300
	1/31/08	7.27	12.6	>4000	600	640	20	4100B
	6/24/08	7.18	12.1	>4000	530	580	18	4000
	12/29/08	7.13	14.0	>4000	570	630	19	4100
	6/29/09	7.15	14.2	>4000	510	560	17	4000
	12/15/0	7.11	13.0	>4000	560	670	22	3300
	6/23/10	7.30	12.4	>4000	648	698	<50	4000
	12/13/10	7.14	13.6	>4000	573	669	17.7	3730
	6/21/11	7.19	12.5	>4000	536	606	17.3	3470
	12/21/11	7.21	12.5	>4000	568	682	19.9	4050
	6/19/12	7.30	12.4	>4000	405	425	10.4	2400
	12/17/12	7.34	13.2	>4000	593	760	20.1	3920
	6/13/13	7.15	12.5	>4000	504	621	22.1	3770
	12/12/13	7.35	13.8	>4000	538	534	20.7	3840
	6/23/14	7.10	12.5	>4000	476	535	15.9	3030
	12/9/14	7.21	12.2	>4000	441	460	15.4	3080
OW-3	9/18/02	6.88	15.4	>4000	480	690	16	3900
	12/16/02	7.08	15.3	>4000	530	720	20	4100
	6/30/03	7.13	14.6	>4000	490	670	17	4200
	12/30/03	7.27	13.4	>4000	640	650	17	4300
	6/30/04	6.89	12.4	>4000	490	610	18	3500
	12/29/04	6.65	12.3	>4000	530	660	18	4100
	6/30/05	6.90	12.5	>4000	530	710	18	4100
	12/28/05	7.12	15.2	>4000	520	730	20	4200

TABLE 2 (continued)

Summary of Major Cation[1] Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[2]	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
OW-3	6/29/06	7.29	15.8	>4000	510	730	22	4400
(Cont.)	1/25/07	7.47	12.7	>4000	510	640	24	3700
	7/2/07	6.90	13.7	>4000	NA	NA	NA	NA
	1/31/08	NS	NS	NS	NS	NS	NS	NS
	6/24/08	NS	NS	NS	NS	NS	NS	NS
	1/05/09	7.05	14.0	>4000	500	630	20	4400
	6/29/09	7.15	14.1	>4000	520	570	17	4200
	12/15/09	7.17	13.0	>4000	460	630	26	3900
	6/23/10	7.35	12.3	>4000	564	695	<50	4310
	12/13/10	7.05	13.2	>4000	512	639	18.9	4030
	6/21/11	7.19	12.3	>4000	422	511	15.5	3130
	12/11/11	7.20	12.0	>4000	455	596	18.0	3960
	6/19/12	7.41	13.3	>4000	447	528	16.8	3530
	12/17/12	7.33	13.5	>4000	466	596	18.9	3520
	6/13/13	7.20	12.3	>4000	412	491	23.8	3790
	12/12/13	7.03	13.3	>4000	426	419	15.9	3030
	6/23/14	7.19	12.4	>4000	411	442	15.1	2590
	12/9/14	7.07	12.2	>4000	541	607	17.4	3910
OW-4	12/15/09	7.14	12.9	>4000	500	600	29	3800
	6/23/10	7.17	13.5	>4000	602	617	<50	4610
	12/13/10	7.18	13.1	>4000	497	583	21.4	3800
	6/21/11	7.23	12.2	>4000	501	559	21	3890
	12/21/11	7.12	11.7	>4000	507	578	22	3910
	6/19/12	7.41	14.0	>4000	504	539	17.9	3740
	12/17/12	7.33	12.7	>4000	519	632	21.5	3950
	6/13/13	7.25	12.3	>4000	475	508	26.8	4100
	12/12/13	7.29	12.9	>4000	510	532	22.4	3700
	6/23/14	7.21	12.4	>4000	510	537	20.8	3310
	12/9/14	7.28	12.4	>4000	538	576	20.3	4220

1 By Method 6010B.
B Analyte detected in blank
2 Specific conductance in micro-siemens at 25 degrees Celsius.

NS No Sample
mg/L milligrams per liter.

TABLE 3

Summary of Major Anion Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[1]	Bicarbonate (mg/L)	Carbonate (mg/L)	Nitrate as N[3] (mg/L)	Nitrite as N[3] (mg/L)	Sulfate[3] (mg/L)	Chloride[3] (mg/L)
OW-1	9/18/02	6.46	17.5	>4000	890	<1	<.36	<.34	2500	3300
	12/16/02	6.54	14.9	>4000	880	<1	<1.4	<1.3	2400	3800
	6/303/03	6.64	13.2	>4000	NS	NS	<1.8	<2.5	1900	3400
	12/30/03	6.54	14.1	>4000	880	<1.2	<0.01	<0.02	2300	1000
	6/30/04	6.19	13.2	>4000	780	<1.2	<0.02	<0.02	2100	3800
	12/29/04	6.30	12.9	>4000	840	<3.4	<0.07	<0.04	2100	3400
	6/30/05	6.73	13.2	>4000	850	<1.2	<0.02	<0.02	2400	3900
	12/28/05	6.85	15.5	>4000	860	<1.2	<0.02	<0.02	2600	4500
	6/29/06	6.54	13.5	>4000	850	<1.2	<0.02	<0.02	2700	4800
	1/25/07	6.81	13.3	>4000	1000	<5.0	<0.56	<0.76	2030	3880
	7/2/07	6.59	12.9	>4000	976	<5.0	<0.10	<0.40	1970	3940
	1/31/08	6.69	12.9	>4000	977	<5.0	<0.25	<0.40	1870	4210
	6/24/08	6.52	12.3	>4000	936	<5.0	<2.3	<6.1	1830	4400
	12/29/08	6.50	14.7	>4000	754	<5.0	<.45	<15	1730	9070
	6/29/09	6.52	14.9	>4000	763	<5.0	<.90	<3.1	1690	4690
	12/15/09	6.51	13.3	>4000	742	<5.0	<1.5	<1.5	1640	4880
	6/23/10	6.61	12.4	>4000	707	<5.0	<0.90	<6.1	1650	4780
	12/13/10	6.80	14.6	>4000	740	<5.0	<0.90	<15	1740	5080
	6/21/11	6.62	12.3	>4000	705	<5.0	<0.45	<15	1680	4650
	12/21/11	6.56	13.8	>4000	803	<5.0	<0.90	<6.1	1660	4150
	6/19/12	6.76	13.4	>4000	822	<5.0	<0.90	<2.5	1790	4170
	12/17/12	6.80	14.3	>4000	792	<5.0	<0.20	<0.4	1890	4120
	6/13/13	6.65	12.6	>4000	972	<5.0	<0.50	<0.2	2260	2480
	12/12/13	6.75	12.5	>4000	888	<5.0	<0.10	<0.04	2000	2090
	6/23/14	6.68	12.7	>4000	1070	<5.0	<0.10	<0.04	281	1600
	12/9/14	6.73	12.5	>4000	1020	<5.0	<.20	0.90	1150	1330
OW-2	9/18/02	7.05	14.8	>4000	1100	<1	13	<.84	5200	5300
	12/16/02	7.09	14.0	>4000	1100	<1	5	<1.7	4700	5800
	6/30/03	7.28	12.9	>4000	NS	NS	16	<2.5	5300	4200
	12/30/03	7.23	13.3	>4000	1100	<1.2	16	<0.09	5200	4500
	6/30/04	6.86	13.0	>4000	960	<1.2	16	<0.25	5700	5000

TABLE 3 (continued)

Summary of Major Anion Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[1]	Bicarbonate (mg/L)	Carbonate (mg/L)	Nitrate as N[3] (mg/L)	Nitrite as N[3] (mg/L)	Sulfate[3] (mg/L)	Chloride[3] (mg/L)
OW-2	12/29/04	6.80	12.3	>4000	1000	<3.4	13	<0.04	5000	4300
(cont)	6/30/05	7.18	12.5	>4000	1100	<1.2	12	<0.25	5800	4500
	12/28/05	7.23	14.5	>4000	1000	<1.2	14	16	5600	5400
	6/29/06	7.22	12.9	>4000	970	<1.2	9	<0.25	5600	6100
	1/25/07	7.37	12.8	>4000	1210	<5.0	7.1	<1.9	4930	5000
	7/2/07	7.18	13.3	>4000	1190	<5.0	9	<1.0	5270	4790
	1/31/08	7.27	12.6	>4000	1200	<5.0	6.6	<.40	4640	4500
	6/24/08	7.18	12.1	>4000	1170	<5.0	4.26	<6.1	4400	5200
	12/29/08	7.13	14.0	>4000	950	<5.0	7.8	<15	4830	4940
	6/29/09	7.15	14.2	>4000	931	<5.0	7.2	<6.1	4900	5070
	12/15/09	7.11	13.0	>4000	930	<5.0	12.2	<1.5	6240	4230
	6/23/10	7.30	12.4	>4000	904	<5.0	6.4	<15.0	4960	5160
	12/13/10	7.14	13.6	>4000	930	<5.0	7.9	<15.0	6160	5750
	6/21/11	7.19	12.5	>4000	948	<5.0	5.7	<15.0	4740	4870
	12/21/11	7.21	12.5	>4000	986	<5.0	8.8	<6.1	5270	4740
	6/19/12	7.30	12.4	>4000	951	<5.0	4.3	<2.5	4730	4890
	12/17/12	7.34	13.2	>4000	950	<5.0	7.1	<1.0	5520	5060
	6/13/13	7.15	12.5	>4000	982	<5.0	5.9	<0.8	5170	4840
	12/12/13	7.35	13.8	>4000	944	<5.0	9.5	<0.08	5500	4320
	6/23/14	7.10	12.5	>4000	937	<5.0	7.9	<0.20	4700	4000
	12/9/14	73.21	12.2	>4000	1060	<5.0	3.6	1.6	4460	2690
OW-3	9/18/02	6.88	15.4	>4000	NS	NS	NS	NS	NS	NS
	12/16/02	7.08	15.3	>4000	1100	<1	<1.8	<1.7	8400	3800
	6/30/03	7.13	14.6	>4000	NS	NS	2.0J	<2.5	6100	3800
	12/30/03	7.27	13.4	>4000	1200	<1.2	0.24	<0.09	6300	1200
	6/30/04	6.89	12.4	>4000	920	<1.2	0.20	<0.02	5400	4900
	12/29/04	6.65	12.3	>4000	1100	<3.4	<0.07	<0.07	6700	3200
	6/30/05	6.90	12.5	>4000	1100	<1.2	<0.28	<0.25	8000	3800
	12/28/05	7.12	15.2	>4000	1100	<1.2	6.2	11	6800	3800
	6/29/06	6.54	13.5	>4000	1100	<1.2	2.7	<0.25	680	4800
	1/25/07	7.47	12.7	>4000	1100	<5.0	<1.4	<1.9	5900	4750

TABLE 3 (continued)

Summary of Major Anion Analytical Results for Groundwater Samples Collected from Wattenberg Disposal Facility, Weld County, Colorado

Sample	Date	pH	Temperature (Celsius)	Specific Conductance[1]	Bicarbonate (mg/L)	Carbonate (mg/L)	Nitrate as N[3] (mg/L)	Nitrite as N[3] (mg/L)	Sulfate[3] (mg/L)	Chloride[3] (mg/L)
OW-3	7/2/07	6.9	13.7	>4000	NA	NA	NA	NA	NA	NA
(Cont)	1/31/08	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/24/08	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/05/09	7.05	14.0	>4000	1200	<5.0	4.3	1.9	6100	4390
	6/29/09	7.15	14.1	>4000	919	<5.0	7.4	<6.1	5010	4970
	12/15/09	7.17	13.0	>4000	920	<5.0	6.2	<1.5	4740	5050
	6/23/10	7.35	12.3	>4000	960	<5.0	8.0	<6.1	5960	3920
	12/13/10	7.05	13.2	>4000	960	<5.0	9.5	<15.0	5960	4690
	6/21/11	7.19	12.3	>4000	973	<5.0	4.0	<15.0	5100	3490
	12/21/11	7.20	12.0	>4000	988	<5.0	4.1	<6.1	5620	3650
	6/19/12	7.40	13.3	>4000	959	<5.0	8.8	<2.5	5690	3560
	12/17/12	7.33	13.5	>4000	1030	<5.0	0.57	0.21	5810	3440
	6/13/13	7.20	12.3	>4000	973	<5.0	11.2	1.1	5820	3490
	12/12/13	7.03	13.3	>4000	908	<5.0	0.7	0.09	4550	2770
	6/23/14	7.19	12.4	>4000	919	<5.0	9.6	2.9	4990	2960
	12/9/14	7.07	12.2	>4000	994	<5.0	9.8	<.20	5520	3860
OW-4	12/15/09	7.14	12.9	>4000	276	<5.0	89.3	<1.5	6450	4350
	6/23/10	7.17	13.5	>4000	257	<5.0	80.2	<6.1	6650	3580
	12/13/10	7.18	13.1	>4000	300	<5.0	69.1	<15.0	7880	3840
	6/21/11	7.23	12.2	>4000	262	<5.0	71.0	<15.0	6880	3690
	12/21/11	7.12	11.7	>4000	322	<5.0	69.9	<6.1	7210	3430
	6/19/12	7.41	14.0	>4000	261	<5.0	87.5	<2.5	6990	3920
	12/17/12	7.33	12.7	>4000	262	<5.0	78.7	<0.08	7390	3780
	6/13/13	7.25	12.3	>4000	248	<5.0	97.0	<0.8	6980	4120
	12/12/13	7.29	12.9	>4000	348	<5.0	49.3	<0.08	7560	2810
	6/23/14	7.21	12.4	>4000	284	<5.0	75.4	<0.20	6920	3270
	12/9/14	7.28	12.4	>4000	306	<5.0	71.3	1.1	7410	3250

1 Specific conductance in micro-siemens at 25 degrees Celsius.
2 By Method 310.1.
3 By Method 300.
J Analyte was detected above the Reporting Limit but below the Quantitation Limit.

mg/L milligrams per liter.
NS No sample.

