

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

Analyte, Units	9/27/2017 Result	12/13/2017 Result	3/19/2018 Result	5/22/2018 Result	8/16/2018 Result	11/27/2018 Result
Alkalinity, Bicarbonate, mg/L	427	427	423	425	443	442
Alkalinity, Carbonate, mg/L	35.4	33.3	32.0	24.3	18.7	20.1
Alkalinity, Total, mg/L	463	460	455	450	462	462
Bacteria, Iron Reducing, CFU/mL	9,000	74,500	9,000	74,500	35,000	35,000
Bacteria, Slime Forming, CFU/mL	ND	ND	6,500	ND	2,500	500
Bacteria, Sulfate Reducing, CFU/mL	700	5,000	18,000	5,000	6,000	6,000
Barium, mg/L	0.0351	0.0390	0.0332	0.0349	0.0382	0.0364
Benzene, ug/L	ND	ND	ND	ND	ND	ND
Boron, mg/L	0.194	0.154	0.188	0.148	0.174	0.176
Bromide, mg/L	0.59	0.64	0.58	0.62	0.64	0.55
Calcium, mg/L	2.10	2.33	2.76	2.29	2.24	2.25
Chloride, mg/L	57.9	58.1	57.4	59.0	59.5	55.3
Diesel Range Organics, mg/L	ND	ND	ND	0.172	ND	ND
Ethane, mg/L	0.0427	0.266	0.175	0.346	0.173	0.344
Ethylbenzene, ug/L	ND	ND	ND	ND	ND	ND
Fluoride, mg/L	2.0	1.9	1.9	2.0	2.0	1.9
Gasoline Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Iron, mg/L	0.0323	0.0615	0.0629	0.0734	ND	0.0175
Magnesium, mg/L	0.422	0.430	0.498	0.399	0.423	0.444
Manganese, mg/L	0.0061	0.0084	0.0102	0.0083	0.0061	0.0064
Methane, mg/L	8.32	5.49	7.05	7.92	6.34	8.88
Nitrogen, Nitrate, mg/L	ND	ND	ND	ND	ND	ND
Nitrogen, Nitrite, mg/L	ND	ND	ND	ND	0.060	ND
pH, Standard Units	8.72	8.72	8.72	8.73	8.67	8.71
Phosphorus, Total, mg/L	0.035	0.037	0.035	0.038	0.033	0.059
Propane, mg/L	0.0056	0.105	0.0240	0.152	0.0647	0.118
Potassium, mg/L	1.31	1.28	1.50	1.18	1.28	1.42
Selenium, mg/L	ND	ND	ND	ND	ND	ND
Sodium, mg/L	238	231	266	228	238	230
Specific Conductivity, µmhos/cm	960	1,010	982	976	950	942
Strontium, mg/L	0.0728	0.0682	0.0791	0.0680	0.0695	0.0707
Sulfate, mg/L	ND	ND	ND	ND	ND	ND
Toluene, ug/L	ND	ND	ND	ND	1.8	2.4
Total Dissolved Solids, mg/L	627	607	590	625	603	553
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	9/27/2017 Result	12/13/2017 Result	3/19/2018 Result	5/22/2018 Result	8/16/2018 Result	11/27/2018 Result
dD of water, ‰ relative to VSMOW	-106.6	-106.9	-107.4	-106.7	-107.0	-107.1
d18O of water, ‰ relative to VSMOW	-14.02	-14.06	-14.05	-14.02	-14.00	-14.08
Tritium content of water, ‰	na	na	na	na	na	na
d13C of DIC, ‰ relative to VPDB	-10.3	-10.8	-10.8	-10.7	-10.4	-10.09
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	9/27/2017 Result	12/13/2017 Result	3/19/2018 Result	5/22/2018 Result	8/16/2018 Result	11/27/2018 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 %	0.787 (0.68 mg/L)	0.764 (0.69 mg/L)	0.743 (0.62 mg/L)	0.717 (0.58 mg/L)	0.793 (0.74 mg/L)	0.736 (0.66 mg/L)
Oxygen, mol %	1.59	0.89	1.29	1.80	3.87	0.92
Nitrogen, mol %	45.80 (24 mg/L)	41.95 (22 mg/L)	41.14 (21 mg/L)	39.90 (20 mg/L)	42.78 (25 mg/L)	40.71 (23 mg/L)
Carbon Dioxide, mol %	0.41	0.36	0.45	0.53	0.44	0.51
Methane, mol %	51.30 (18 mg/L)	54.47 (20 mg/L)	54.89 (19 mg/L)	55.50 (18 mg/L)	51.32 (19 mg/L)	55.57 (20 mg/L)
Ethane, mol %	0.0978 (0.070 mg/L)	1.07 (0.80 mg/L)	1.04 (0.72 mg/L)	1.09 (0.72 mg/L)	0.561 (0.43 mg/L)	1.11 (0.80 mg/L)
Ethylene, mol %	nd	nd	nd	nd	nd	nd
Propane, mol %	0.0095 (0.0094 mg/L)	0.331 (0.34 mg/L)	0.305 (0.29 mg/L)	0.321 (0.29 mg/L)	0.162 (0.17 mg/L)	0.320 (0.32 mg/L)
Propylene, mol %	nd	nd	nd	nd	nd	nd
Iso-butane, mol %	0.0022	0.0645	0.0541	0.0569	0.0288	0.0511
N-butane, mol %	0.0032	0.0692	0.0595	0.0637	0.0324	0.0542
Iso-pentane, mol %	0.0011	0.0199	0.0147	0.0158	0.0091	0.0132
N-pentane, mol %	0.0005	0.0102	0.0076	0.0081	0.0050	0.0067
Hexanes + , mol %	nd	0.0036	0.0028	0.0023	0.0019	0.0028

