

Township 8S, Range 39E

SECTION 25

Township 8S, Range 39E
SECTION 25

Cliff Features

CLIFF FEATURE: C_0031



Photo: 1_17_06_13

Looking Northeast

FEATURE TYPE: Cliff

GEOMETRIC DIMENSIONS: Length: 65 ft Height: 15 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9029	411187.29	2673679.82
9030	411176.69	2673690.50
9031	411185.74	2673744.46

SUBSTRATE: Scoria and siltstone

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: This scoria/siltstone cliff feature is adjacent to a small draw that is a tributary to South Fork Spring Creek. The flows through this draw have created this feature. As can be seen in the picture above, the face of this cliff is very jagged.

CLIFF FEATURE: C_0032



Photo: 1_17_06_15

Looking North

FEATURE TYPE: Cliff

GEOMETRIC DIMENSIONS: Length: 40 ft Height: 10 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9036	410728.34	2672578.61
9037	410746.39	2672572.86
9038	410758.33	2672603.47

SUBSTRATE: Sandstone/Siltstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: This sandstone/siltstone cliff feature is adjacent to a small draw south of South Fork Spring Creek. Erosion has created voids below the rock of this feature. Some of the rock layer that is exposed has fallen from the cliff and is laying on the slope below the feature.

CLIFF FEATURE: C_0033



Photo: 1_17_06_16

Looking West

FEATURE TYPE: Cliff

GEOMETRIC DIMENSIONS: Length: 55 ft Height: 10 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9039	411006.99	2672285.34
9040	411062.06	2672296.47

SUBSTRATE: Sandstone/Siltstone

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: This sandstone/siltstone cliff feature is adjacent to a small draw south of South Fork Spring Creek. Erosion has created voids below the rock of this feature. Some of the rock layer that is exposed has fallen from the cliff and is laying on the slope below the feature.

CLIFF FEATURE: C_0034



Photo: 1_17_06_20

Looking Northwest

FEATURE TYPE: Cliff

GEOMETRIC DIMENSIONS: Length: 100 ft Height: 10 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9047	411426.20	2671827.33
9048	411035.55	2671816.77
9049	410972.39	2671893.75

SUBSTRATE: Sandstone/siltstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: This feature has several areas that appear to be a rock outcrop, as can be seen in picture 1_17_06_20 above. The majority of the feature, however, is a 10-foot cliff feature, so it has been classified as a cliff. Pictures 1_17_06_21, 1_17_06_22, 1_17_06_23, 1_17_06_24 on the next two pages show additional views of this feature.

CLIFF FEATURE: C_0034



Photo: 1_17_06_21

Looking East



Photo: 1_17_06_22

Looking Southeast

CLIFF FEATURE: C_0034



Photo: 1_17_06_23

Looking North



Photo: 1_17_06_24

Looking Northeast

Revised 4/06; Reference – South Fork Extension Amendment #00174

313D-T8SR39E25-7

CLIFF FEATURE: C_0037



Photo: 1_17_06_37

Looking Northeast

FEATURE TYPE: Cliff

GEOMETRIC DIMENSIONS: Length: 130 ft Height: 15 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9075	410761.50	2670564.84
9076	410770.88	2670629.13
9077	410728.99	2670687.33

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The cliff shown in the picture above is a very typical feature in this area. The sandstone/siltstone rock layer has been exposed by weathering and erosion, creating voids and overhangs over the length of the feature. As more of the subsoil erodes, the rock layer breaks, and large rocks are deposited along the slope beneath the feature.

CLIFF FEATURE: C_0061



Photo: 2_2_06_15

Looking Northeast

FEATURE TYPE: Cliff

GEOMETRIC DIMENSIONS: Length: 210 ft Height: 25 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
17030	413646.04	2670538.47
17031	413523.77	2670705.18

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: This large cliff feature is located near the bottom of a steep slope. The sandstone/siltstone rock has been weathered, leaving holes and crevices along its face. This cliff has a lot of rock that has been deposited below, making it appear like a rock outcrop. See the pictures on the following pages for additional views of this feature.