ATTACHMENT I

Mountain States ACCUTEST LABORATORIES

12/16/14

Technical Report for

K.P. Kauffman Company, Inc.

Wattenberg GW

Accutest Job Number: D65475

Sampling Date: 12/09/14

Report to:

Apex Consulting Services
PO Box 369
Louisville, CO 80027-0369
mhattel@msn.com; slaramesa@kpk.com

ATTN: Susana Lara-Mesa

Total number of pages in report: 45

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

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Sample Summary

K.P. Kauffman Company, Inc.

Job No: D65475

Wattenberg GW

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D65475-1	12/09/14	10:15	MH	12/09/14	AQ	Ground Water	OW-1
D65475-1F	12/09/14	10:15	MH	12/09/14	AQ	Groundwater Filtered	OW-1
D65475-2	12/09/14	12:10	MH	12/09/14	AQ	Ground Water	OW-2
D65475-2F	12/09/14	12:10	MH	12/09/14	AQ	Groundwater Filtered	OW-2
D65475-3	12/09/14	13:10	MH	12/09/14	AQ	Ground Water	OW-3
D65475-3F	12/09/14	13:10	MH	12/09/14	AQ	Groundwater Filtered	OW-3
D65475-4	12/09/14	11:15	MH	12/09/14	AQ	Ground Water	OW-4
D65475-4F	12/09/14	11:15	MH	12/09/14	AQ	Groundwater Filtered	OW-4

3 of 45
ACCUTEST LABORATORIES
D65475

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	K.P. Kauffman Company, Inc.	**Job No**	D65475
Site:	Wattenberg GW	**Report Date**	12/16/2014 4:09:44 PM

On 12/09/2014, 4 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 4.1 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D65475 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GC By Method SW846 8021B

Matrix AQ **Batch ID:** GTA1362

- All samples were analyzed within the recommended method holding time.
- Sample(s) D65475-2MS, D65475-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- D65475-3: The pH of the sample was >2 at time of analysis.

Metals By Method SW846 6010C

Matrix AQ **Batch ID:** MP14732

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D65475-1FSDL, D65475-1FMS, D65475-1FMSD were used as the QC samples for the metals analysis.
- The matrix spike (MS) recovery(s) of Sodium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- The RPD(s) for the MS and MSD recoveries of Sodium are outside control limits for sample MP14732-S2. High RPD due to possible sample matrix or nonhomogeneity.

Wet Chemistry By Method EPA 1664A

Matrix AQ **Batch ID:** GP14239

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D65147-2MS were used as the QC samples for the HEM Oil and Grease analysis.
- The matrix spike (MS) recovery(s) of HEM Oil and Grease are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Wet Chemistry By Method EPA 300.0/SW846 9056

Matrix AQ	Batch ID: GP14212

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D65500-1MS, D65500-1MSD were used as the QC samples for the Chloride, Nitrogen, Nitrate, Nitrogen, Nitrite, Sulfate, Chloride analysis.
- D65475-3 for Nitrogen, Nitrite: Elevated detection limit due to matrix interference.
- D65475-1 for Nitrogen, Nitrate: Elevated detection limit due to matrix interference.

Wet Chemistry By Method SM 2320B-2011

Matrix AQ	Batch ID: GN27807

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D65339-1DUP, D65339-1MS, D65339-1MSD were used as the QC samples for the Alkalinity, Total as CaCO3 analysis.

Matrix AQ	Batch ID: GN27808

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ	Batch ID: GN27809

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ	Batch ID: GN27813

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D65157-1DUP, D65157-1MS, D65157-1MSD were used as the QC samples for the Alkalinity, Total as CaCO3 analysis.

Matrix AQ	Batch ID: GN27814

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ	Batch ID: GN27816

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM 2540C-2011

Matrix AQ	Batch ID: GN27815

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D65476-1DUP were used as the QC samples for the Solids, Total Dissolved analysis.

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D65475 LABORATORIES

Wet Chemistry By Method SM 5310B-2011

Matrix	AQ	Batch ID:	GP14219

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D65043-1DUP, D65043-1MS, D65043-1MSD were used as the QC samples for the Total Organic Carbon analysis.

Wet Chemistry By Method SM4500HB+-2011/9040C

Matrix	AQ	Batch ID:	GN27839

- The following samples were run outside of holding time for method SM4500HB+-2011/9040C: D65475-1, D65475-2, D65475-3, D65475-4

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Summary of Hits

Job Number: D65475
Account: K.P. Kauffman Company, Inc.
Project: Wattenberg GW
Collected: 12/09/14

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Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D65475-1	**OW-1**					
Benzene		0.96 J	1.0	0.20	ug/l	SW846 8021B
Alkalinity, Bicarbonate as CaCO3		1020	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3		1020	5.0		mg/l	SM 2320B-2011
Chloride		1330	100		mg/l	EPA 300.0/SW846 9056
HEM Oil and Grease		6.4	4.9		mg/l	EPA 1664A
Nitrogen, Nitrite		0.90	0.080		mg/l	EPA 300.0/SW846 9056
Solids, Total Dissolved		4740	10		mg/l	SM 2540C-2011
Sulfate		1150	100		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon		18.4	5.0		mg/l	SM 5310B-2011
pH		7.46			su	SM4500HB+ -2011/9040C
D65475-1F	**OW-1**					
Calcium		138000	400		ug/l	SW846 6010C
Magnesium		127000	200		ug/l	SW846 6010C
Potassium		4260	1000		ug/l	SW846 6010C
Sodium		1410000	4000		ug/l	SW846 6010C
D65475-2	**OW-2**					
Benzene		1.6	1.0	0.20	ug/l	SW846 8021B
Alkalinity, Bicarbonate as CaCO3		1060	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3		1060	5.0		mg/l	SM 2320B-2011
Chloride		2690	100		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate		3.6	0.20		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite		1.6	0.080		mg/l	EPA 300.0/SW846 9056
Solids, Total Dissolved		12700	10		mg/l	SM 2540C-2011
Sulfate		4460	100		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon		33.6	5.0		mg/l	SM 5310B-2011
pH		7.38			su	SM4500HB+ -2011/9040C
D65475-2F	**OW-2**					
Calcium		441000	4000		ug/l	SW846 6010C
Magnesium		460000	2000		ug/l	SW846 6010C
Potassium		15400	10000		ug/l	SW846 6010C
Sodium		3080000	4000		ug/l	SW846 6010C
D65475-3	**OW-3**					
Alkalinity, Bicarbonate as CaCO3		994	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3		994	5.0		mg/l	SM 2320B-2011
Chloride		3860	250		mg/l	EPA 300.0/SW846 9056

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D65475

Summary of Hits

Job Number: D65475
Account: K.P. Kauffman Company, Inc.
Project: Wattenberg GW
Collected: 12/09/14

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Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Nitrogen, Nitrate		9.8	0.50		mg/l	EPA 300.0/SW846 9056
Solids, Total Dissolved		16100	10		mg/l	SM 2540C-2011
Sulfate		5520	250		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon		43.0	5.0		mg/l	SM 5310B-2011
pH		7.43			su	SM4500HB+ -2011/9040C
D65475-3F	**OW-3**					
Calcium		541000	4000		ug/l	SW846 6010C
Magnesium		607000	2000		ug/l	SW846 6010C
Potassium		17400	10000		ug/l	SW846 6010C
Sodium		3910000	4000		ug/l	SW846 6010C
D65475-4	**OW-4**					
Alkalinity, Bicarbonate as CaCO3		306	5.0		mg/l	SM 2320B-2011
Alkalinity, Total as CaCO3		306	5.0		mg/l	SM 2320B-2011
Chloride		3250	250		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrate		71.3	5.0		mg/l	EPA 300.0/SW846 9056
Nitrogen, Nitrite		1.1	0.080		mg/l	EPA 300.0/SW846 9056
Solids, Total Dissolved		16900	10		mg/l	SM 2540C-2011
Sulfate		7410	250		mg/l	EPA 300.0/SW846 9056
Total Organic Carbon		66.1	5.0		mg/l	SM 5310B-2011
pH		7.62			su	SM4500HB+ -2011/9040C
D65475-4F	**OW-4**					
Calcium		538000	4000		ug/l	SW846 6010C
Magnesium		576000	2000		ug/l	SW846 6010C
Potassium		20300	10000		ug/l	SW846 6010C
Sodium		4220000	4000		ug/l	SW846 6010C

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

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D65475

Accutest Laboratories

Report of Analysis

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Client Sample ID:	OW-1		
Lab Sample ID:	D65475-1	**Date Sampled:**	12/09/14
Matrix:	AQ - Ground Water	**Date Received:**	12/09/14
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Wattenberg GW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA24644.D	1	12/11/14	EP	n/a	n/a	GTA1362
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.96	1.0	0.20	ug/l	J
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-1		
Lab Sample ID:	D65475-1	**Date Sampled:**	12/09/14
Matrix:	AQ - Ground Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	Wattenberg GW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	1020	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Alkalinity, Total as CaCO3	1020	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Chloride	1330	100	mg/l	200	12/10/14 16:41	JB	EPA 300.0/SW846 9056
HEM Oil and Grease	6.4	4.9	mg/l	1	12/16/14	SWT	EPA 1664A
Nitrogen, Nitrate [a]	< 0.20	0.20	mg/l	20	12/10/14 11:36	JB	EPA 300.0/SW846 9056
Nitrogen, Nitrite	0.90	0.080	mg/l	20	12/10/14 11:36	JB	EPA 300.0/SW846 9056
Solids, Total Dissolved	4740	10	mg/l	1	12/11/14	AK	SM 2540C-2011
Sulfate	1150	100	mg/l	200	12/10/14 16:41	JB	EPA 300.0/SW846 9056
Total Organic Carbon	18.4	5.0	mg/l	5	12/10/14 19:46	JB	SM 5310B-2011
pH	7.46		su	1	12/12/14 11:30	TB	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

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ACCUTEST
D65475

Report of Analysis

Client Sample ID:	OW-1		
Lab Sample ID:	D65475-1F	**Date Sampled:**	12/09/14
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	Wattenberg GW		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	138000	400	ug/l	1	12/10/14	12/10/14	JB	SW846 6010C [1]	SW846 3010A [3]
Magnesium	127000	200	ug/l	1	12/10/14	12/10/14	JB	SW846 6010C [1]	SW846 3010A [3]
Potassium	4260	1000	ug/l	1	12/10/14	12/10/14	JB	SW846 6010C [1]	SW846 3010A [3]
Sodium	1410000	4000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA5571
(2) Instrument QC Batch: MA5587
(3) Prep QC Batch: MP14732

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

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Client Sample ID:	OW-2		
Lab Sample ID:	D65475-2	**Date Sampled:**	12/09/14
Matrix:	AQ - Ground Water	**Date Received:**	12/09/14
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Wattenberg GW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA24645.D	1	12/11/14	EP	n/a	n/a	GTA1362
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.6	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	92%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-2		
Lab Sample ID:	D65475-2	**Date Sampled:**	12/09/14
Matrix:	AQ - Ground Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	Wattenberg GW		

4.3

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General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	1060	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Alkalinity, Total as CaCO3	1060	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Chloride	2690	100	mg/l	200	12/10/14 16:54	JB	EPA 300.0/SW846 9056
HEM Oil and Grease	< 5.1	5.1	mg/l	1	12/16/14	SWT	EPA 1664A
Nitrogen, Nitrate	3.6	0.20	mg/l	20	12/10/14 11:49	JB	EPA 300.0/SW846 9056
Nitrogen, Nitrite	1.6	0.080	mg/l	20	12/10/14 11:49	JB	EPA 300.0/SW846 9056
Solids, Total Dissolved	12700	10	mg/l	1	12/11/14	AK	SM 2540C-2011
Sulfate	4460	100	mg/l	200	12/10/14 16:54	JB	EPA 300.0/SW846 9056
Total Organic Carbon	33.6	5.0	mg/l	5	12/10/14 19:57	JB	SM 5310B-2011
pH	7.38		su	1	12/12/14 11:30	TB	SM4500HB+ -2011/9040C

RL = Reporting Limit

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Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-2		
Lab Sample ID:	D65475-2F	**Date Sampled:**	12/09/14
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	Wattenberg GW		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	441000	4000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Magnesium	460000	2000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Potassium	15400	10000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Sodium	3080000	4000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5587
(2) Prep QC Batch: MP14732

