

**Township 8S, Range 39E**

**SECTION 35**

**Township 8S, Range 39E**  
**SECTION 35**

*Cliff Features*

**CLIFF FEATURE: C\_0016**



Photo: 1\_10\_06\_21

**Looking Northwest**

<b>FEATURE TYPE:</b>	Cliff		
<b>GEOMETRIC DIMENSIONS:</b>	Length: 125 ft	Height: 40 ft	
<b>LOCATION:</b>	Township: 8S	Range: 39E	Section: 35
<b>HANDHELD GPS POINTS:</b>	<b>Northing</b>	<b>Easting</b>	
	<b>5035</b>	408146.81	2667427.39
	<b>5036</b>	408143.40	2667321.56
	<b>5037</b>	408125.01	2667316.98
<b>SUBSTRATE:</b>	Sandstone and scoria		
<b>EXPOSURE:</b>	Southern facing slope		
<b>DESCRIPTION OF FEATURE:</b>	This small sandstone and scoria cliff has areas beneath the rock where the sandy silt soil has eroded away. The location of this feature is in a relatively flat area populated with sagebrush. Pictures 1_10_06_22, 1_10_06_23, 1_10_06_24, and 1_10_06_25 on the following pages show other views of this feature.		

**CLIFF FEATURE: C\_0016**



Photo: 1\_10\_06\_22

**Looking Northeast**



Photo: 1\_10\_06\_23

**Looking North**

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

313D-T8SR39E35-3

**CLIFF FEATURE: C\_0016**



Photo: 1\_10\_06\_24

**Looking Northwest**



Photo: 1\_10\_06\_25

**Looking Northwest**

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

313D-T8SR39E35-4

**Township 8S, Range 39E**  
**SECTION 35**

*Rock Outcrop Features*

**ROCK OUTCROP FEATURE: RO\_0016**



Photo: 1\_5\_06\_06

**Looking Southwest**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Length: 4530 ft Width: 200 ft

**LOCATION:** Township: 8S Range: 39E Section: 35

<b>HANDHELD GPS POINTS:</b>	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>3017</b> <sup>1</sup>	409027.80	2670308.41	<b>3023</b> <sup>1</sup>	409053.57	2669075.06
<b>3018</b> <sup>1</sup>	409066.77	2670159.87	<b>3024</b>	408872.24	2668881.97
<b>3019</b> <sup>1</sup>	409102.76	2670032.09	<b>3025</b>	409000.45	2668560.00
<b>3020</b> <sup>1</sup>	409016.16	2669835.94	<b>3026</b>	409019.85	2668257.06
<b>3021</b> <sup>1</sup>	409007.50	2669681.18	<b>3027</b>	409309.39	2667847.21
<b>3022</b> <sup>1</sup>	408951.67	2669308.33	<b>3028</b>	409396.45	2667945.17

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

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Southern facing slope

**DESCRIPTION OF FEATURE:** This is a very large rock outcrop on a steep, southern facing hill. The outcrop was created by the erosion of the soil beneath the sandstone/siltstone rock layer along the top of the hill. As the soil eroded, the rock layer broke away, leaving stacks of large rectangular rocks. The pictures on the next pages show more views of this outcrop.

**ROCK OUTCROP FEATURE: RO\_0016**



Photo: 1\_5\_06\_11

**Looking North**



Photo: 1\_5\_06\_12

**Looking West**

**ROCK OUTCROP FEATURE: RO\_0016**



Photo: 1\_5\_06\_17

**Looking West**



Photo: 1\_5\_06\_19

**Looking Southwest**

**ROCK OUTCROP FEATURE: RO\_0029**



Photo: 1\_10\_06\_16

**Looking Southeast**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Area of outcrop: 0.03 acres

**LOCATION:** Township: 8S                      Range: 39E                      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>5025</b>	406721.11	2668010.91	<b>5027</b>	406694.61	2667980.75
<b>5026</b>	406673.74	2668012.44	<b>5028</b>	406730.96	2667976.99

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Northern facing slope

**DESCRIPTION OF FEATURE:** This large overhang was created by the erosion of the sandy silt subsoil beneath a sandstone/siltstone rock layer. The resultant overhang creates holes beneath the rock layer, and within the rock that has broken away. See pictures 1\_10\_06\_17 and 1\_10\_06\_18 on the following pages for more views of this feature.

