

APPENDIX 2.3-5.1

KIEWIT 2002 BOREHOLE  
SH02-04C

Sample Top Depth (feet)	Sample Top Elevation (feet)	Sample Bottom Depth (feet)	Sample Bottom Elevation (feet)	Calcium (meq/l)	EC (mmhos/cm)	Magnesium (meq/l)	pH (S.U.)	Sodium (meq/l)	SAR	Saturation Percentage (%)	Percent Sand (%)	Percent Silt (%)	Percent Clay (%)	Texture
0		5		25.9	7.83	99	8.0	29	3.67	62.1	43.2	27.6	29.2	Clay Loam
5		10		29.1	5.07	48	7.7	16.2	2.61	85.7	6	45	49	Silty Clay
10		15		11.6	2.12	11.2	7.9	4.6	1.36	97.5	7.3	24.9	67.8	Clay
15		20		8.5	1.54	5.8	7.9	5.2	1.94	59.2	25.5	52.5	22	Silty Loam
20		25		3.3	1.01	2.4	8.3	5	2.96	76.1	13.5	47.5	39	Silty Clay Loam
25		30		4.2	1.44	3.7	8.6	7.2	3.62	124	11.8	22.4	65.8	Clay
30		35		3.5	2.12	4.3	7.4	16.6	8.41	107	27.5	17.5	55	Clay
35		40		1.2	1.73	1.3	8.1	15.4	13.8	166	11.8	35	53.2	Clay
40		45		0.6	2.11	0.5	8.4	19.4	26.2	138	9.2	30	60.8	Clay
45		50		1.7	4.38	1.6	7.0	54	42	97.2	58.8	17.4	23.8	Sandy Clay Loam
50		55		1.2	2.48	0.8	7.9	23.4	23.4	163	11.8	32.4	55.8	Clay
55		60		0.3	1.88	0.1	8.8	18.8	42	171	6.5	25	68.5	Clay
60		65		0.3	1.82	0.1	8.7	18.1	40.5	168	1	35	64	Clay
65		70		0.7	1.74	0.2	8.9	16.4	24.4	178	0	27.5	72.5	Clay
75		80		0.7	2.6	0.6	7.4	26.5	32.9	121	43.8	20	36.2	Clay Loam
80		85		0.5	1.63	0.5	8.5	15	21.2	155	8.2	25	66.8	Clay
85		90		0.4	1.55	0.2	8.8	14.9	27.2	151	15.8	32.4	51.8	Clay
90		95		0.8	1.58	0.4	9.0	15.7	20.3	165	6	35	59	Clay
95		100		0.6	2.23	0.3	8.8	22.4	33.4	136	11.8	40	48.2	Clay
100		105		0.7	2.15	0.3	8.7	20.9	29.6	162	6.8	22.4	70.8	Clay
105		110		0.8	3.69	0.6	7.9	47	56.2	117	24.5	35	40.5	Clay
110		115		0.5	2.79	0.3	8.4	27.3	43.2	91	14.3	49.9	35.8	Silty Clay Loam
115		120		0.3	2.4	0.2	9.0	23.3	46.6	112	38.2	30	31.8	Clay Loam
120		125		0.5	2.03	0.2	9.2	19.6	33.1	137	18.5	47.5	34	Silty Clay Loam
125		130		1	2.23	0.6	9.0	21.2	23.7	124	14.8	42.4	42.8	Silty Clay
130		135		0.9	1.85	0.5	8.9	18.6	22.2	147	13	40	47	Clay
135		140		0.3	1.69	0.1	9.0	16.9	37.8	166	11	27.5	61.5	Clay

Statistical Summary

Min	0.3	1.01	0.1	7	4.6	1.36	59.2	0	17.4	22
Average	3.71	2.43	6.81	8.4	19.9	24.6	129	17.1	32.8	50.1
Max	29.1	7.83	99	9.2	54	56.2	178	58.8	52.5	72.5
Number	27	27	27	27	27	27	27	27	27	27

Depth to Coal: 72.8' - 80.7'