RL = Reporting Limit

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Accutest Laboratories

Report of Analysis

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Client Sample ID:	OW-3		
Lab Sample ID:	D65475-3	**Date Sampled:**	12/09/14
Matrix:	AQ - Ground Water	**Date Received:**	12/09/14
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Wattenberg GW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	TA24648.D	1	12/11/14	EP	n/a	n/a	GTA1362
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	95%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-3		
Lab Sample ID:	D65475-3	**Date Sampled:**	12/09/14
Matrix:	AQ - Ground Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	Wattenberg GW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	994	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Alkalinity, Total as CaCO3	994	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Chloride	3860	250	mg/l	500	12/10/14 17:20	JB	EPA 300.0/SW846 9056
HEM Oil and Grease	< 5.1	5.1	mg/l	1	12/16/14	SWT	EPA 1664A
Nitrogen, Nitrate	9.8	0.50	mg/l	50	12/10/14 17:07	JB	EPA 300.0/SW846 9056
Nitrogen, Nitrite [a]	< 0.20	0.20	mg/l	50	12/10/14 17:07	JB	EPA 300.0/SW846 9056
Solids, Total Dissolved	16100	10	mg/l	1	12/11/14	AK	SM 2540C-2011
Sulfate	5520	250	mg/l	500	12/10/14 17:20	JB	EPA 300.0/SW846 9056
Total Organic Carbon	43.0	5.0	mg/l	5	12/10/14 20:08	JB	SM 5310B-2011
pH	7.43		su	1	12/12/14 11:30	TB	SM4500HB+ -2011/9040C

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

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Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-3		
Lab Sample ID:	D65475-3F	**Date Sampled:**	12/09/14
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	Wattenberg GW		

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Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	541000	4000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Magnesium	607000	2000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Potassium	17400	10000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Sodium	3910000	4000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5587
(2) Prep QC Batch: MP14732

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-4		
Lab Sample ID:	D65475-4	**Date Sampled:**	12/09/14
Matrix:	AQ - Ground Water	**Date Received:**	12/09/14
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Wattenberg GW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA24649.D	1	12/11/14	EP	n/a	n/a	GTA1362
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	96%		60-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	OW-4		
Lab Sample ID:	D65475-4	**Date Sampled:**	12/09/14
Matrix:	AQ - Ground Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	Wattenberg GW		

4.7

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General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	306	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Alkalinity, Total as CaCO3	306	5.0	mg/l	1	12/10/14	TJ	SM 2320B-2011
Chloride	3250	250	mg/l	500	12/10/14 17:33	JB	EPA 300.0/SW846 9056
HEM Oil and Grease	< 5.4	5.4	mg/l	1	12/16/14	SWT	EPA 1664A
Nitrogen, Nitrate	71.3	5.0	mg/l	500	12/10/14 17:33	JB	EPA 300.0/SW846 9056
Nitrogen, Nitrite	1.1	0.080	mg/l	20	12/10/14 12:15	JB	EPA 300.0/SW846 9056
Solids, Total Dissolved	16900	10	mg/l	1	12/11/14	AK	SM 2540C-2011
Sulfate	7410	250	mg/l	500	12/10/14 17:33	JB	EPA 300.0/SW846 9056
Total Organic Carbon	66.1	5.0	mg/l	5	12/10/14 20:19	JB	SM 5310B-2011
pH	7.62		su	1	12/12/14 11:30	TB	SM4500HB+ -2011/9040C

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-4		
Lab Sample ID:	D65475-4F	**Date Sampled:**	12/09/14
Matrix:	AQ - Groundwater Filtered	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	Wattenberg GW		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	538000	4000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Magnesium	576000	2000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Potassium	20300	10000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]
Sodium	4220000	4000	ug/l	10	12/10/14	12/16/14	KV	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA5587
(2) Prep QC Batch: MP14732

RL = Reporting Limit

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ACCUTEST LABORATORIES
D65475

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # D65475

Client / Reporting Information

Company Name: K.P. Kauffman Company, Inc.	Project Name: WATTENBERG GROUNDWATER
Address: 1675 Broadway, Suite 2800	Street
City: Denver State: CO Zip: 80202-4628	City: Fort Lupton State: CO
Project Contact: Susana Lara-Mesa SLaraMesa@kpk.com	Project #
Phone #: 303-665-1400	Fax #
Samplers's Name: MICHAEL HATTEL (303-665-1400)	Client Purchase Order #: 7591

Project Information

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	OIL & GREASE 1664	ANIONS (NITRATE, NITRITE, SULFATE, CHLORIDE)	TOC	CATIONS (Ca, K, Mg, NA)	BTEX 8021	ALKALINITY (CARB/BICARB)	TDS					LAB USE ONLY
	OW-1		12/9/14	1015	MDH	GW	9	X			X					X	X	X	X	X	X	X					01
	OW-2			1210	MDH	GW	9	X			X					X	X	X	X	X	X	X					02
	OW-3			1310	MDH	GW	9	X			X					X	X	X	X	X	X	X					03
	OW-4			1115	MDH	GW	9	X			X					X	X	X	X	X	X	X					04

Number of preserved Bottles

Requested Analysis

Matrix Codes: DW- Drinking Water; GW- Ground Water; WW- Water; SW- Surface Water; SO- Soil; SL-Sludge; OI-Oil; LIQ- Other Liquid; AIR- Air; SOL-Other Solid; WP-Wipe

Turnaround Time (Business days)

- [X] Std. 10 Business Days
- Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [x] Hard Copy
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] PDF

Comments / Remarks

PDF copy to Susana Lara-Mesa with KPK at SLaraMesa@kpk.com

PDF copy also to Mike Hattel with APEX at mhattel@msn.com

Hard copy ONLY to Mike Hattel with APEX, P.O. Box 369, Louisville, CO 80027-0369

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished By Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	12/9/14 1355	1 Jacob P 12/9/14 1355	2		2
Relinquished By: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished By: 5	Date Time:	Received By: 5	Custody Seal # +1D	Preserved where applicable -1090	On Ice Cooler Temp. 4.1

5.1

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D65475: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D65475 **Client:** K.P. KAUFFMAN CO **Project:** WATTENBERG GW

Date / Time Received: 12/9/2014 1:55:00 PM **Delivery Method:** **Airbill #'s:** HD

Cooler Temps (Initial/Adjusted): #1: (4.1/4.1);

Cooler Security	Y	or N		Y	or N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	or N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	or N	N/A
1. Trip Blank present / cooler:	☐	☐	☐
2. Trip Blank listed on COC:	☐	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☐

Sample Integrity - Documentation	Y	or N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	or N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	or N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www/accutest.com

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D65475: Chain of Custody
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Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D65475
Account: KPKCOD K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA1362-MB	TA24642.D	1	12/11/14	EP	n/a	n/a	GTA1362

The QC reported here applies to the following samples: **Method:** SW846 8021B

D65475-1, D65475-2, D65475-3, D65475-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	95%	60-140%

Blank Spike Summary

Job Number: D65475
Account: KPKCOD K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA1362-BS	TA24643.D	1	12/11/14	EP	n/a	n/a	GTA1362

The QC reported here applies to the following samples: **Method:** SW846 8021B

D65475-1, D65475-2, D65475-3, D65475-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	27.1	100	70-130
100-41-4	Ethylbenzene	45.6	43.9	96	70-130
108-88-3	Toluene	212	199	94	70-130
1330-20-7	Xylenes (total)	216	222	103	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	101%	60-140%

* = Outside of Control Limits.

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Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D65475
Account: KPKCOD K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D65475-2MS	TA24646.D	1	12/11/14	EP	n/a	n/a	GTA1362
D65475-2MSD	TA24647.D	1	12/11/14	EP	n/a	n/a	GTA1362
D65475-2	TA24645.D	1	12/11/14	EP	n/a	n/a	GTA1362

The QC reported here applies to the following samples: **Method:** SW846 8021B

D65475-1, D65475-2, D65475-3, D65475-4

CAS No.	Compound	D65475-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.6		27.2	27.3	94	27.2	27.3	94	0	64-130/30
100-41-4	Ethylbenzene	ND		45.6	42.8	94	45.6	43.0	94	0	46-144/30
108-88-3	Toluene	ND		212	195	92	212	196	93	1	70-130/30
1330-20-7	Xylenes (total)	ND		216	217	101	216	217	101	0	59-143/30

CAS No.	Surrogate Recoveries	MS	MSD	D65475-2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%	100%	92%	60-140%

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/10/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	11	41		
Antimony	30	2.1	19		
Arsenic	25	3.8	5.6		
Barium	10	.2	1.4		
Beryllium	10	.9	1.2		
Boron	50	.8	6.6		
Cadmium	10	.2	.36		
Calcium	400	2.4	41	71.9	<400
Chromium	10	.3	.4		
Cobalt	5.0	.5	.57		
Copper	10	.8	1.9		
Iron	70	1.5	9.5		
Lead	50	2.1	21		
Lithium	5.0	.4	2.7		
Magnesium	200	6.8	19	11.8	<200
Manganese	5.0	.5	.46		
Molybdenum	10	.4	.84		
Nickel	30	.5	.87		
Phosphorus	100	15	20		
Potassium	1000	99	270	40.7	<1000
Selenium	50	7.1	11		
Silicon	50	4.7	5.2		
Silver	30	.3	.6		
Sodium	400	7.3	170	74.9	<400
Strontium	5.0	.01	.12		
Thallium	10	1.8	4		
Tin	50	12	16		
Titanium	10	.1	2.1		
Uranium	50	2.9	5.5		
Vanadium	10	.4	.4		
Zinc	30	.4	3.2		

Associated samples MP14732: D65475-1F, D65475-2F, D65475-3F, D65475-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/10/14

Metal	RL	IDL	MDL	MB raw	final

(anr) Analyte not requested

7.1.1

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ACCUTEST LABORATORIES
D65475

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/10/14

Metal	D65475-1F Original	MS	Spikelot ICPALL2	% Rec	QC Limits
Aluminum	anr				
Antimony					
Arsenic					
Barium	anr				
Beryllium					
Boron					
Cadmium					
Calcium	138000	162000	25000	96.0	75-125
Chromium	anr				
Cobalt					
Copper	anr				
Iron	anr				
Lead	anr				
Lithium					
Magnesium	0.0	152000	25000	100.0	75-125
Manganese	anr				
Molybdenum	anr				
Nickel					
Phosphorus					
Potassium	0.0	30700	25000	105.8	75-125
Selenium					
Silicon					
Silver					
Sodium	1410000	1410000	25000	0.0 (a)	75-125
Strontium	anr				
Thallium					
Tin					
Titanium					
Uranium					
Vanadium	anr				
Zinc					

Associated samples MP14732: D65475-1F, D65475-2F, D65475-3F, D65475-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/10/14

Metal	D65475-1F Original MS	Spikelot ICPALL2	% Rec	QC Limits

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

7.1.2

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/10/14

Metal	D65475-1F Original	MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony						
Arsenic						
Barium	anr					
Beryllium						
Boron						
Cadmium						
Calcium	138000	162000	25000	96.0	0.0	20
Chromium	anr					
Cobalt						
Copper	anr					
Iron	anr					
Lead	anr					
Lithium						
Magnesium	0.0	152000	25000	100.0	0.0	20
Manganese	anr					
Molybdenum	anr					
Nickel						
Phosphorus						
Potassium	0.0	30800	25000	106.2	0.3	20
Selenium						
Silicon						
Silver						
Sodium	1410000	1430000	25000	80.0	200.0 (a)	20
Strontium	anr					
Thallium						
Tin						
Titanium						
Uranium						
Vanadium	anr					
Zinc						

Associated samples MP14732: D65475-1F, D65475-2F, D65475-3F, D65475-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/10/14

Metal	D65475-1F Original MSD	Spikelot ICPALL2	% Rec	MSD RPD	QC Limit

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) High RPD due to possible sample matrix or nonhomogeneity.

