

TABLE 1
ACCUTEST ANALYTICAL RESULTS
13017 County Road 30, Permit #68535
Platteville, Colorado
Sample ID: Barclay 68535

Analyte, Units	8/23/2016 Result	12/13/2016 Result	3/8/2017 Result	6/7/2017 Result	9/27/2017 Result	12/13/2017 Result
Alkalinity, Bicarbonate, mg/L	432	458	448	435	427	427
Alkalinity, Carbonate, mg/L	16.0	ND	ND	20.3	35.4	33.3
Alkalinity, Total, mg/L	448	458	448	455	463	460
Bacteria, Iron Reducing, CFU/mL	74,500	74,500	74,500	74,500	9,000	74,500
Bacteria, Slime Forming, CFU/mL	500	700	ND	ND	ND	ND
Bacteria, Sulfate Reducing, CFU/mL	700	ND	1,200	1,200	700	5,000
Barium, mg/L	0.0353	0.0391	0.0430	0.0383	0.0351	0.0390
Benzene, ug/L	ND	ND	ND	ND	ND	ND
Boron, mg/L	0.183	0.191	0.195	0.196	0.194	0.154
Bromide, mg/L	0.54	0.60	0.57	0.59	0.59	0.64
Calcium, mg/L	2.29	2.30	2.36	2.33	2.10	2.33
Chloride, mg/L	56.6	57.1	55.8	58.0	57.9	58.1
Diesel Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Ethane, mg/L	ND	0.0058	0.277	ND	0.0427	0.266
Ethylbenzene, ug/L	ND	ND	ND	ND	ND	ND
Fluoride, mg/L	1.9	1.9	1.8	2.0	2.0	1.9
Gasoline Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Iron, mg/L	0.0660	0.0538	0.0599	0.0420	0.0323	0.0615
Magnesium, mg/L	0.460	0.445	0.435	0.420	0.422	0.430
Manganese, mg/L	0.0079	0.0091	0.0095	0.0069	0.0061	0.0084
Methane, mg/L	4.31	5.41	4.71	4.80	8.32	5.49
Nitrogen, Nitrate, mg/L	ND	ND	ND	ND	ND	ND
Nitrogen, Nitrite, mg/L	ND	ND	ND	ND	ND	ND
pH, Standard Units	8.54	8.57	8.55	8.57	8.72	8.72
Phosphorus, Total, mg/L	0.028	0.043	ND	0.047	0.035	0.037
Propane, mg/L	ND	ND	0.120	ND	0.0056	0.105
Potassium, mg/L	1.22	1.44	1.33	1.57	1.31	1.28
Selenium, mg/L	ND	ND	ND	ND	ND	ND
Sodium, mg/L	239	242	230	240	238	231
Specific Conductivity, μ mhos/cm	860	941	950	878	960	1,010
Strontium, mg/L	0.0704	0.0777	0.0738	0.0723	0.0728	0.0682
Sulfate, mg/L	ND	ND	ND	ND	ND	ND
Toluene, ug/L	ND	0.56	ND	ND	ND	ND
Total Dissolved Solids, mg/L	606	610	610	604	627	607
Xylene, Total, ug/L	ND	ND	ND	ND	ND	ND

Notes:

ND (RL) = Non-detect (reporting limit)

Lab qualifiers (i.e. letters next to result) are defined in the lab report

TABLE 2
ISOTECH SIW RESULTS
13017 County Road 30, Permit #68535
Platteville, Colorado
Sample ID: Barclay 68535

Analyte, Units	8/23/2016 Result	12/13/2016 Result	3/8/2017 Result	6/7/2017 Result	9/27/2017 Result	12/13/2017 Result
dD of water, ‰ relative to VSMOW	-107.3	-107.4	-106.9	-106.5	-106.6	-106.9
d18O of water, ‰ relative to VSMOW	-14.01	-14.10	-14.08	-14.01	-14.02	-14.06
Tritium content of water, ‰	na	na	na	na	na	na
d13C of DIC, ‰ relative to VPDB	-10.7	-10.8	-10.8	-10.4	-10.3	-10.8
14C content of DIC, ‰	na	na	na	na	na	na
d15N of nitrate, ‰	na	na	na	na	na	na
d18O of nitrate, ‰	na	na	na	na	na	na
d34S of sulfate, ‰	na	na	na	na	na	na
d18O of sulfate, ‰	na	na	na	na	na	na