CLIFF FEATURE: C_0061



Photo: 2_2_06_16

Looking North



Photo: 2_2_06_17

Looking Northeast

CLIFF FEATURE: C_0061



Photo: 2_2_06_18

Looking East



Photo: 2_2_06_19

Looking West

CLIFF FEATURE: C_0062



Photo: pre_2

Looking Northwest

FEATURE TYPE:	Cliff					
GEOMETRIC DIMENSIONS:	Length: 195 ft		Height: 45 ft			
LOCATION:	Township: 8S		Range: 39E		Section: 25	
HANDHELD GPS POINTS:		Northing	Easting		Northing	Easting
	17034	413526.40	2670898.85	17036	413692.13	2670947.72
	17035	413553.49	2670947.05			

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: This large cliff feature is located near the bottom of a steep slope. The sandstone/siltstone rock has been weathered, leaving holes and crevices along its face. This cliff has a tall, solid face that overlooks the South Fork Spring Creek. See the pictures on the following page for additional views of this feature. In the photo above, this feature is the cliff to the left hand side of the view.

CLIFF FEATURE: C_0062



Photo: 2_2_06_21

Looking Northeast



Photo: 2_2_06_22

Looking North

CLIFF FEATURE: C_0062



Photo: 2_2_06_23

Looking West

CLIFF FEATURE: C_0063



Photo: pre_2

Looking Northwest

FEATURE TYPE:	Cliff					
GEOMETRIC DIMENSIONS:	Length: 200 ft		Height: 45 ft			
LOCATION:	Township: 8S		Range: 39E		Section: 25	
HANDHELD GPS POINTS:		Northing	Easting		Northing	Easting
	17037	413715.58	2670996.04	17039	413732.04	2671166.00
	17038	413735.48	2671047.06	17040	413750.93	2671186.06

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The large cliff feature shown above is located near the bottom of a steep slope adjacent to cliffs C_0062 and C_0064. The sandstone/siltstone rock has been weathered, leaving holes and crevices along its face. This feature has similar characteristics to the cliffs mentioned above. See the pictures on the following page for additional views of this feature. In the photo above this feature is the cliff on the right side of the view.

CLIFF FEATURE: C_0063



Photo: 2_2_06_24

Looking Northwest



Photo: 2_2_06_25

Looking Northwest

CLIFF FEATURE: C_0063



Photo: 2_2_06_27

Looking North

CLIFF FEATURE: C_0064



Photo: pre_3

Looking Northeast

FEATURE TYPE:	Cliff					
GEOMETRIC DIMENSIONS:	Length: 425 ft		Height: 50 ft			
LOCATION:	Township: 8S		Range: 39E		Section: 25	
HANDHELD GPS POINTS:		Northing	Easting		Northing	Easting
	17041	413952.35	2671210.52	17043	413853.91	2671324.79
	17042	413996.03	2671320.18	17044	414033.76	2671471.37

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The large cliff feature shown above is located toward the bottom of a steep slope adjacent to cliff C_0062 and C_0063. The sandstone/siltstone rock has been weathered, leaving holes and crevices along its face. This feature has similar characteristics to the cliffs mentioned above. This feature includes an area at the head of a draw. This area includes rocks that have been deposited like a rock outcrop. See the pictures on the following page for additional views of this feature. In the picture above, this feature is the cliff on the right side of the view.

Revised 4/06; Reference – South Fork Extension Amendment #00174

CLIFF FEATURE: C_0064



Photo: 2_2_06_30

Looking Southwest



Photo: 2_2_06_31

Looking North

CLIFF FEATURE: C_0064



Photo: 2_2_06_28

Looking Northeast

Township 8S, Range 39E
SECTION 25

Rock Outcrop Features

ROCK OUTCROP FEATURE: RO_0094



Photo: 1_17_06_14

Looking Southwest

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Outcrop area: 0.08 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
9032	410784.41	2673181.37	9034	410712.70	2673219.88
9033	410771.93	2673246.37	9035	410722.29	2673178.23

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: The sandstone/siltstone rock outcrop shown above creates voids and pockets where the rocks are stacked together. This type of outcrop is very typical across the minesite. The surrounding vegetation includes sparsely populated grass and sagebrush.

ROCK OUTCROP FEATURE: RO_0095



Photo: 1_17_06_17

Looking Southwest

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Area of Outcrop: 0.07 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:	Northing	Easting		Northing	Easting
9041	411048.45	2672214.24	9043	411164.47	2672192.38
9042	411081.25	2672213.17	9044	411122.84	2672258.33

SUBSTRATE: Siltstone

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: This small rock outcrop occurs at the top of a gentle slope. Due to the configuration of the rock in this outcrop, there are areas that animals have used for protection and habitat. This area is vegetated with juniper and sagebrush.