7.1.2

7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/10/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits
Aluminum	anr			
Antimony				
Arsenic				
Barium	anr			
Beryllium				
Boron				
Cadmium				
Calcium	25400	25000	101.6	80-120
Chromium	anr			
Cobalt				
Copper	anr			
Iron	anr			
Lead	anr			
Lithium				
Magnesium	25300	25000	101.2	80-120
Manganese	anr			
Molybdenum	anr			
Nickel				
Phosphorus				
Potassium	25300	25000	101.2	80-120
Selenium				
Silicon				
Silver				
Sodium	25500	25000	102.0	80-120
Strontium	anr			
Thallium				
Tin				
Titanium				
Uranium				
Vanadium	anr			
Zinc				

Associated samples MP14732: D65475-1F, D65475-2F, D65475-3F, D65475-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/10/14

Metal	BSP Result	Spikelot ICPALL2	% Rec	QC Limits

(anr) Analyte not requested

7.1.3

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SERIAL DILUTION RESULTS SUMMARY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 12/10/14

Metal	D65475-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony				
Arsenic				
Barium	anr			
Beryllium				
Boron				
Cadmium				
Calcium	0.00	135000	2.1	0-10
Chromium	anr			
Cobalt				
Copper	anr			
Iron	anr			
Lead	anr			
Lithium				
Magnesium	0.00	125000	0.8	0-10
Manganese	anr			
Molybdenum	anr			
Nickel				
Phosphorus				
Potassium	0.00	4280	0.5	0-10
Selenium				
Silicon				
Silver				
Sodium	1410000	1420000	0.8	0-10
Strontium	anr			
Thallium				
Tin				
Titanium				
Uranium				
Vanadium	anr			
Zinc				

Associated samples MP14732: D65475-1F, D65475-2F, D65475-3F, D65475-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

QC Batch ID: MP14732 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/10/14

Metal	D65475-1F Original	SDL 1:5	%DIF	QC Limits

(anr) Analyte not requested

7.1.4

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Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Bicarbonate as CaC	GN27808	5.0	0.0	mg/l	100	108	108.4	90-110%
Alkalinity, Bicarbonate as CaC	GN27814	5.0	0.0	mg/l	100	93.1	93.1	90-110%
Alkalinity, Carbonate	GN27809	5.0	0.0	mg/l	100	108	108.4	80-120%
Alkalinity, Carbonate	GN27816	5.0	0.0	mg/l	100	93.1	93.1	80-120%
Alkalinity, Total as CaCO3	GN27807	5.0	0.0	mg/l	100	108	108.4	90-110%
Alkalinity, Total as CaCO3	GN27813	5.0	0.0	mg/l	100	93.1	93.1	90-110%
Bromide	GP14212/GN27820	0.050	0.0	mg/l	0.5	0.489	97.8	90-110%
Chloride	GP14212/GN27820	0.50	0.0	mg/l	5	4.85	97.0	90-110%
Fluoride	GP14212/GN27820	0.10	0.0	mg/l	1	0.945	94.5	90-110%
HEM Oil and Grease	GP14239/GN27877	5.0	0.0	mg/l	40	33.1	82.8	78-114%
Nitrogen, Nitrate	GP14212/GN27820	0.010	0.0	mg/l	0.1	0.0989	98.9	90-110%
Nitrogen, Nitrite	GP14212/GN27820	0.0040	0.0	mg/l	0.05	0.0450	90.0	90-110%
Solids, Total Dissolved	GN27815	10	0.0	mg/l	400	401	100.3	90-110%
Sulfate	GP14212/GN27820	0.50	0.0	mg/l	5	4.87	97.4	90-110%
Total Organic Carbon	GP14219/GN27832	1.0	0.0	mg/l	8.82	8.83	100.1	90-110%
pH	GN27839			su	8.00	7.98	99.8	99.1-100

Associated Samples:
Batch GN27807: D65475-1, D65475-2
Batch GN27808: D65475-1, D65475-2
Batch GN27809: D65475-1, D65475-2
Batch GN27813: D65475-3, D65475-4
Batch GN27814: D65475-3, D65475-4
Batch GN27815: D65475-1, D65475-2, D65475-3, D65475-4
Batch GN27816: D65475-3, D65475-4
Batch GN27839: D65475-1, D65475-2, D65475-3, D65475-4
Batch GP14212: D65475-1, D65475-2, D65475-3, D65475-4
Batch GP14219: D65475-1, D65475-2, D65475-3, D65475-4
Batch GP14239: D65475-1, D65475-2, D65475-3, D65475-4
(*) Outside of QC limits

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ACCUTEST LABORATORIES
D65475

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
HEM Oil and Grease	GP14239/GN27877	mg/l	40	31.7	4.3	20%

Associated Samples:
Batch GP14239: D65475-1, D65475-2, D65475-3, D65475-4
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN27807	D65339-1	mg/l	379	328	14.5	0-20%
Alkalinity, Total as CaCO3	GN27813	D65157-1	mg/l	137	138	1.0	0-20%
Solids, Total Dissolved	GN27815	D65476-1	mg/l	16500	16300	1.2	0-20%
Total Organic Carbon	GP14219/GN27832	D65043-1	mg/l	3.7	3.7	0.0	0-20%

Associated Samples:
Batch GN27807: D65475-1, D65475-2
Batch GN27813: D65475-3, D65475-4
Batch GN27815: D65475-1, D65475-2, D65475-3, D65475-4
Batch GP14219: D65475-1, D65475-2, D65475-3, D65475-4
(*) Outside of QC limits

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D65475 LABORATORIES

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN27807	D65339-1	mg/l	379	100	498	118.9	80-120%
Alkalinity, Total as CaCO3	GN27813	D65157-1	mg/l	137	100	227	89.7	80-120%
Bromide	GP14212/GN27820	D65500-1	mg/l	0.0	25	24.3	97.2	80-120%
Chloride	GP14212/GN27820	D65500-1	mg/l	77.4	250	316	95.4	80-120%
Fluoride	GP14212/GN27820	D65500-1	mg/l	0.0	50	49.5	99.0	80-120%
HEM Oil and Grease	GP14239/GN27877	D65147-2	mg/l	225	40	99.6	-313.5(a)	78-114%
Nitrogen, Nitrate	GP14212/GN27820	D65500-1	mg/l	14.8	5	19.5	94.0	80-120%
Nitrogen, Nitrite	GP14212/GN27820	D65500-1	mg/l	0.38	2.5	2.9	100.8	80-120%
Sulfate	GP14212/GN27820	D65500-1	mg/l	324	250	570	98.4	80-120%
Total Organic Carbon	GP14219/GN27832	D65043-1	mg/l	3.7	10	13.2	95.0	80-120%

Associated Samples:
Batch GN27807: D65475-1, D65475-2
Batch GN27813: D65475-3, D65475-4
Batch GP14212: D65475-1, D65475-2, D65475-3, D65475-4
Batch GP14219: D65475-1, D65475-2, D65475-3, D65475-4
Batch GP14239: D65475-1, D65475-2, D65475-3, D65475-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

8.4
8

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D65475
Account: KPKCOD - K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Alkalinity, Total as CaCO3	GN27807	D65339-1	mg/l	379	100	499	-0.2	20%
Alkalinity, Total as CaCO3	GN27813	D65157-1	mg/l	137	100	225	0.8	20%
Bromide	GP14212/GN27820	D65500-1	mg/l	0.0	25	25.0	2.8	20%
Chloride	GP14212/GN27820	D65500-1	mg/l	77.4	250	314	0.6	20%
Fluoride	GP14212/GN27820	D65500-1	mg/l	0.0	50	49.0	1.0	20%
Nitrogen, Nitrate	GP14212/GN27820	D65500-1	mg/l	14.8	5	19.5	0.0	20%
Nitrogen, Nitrite	GP14212/GN27820	D65500-1	mg/l	0.38	2.5	2.8	3.5	20%
Sulfate	GP14212/GN27820	D65500-1	mg/l	324	250	573	0.5	20%
Total Organic Carbon	GP14219/GN27832	D65043-1	mg/l	3.7	10	13.3	0.8	20%

Associated Samples:
Batch GN27807: D65475-1, D65475-2
Batch GN27813: D65475-3, D65475-4
Batch GP14212: D65475-1, D65475-2, D65475-3, D65475-4
Batch GP14219: D65475-1, D65475-2, D65475-3, D65475-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

8.5
8

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ACCUTEST LABORATORIES
D65475

Mountain States ACCUTEST LABORATORIES

01/07/15

Technical Report for

K.P. Kauffman Company, Inc.

Wattenberg GW

Accutest Job Number: D66200

Sampling Date: 01/02/15

Report to:

Apex Consulting Services
PO Box 369
Louisville, CO 80027-0369
mhattel@msn.com; slaramesa@kpk.com

ATTN: Susana Lara-Mesa

Total number of pages in report: 31

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

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Sample Summary

K.P. Kauffman Company, Inc.

Job No: D66200

Wattenberg GW

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D66200-1	01/02/15	10:00 MH	01/02/15	AQ	Ground Water	OW-1
D66200-2	01/02/15	11:00 MH	01/02/15	AQ	Ground Water	OW-2

ACCUTEST LABORATORIES

2

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	K.P. Kauffman Company, Inc.	**Job No**	D66200
Site:	Wattenberg Tank	**Report Date**	1/7/2015 1:22:24 PM

On 01/02/2015, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 5.2 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D66200 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GC By Method SW846 8021B

Matrix: AQ **Batch ID:** GTA1375

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D66212-4MS, D66212-4MSD were used as the QC samples indicated.
- D66200-1,-2: The pH of the sample was >2 at time of analysis.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Summary of Hits

Job Number: D66200
Account: K.P. Kauffman Company, Inc.
Project: Wattenberg GW
Collected: 01/02/15

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D66200-1	**OW-1**					

No hits reported in this sample.

D66200-2	**OW-2**

No hits reported in this sample.

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

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ACCUTEST LABORATORIES
D66200

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-1		
Lab Sample ID:	D66200-1	**Date Sampled:**	01/02/15
Matrix:	AQ - Ground Water	**Date Received:**	01/02/15
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Wattenberg GW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	TA24947.D	1	01/02/15	EP	n/a	n/a	GTA1375
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OW-2		
Lab Sample ID:	D66200-2	**Date Sampled:**	01/02/15
Matrix:	AQ - Ground Water	**Date Received:**	01/02/15
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Wattenberg GW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	TA24948.D	1	01/02/15	EP	n/a	n/a	GTA1375
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	94%		60-140%

(a) The pH of the sample was > 2 at time of analysis.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories

4036 Youngfield St. Wheat Ridge, CO 80033
303-425-6021 FAX 303-425-6854

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: D66200

Client / Reporting Information

Company Name: K.P. Kauffman Company, Inc.
Address: 1675 Broadway, Suite 2800
City: Denver State: CO Zip: 80202-4628
Project Contact: Susana Lara-Mesa SLaraMesa@kpk.com
Phone #: 303-665-1400
Samplers's Name: MICHAEL HATTEL (303-665-1400)

Project Information

Project Name: WATTENBERG GROUNDWATER
Street:
City: Fort Lupton State: CO
Project #:
Fax #:
Client Purchase Order #: 7591

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	CONC	HNO3	TYPE	NONE	NaHSO4	MEOH	ENCORE	OIL & GREASE 418	ANIONS (NITRATE, NITRITE, SULFATE, CHLORIDE)	TOC	CATIONS (Ca, K, Mg, NA)	BTEX 8021	VOLATILE ORGANICS (ARBIBICAP)							Matrix Codes / LAB USE ONLY
	OW-1		11/2/15	1000	MDH	GW	3					X					X		X	X	X	X							01
	OW-2		11/2/15	1100	MDH	GW	3					X					X		X	X	X	X							02
	OW-3				MDH	GW															X	X							—
	OW-4				MDH	GW															X	X							—

Turnaround Time (Business days)
- [x] [redacted]
- [ ] 5 Day (Petroleum)

Approved By:/ Date:

Data Deliverable Information
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [x] Hard Copy
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] PDF

Comments / Remarks
PDF copy to Susana Lara-Mesa with KPK at SLaraMesa@kpk.com
PDF copy also to Mike Hattel with APEX at mhattel@msn.com
Hard copy ONLY to Mike Hattel with APEX, P.O. Box 369, Louisville, CO 80027-0369

Emergency T/A data available VIA Lablink

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	11/2/15 1315	1 [signature]	2		2
Relinquished By: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished By: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ☑ Cooler Temp. 5.2

No

TVTO

5.1 5

D66200: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D66200 **Client:** K.P. KAUFFMAN CO **Project:** WATTENBERG TANK

Date / Time Received: 1/2/2015 1:15:00 PM **Delivery Method:** **Airbill #'s:** hd

Cooler Temps (Initial/Adjusted): #1: (5.2/5.2);

Cooler Security	Y	or N		Y	or N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	or N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	or N	N/A
1. Trip Blank present / cooler:	☐	☐	☐
2. Trip Blank listed on COC:	☐	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☐

Comments

Sample Integrity - Documentation	Y	or N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	or N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	or N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

5.1

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Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www/accutest.com

D66200: Chain of Custody
Page 2 of 2

Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D66200
Account: KPKCOD K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA1375-MB	TA24941.D	1	01/02/15	EP	n/a	n/a	GTA1375

The QC reported here applies to the following samples: **Method:** SW846 8021B

D66200-1, D66200-2

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	92%	60-140%

Blank Spike Summary

Job Number: D66200
Account: KPKCOD K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA1375-BS	TA24942.D	1	01/02/15	EP	n/a	n/a	GTA1375

The QC reported here applies to the following samples: **Method:** SW846 8021B

D66200-1, D66200-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	26.9	99	70-130
100-41-4	Ethylbenzene	45.6	43.6	96	70-130
108-88-3	Toluene	212	199	94	70-130
1330-20-7	Xylenes (total)	216	220	102	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	97%	60-140%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D66200
Account: KPKCOD K.P. Kauffman Company, Inc.
Project: Wattenberg GW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D66212-4MS	TA24944.D	1	01/02/15	EP	n/a	n/a	GTA1375
D66212-4MSD	TA24945.D	1	01/02/15	EP	n/a	n/a	GTA1375
D66212-4	TA24943.D	1	01/02/15	EP	n/a	n/a	GTA1375

The QC reported here applies to the following samples: **Method:** SW846 8021B

D66200-1, D66200-2

CAS No.	Compound	D66212-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		27.2	27.0	99	27.2	27.6	101	2	64-130/30
100-41-4	Ethylbenzene	ND		45.6	43.3	95	45.6	44.2	97	2	46-144/30
108-88-3	Toluene	ND		212	198	94	212	202	95	2	70-130/30
1330-20-7	Xylenes (total)	ND		216	219	101	216	223	103	2	59-143/30