Statistical Summary Above Coal

Min	0.3	1.01	0.1	7	4.6	1.36	59.2	0	17.4	22
Average	6.58	2.66	12.8	8.1	17.8	16.9	121	16.7	31.4	51.9
Max	29.1	7.83	99	8.9	54	42	178	58.8	52.5	72.5
Number	14	14	14	14	14	14	14	14	14	14

NOTES:

- EC = Electrical Conductivity
- meq/l = milliequivalent per liter
- Analyses performed by Northern Analytical Laboratories Inc. of Billings, MT
- When sample top depth = sample bottom depth, sample was a discrete sample rather than composite
- No analysis available for blank geochemistry cells
- Duplicates not shown in data set
- Arithmetic mean shown
- This is historical data done for Kiewit Mining Group, Inc. in March of 2002
- SAR = Sodium Adsorption Ratio
- mmhos/cm = millimhos per centimeter
- S.U. = standard units
- % = percent

APPENDIX 2.3-5.2

KIEWIT 2002 BOREHOLE  
SH02-10C

Sample Top Depth (feet)	Sample Top Elevation (feet)	Sample Bottom Depth (feet)	Sample Bottom Elevation (feet)	Calcium (meq/l)	EC (mmhos/cm)	Magnesium (meq/l)	pH (S.U.)	Sodium (meq/l)	SAR	Saturation Percentage (%)	Percent Sand (%)	Percent Silt (%)	Percent Clay (%)	Texture
0		5		1.3	0.63	1.3	6.6	3.7	3.25	64.2	29.2	27.6	43.2	Clay
5		10		29	4.96	33.7	7.8	21	3.75	84.9	15	30	55	Clay
10		15		8.5	2.77	9.6	8.3	16.8	5.58	46.2	56.8	32.4	10.8	Sandy Loam
15		20		6	1.96	6.5	8.4	11.3	4.52	38.5	73.8	20	6.2	Sandy Loam
20		25		7	2.03	6.6	8.4	12.3	4.72	36.8	76.5	17.5	6	Loamy Sand
25		30		3.9	1.26	3.1	8.5	7.2	3.85	36.4	74.2	17.6	8.2	Sandy Loam
30		35		4.5	1.29	3.5	8.4	7.6	3.8	35.6	71.5	20	8.5	Sandy Loam
35		40		2.4	0.89	1.8	8.4	6.3	4.35	37.4	68.5	20	11.5	Sandy Loam
40		45		3.4	1.06	2.1	8.3	6.7	4.04	39.2	67	22.5	10.5	Sandy Loam
45		50		1.3	0.65	0.7	8.4	4.9	4.9	41.8	56.2	27.6	16.2	Sandy Loam
50		55		0.7	0.61	0.4	8.6	5.3	7.15	41.7	60.8	27.4	11.8	Sandy Loam
55		60		0.7	0.75	0.6	8.9	7	8.68	81	33.2	40	26.8	Loam
60		65		0.4	0.88	0.3	9.3	9	15.2	54.8	66	12.5	21.5	Sandy Clay Loam
65		67		0.6	1.11	0.5	9.2	11.4	15.4	48.9	61.8	17.4	20.8	Sandy Clay Loam

Statistical Summary

Min	0.4	0.61	0.3	6.6	3.7	3.25	35.6	15	12.5	6
Average	4.98	1.49	5.05	8.4	9.3	6.4	49.1	57.9	23.8	18.4
Max	29	4.96	33.7	9.3	21	15.4	84.9	76.5	40	55
Number	14	14	14	14	14	14	14	14	14	14

Depth to Coal: 67'

Statistical Summary Above Coal

Min	0.4	0.61	0.3	6.6	3.7	3.25	35.6	15	12.5	6
Average	4.98	1.49	5.05	8.4	9.3	6.4	49.1	57.9	23.8	18.4
Max	29	4.96	33.7	9.3	21	15.4	84.9	76.5	40	55
Number	14	14	14	14	14	14	14	14	14	14

NOTES:

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