ROCK OUTCROP FEATURE: RO_0096



Photo: 1_17_06_18

Looking West

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Length: 65 ft Height: 5 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9045	411394.92	2672099.63
9046	411437.14	2672051.75

SUBSTRATE: Siltstone

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: This is a feature created by an outcrop of thin siltstone. Although this feature is relatively small, the geometry of the outcrop creates areas for habitat beneath and within the rocks. This outcrop is localized in this area and is located on a gently sloped, grass-covered hill.

ROCK OUTCROP FEATURE: RO_0097



Photo: 1_17_06_25

Looking South

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Area of outcrop: 0.03 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
9050	410881.16	2671780.45	9052	410838.94	2671828.33
9051	410877.44	2671777.99	9053	410879.45	2671839.93

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above is located within an area, which is densely populated with juniper trees. The outcrop in this area is relatively small, but appears to create good habitat due to its location and surrounding vegetation.

ROCK OUTCROP FEATURE: RO_0098



Photo: 1_17_06_26

Looking South

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Length: 200 ft Height: 10 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9055	410778.76	2671434.98
9056¹	410576.04	2671482.90

¹ This point is located in Township 8S, Range 39E, Section 36.

SUBSTRATE: Scoria

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: In many areas around the minesite, the peaks of hillsides are capped with a highly fractured scoria rock. This feature is an example of one of these scoria outcrops. This outcrop crosses into Township 8S, Range 39E, Section 36 but was included into this section because it contains the majority of this feature.

ROCK OUTCROP FEATURE: RO_0102



Photo: 1_17_06_35

Looking East

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Area of outcrop: 0.15 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
9071	410839.20	2670035.25	9073	410808.57	2670103.42
9072	410952.91	2670054.82	9074	410739.09	2670097.92

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: This rock outcrop is located at the head of a small draw that is a tributary to the South Fork Spring Creek. The formations created by the weathering of the sandstone has created habitat within the rocks. Picture 1_17_06_36 on the next page shows a closer view of the rocks in this feature.

ROCK OUTCROP FEATURE: RO_0102



Photo: 1_17_06_36

Looking North

ROCK OUTCROP FEATURE: RO_0103



Photo: 1_17_06_38

Looking Northeast

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Length: 85 ft Height: 5 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9078	410743.27	2670790.21
9079	410771.45	2670871.97

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above travels along the top of a hill overlooking a small draw. This feature is composed of siltstone/sandstone rock and overlies sandy silt subsoil. Overhangs and crevices within the rock are frequent in this feature.