CAS No.	Surrogate Recoveries	MS	MSD	D66212-4	Limits
120-82-1	1,2,4-Trichlorobenzene	94%	99%	92%	60-140%

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Manual Integrations
APPROVED
(compounds with "m" flag)
Cooper Walsh
01/05/15 15:54

Quantitation Report (QT Reviewed)

Signal #1 : Z:\010215\BTEX\TA24947.D\FID1A.CH Vial: 11
Signal #2 : Z:\010215\BTEX\TA24947.D\FID2B.CH
Acq On : 2 Jan 2015 8:19 pm Operator: ELIJAHP
Sample : D66200-1 Inst : BTEX2
Misc : GC4961,GTA1375,,,,,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jan 05 14:13:28 2015 Quant Results File: TA1356GA1356WATER.RES

Quant Method : C:\MSDCHEM\1...\TA1356GA1356WATER.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jan 05 14:13:11 2015
Response via : Initial Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

7.1.1

7

		Compound	R.T.	Response	Conc	Units	
		System Monitoring Compounds					
2)	S	1,2,4-Trichlorobenzene	0.00	0	N.D.	%	d
10)	S	1,2,4-Trichlorobenzene (P)	14.79	2211776	97.027	%	m
		Target Compounds					
1)	H	TVH-Gasoline	0.00	0	N.D.	mg/L	
4)	T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5)	T	Benzene	0.00	0	N.D.	ug/L	d
6)	T	Toluene	0.00	0	N.D.	ug/L	d
7)	T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8)	T	m,p-Xylene	0.00	0	N.D.	ug/L	d
9)	T	o-Xylene	0.00	0	N.D.	ug/L	d
11)	T	Naphthalene	0.00	0	N.D.	ug/L	d

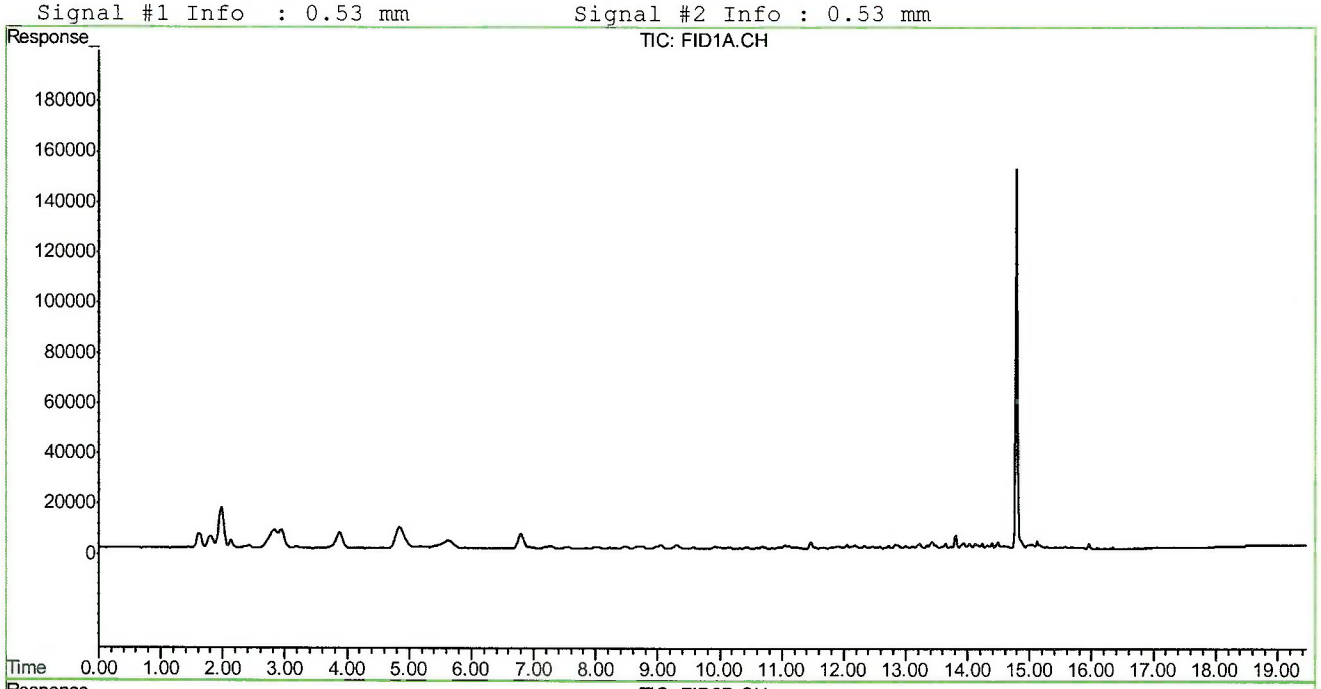
(f)=RT Delta > 1/2 Window (m)=manual int.

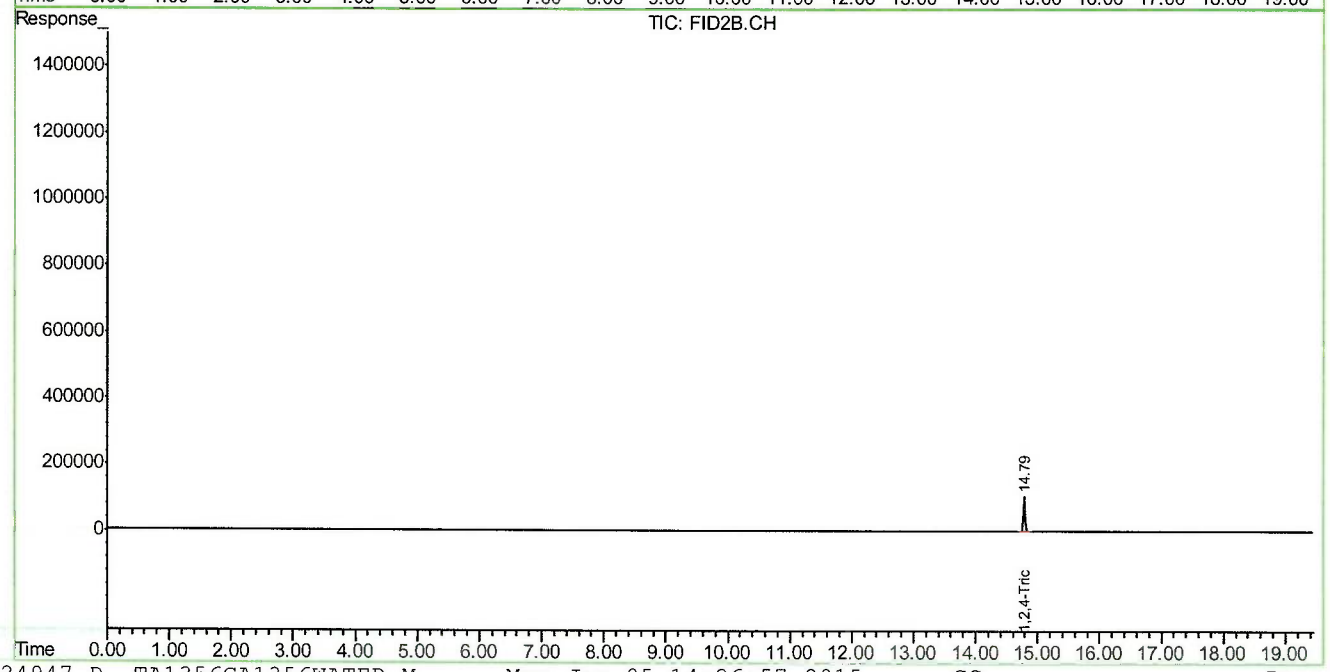
Quantitation Report (QT Reviewed)

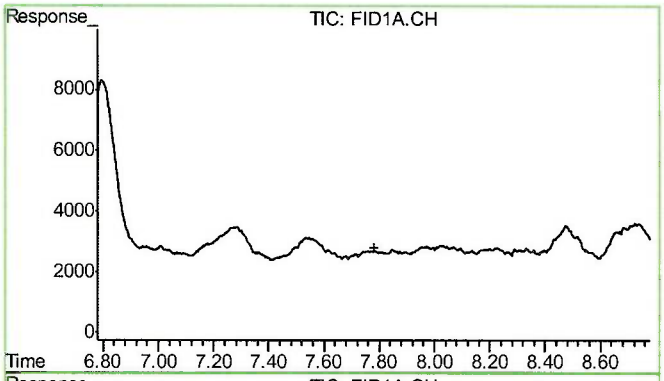
Signal #1 : Z:\010215\BTEX\TA24947.D\FID1A.CH Vial: 11
Signal #2 : Z:\010215\BTEX\TA24947.D\FID2B.CH
Acq On : 2 Jan 2015 8:19 pm Operator: ELIJAHP
Sample : D66200-1 Inst : BTEX2
Misc : GC4961,GTA1375,,,,,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jan 5 14:13 2015 Quant Results File: TA1356GA1356WATER.RES

Quant Method : C:\MSDCHEM\1...\TA1356GA1356WATER.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jan 05 14:13:11 2015
Response via : Multiple Level Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

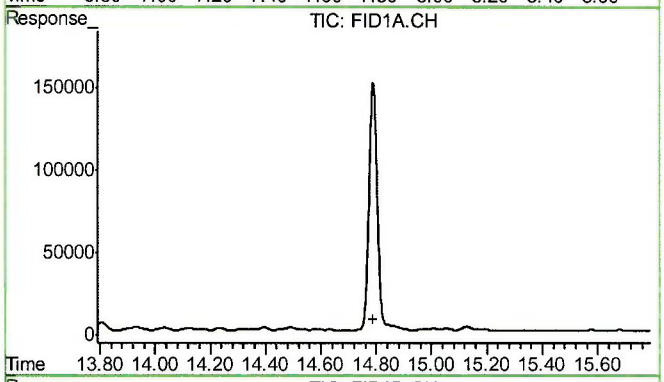






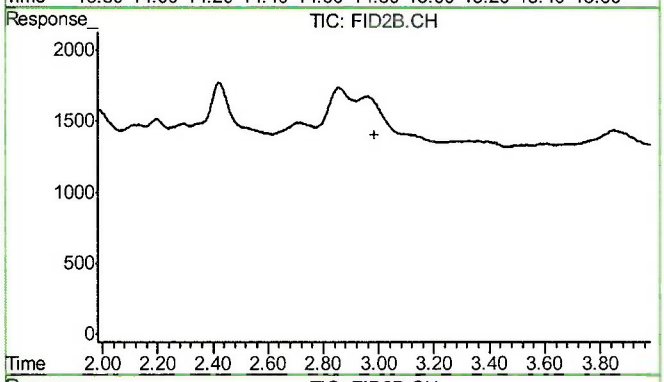
#1 TVH-Gasoline

R.T.: 0.000 min
Exp R.T. : 7.780 min
Response: 0
Conc: N.D.



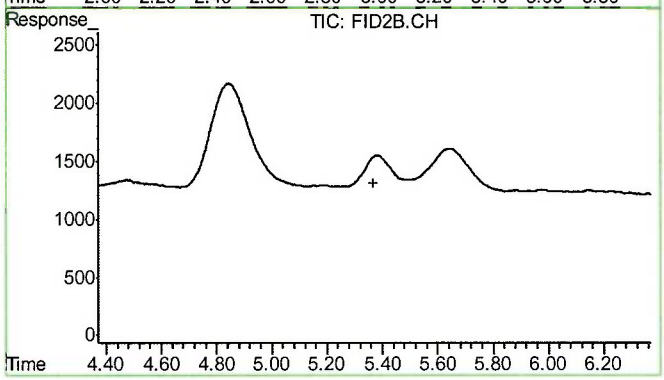
#2 1,2,4-Trichlorobenzene

R.T.: 0.000 min
Exp R.T. : 14.791 min
Response: 0
Conc: N.D.



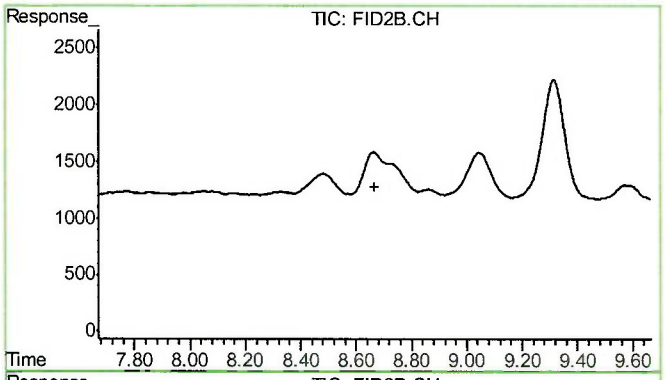
#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.983 min
Response: 0
Conc: N.D.