**ROCK OUTCROP FEATURE: RO\_0029**



Photo: 1\_10\_06\_17

**Looking Northwest**



Photo: 1\_10\_06\_18

**Looking Southwest**

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

313D-T8SR39E35-10

**ROCK OUTCROP FEATURE: RO\_0030**



Photo: 1\_10\_06\_19

**Looking Northwest**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Length: 340 ft      Height: 20 ft

**LOCATION:** Township: 8S      Range: 39E      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>5029</b>	407022.77	2667750.50	<b>5031</b>	407156.31	2667932.25
<b>5030</b>	407078.77	2667790.04	<b>5032</b>	407189.21	2668047.47

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Northern facing slope

**DESCRIPTION OF FEATURE:** This overhang was created by the erosion of the sandy silt subsoil beneath a sandstone/siltstone rock layer. This feature is located at the headwaters of a small draw. Features of this type are very common in this area.

**ROCK OUTCROP FEATURE: RO\_0031**



Photo: 1\_10\_06\_20

**Looking Northwest**

<b>FEATURE TYPE:</b>	Rock Outcrop		
<b>GEOMETRIC DIMENSIONS:</b>	Length: 30 ft	Height: 5 ft	
<b>LOCATION:</b>	Township: 8S	Range: 39E	Section: 35
<b>HANDHELD GPS POINTS:</b>	<b>Northing</b>	<b>Easting</b>	
	<b>5033</b>	407422.21	2667807.38
	<b>5034</b>	407439.60	2667780.97
<b>SUBSTRATE:</b>	Sandstone/siltstone		
<b>EXPOSURE:</b>	Northern facing slope		
<b>DESCRIPTION OF FEATURE:</b>	The outcrop shown above occurs at the top of a moderately steep hill formed from sandy silt soil. The surrounding area is sparsely vegetated with grass and sagebrush.		

**ROCK OUTCROP FEATURE: RO\_0032**



Photo: 1\_10\_06\_26

**Looking West**

<b>FEATURE TYPE:</b>	Rock Outcrop		
<b>GEOMETRIC DIMENSIONS:</b>	Length: 120 ft	Height: 10 ft	
<b>LOCATION:</b>	Township: 8S	Range: 39E	Section: 35
<b>HANDHELD GPS POINTS:</b>	<b>Northing</b>	<b>Easting</b>	
	<b>5038</b>	408149.67	2666497.07
	<b>5039</b>	408030.25	2666526.75
<b>SUBSTRATE:</b>	Scoria		
<b>EXPOSURE:</b>	Southern facing slope		
<b>DESCRIPTION OF FEATURE:</b>	Outcrops of scoria are very common in this area. The outcrop has many holes and the face is very jagged.		

**ROCK OUTCROP FEATURE: RO\_0033**



Photo: 1\_10\_06\_27

**Looking North**

<b>FEATURE TYPE:</b>	Rock Outcrop					
<b>GEOMETRIC DIMENSIONS:</b>	Area of outcrop: 7.56 acres					
<b>LOCATION:</b>	Township: 8S		Range: 39E		Section: 35	
<b>HANDHELD GPS POINTS:</b>		<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
	<b>5040</b>	405890.24	2666564.71	<b>5045</b>	405448.24	2667225.03
	<b>5041</b>	405508.79	2666613.18	<b>5046</b>	405410.49	2667298.61
	<b>5042</b>	405899.73	2666972.72	<b>5047</b>	405546.73	2667338.15
	<b>5044</b>	405795.24	2667125.98	<b>5055</b>	405250.37	2667084.11
<b>SUBSTRATE:</b>	Sandstone/siltstone					
<b>EXPOSURE:</b>	Southern facing slope					
<b>DESCRIPTION OF FEATURE:</b>	This type of large outcrop occurs in many locations around the minesite. The large, flat rocks are surrounded by grass, sagebrush and small trees. See pictures 1_10_06_28, 1_10_06_29, and 1_10_06_30 on the following pages.					