ROCK OUTCROP FEATURE: RO_0149

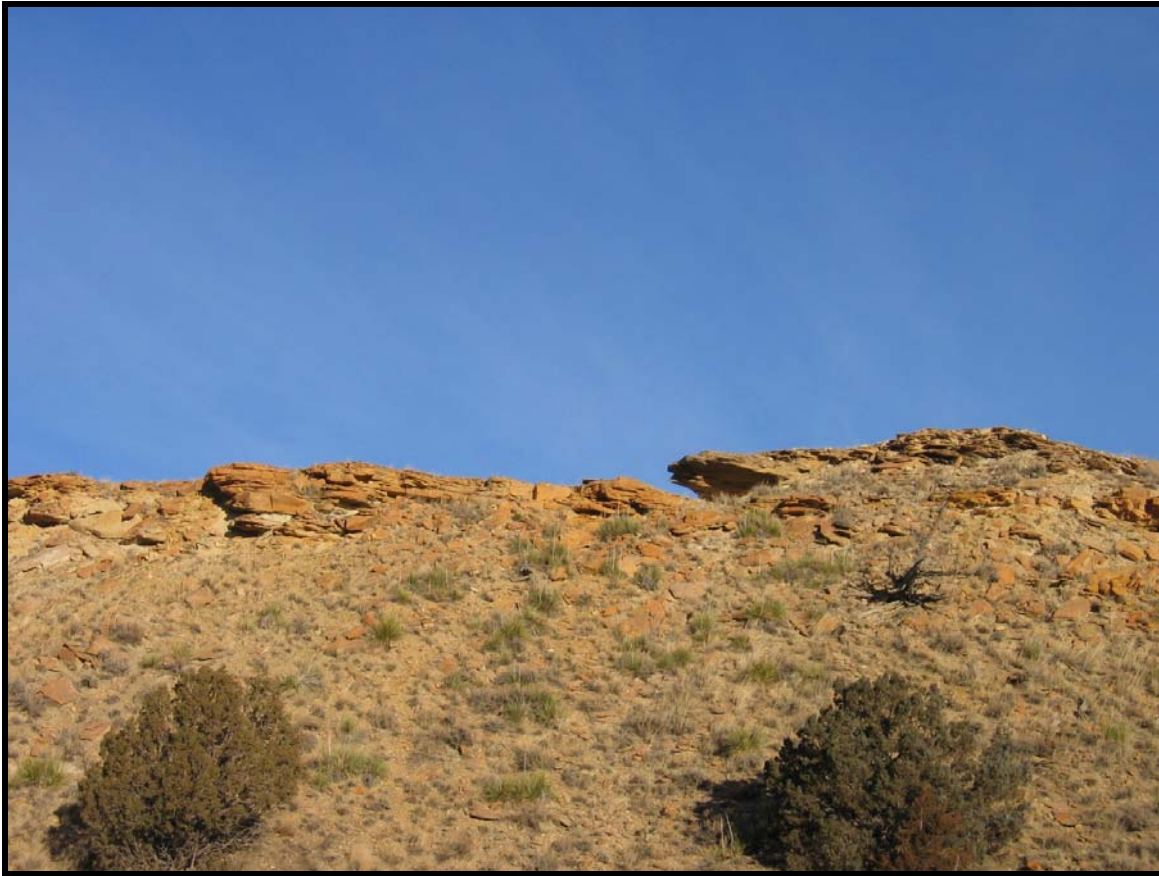


Photo: 1_23_06_34

Looking Northeast

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Length: 330 ft Height: 15 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
11065	411780.61	2669480.29
11066	412087.15	2669596.96

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above travels along the top of a hill overlooking a small draw. This feature is composed of siltstone/sandstone rock and overlies sandy silt subsoil. Overhangs and crevices within the rock are frequent in this feature. See the picture on the following page for an example of the overhangs within this outcrop.

ROCK OUTCROP FEATURE: RO_0149



Photo: 1_23_06_35

Looking Northeast

ROCK OUTCROP FEATURE: RO_0274



Photo: 2_2_06_07

Looking Northwest

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Area of outcrop: 0.60 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
17008	414646.90	2669340.99	17010	414793.33	2669356.91
17009	414797.56	2669713.25			

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above is located along the side of a hill composed of sandy silt soil. This feature consists of layered, siltstone/sandstone rock that is separated from other rocks within this feature by an average of 50 feet.

ROCK OUTCROP FEATURE: RO_0275



Photo: 2_2_06_08

Looking Northwest

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Area of outcrop: 0.11 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
17011	414883.34	2669320.42	17013	415152.55	2669185.13
17012	414902.39	2669345.63			

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above is located along the side of a hill composed of sandy silt soil. This feature consists of layered, siltstone/sandstone rock.

ROCK OUTCROP FEATURE: RO_0276



Photo: 2_2_06_09

Looking Northwest

FEATURE TYPE:	Rock Outcrop		
GEOMETRIC DIMENSIONS:	Length: 255 ft	Height: 5 ft	
LOCATION:	Township: 8S	Range: 39E	Section: 25
HANDHELD GPS POINTS:	Northing	Easting	
	17014	415332.74	2669117.30
	17015	415516.72	2668940.87

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above is located along the side of a hill composed of sandy silt soil. This feature is composed of layered, siltstone/sandstone rock. Erosion has created overhangs and crevices within and beneath the rock layer.

ROCK OUTCROP FEATURE: RO_0277



Photo: 2_2_06_10

Looking North

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Area of outcrop: 0.14 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
17016	415105.71	2669992.58	17018	414789.11	2670015.76
17017	414830.36	2670050.58			

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above is located along the side of a hill composed of sandy silt soil. This feature consists of layered, siltstone/sandstone rock. Erosion has created overhangs and crevices within and beneath the rock layer. The area around this feature is vegetated with grass and sagebrush.

ROCK OUTCROP FEATURE: RO_0278



Photo: 2_2_06_11

Looking Northeast

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Length: 215 ft Height: 10 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
17019	414627.45	2670318.06
17020	414415.10	2670293.95

SUBSTRATE: Sandstone/siltstone

EXPOSURE: Western facing slope

DESCRIPTION OF FEATURE: The rock feature shown above consists of fractured sandstone/siltstone rock that has formed a long, narrow outcrop. Along its length, the area is vegetated with grass, sagebrush and some small trees. This feature stands approximately 10 feet tall.