Notes:

Isotopic analysis conducted at Isotech Laboratories Inc.

na = not analyzed

TABLE 3
ISOTECH NG4 RESULTS
13017 County Road 30, Permit #68535
Platteville, Colorado
Sample ID: Barclay 68535

Analyte, Units	8/23/2016 Result	12/13/2016 Result	3/8/2017 Result	6/7/2017 Result	9/27/2017 Result	12/13/2017 Result
Carbon Monoxide, mol %	nd	nd	nd	nd	nd	nd
Helium, mol %	na	na	na	na	na	na
Hydrogen, mol %	nd	nd	nd	nd	nd	nd
Argon, mol %	0.759 (0.66 mg/L)	0.733 (0.66 mg/L)	0.747 (0.60 mg/L)	0.779 (0.66 mg/L)	0.787 (0.68 mg/L)	0.764 (0.69 mg/L)
Oxygen, mol %	2.77	0.98	0.60	1.42	1.59	0.89
Nitrogen, mol %	42.99 (23 mg/L)	42.55 (23 mg/L)	42.96 (21 mg/L)	44.87 (23 mg/L)	45.80 (24 mg/L)	41.95 (22 mg/L)
Carbon Dioxide, mol %	0.40	0.41	0.46	0.40	0.41	0.36
Methane, mol %	51.81 (18 mg/L)	53.82 (20 mg/L)	53.96 (17 mg/L)	52.08 (18 mg/L)	51.30 (18 mg/L)	54.47 (20 mg/L)
Ethane, mol %	0.892 (0.64 mg/L)	1.06 (0.79 mg/L)	0.914 (0.60 mg/L)	0.322 (0.23 mg/L)	0.0978 (0.070 mg/L)	1.07 (0.80 mg/L)
Ethylene, mol %	nd	nd	nd	nd	nd	nd
Propane, mol %	0.263 (0.26 mg/L)	0.314 (0.32 mg/L)	0.253 (0.23 mg/L)	0.0820 (0.079 mg/L)	0.0095 (0.0094 mg/L)	0.331 (0.34 mg/L)
Propylene, mol %	nd	nd	nd	nd	nd	nd
Iso-butane, mol %	0.0453	0.0553	0.0428	0.0152	0.0022	0.0645
N-butane, mol %	0.0491	0.0586	0.0457	0.0178	0.0032	0.0692
Iso-pentane, mol %	0.0118	0.0142	0.0108	0.0051	0.0011	0.0199
N-pentane, mol %	0.0060	0.0067	0.0052	0.0028	0.0005	0.0102
Hexanes + , mol %	0.0023	0.0021	0.0020	0.0018	nd	0.0036

Notes:

Isotopic analysis conducted at Isotech Laboratories, Inc.

^a Chemical compositions are normalized to 100%

(Mol. % is approximately equal to Vol. %).

nd = not detected

na = not analyzed

TABLE 1
ACCUTEST ANALYTICAL RESULTS
13017 County Road 30, Permit #125634
Platteville, Colorado
Sample ID: Barclay 125634 Pre