**ROCK OUTCROP FEATURE: RO\_0033**



Photo: 1\_10\_06\_28

**Looking Northeast**



Photo: 1\_10\_06\_29

**Looking Northwest**

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

313D-T8SR39E35-15

**ROCK OUTCROP FEATURE: RO\_0033**



Photo: 1\_10\_06\_30

**Looking Northeast**

**ROCK OUTCROP FEATURE: RO\_0034**



Photo: 1\_10\_06\_32

**Looking East**

<b>FEATURE TYPE:</b>	Rock Outcrop		
<b>GEOMETRIC DIMENSIONS:</b>	Length: 465 ft	Height: 10 ft	
<b>LOCATION:</b>	Township: 8S	Range: 39E	Section: 35
<b>HANDHELD GPS POINTS:</b>	<b>Northing</b>	<b>Easting</b>	
	<b>5048</b>	405671.71 2667367.71	
	<b>5049</b>	405602.92 2667610.27	
	<b>5050</b>	405547.55 2667816.22	
<b>SUBSTRATE:</b>	Scoria		
<b>EXPOSURE:</b>	Southern facing slope		
<b>DESCRIPTION OF FEATURE:</b>	The rock outcrop shown above consists of large, weathered, sandstone/siltstone rocks, which are located on highly erosive subsoil. This feature is surrounded by a moderately steep, sagebrush covered slope.		

**ROCK OUTCROP FEATURE: RO\_0035**



Photo: 1\_10\_06\_33

**Looking East**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Length: 230 ft      Height: 10 ft

**LOCATION:** Township: 8S      Range: 39E      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>5051</b>	405575.74	2668011.72	<b>5053</b>	405470.51	2668141.75
<b>5052</b>	405501.14	2668073.57	<b>5054</b>	405483.27	2668198.19

**SUBSTRATE:** Scoria

**EXPOSURE:** Southern facing slope

**DESCRIPTION OF FEATURE:** The top of this hillside is capped with a highly fractured, scoria rock. This caprock is located at the top of a steep (greater than 3H:1V) slope.

**ROCK OUTCROP FEATURE: RO\_0036**



Photo: 1\_10\_06\_35

**Looking North**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Area of outcrop: 1.72 acres

**LOCATION:** Township: 8S                      Range: 39E                      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>5056</b>	405286.68	2667871.16	<b>5059</b>	405360.65	2668354.63
<b>5057</b>	405225.76	2668017.85	<b>5065</b>	405285.05	2669176.31
<b>5058</b>	405287.41	2668232.95			

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Southern facing slope

**DESCRIPTION OF FEATURE:** The large rock outcrop shown above covers a significant amount of area. The rocks are large, flat, sandstone/siltstone rocks. The surrounding vegetation includes grass, sagebrush and small trees. See pictures 1\_10\_06\_37, 1\_10\_06\_38, 1\_10\_06\_39, and 1\_10\_06\_40 on the following pages for a closer view of this outcrop.

**ROCK OUTCROP FEATURE: RO\_0036**



Photo: 1\_10\_06\_37

**Looking Northeast**



Photo: 1\_10\_06\_38

**Looking North**

**ROCK OUTCROP FEATURE: RO\_0036**



Photo: 1\_10\_06\_39

**Looking North**



Photo: 1\_10\_06\_40

**Looking Southeast**

**ROCK OUTCROP FEATURE: RO\_0037**



Photo: 1\_10\_06\_43

**Looking East**

<b>FEATURE TYPE:</b>	Rock Outcrop		
<b>GEOMETRIC DIMENSIONS:</b>	Length: 160 ft	Height: 5 ft	
<b>LOCATION:</b>	Township: 8S	Range: 39E	Section: 35
<b>HANDHELD GPS POINTS:</b>	<b>Northing</b>	<b>Easting</b>	
	<b>5069</b> 405258.71	2668812.77	

It was observed that this outcrop travels to the southern boundary of Section 35.

<b>SUBSTRATE:</b>	Sandstone/siltstone
<b>EXPOSURE:</b>	Southern facing slope
<b>DESCRIPTION OF FEATURE:</b>	The rock outcrop shown above is very common in this area. The large, flat, sandstone/siltstone rocks are low-lying and are surrounded with grass and sagebrush.

