



PERMIT VOLUME 1B & 1C

Addendum 313D

SLOPE ASSESSMENT AND SPECIAL HABITAT FEATURES STUDY

Prepared for:

Spring Creek Coal Company

April 2006

SLOPE ASSESSMENT AND SPECIAL HABITAT FEATURES STUDY

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1.0 INTRODUCTION

1.1 Purpose of Study

At the request of Spring Creek Coal Company (SCCC), WWC Engineering (WWC) performed investigations of special habitat features at the Spring Creek Mine (SCM). The study incorporated the collection of data to record identifying characteristics of each feature, including but not limited to its size and location. Photographs of each feature offer visual evidence of the characteristics that have been analyzed and recorded. The pictures and data collected may serve as a baseline for future reclamation at SCM. The information contained herein has been collected to allow the documentation of premine features.

1.2 Scope of Study

The investigations for this study were conducted in all lands currently permitted by SCCC, as well as areas being considered for future amendments. Each feature has been categorized the feature type and location by Township, Range, and Section.

The study encompasses a broad range of features. The subgroups for the special features contained herein were determined through communications with SCCC, WWC and the Montana Department of Environmental Quality (MDEQ). Each feature studied was categorized into one of the following groups:

1. Cliff Features
2. Rock Outcrops
3. Riparian Areas
4. Other Features

5. Steep Slope Features

2.0 DEFINITION OF FEATURES

Prior to identifying features in the field, a methodology for categorizing features had to be established. In many cases, the differences between cliffs and outcrops was not easily distinguished. In order to maintain consistency and to increase the overall effectiveness of the study, the following definitions were used in the field.

2.1 Cliff Features

Cliff features were characterized by their geometry. Vertical rock faces and heights greater than ten feet were required to justify a cliff characterization. If a feature had a vertical face but was less than ten feet high, it was considered a rock outcrop. Many features across the mine area consisted of a cliff feature with a rock outcrop deposited below. In this case, if the cliff was larger and appeared to offer more habitat than the feature below, it was noted as a cliff in the study. For features with larger rock outcrops see the definition of rock outcrop features below.

2.2 Rock Outcrop Features

Rock outcrops occur more frequently than any other feature at SCM. The definition for these features is relatively broad, making the categorization more difficult. In this study, a feature was considered a rock outcrop if contained any of the following characteristics:

1. Short, layered rocks exposed on the side of a slope.

2. Large or small rocks located on top of the ground surface.
3. Rocks with top and sides exposed to the atmosphere.
4. Scoria outcrops at the tops of hills.
5. Large piles of rocks at the bottom of a small cliff or rock layer.

As is mentioned in number 5 above, in cases where large piles of rocks lay at the bottom of a small cliff, the feature is considered rock outcrop. This is only in the case where the outcrop is much larger than the cliff feature above. Cliff/rock outcrop features are very common throughout the mine area, so this determination was made very clear at the start of the investigation.

2.3 Riparian Areas

Over the course of the study, many riparian areas were encountered. Drainages that showed signs of carrying significant volumes of water, and whose banks could offer habitat were identified and recorded. The determination of the size of the channel and potential to carry water were determined in the field by viewing the channel geometry. This study did not include the major channels of Spring Creek, North Fork Spring Creek, South Fork Spring Creek or Pearson Creek. It is felt that these features are addressed in other portions of the permit.

2.4 Other Features

The designation of other features has been included to incorporate any other features that are determined to offer habitual value, but do not fit into the categories

above. One such features are cutbanks along channel bottoms. Several of these cutbanks have been included in this study because of the noticeable habitat value within the face of the feature.

2.5 Steep Slope Feature

Steep slope features are those features located at SCM while having slope greater than; 4H:1V. Section 3.0 discusses how steep slope features were identified.

3.0 SPRING CREEK MINE TOPOGRAPHY

3.1 Slope Assessments

Prior to investigating special habitat features at the mine, a slope study was performed on the lands within the proposed disturbance boundary. The slope analysis identified slope regions in both the premine and postmine conditions. From this analysis steep slope features can be identified.

Pre- and postmine slope and slope aspect assessments are commonly conducted to ascertain the degree of resemblance between original topography and the design PMT. A pre- and postmine slope assessment was conducted using a 50-foot grid of the projected disturbance area. The algorithm used to conduct the assessment samples the surface within the grid to ascertain maximum slope and corresponding direction (aspect). Slope results are tabulated in increments of 2% based on the number of grids, or amount of surface area, that falls within each slope increment.

313 Addendum D, Plate 1, Premine Slope Distribution and 313 Addendum D, Plate 2, Postmine Slope Distribution illustrate the slope distribution of the respective

surfaces with a color array linked to the slope interval for each grid. Colors transition from lighter shades at flatter slopes to dark shades for steeper slopes. Steep slope areas (slopes $\geq 33\%$ or 3H:1V) are further highlighted in red, which again indicates the greater area of steeper slopes in the premine versus postmine topography. The drawings also include a table of the slope distribution, slope aspect and histogram of the slope distribution.

As shown in 313 Addendum D, Plate 2, slopes greater than 3H:1V will only occur in borrow areas near the drainage divide where steep slopes are common in the native topography and the original material has exhibited stability at similar slopes. The tables located on 313 Addendum D, Plates 1 and 2 provide a summary of the steep slope areas for both the premine and postmine topography.

Areas of regraded backfill will be limited to 4H:1V slopes, which have been shown at Spring Creek mine to be geotechnically stable. A geotechnical analysis will be prepared and submitted to MDEQ prior to constructing any slopes greater than 3H:1V. A slope stability study will be performed on a case-by-case basis or as requested by MDEQ.