Notes:

Isotopic analysis conducted at Isotech Laboratories, Inc.

^a Chemical compositions are normalized to 100% (Mol. %)

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	9/27/2017 Result	12/13/2017 Result	3/19/2018 Result	5/22/2018 Result	8/16/2018 Result	11/27/2018 Result
Alkalinity, Bicarbonate, mg/L	427	421	412	440	444	441
Alkalinity, Carbonate, mg/L	32.9	32.8	30.2	21.9	18.2	18.7
Alkalinity, Total, mg/L	460	454	442	462	462	459
Bacteria, Iron Reducing, CFU/mL	74,500	2,300	9,000	9,000	35,000	9,000
Bacteria, Slime Forming, CFU/mL	ND	ND	500	ND	2,500	500
Bacteria, Sulfate Reducing, CFU/mL	700	5,000	18,000	5,000	6,000	6,000
Barium, mg/L	0.0364	0.0446	0.0343	0.0366	0.0368	0.0366
Benzene, ug/L	ND	ND	ND	ND	ND	ND
Boron, mg/L	0.189	0.170	0.212	0.154	0.172	0.187
Bromide, mg/L	0.59	0.64	0.58	0.60	0.58	0.56
Calcium, mg/L	2.17	2.29	2.48	2.16	2.11	2.24
Chloride, mg/L	59.4	59.0	57.4	61.9	56.7	57.8
Diesel Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Ethane, mg/L	0.625	0.300	0.507	0.339	0.561	0.504
Ethylbenzene, ug/L	ND	ND	ND	ND	ND	ND
Fluoride, mg/L	2.0	2.0	1.9	2.0	1.9	1.9
Gasoline Range Organics, mg/L	0.0503	ND	ND	ND	ND	ND
Iron, mg/L	ND	0.0117	ND	ND	0.0343	ND
Magnesium, mg/L	0.437	0.435	0.467	0.383	0.419	0.437
Manganese, mg/L	0.0061	0.0062	0.0060	0.0054	0.0068	0.0059
Methane, mg/L	7.18	3.26	5.94	3.69	5.88	5.26
Nitrogen, Nitrate, mg/L	ND	ND	ND	ND	ND	ND
Nitrogen, Nitrite, mg/L	ND	ND	ND	ND	0.10	ND
pH, Standard Units	8.70	8.71	8.72	8.69	8.67	8.63
Phosphorus, Total, mg/L	0.028	0.037	0.035	0.034	0.034	0.040
Propane, mg/L	0.266	0.122	0.222	0.142	0.248	0.213
Potassium, mg/L	1.31	1.34	1.49	1.12	1.56	1.43
Selenium, mg/L	ND	ND	ND	ND	ND	ND
Sodium, mg/L	237	237	260	226	239	237
Specific Conductivity, µmhos/cm	976	999	1,010	1,050	960	990
Strontium, mg/L	0.0690	0.0693	0.0756	0.0661	0.0689	0.0706
Sulfate, mg/L	ND	ND	ND	ND	ND	ND
Toluene, ug/L	ND	ND	ND	ND	ND	ND
Total Dissolved Solids, mg/L	605	617	595	624	596	603
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	9/27/2017 Result	12/13/2017 Result	3/19/2018 Result	5/22/2018 Result	8/16/2018 Result	11/27/2018 Result
dD of water, ‰ relative to VSMOW	-106.7	-106.3	-107.3	-105.9	-106.9	-106.7
d18O of water, ‰ relative to VSMOW	-14.05	-14.01	-14.02	-13.91	-14.01	-14.01
Tritium content of water, ‰	na	na	na	na	na	na
d13C of DIC, ‰ relative to VPDB	-10.4	-10.6	-10.5	-10.6	-10.5	-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	9/27/2017 Result	12/13/2017 Result	3/19/2018 Result	5/22/2018 Result	8/16/2018 Result	11/27/2018 Result
Carbon Monoxide, mol %	nd	nd	nd	nd	nd	nd
Helium, mol %	0.0220	0.0157	na	0.0251	na	na
Hydrogen, mol %	nd	nd	nd	nd	nd	nd
Argon, mol %	0.802 (1.5 mg/L)	0.926 (1.9 mg/L)	0.653 (0.65 mg/L)	0.885 (1.8 mg/L)	0.707 (0.67 mg/L)	1.04 (0.90 mg/L)
Oxygen, mol %	7.67	12.22	1.44	10.53	3.84	12.59
Nitrogen, mol %	60.42 (67 mg/L)	61.66 (75 mg/L)	36.20 (22 mg/L)	61.54 (73 mg/L)	36.82 (22 mg/L)	51.99 (28 mg/L)
Carbon Dioxide, mol %	0.18	0.17	0.42	0.18	0.44	0.56
Methane, mol %	29.48 (22 mg/L)	23.81 (20 mg/L)	58.34 (23 mg/L)	25.59 (21 mg/L)	55.50 (21 mg/L)	32.08 (11 mg/L)
Ethane, mol %	0.995 (1.6 mg/L)	0.840 (1.4 mg/L)	2.07 (1.7 mg/L)	0.882 (1.5 mg/L)	1.91 (1.5 mg/L)	1.26 (0.89 mg/L)
Ethylene, mol %	nd	nd	nd	nd	nd	nd
Propane, mol %	0.305 (0.66 mg/L)	0.255 (0.59 mg/L)	0.625 (0.70 mg/L)	0.265 (0.61 mg/L)	0.563 (0.61 mg/L)	0.350 (0.34 mg/L)
Propylene, mol %	0.0002	nd	nd	0.0001	nd	0.0003
Iso-butane, mol %	0.0459	0.0359	0.0858	0.0367	0.0755	0.0438
N-butane, mol %	0.0583	0.0500	0.120	0.0477	0.105	0.0654
Iso-pentane, mol %	0.0137	0.0120	0.0242	0.0102	0.0218	0.0142
N-pentane, mol %	0.0069	0.0066	0.0133	0.0051	0.0120	0.0080
Hexanes + , mol %	0.0019	0.0025	0.0040	0.0012	0.0041	0.0031