**ROCK OUTCROP FEATURE: RO\_0039**



Photo: 1\_11\_06\_16

**Looking North**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Area of outcrop: 0.23 acres

**LOCATION:** Township: 8S Range: 39E Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>6027</b>	408504.78	2668121.25	<b>6029</b>	408661.62	2668007.66
<b>6028</b>	408624.78	2668109.62	<b>6030</b>	408606.46	2667993.94

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Southern facing slope

**DESCRIPTION OF FEATURE:** This small outcrop adjacent to the Pearson Creek channel bottom. Small crevices created within and between the rocks have created good habitat. The southern facing hillside, on which the outcrop is located, is steep (greater than 3H:1V).

**ROCK OUTCROP FEATURE: RO\_0040**



Photo: 1\_11\_06\_17

**Looking Northwest**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Area of outcrop: 0.15 acres

**LOCATION:** Township: 8S Range: 39E Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>6031</b>	408625.87	2667690.99	<b>6033</b>	408782.56	2667685.94
<b>6032</b>	408681.53	2667720.20	<b>6034</b>	408831.91	2667632.66

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Southern facing slope

**DESCRIPTION OF FEATURE:** This small rock outcrop is located within a soft sandy silt material. The surrounding vegetation consists of grass, sagebrush, and some small trees.

**ROCK OUTCROP FEATURE: RO\_0108**



Photo: 1\_18\_06\_08

**Looking North**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Area of outcrop: 1.21 acres

**LOCATION:** Township: 8S      Range: 39E      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>
<b>10015</b>	410357.14	2668777.10
<b>10016</b>	410217.21	2668962.49
<b>10017<sup>2</sup></b>	410791.08	2668659.72
<b>10018<sup>2</sup></b>	410715.70	2668584.65

<sup>2</sup> This point is located in Township 8S, Range 39E, Section 26.

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Northern facing slope

**DESCRIPTION OF FEATURE:** Small crevices created within and between the rocks are frequent within this sandstone/siltstone rock outcrop. This feature is located on a moderately sloped hill. See the picture on the following page for another view of this outcrop.

**ROCK OUTCROP FEATURE: RO\_0108**



Photo: 1\_18\_06\_09

**Looking Southwest**

**ROCK OUTCROP FEATURE: RO\_0110**



Photo: 1\_18\_06\_11

**Looking North**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Area of outcrop: 0.23 acres

**LOCATION:** Township: 8S Range: 39E Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>
<b>10023</b>	409935.47	2668144.79
<b>10024</b>	409759.10	2668331.36
<b>10026</b>	410044.79	2668141.26

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Southern facing slope

**DESCRIPTION OF FEATURE:** This type of rock outcrop is very typical in this area. The large siltstone/sandstone rocks have created extensive habitat. The individual rocks are very large and typically create voids between their bottom and the top of the soil.

**ROCK OUTCROP FEATURE: RO\_0111**



Photo: 1\_18\_06\_12

**Looking North**

**FEATURE TYPE:** Rock Outcrop

**GEOMETRIC DIMENSIONS:** Length: 275 ft      Width: 15 ft

**LOCATION:** Township: 8S      Range: 39E      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>
<b>10027</b>	410309.66	2667305.92
<b>10028</b>	410498.52	2667506.52

**SUBSTRATE:** Sandstone/siltstone

**EXPOSURE:** Northern facing slope

**DESCRIPTION OF FEATURE:** This type of rock outcrop is very typical in this area. The individual rocks are very large and typically create voids between their bottom and the top of the soil.

**Township 8S, Range 39E**  
**SECTION 35**

*Riparian Areas*

**RIPARIAN FEATURE: R\_0002**



Photo: 1\_10\_06\_31

**Looking South**

**FEATURE TYPE:** Riparian Area

**GEOMETRIC DIMENSIONS:** See attached topographic map

**LOCATION:** Township: 8S                      Range: 39E                      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>
<b>5043</b>	405834.32	2667093.70

**SUBSTRATE:** Not Applicable

**EXPOSURE:** Drainage runs in a southerly direction

**DESCRIPTION OF FEATURE:** This drainage covers a large area and runs in a southerly direction. As is shown on the picture above, the channel has extensive vegetative cover.