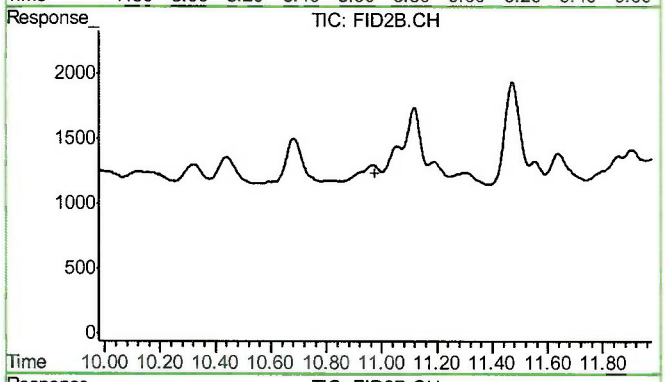
#5 Benzene

R.T.: 0.000 min
Exp R.T. : 5.371 min
Response: 0
Conc: N.D.



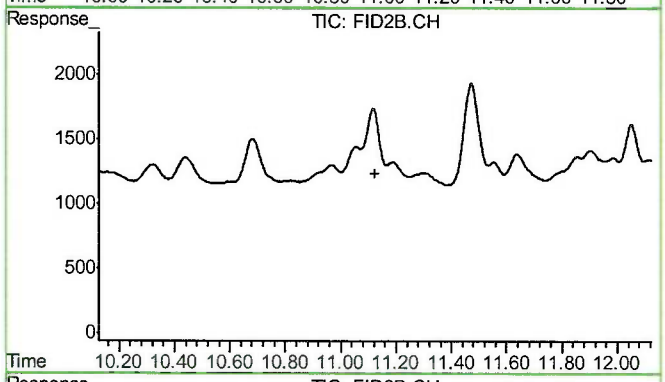
#6 Toluene

R.T.: 0.000 min
Exp R.T. : 8.669 min
Response: 0
Conc: N.D.



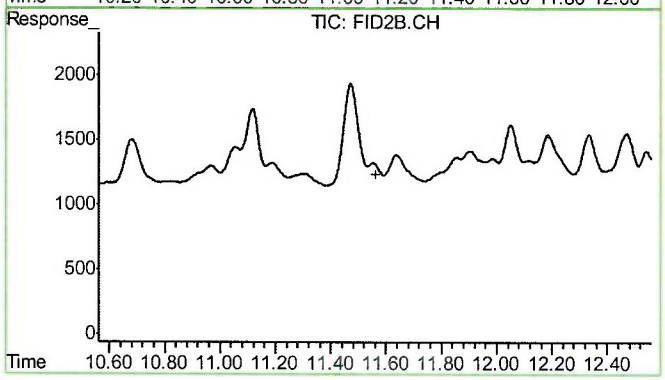
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.977 min
Response: 0
Conc: N.D.



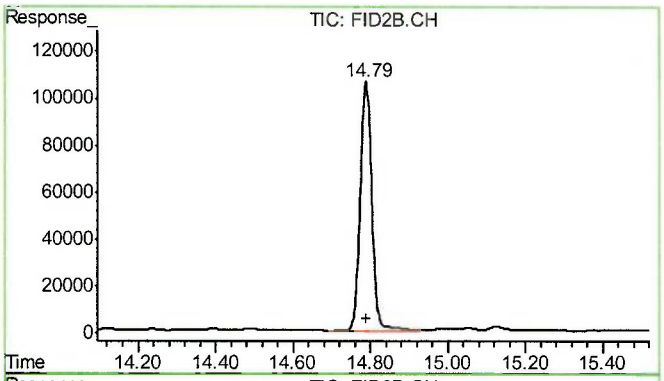
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 11.126 min
Response: 0
Conc: N.D.



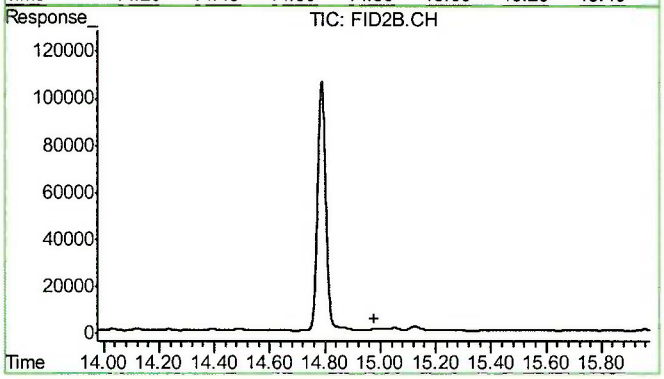
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 11.561 min
Response: 0
Conc: N.D.



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.788 min
Delta R.T.: -0.002 min
Response: 2211776
Conc: 97.03 % m



#11 Naphthalene

R.T.: 0.000 min
Exp R.T. : 14.976 min
Response: 0
Conc: N.D.

7.1.1

7

Quantitation Report (QT Reviewed)

Signal #1 : Z:\010215\BTEX\TA24948.D\FID1A.CH Vial: 12
Signal #2 : Z:\010215\BTEX\TA24948.D\FID2B.CH
Acq On : 2 Jan 2015 8:54 pm Operator: ELIJAHP
Sample : D66200-2 Inst : BTEX2
Misc : GC4961,GTA1375,,,,,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jan 05 14:13:31 2015 Quant Results File: TA1356GA1356WATER.RES

Quant Method : C:\MSDCHEM\1...\TA1356GA1356WATER.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jan 05 14:13:11 2015
Response via : Initial Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

		Compound	R.T.	Response	Conc	Units	
		System Monitoring Compounds					
2)	S	1,2,4-Trichlorobenzene	0.00	0	N.D.	%	d
10)	S	1,2,4-Trichlorobenzene (P)	14.78	2144304	94.067	%	
		Target Compounds					
1)	H	TVH-Gasoline	0.00	0	N.D.	mg/L	
4)	T	Methyl-t-butyl-ether	2.99	76479	3.018	ug/L	
5)	T	Benzene	0.00	0	N.D.	ug/L	d
6)	T	Toluene	0.00	0	N.D.	ug/L	d
7)	T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8)	T	m,p-Xylene	0.00	0	N.D.	ug/L	d
9)	T	o-Xylene	0.00	0	N.D.	ug/L	d
11)	T	Naphthalene	0.00	0	N.D.	ug/L	d

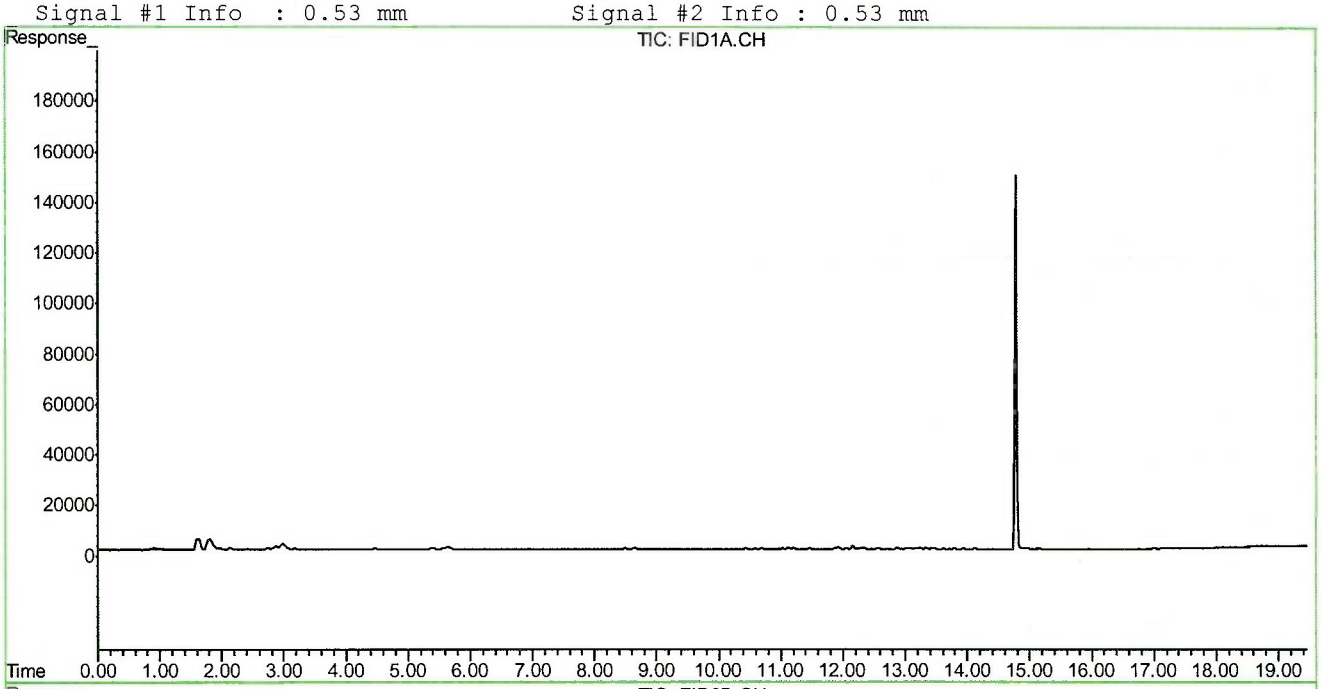
(f)=RT Delta > 1/2 Window (m)=manual int.

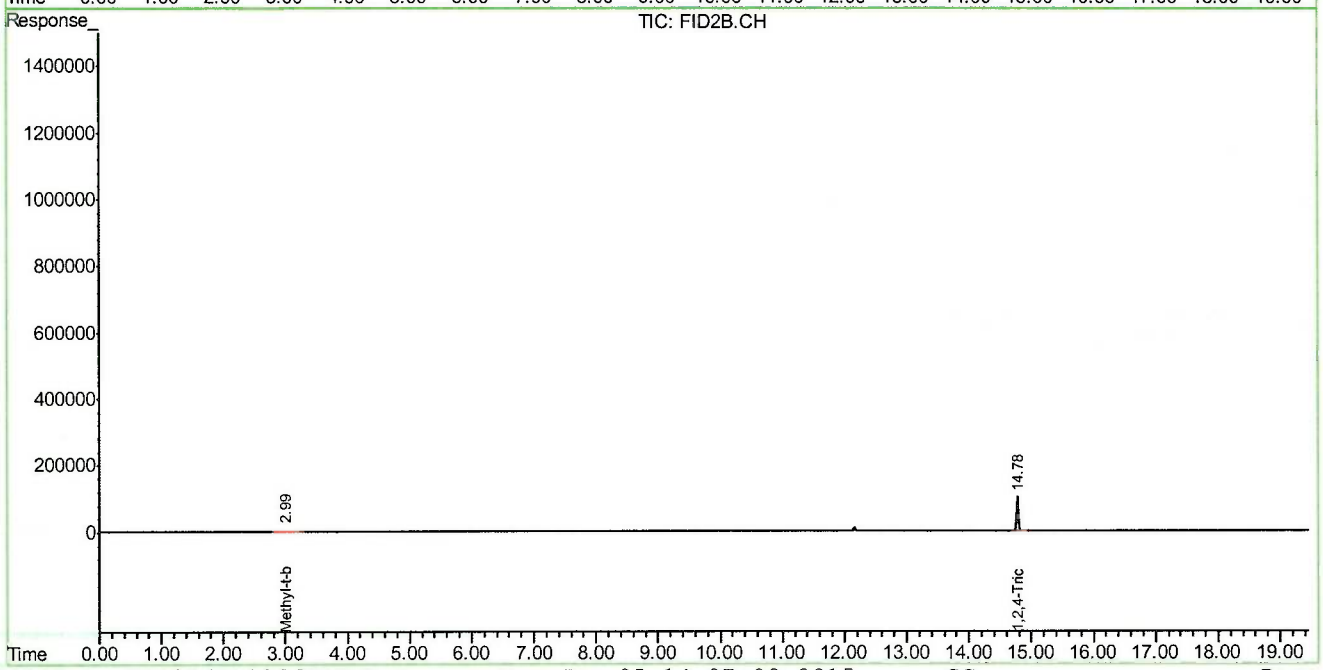
Quantitation Report (QT Reviewed)

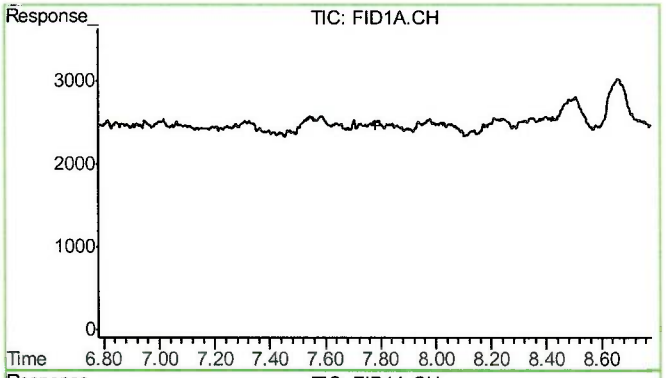
Signal #1 : Z:\010215\BTEX\TA24948.D\FID1A.CH Vial: 12
Signal #2 : Z:\010215\BTEX\TA24948.D\FID2B.CH
Acq On : 2 Jan 2015 8:54 pm Operator: ELIJAHP
Sample : D66200-2 Inst : BTEX2
Misc : GC4961,GTA1375,,,,,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jan 5 14:14 2015 Quant Results File: TA1356GA1356WATER.RES

Quant Method : C:\MSDCHEM\1...\TA1356GA1356WATER.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jan 05 14:13:11 2015
Response via : Multiple Level Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

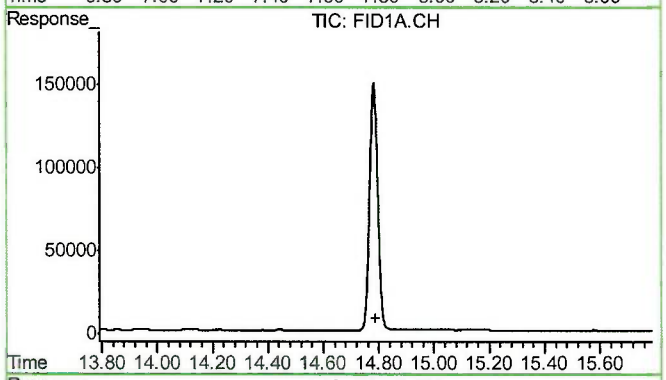






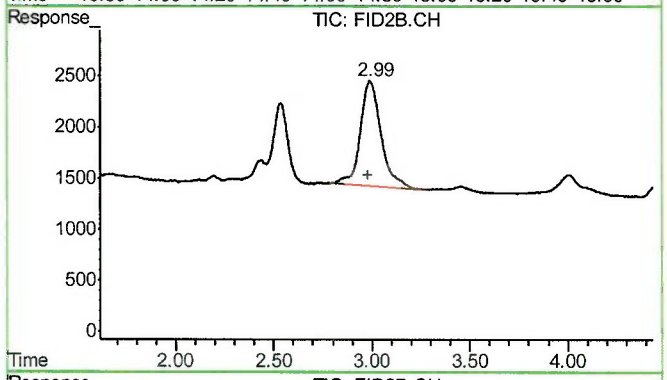
#1 TVH-Gasoline

R.T.: 0.000 min
Exp R.T. : 7.780 min
Response: 0
Conc: N.D.