ROCK OUTCROP FEATURE: RO_0279



Photo: 2_2_06_12

Looking North

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Length: 50 ft Height: 5 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
17021	414180.12	2669908.91
17022	414224.60	2669930.72

SUBSTRATE: Scoria

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: In many areas around the minesite, the peaks of hillsides are capped with a highly fractured scoria rock. This feature is an example of one of these scoria outcrops. The face of this feature is jagged and stands approximately five feet high.

ROCK OUTCROP FEATURE: RO_0280



Photo: 2_2_06_13

Looking East

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Area of outcrop: 0.10 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
17023	413857.19	2670412.79	17025	413771.74	2670477.56
17024	413878.17	2670497.35			

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above is located along the side of a hill composed of sandy silt soil. This feature is composed of layered, siltstone/sandstone rock. The area around the feature is vegetated with grass, sagebrush, and some small trees.

ROCK OUTCROP FEATURE: RO_0281



Photo: 2_2_06_14

Looking Southwest

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Area of outcrop: 0.14 acres

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
17026	413660.25	2670414.01	17028	413589.51	2670369.80
17027	413635.37	2670321.81	17029	413596.49	2670472.91

SUBSTRATE: Siltstone/sandstone

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: The rock outcrop shown above is located at the top of a small hill composed of sandy silt soil, which is highly erosive. This feature is composed of solid, siltstone/sandstone rock. Due to erosion, voids have been created between and below the rocks.

ROCK OUTCROP FEATURE: RO_0282



Photo: 2_2_06_20

Looking West

FEATURE TYPE: Rock Outcrop

GEOMETRIC DIMENSIONS: Length: 90 ft Height: 15 ft

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
17032	413667.47	2670749.60
17033	413697.59	2670665.96

SUBSTRATE: Scoria

EXPOSURE: Northern facing slope

DESCRIPTION OF FEATURE: In many areas around the minesite, the peaks of hillsides are capped with a highly fractured scoria rock. This feature is an example of one of these scoria caprocks. The face of this feature is jagged and stands approximately 15 feet high. This rock outcrop is above C_0061.

Township 8S, Range 39E
SECTION 25

Riparian Areas

RIPARIAN FEATURE: R_0033



Photo: 1_17_06_19

Looking Southwest

FEATURE TYPE: Riparian Area

GEOMETRIC DIMENSIONS: See attached topographic map

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
9054	410884.78	2671217.09

SUBSTRATE: Not Applicable

EXPOSURE: Drainage runs in a northerly direction

DESCRIPTION OF FEATURE: This large drainage is a tributary to South Fork Spring Creek. The hills within the drainage vary from rolling to steep. Although there is a certain amount of vegetation, a large amount of erosion has occurred in the bottom of the channel due to the sandy silt subsoil.

RIPARIAN FEATURE: R_0062



Photo: 2_2_06_03

Looking North

FEATURE TYPE: Riparian Area

GEOMETRIC DIMENSIONS: See attached topographic map

LOCATION: Township: 8S Range: 39E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting
17004	413070.75	2670120.53

SUBSTRATE: Not Applicable

EXPOSURE: Drainage runs in a northerly direction

DESCRIPTION OF FEATURE: This drainage is a tributary to South Fork Spring Creek. The bottom is approximately 30 feet wide at the point where the photo above was taken. The channel is vegetated with grass and sagebrush.

Township 8S, Range 39E
SECTION 25

Other Features

OTHER FEATURE: O_0022



Photo: 2_2_06_02

Looking West

FEATURE TYPE: Cutbank

GEOMETRIC DIMENSIONS: Length: 145 ft Height: 20 ft

LOCATION: Township: 8S Range: 39 E Section: 25

HANDHELD GPS POINTS:

	Northing	Easting		Northing	Easting
17001	412937.21	2670277.28	17003	412929.55	2670153.52
17002	412967.25	2670191.05			

SUBSTRATE: Sandy Silt

EXPOSURE: Southern facing slope

DESCRIPTION OF FEATURE: This cutbank is located on the South Fork Spring Creek. The face of the feature has been eroded by flows down this channel. This feature has a layer of sandstone/siltstone at mid-height.