Analyte, Units	8/23/2016 Result	12/13/2016 Result	3/8/2017 Result	6/7/2017 Result	9/27/2017 Result	12/13/2017 Result
Alkalinity, Bicarbonate, mg/L	434	438	446	444	427	421
Alkalinity, Carbonate, mg/L	18.2	20.9	ND	20.0	32.9	32.8
Alkalinity, Total, mg/L	452	459	446	464	460	454
Bacteria, Iron Reducing, CFU/mL	9,000	9,000	9,000	74,500	74,500	2,300
Bacteria, Slime Forming, CFU/mL	ND	ND	ND	ND	ND	ND
Bacteria, Sulfate Reducing, CFU/mL	1,200	700	1,200	1,200	700	5,000
Barium, mg/L	0.0360	0.036	0.0417	0.0354	0.0364	0.0446
Benzene, ug/L	ND	ND	ND	ND	ND	ND
Boron, mg/L	0.183	0.180	0.215	0.179	0.189	0.170
Bromide, mg/L	0.56	0.6	0.59	0.23	0.59	0.64
Calcium, mg/L	2.26	2.15	2.40	2.32	2.17	2.29
Chloride, mg/L	57.1	57.3	57.2	58.0	59.4	59.0
Diesel Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Ethane, mg/L	0.456	0.436	0.708	0.287	0.625	0.300
Ethylbenzene, ug/L	ND	ND	ND	ND	ND	ND
Fluoride, mg/L	1.9	2	1.8	2.0	2.0	2.0
Gasoline Range Organics, mg/L	0.0518	ND	ND	ND	0.0503	ND
Iron, mg/L	0.0109	ND	0.0607	0.0150	ND	0.0117
Magnesium, mg/L	0.462	0.421	0.434	0.413	0.437	0.435
Manganese, mg/L	0.0053	0.0059	0.0070	0.0059	0.0061	0.0062
Methane, mg/L	5.55	5.69	6.97	4.49	7.18	3.26
Nitrogen, Nitrate, mg/L	ND	ND	ND	ND	ND	ND
Nitrogen, Nitrite, mg/L	0.047	ND	ND	ND	ND	ND
pH, Standard Units	8.50	8.53	8.54	8.51	8.70	8.71
Phosphorus, Total, mg/L	ND	ND	0.020	0.042	0.028	0.037
Propane, mg/L	0.199	0.195	0.291	0.0957	0.266	0.122
Potassium, mg/L	1.22	1.08	1.39	1.29	1.31	1.34
Selenium, mg/L	ND	ND	ND	ND	ND	ND
Sodium, mg/L	238	231	232	229	237	237
Specific Conductivity, µmhos/cm	911	930	950	887	976	999
Strontium, mg/L	0.0705	0.0694	0.0800	0.0693	0.0690	0.0693
Sulfate, mg/L	ND	ND	ND	ND	ND	ND
Toluene, ug/L	ND	ND	ND	ND	ND	ND
Total Dissolved Solids, mg/L	600	604	603	600	605	617
Xylene, Total, ug/L	ND	ND	ND	ND	ND	ND

Notes:

ND (RL) = Non-detect (reporting limit)

Lab qualifiers (i.e. letters next to result) are defined in the lab report

TABLE 2
ISOTECH SIW RESULTS
13017 County Road 30, Permit #125634
Platteville, Colorado
Sample ID: Barclay 125634 Pre

Analyte, Units	8/23/2016 Result	12/13/2016 Result	3/8/2017 Result	6/7/2017 Result	9/27/2017 Result	12/13/2017 Result
dD of water, ‰ relative to VSMOW	-107.2	-106.9	-106.0	-106.5	-106.7	-106.3
d18O of water, ‰ relative to VSMOW	-14.08	-13.91	-13.95	-14.02	-14.05	-14.01
Tritium content of water, ‰	na	na	na	na	na	na
d13C of DIC, ‰ relative to VPDB	-10.5	-10.5	-10.4	-10.5	-10.4	-10.6
14C content of DIC, ‰	na	na	na	na	na	na
d15N of nitrate, ‰	na	na	na	na	na	na
d18O of nitrate, ‰	na	na	na	na	na	na
d34S of sulfate, ‰	na	na	na	na	na	na
d18O of sulfate, ‰	na	na	na	na	na	na

Notes:

Isotopic analysis conducted at Isotech Laboratories Inc.

na = not analyzed

TABLE 3
ISOTECH NG4 RESULTS
13017 County Road 30, Permit #125634
Platteville, Colorado
Sample ID: Barclay 125634 Pre