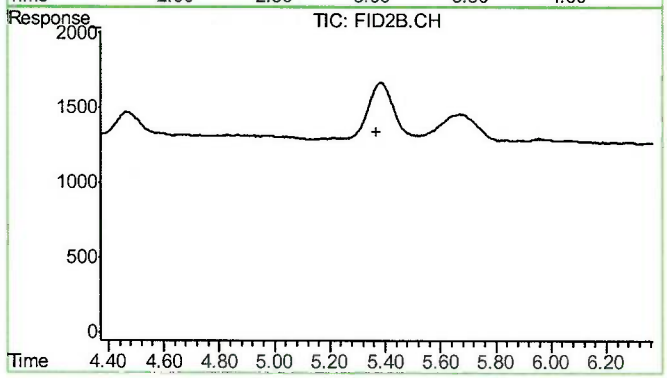
#2 1,2,4-Trichlorobenzene

R.T.: 0.000 min
Exp R.T. : 14.791 min
Response: 0
Conc: N.D.



#4 Methyl-t-butyl-ether

R.T.: 2.991 min
Delta R.T.: 0.008 min
Response: 76479
Conc: 3.02 ug/L

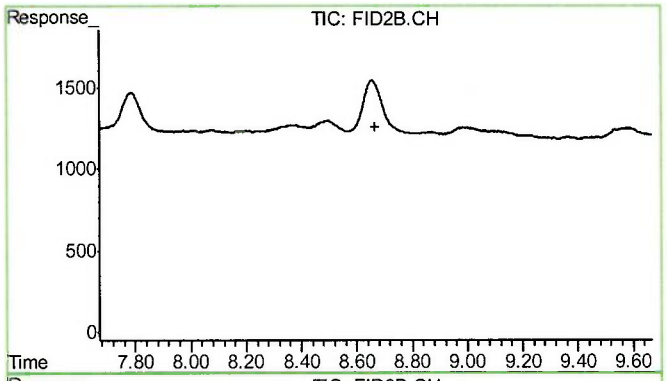


#5 Benzene

R.T.: 0.000 min
Exp R.T. : 5.371 min
Response: 0
Conc: N.D.

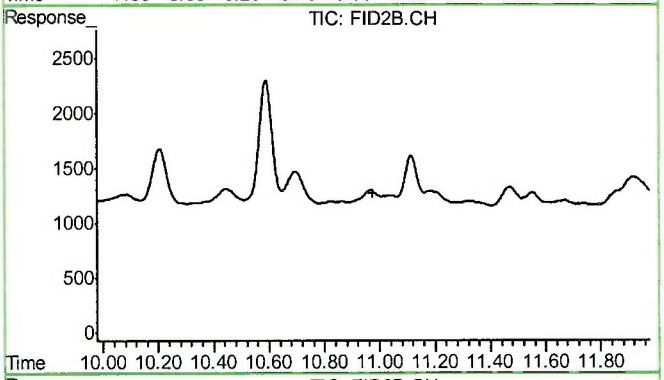
7.1.2

7



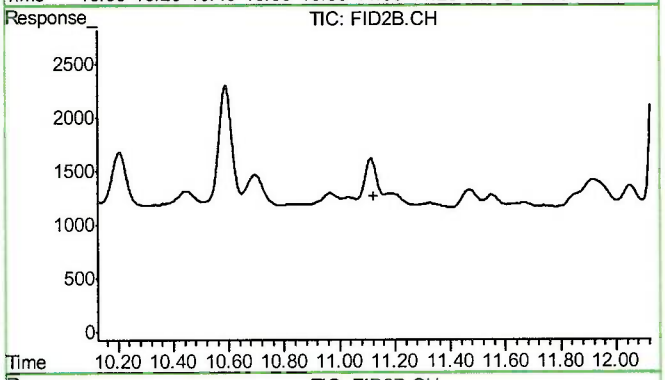
#6 Toluene

R.T.: 0.000 min
Exp R.T. : 8.669 min
Response: 0
Conc: N.D.



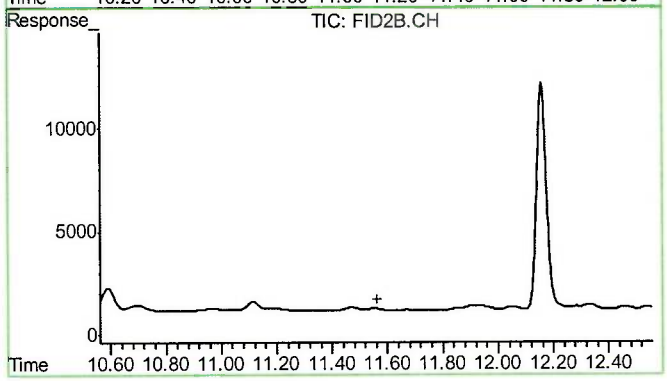
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.977 min
Response: 0
Conc: N.D.



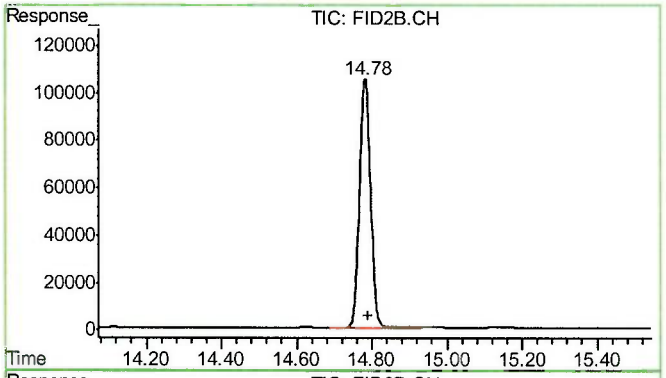
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 11.126 min
Response: 0
Conc: N.D.



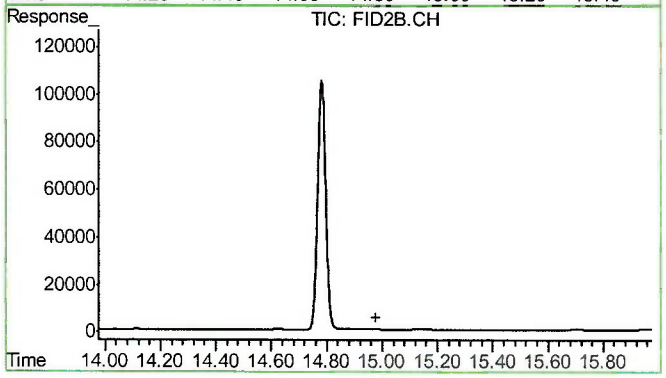
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 11.561 min
Response: 0
Conc: N.D.



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.783 min
Delta R.T.: -0.007 min
Response: 2144304
Conc: 94.07 %



#11 Naphthalene

R.T.: 0.000 min
Exp R.T. : 14.976 min
Response: 0
Conc: N.D.

Manual Integrations
APPROVED
(compounds with "m" flag)
Cooper Walsh
01/05/15 15:54

Quantitation Report (QT Reviewed)

Signal #1 : Z:\010215\BTEX\TA24941.D\FID1A.CH Vial: 6
Signal #2 : Z:\010215\BTEX\TA24941.D\FID2B.CH
Acq On : 2 Jan 2015 4:52 pm Operator: ELIJAHP
Sample : MB Inst : BTEX2
Misc : GC4961,GTA1375,,,,,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jan 05 14:06:09 2015 Quant Results File: TA1356GA1356WATER.RES

Quant Method : C:\MSDCHEM\1...\TA1356GA1356WATER.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jan 05 14:04:45 2015
Response via : Initial Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

		Compound	R.T.	Response	Conc	Units	
		System Monitoring Compounds					
2)	S	1,2,4-Trichlorobenzene	0.00	0	N.D.	%	d
10)	S	1,2,4-Trichlorobenzene (P)	14.79	2091953	91.771	%	m
		Target Compounds					
1)	H	TVH-Gasoline	0.00	0	N.D.	mg/L	
4)	T	Methyl-t-butyl-ether	0.00	0	N.D.	ug/L	d
5)	T	Benzene	0.00	0	N.D.	ug/L	d
6)	T	Toluene	8.68	34216	0.497	ug/L	
7)	T	Ethylbenzene	0.00	0	N.D.	ug/L	d
8)	T	m,p-Xylene	0.00	0	N.D.	ug/L	d
9)	T	o-Xylene	0.00	0	N.D.	ug/L	d
11)	T	Naphthalene	14.97	48795	1.096	ug/L	m

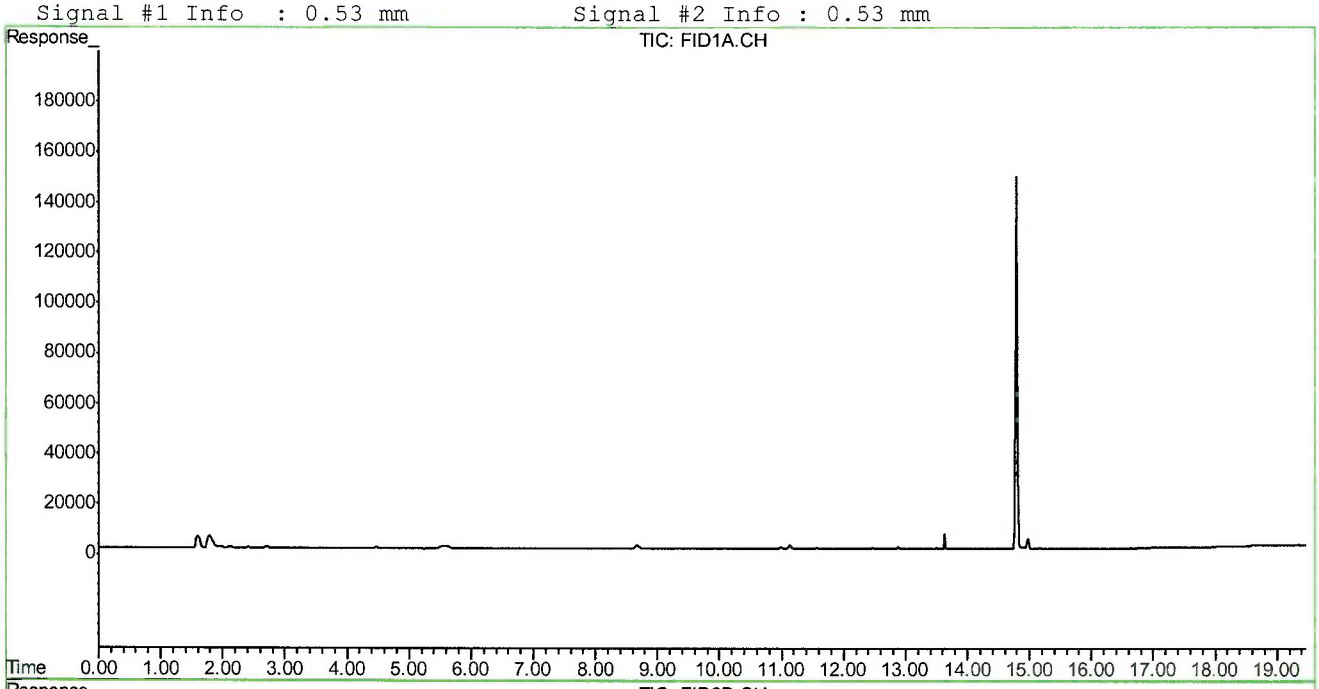
(f)=RT Delta > 1/2 Window (m)=manual int.