Notes:

Isotopic analysis conducted at Isotech Laboratories, Inc.

^a Chemical compositions are normalized to 100% (Mol. %

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	9/28/2017 Result	12/14/2017 Result	3/22/2018 Result	5/21/2018 Result	8/13/2018 Result	11/14/2018 Result
Alkalinity, Bicarbonate, mg/L	168	169	170	165	166	171
Alkalinity, Carbonate, mg/L	15.9	15.3	12.1	13.0	13.3	13.8
Alkalinity, Total, mg/L	184	184	182	178	179	184
Bacteria, Iron Reducing, CFU/mL	ND	2,300	2,300	74,200	35,000	35,000
Bacteria, Slime Forming, CFU/mL	6,500	ND	6,500	6,500	13,000	2,500
Bacteria, Sulfate Reducing, CFU/mL	700	5,000	18,000	5,000	27,000	27,000
Barium, mg/L	0.0258	0.0195	0.0222	0.0239	0.0241	0.0252
Benzene, ug/L	ND	ND	ND	ND	ND	ND
Boron, mg/L	ND	ND	0.0521	ND	ND	ND
Bromide, mg/L	0.21	0.18	0.19	0.20	0.23	0.21
Calcium, mg/L	6.63	4.62	5.69	6.14	7.82	7.83
Chloride, mg/L	21.3	18.5	41.7	20.1	22.4	22.2
Diesel Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Ethane, mg/L	0.616	0.480	0.428	0.489	0.481	0.519
Ethylbenzene, ug/L	ND	ND	ND	ND	ND	ND
Fluoride, mg/L	0.57	0.59	1.2	0.59	0.56	0.55
Gasoline Range Organics, mg/L	ND	ND	ND	ND	ND	ND
Iron, mg/L	ND	0.0126	ND	ND	ND	ND
Magnesium, mg/L	1.09	0.750	0.865	0.886	1.20	1.16
Manganese, mg/L	0.0211	0.0137	0.0162	0.0170	0.0230	0.0202
Methane, mg/L	3.10	2.28	2.13	2.42	2.35	2.58
Nitrogen, Nitrate, mg/L	ND	ND	ND	ND	ND	ND
Nitrogen, Nitrite, mg/L	ND	ND	ND	ND	ND	ND
pH, Standard Units	8.83	8.84	8.81	8.85	8.87	8.91
Phosphorus, Total, mg/L	0.050	0.058	0.052	0.062	0.054	0.051
Propane, mg/L	0.132	0.120	0.0998	0.133	0.112	0.105
Potassium, mg/L	1.18	ND	ND	1.03	1.32	1.46
Selenium, mg/L	ND	ND	ND	ND	ND	ND
Sodium, mg/L	195	160	200	198	204	214
Specific Conductivity, µmhos/cm	954	799	860	845	976	965
Strontium, mg/L	0.151	0.103	0.138	0.141	0.177	0.167
Sulfate, mg/L	248	190	218	214	269	254
Toluene, ug/L	ND	ND	ND	ND	ND	ND
Total Dissolved Solids, mg/L	628	525	552	550	629	615