**RIPARIAN FEATURE: R\_0015**



Photo: 1\_11\_06\_18

**Looking North**

**FEATURE TYPE:** Riparian Area

**GEOMETRIC DIMENSIONS:** See attached topographic map

**LOCATION:** Township: 8S                      Range: 39E                      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>
<b>6035</b>	409226.82	2667322.77

**SUBSTRATE:** Not applicable

**EXPOSURE:** Drainage runs in a southerly direction

**DESCRIPTION OF FEATURE:** This small draw is a tributary to Pearson Creek. The channel bottom for this draw is wide and has extensive vegetative cover, which consists of grass, sagebrush, and small trees.

**RIPARIAN FEATURE: R\_0016**



Photo: 1\_11\_06\_19

**Looking Southwest**

**FEATURE TYPE:** Riparian Area

**GEOMETRIC DIMENSIONS:** See attached topographic map

**LOCATION:** Township: 8S                      Range: 39E                      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>
<b>6036</b>	408403.75	2667703.33

**SUBSTRATE:** Not applicable

**EXPOSURE:** Drainage runs in a northerly direction

**DESCRIPTION OF FEATURE:** This small draw is a tributary to Pearson Creek. The channel bottom for this draw is wide and has extensive vegetative cover.

**RIPARIAN FEATURE: R\_0017**



Photo: 1\_11\_06\_21

**Looking South**

**FEATURE TYPE:** Riparian Area

**GEOMETRIC DIMENSIONS:** See attached topographic map

**LOCATION:** Township: 8S                      Range: 39E                      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>
<b>6041</b>	408168.10	2668426.70

**SUBSTRATE:** Not applicable

**EXPOSURE:** Drainage runs in a northerly direction

**DESCRIPTION OF FEATURE:** This small draw is a tributary to Pearson Creek. The channel bottom for this draw is wide and has extensive vegetative cover.

**Township 8S, Range 39E**  
**SECTION 35**

*Other Features*

**OTHER FEATURE: O\_0006**



Photo: 1\_11\_06\_15

**Looking Northwest**

**FEATURE TYPE:** Cutbank

**GEOMETRIC DIMENSIONS:** Length: 155 ft      Height: 20 ft

**LOCATION:** Township: 8S      Range: 39E      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>6023</b>	408341.78	2668834.53	<b>6025</b>	408301.78	2668838.40
<b>6024</b>	408262.69	2668870.67	<b>6026</b>	408302.00	2668732.45

**SUBSTRATE:** Silty sand

**EXPOSURE:** Southern facing slope

**DESCRIPTION OF FEATURE:** As shown in the picture above, this cutbank is adjacent to Pearson Creek. This feature has a large amount of holes in the soft, sandy silt material.

**OTHER FEATURE: O\_0007**



Photo: 1\_11\_06\_20

**Looking Southeast**

**FEATURE TYPE:** Cutbank

**GEOMETRIC DIMENSIONS:** Length: 115 ft      Height: 15 ft

**LOCATION:** Township: 8S      Range: 39E      Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>		<b>Northing</b>	<b>Easting</b>
<b>6037</b>	408359.90	2667926.97	<b>6039</b>	408385.32	2667923.56
<b>6038</b>	408406.60	2667904.79	<b>6040</b>	408388.16	2668011.33

**SUBSTRATE:** Silty sand

**EXPOSURE:** Northern facing slope

**DESCRIPTION OF FEATURE:** As shown in the picture above, this cutbank is adjacent to Pearson Creek. This feature has a large amount of holes in the soft, sandy silt material.

**OTHER FEATURE: O\_0008**



Photo: 1\_11\_06\_22

**Looking Southeast**

**FEATURE TYPE:** Cutbank

**GEOMETRIC DIMENSIONS:** Length: 90 ft Height: 30 ft

**LOCATION:** Township: 8S Range: 39E Section: 35

**HANDHELD GPS POINTS:**

	<b>Northing</b>	<b>Easting</b>
<b>6042</b>	408160.52	2668982.51
<b>6043</b>	408147.20	2669021.70
<b>6044</b>	408170.56	2669067.45

**SUBSTRATE:** Silt, sand, and scoria

**EXPOSURE:** Northern facing slope

**DESCRIPTION OF FEATURE:** As shown in the picture above, this cutbank is adjacent to Pearson Creek. This feature has a large amount of holes in the soft, sandy silt material. This bank also contains scoria, which is imbedded into the soil.