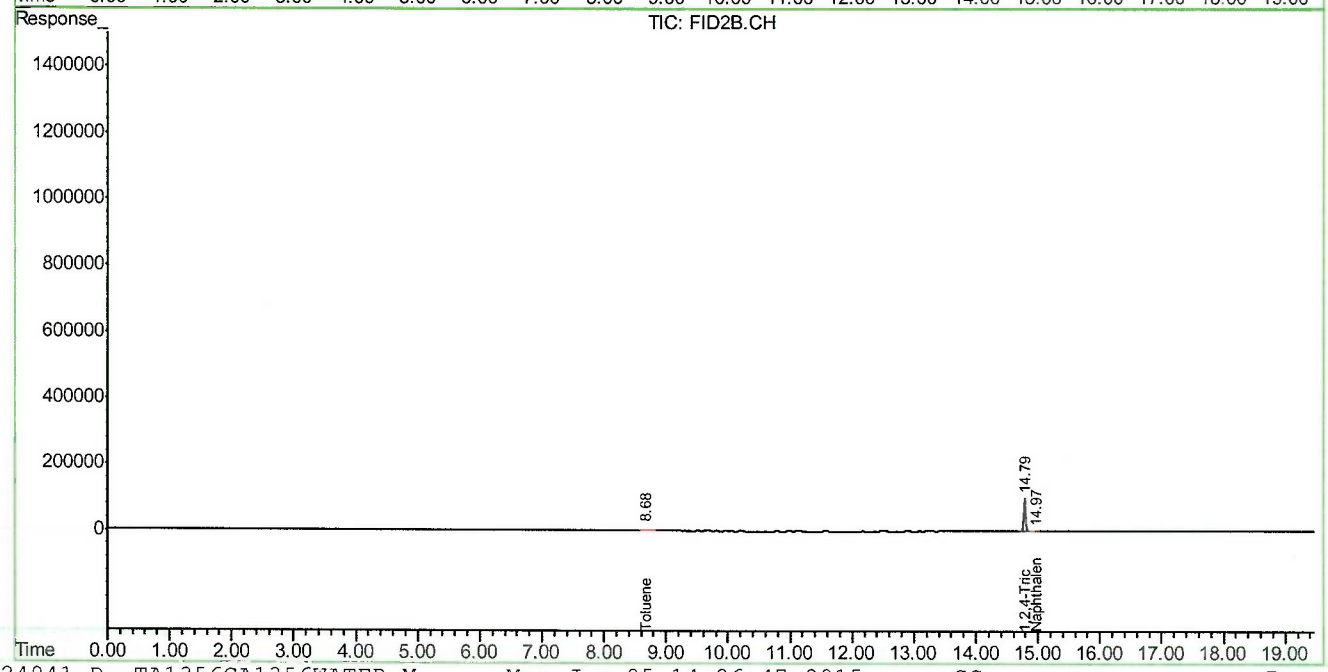
Quantitation Report (QT Reviewed)

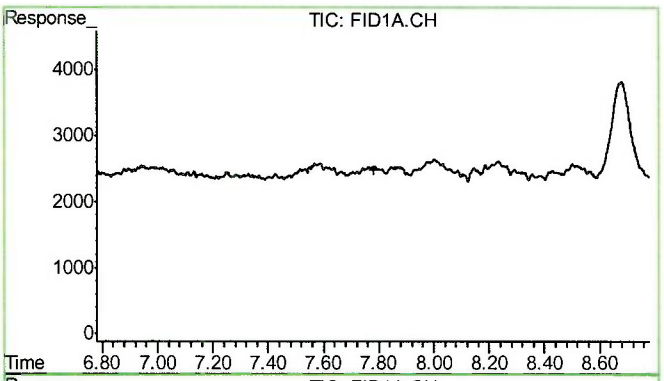
Signal #1 : Z:\010215\BTEX\TA24941.D\FID1A.CH Vial: 6
Signal #2 : Z:\010215\BTEX\TA24941.D\FID2B.CH
Acq On : 2 Jan 2015 4:52 pm Operator: ELIJAHP
Sample : MB Inst : BTEX2
Misc : GC4961,GTA1375,,,,,1 Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Jan 5 14:03 2015 Quant Results File: TA1356GA1356WATER.RES

Quant Method : C:\MSDCHEM\1...\TA1356GA1356WATER.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Jan 05 14:04:45 2015
Response via : Multiple Level Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm

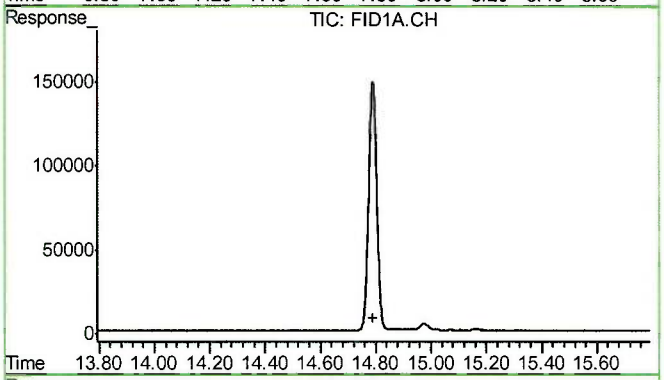






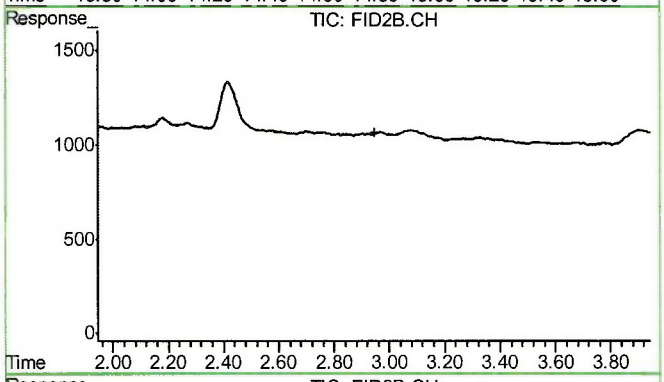
#1 TVH-Gasoline

R.T.: 0.000 min
Exp R.T. : 7.780 min
Response: 0
Conc: N.D.



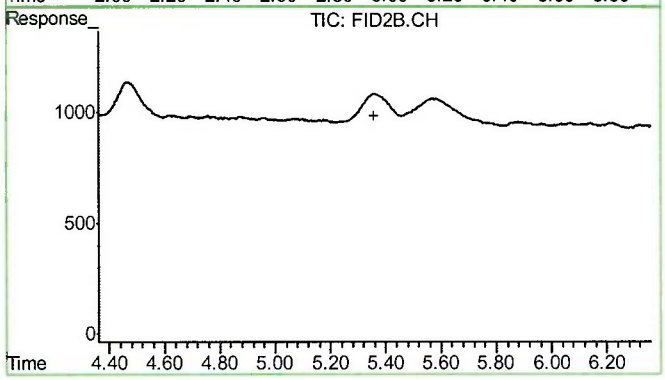
#2 1,2,4-Trichlorobenzene

R.T.: 0.000 min
Exp R.T. : 14.792 min
Response: 0
Conc: N.D.



#4 Methyl-t-butyl-ether

R.T.: 0.000 min
Exp R.T. : 2.945 min
Response: 0
Conc: N.D.

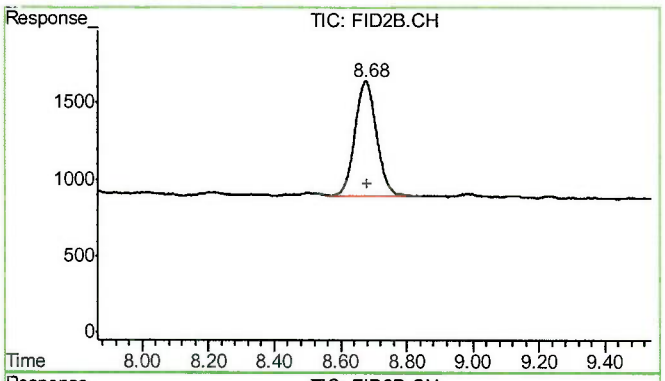


#5 Benzene

R.T.: 0.000 min
Exp R.T. : 5.360 min
Response: 0
Conc: N.D.

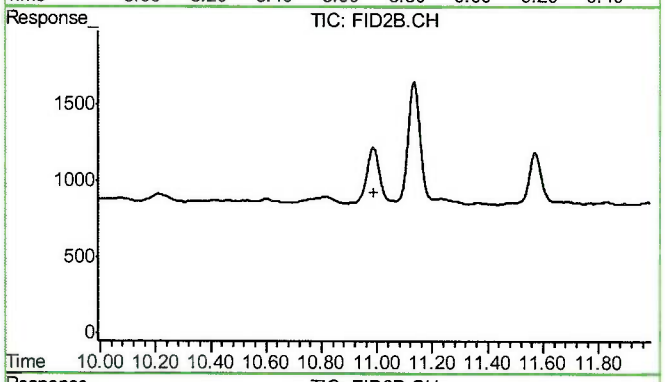
7.2.1

7



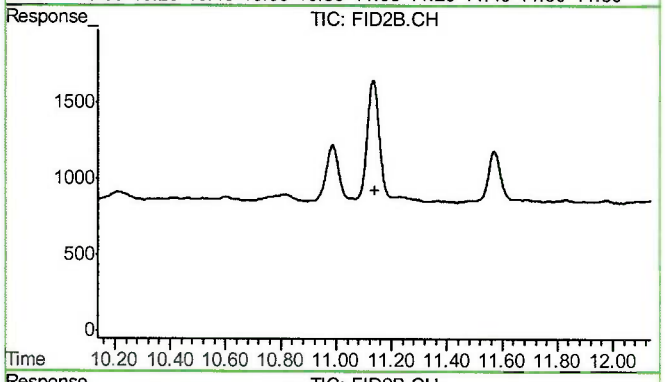
#6 Toluene

R.T.: 8.677 min
Delta R.T.: -0.003 min
Response: 34216
Conc: 0.50 ug/L



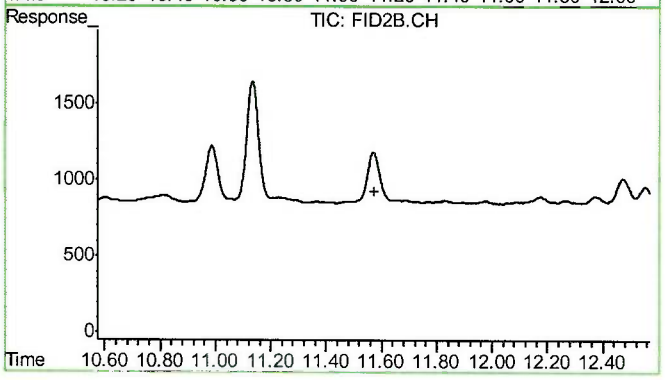
#7 Ethylbenzene

R.T.: 0.000 min
Exp R.T. : 10.991 min
Response: 0
Conc: N.D.



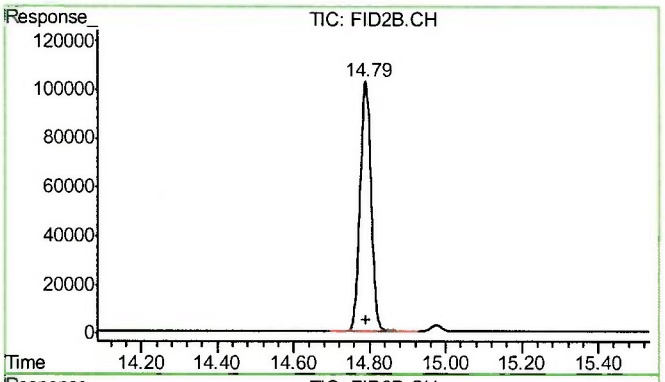
#8 m,p-Xylene

R.T.: 0.000 min
Exp R.T. : 11.138 min
Response: 0
Conc: N.D.



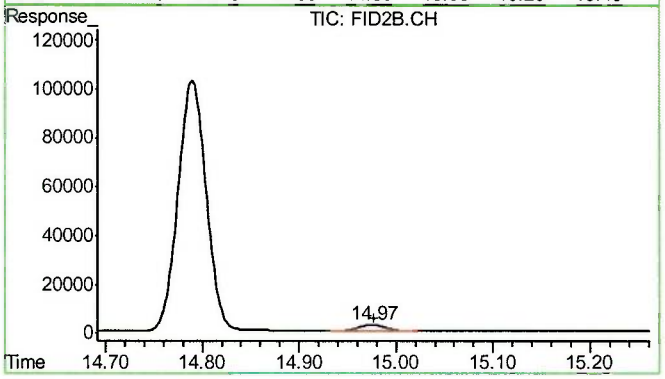
#9 o-Xylene

R.T.: 0.000 min
Exp R.T. : 11.573 min
Response: 0
Conc: N.D.



#10 1,2,4-Trichlorobenzene (P)

R.T.: 14.789 min
Delta R.T.: -0.002 min
Response: 2091953
Conc: 91.77 % m



#11 Naphthalene

R.T.: 14.975 min
Delta R.T.: -0.002 min
Response: 48795
Conc: 1.10 ug/L m

7.2.1

7