Analyte, Units	8/23/2016 Result	12/13/2016 Result	3/8/2017 Result	6/7/2017 Result	9/27/2017 Result	12/13/2017 Result
Carbon Monoxide, mol %	nd	nd	nd	nd	nd	nd
Helium, mol %	na	0.0232	na	0.0236	0.0220	0.0157
Hydrogen, mol %	nd	nd	nd	nd	nd	nd
Argon, mol %	0.659 (0.57 mg/L)	0.827 (1.6 mg/L)	0.660 (0.56 mg/L)	0.864 (1.5 mg/L)	0.802 (1.5 mg/L)	0.926 (1.9 mg/L)
Oxygen, mol %	2.15	10.18	0.87	9.37	7.67	12.22
Nitrogen, mol %	36.05 (19 mg/L)	61.30 (71 mg/L)	37.75 (20 mg/L)	59.30 (58 mg/L)	60.42 (67 mg/L)	61.66 (75 mg/L)
Carbon Dioxide, mol %	0.42	0.17	0.44	0.18	0.18	0.17
Methane, mol %	57.85 (20 mg/L)	26.21 (21 mg/L)	57.54 (20 mg/L)	28.88 (20 mg/L)	29.48 (22 mg/L)	23.81 (20 mg/L)
Ethane, mol %	2.05 (1.4 mg/L)	0.915 (1.5 mg/L)	2.00 (1.4 mg/L)	0.986 (1.4 mg/L)	0.995 (1.6 mg/L)	0.840 (1.4 mg/L)
Ethylene, mol %	nd	nd	nd	nd	nd	nd
Propane, mol %	0.596 (0.58 mg/L)	0.273 (0.61 mg/L)	0.552 (0.53 mg/L)	0.286 (0.55 mg/L)	0.305 (0.66 mg/L)	0.255 (0.59 mg/L)
Propylene, mol %	nd	nd	nd	0.0002	0.0002	nd
Iso-butane, mol %	0.0790	0.0371	0.0673	0.0393	0.0459	0.0359
N-butane, mol %	0.107	0.0490	0.0917	0.0488	0.0583	0.0500
Iso-pentane, mol %	0.0216	0.0100	0.0163	0.0105	0.0137	0.0120
N-pentane, mol %	0.0115	0.0051	0.0087	0.0051	0.0069	0.0066
Hexanes + , mol %	0.0037	0.0014	0.0020	0.0019	0.0019	0.0025

Notes:

Isotopic analysis conducted at Isotech Laboratories, Inc.

^a Chemical compositions are normalized to 100%

(Mol. % is approximately equal to Vol. %).

nd = not detected

na = not analyzed

TABLE 1
ACCUTEST ANALYTICAL RESULTS
12999 County Road 30, Permit #220643
Platteville, Colorado
Sample ID: Hoffman 220643

Analyte, Units	3/3/2016 Result	5/10/2016 Result	3/9/2017 Result	6/20/2017 Result	9/28/2017 Result	12/14/2017 Result
Alkalinity, Bicarbonate, mg/L	154	154	168	158	168	169
Alkalinity, Carbonate, mg/L	23.0	23.6	16.9	19.4	15.9	15.3
Alkalinity, Total, mg/L	177	177	185	177	184	184
Bacteria, Iron Reducing, CFU/mL	9,000	74,500	9,000	9,000	ND	2,300
Bacteria, Slime Forming, CFU/mL	ND	ND	500	12,500	6,500	ND
Bacteria, Sulfate Reducing, CFU/mL	ND	ND	700	18,000	700	5,000
Barium, mg/L	0.0239	0.0245	0.0262	0.0228	0.0258	0.0195
Benzene, ug/L	ND	ND	ND	ND	ND	ND
Boron, mg/L	ND	ND	0.0501	ND	ND	ND
Bromide, mg/L	0.19	0.20	0.22	0.20	0.21	0.18
Calcium, mg/L	5.34	5.51	7.55	6.00	6.63	4.62
Chloride, mg/L	19.3	19.9	22.0	20.1	21.3	18.5
Diesel Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Ethane, mg/L	0.518	0.493	0.287	0.387	0.616	0.480
Ethylbenzene, ug/L	ND	ND	ND	ND	ND	ND
Fluoride, mg/L	0.58	0.57	0.52	0.54	0.57	0.59
Gasoline Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Iron, mg/L	ND	ND	0.0497	ND	ND	0.0126
Magnesium, mg/L	0.888	0.939	1.18	0.979	1.09	0.750
Manganese, mg/L	0.0169	0.019	0.0240	0.0200	0.0211	0.0137
Methane, mg/L	2.85	2.77	1.48	2.02	3.10	2.28
Nitrogen, Nitrate, mg/L	ND	ND	ND	ND	ND	ND
Nitrogen, Nitrite, mg/L	ND	ND	ND	ND	ND	ND
pH, Standard Units	9.01	8.88	8.79	8.76	8.83	8.84
Phosphorus, Total, mg/L	0.051	0.040	ND	0.050	0.050	0.058
Propane, mg/L	0.147	0.132	0.0686	0.0949	0.132	0.120
Potassium, mg/L	1.16	ND	1.17	ND	1.18	ND
Selenium, mg/L	0.00084	ND	ND	ND	ND	ND
Sodium, mg/L	186	183	204	183	195	160
Specific Conductivity, µmhos/cm	711	734	929	770	954	799
Strontium, mg/L	0.129	0.135	0.173	0.147	0.151	0.103
Sulfate, mg/L	195	223	269	219	248	190
Toluene, ug/L	ND	ND	ND	ND	ND	ND
Total Dissolved Solids, mg/L	533	555	628	582	628	525
Xylene, Total, ug/L	ND	ND	ND	0.60	ND	ND