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
12999 County Road 30, Permit #220643
Platteville, Colorado
Sample ID: Hoffman 220643

Analyte, Units	9/28/2017 Result	12/14/2017 Result	3/22/2018 Result	5/21/2018 Result	8/13/2018 Result	11/14/2018 Result
dD of water, ‰ relative to VSMOW	-105.8	-105.1	-105.5	-104.5	-105.1	-106.1
d18O of water, ‰ relative to VSMOW	-13.87	-13.78	-13.71	-13.73	-13.86	-13.88
Tritium content of water, ‰	na	na	na	na	na	na
d13C of DIC, ‰ relative to VPDB	-11.3	-11.2	-11.4	-11.3	-11.7	-11.7
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	9/28/2017 Result	12/14/2017 Result	3/22/2018 Result	5/21/2018 Result	8/13/2018 Result	11/14/2018 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 %	1.29 (0.57 mg/L)	1.34 (0.69 mg/L)	1.30 (0.71 mg/L)	1.30 (0.69 mg/L)	1.30 (0.69 mg/L)	1.36 (0.71 mg/L)
Oxygen, mol %	1.63	1.95	3.53	2.38	4.94	0.99
Nitrogen, mol %	66.02 (17 mg/L)	65.81 (20 mg/L)	67.05 (22 mg/L)	65.80 (21 mg/L)	63.33 (21 mg/L)	66.80 (21 mg/L)
Carbon Dioxide, mol %	0.16	0.12	0.15	0.14	0.20	0.17
Methane, mol %	27.80 (4.9 mg/L)	27.85 (5.8 mg/L)	25.38 (5.6 mg/L)	27.46 (5.9 mg/L)	27.54 (5.9 mg/L)	28.05 (5.9 mg/L)
Ethane, mol %	2.60 (0.95 mg/L)	2.38 (1.0 mg/L)	2.18 (0.99 mg/L)	2.38 (1.1 mg/L)	2.26 (0.98 mg/L)	2.27 (0.98 mg/L)
Ethylene, mol %	nd	nd	nd	nd	nd	nd
Propane, mol %	0.393 (0.20 mg/L)	0.426 (0.25 mg/L)	0.323 (0.20 mg/L)	0.416 (0.25 mg/L)	0.338 (0.20 mg/L)	0.285 (0.17 mg/L)
Propylene, mol %	nd	nd	nd	nd	nd	nd
Iso-butane, mol %	0.0467	0.0563	0.0403	0.0544	0.0429	0.0349
N-butane, mol %	0.0438	0.0519	0.0367	0.0480	0.0380	0.0311
Iso-pentane, mol %	0.0097	0.0122	0.0090	0.0116	0.0093	0.0079
N-pentane, mol %	0.0039	0.0048	0.0033	0.0044	0.0034	0.0029
Hexanes + , mol %	0.0015	0.0022	0.0012	0.0016	0.0019	0.0017

Notes:

Isotopic analysis conducted at Isotech Laboratories, Inc.

^a Chemical compositions are normalized to 100% (Mol. %

nd = not detected

na = not analyzed