Notes:

ND (RL) = Non-detect (reporting limit)

Lab qualifiers (i.e. letters next to result) are defined in the lab report

TABLE 2
ISOTECH SIW RESULTS
12999 County Road 30, Permit #220643
Platteville, Colorado
Sample ID: Hoffman 220643

Analyte, Units	3/3/2016 Result	5/10/2016 Result	3/9/2017 Result	6/20/2017 Result	9/28/2017 Result	12/14/2017 Result
dD of water, ‰ relative to VSMOW	-105.7	-104.7	-106.1	-105.3	-105.8	-105.1
d18O of water, ‰ relative to VSMOW	-13.89	-13.89	-13.88	-13.80	-13.87	-13.78
Tritium content of water, ‰	na	na	na	na	na	na
d13C of DIC, ‰ relative to VPDB	-11.2	-11.4	-11.7	-11.4	-11.3	-11.2
14C content of DIC, ‰	na	na	na	na	na	na
d15N of nitrate, ‰	na	na	na	na	na	na
d18O of nitrate, ‰	na	na	na	na	na	na
d34S of sulfate, ‰	na	na	na	na	na	na
d18O of sulfate, ‰	na	na	na	na	na	na

Notes:

Isotopic analysis conducted at Isotech Laboratories Inc.

na = not analyzed

TABLE 3
ISOTECH NG4 RESULTS
12999 County Road 30, Permit #220643
Platteville, Colorado
Sample ID: Hoffman 220643

Analyte, Units	3/3/2016 Result	5/10/2016 Result	3/9/2017 Result	6/20/2017 Result	9/28/2017 Result	12/14/2017 Result
Carbon Monoxide, mol %	nd	nd	nd	nd	nd	nd
Helium, mol %	na	na	na	na	na	na
Hydrogen, mol %	nd	nd	nd	nd	nd	nd
Argon, mol %	1.27 (0.65 mg/L)	1.27 (0.63 mg/L)	1.36 (0.63 mg/L)	1.33 (0.62 mg/L)	1.29 (0.57 mg/L)	1.34 (0.69 mg/L)
Oxygen, mol %	1.18	1.73	1.92	0.90	1.63	1.95
Nitrogen, mol %	64.79 (21 mg/L)	65.33 (20 mg/L)	68.87 (19 mg/L)	67.03 (19 mg/L)	66.02 (17 mg/L)	65.81 (20 mg/L)
Carbon Dioxide, mol %	0.16	0.17	0.21	0.14	0.16	0.12
Methane, mol %	29.52 (6.1 mg/L)	28.52 (5.7 mg/L)	24.94 (4.6 mg/L)	27.50 (5.2 mg/L)	27.80 (4.9 mg/L)	27.85 (5.8 mg/L)
Ethane, mol %	2.56 (1.1 mg/L)	2.49 (1.0 mg/L)	2.30 (0.88 mg/L)	2.55 (0.99 mg/L)	2.60 (0.95 mg/L)	2.38 (1.0 mg/L)
Ethylene, mol %	nd	nd	nd	nd	nd	nd
Propane, mol %	0.424 (0.25 mg/L)	0.396 (0.22 mg/L)	0.314 (0.17 mg/L)	0.417 (0.22 mg/L)	0.393 (0.20 mg/L)	0.426 (0.25 mg/L)
Propylene, mol %	nd	nd	nd	nd	nd	nd
Iso-butane, mol %	0.0467	0.0436	0.0362	0.0513	0.0467	0.0563
N-butane, mol %	0.0424	0.0403	0.0341	0.0469	0.0438	0.0519
Iso-pentane, mol %	0.0081	0.0083	0.0072	0.0109	0.0097	0.0122
N-pentane, mol %	0.0029	0.0032	0.0026	0.0048	0.0039	0.0048
Hexanes + , mol %	0.0005	0.0014	0.0026	0.0196	0.0015	0.0022

Notes:

Isotopic analysis conducted at Isotech Laboratories, Inc.

^a Chemical compositions are normalized to 100%

(Mol. % is approximately equal to Vol. %).

nd = not detected

na = not analyzed