Given the degree of resemblance in slope and slope aspect, the PMT appears to provide very similar levels of topographic diversity found in the premine topography, indicating that the reclaimed terrain should readily support the postmine land use of livestock and wildlife grazing. Over time, the similarity of the PMT and premine topography should also yield similar habitat and vegetation types in the PMT as required for compliance with the postmine land use.

Because of the methods used, 50-foot grid, smaller features are not identified by the slope analysis. Therefore, the special feature study provides additional data on the premine topography within the mine site.

3.2 Steep Slope Assessment

313 Addendum D, Plate 3, Premine Steep Slope Definition Map and 313 Addendum D, Plate 4, Postmine Steep Slope Definition Map show areas of slopes greater than or equal to 4H:1V. Again, the color array for the slope interval transitions from lighter shades to darker shades as the slope increases.

Steep slope areas were created in the topography for enhancement of wildlife and vegetation diversity, to maintain drainage divides and to limit the need for borrow material. To demonstrate that the area and magnitude of postmine steep slopes within the disturbed area are similar to premine conditions, the total area of areas occupied by steep slopes were quantified. Tables showing the results of this analysis are presented on 313 Addendum D, Plate 3 and 313 Addendum D, Plate 4 for premine and postmine conditions, respectively.

The results of the field study, combined with the steep slope definition analysis, demonstrate that the postmine topography will have steep slope features similar to those present in the premine condition.

4.0 DATA COLLECTION METHODOLOGY

Each of the different types of features listed in Section 2.0 required different methods for data collection. The data required for each type of feature was determined

through communications with MDEQ. The narrative below discusses each type of data and how it was collected for the different types of features.

4.1 Numbering Convention

Each feature was given its own identification. The numbering was divided into each of the subgroups. Cliff features were given numbers that started with C, rock outcrops were designated numbers that start with RO, the riparian areas were given numbers that start with R, and the other features were given numbers that start with O. The numbers were identified with four digits to allow SCM to continue the numbering as the mine expands.

Photographs taken of the features also had their own numbering system. As can be seen just beneath the pictures in the appendices, the photograph numbers consist of the date the picture was taken and the number of the picture on that day. For example, the third picture taken on December 30, 2005 would appear in the format of 12_30_05_03.

4.2 Geometric Dimensions

The dimensions measured for each feature were dependent on the geometry and type of feature that was being investigated. Some features were difficult to access, only making a single point possible. For these features an estimate of overall size was made and noted in the field.

For cliff features, points were taken with the handheld GPS unit along the length of the feature including a point at each end. If possible, another point was taken at the

top of the feature to give the approximate height. If a point at the top of the feature was not possible, an estimate of the overall height was taken and noted in the field.

Certain types of rock outcrops were also measure for length and height in the same manner. If the rock outcrop covered a large area, however, more than three points were taken. These points were transferred to AutoCadd® 2006 and the area was calculated.

Riparian areas were not measured for geometric dimensions, as the size could be determined from a topographic map. A single point was taken for these features, usually toward the bottom of the drainage, for location purposes only. Once the location is known, an overall length can be determined. For many of the Riparian Areas, general channel geometry is noted in the description of the feature.

Other features, such as cutbanks, were measured in much the same way as cliff features. An overall length was marked and the height of the feature was either marked or estimated in the field.

4.3 Handheld GPS Points

The GPS points taken for the features in this study were taken using a handheld GPS unit. Generally, the accuracy of the GPS unit is within +/- 25 feet in the horizontal and vertical directions. Marking points with this range of accuracy allows the reviewer to find the general location of the feature and to make inferences on the overall size.

4.4 Substrate

As the feature was being located and measured, the type and condition of the feature's substrate was also investigated. A note was made in the field manual so the substrate could be included in this study. For non-rock or soil features, such as the riparian areas, the substrate was not included. It was, however, noted in the narrative if the soil in the channel was of interest.

4.5 Exposure

Included in the data was the exposure of the feature. The direction that the slope containing the feature is facing is noted in the field data. In some instances, when the feature is located in a flat area the exposure is noted as "Not Applicable". Also, for riparian areas, the direction of the drainage flow is noted.

4.6 Description of Feature

A general description is included in the index for each feature. The description outlines any details that are important for the feature. The description, along with the photograph, give the reader a depiction of the area in which the feature is located, why the feature was surveyed, and lists any neighboring features.

5.0 SUMMARY

There are many features across the minesite that meet the definitions of cliffs, rock outcrops, riparian areas, and other features. Each of these features is described in the attached appendices (located in Volumes 1B and 1C). Photographs and the data,

Section 17.24.313

as described above, are included to give the reader an accurate description of the feature. Also, a list of these features and their dimensions has been compiled to serve as a summary of special habitat features at SCM. This list is provided in Table 313D-3. This data will assist the mine in the reclamation process by providing examples of what features were present premining.

Table 313D-1. Spring Creek Mine Special Habitat Features Summary

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 13				
C_0057	100	10	-	-
C_0058	95	20	-	-
C_0060	95	10	-	-
RO_0234	285	-	20	-
RO_0235	120	5	-	-
RO_0236	420	-	50	-
RO_0237	-	-	-	0.18
RO_0238	210	5	-	-
RO_0239	-	-	-	1.38
RO_0240	-	-	-	0.99
RO_0247	55	15	-	-
RO_0248	110	10	-	-
RO_0249	65	5	-	-
RO_0250	80	5	-	-
RO_0251	90	5	-	-
RO_0252	-	-	-	0.1
RO_0253	130	10	-	-
RO_0254	-	-	-	0.39
RO_0255	-	-	-	0.07
RO_0256	-	-	-	0.33
RO_0257	-	-	-	0.19
RO_0258	-	-	-	0.01
RO_0259	105	20	-	-
RO_0267	-	-	-	0.14
RO_0268	-	-	-	1.26
RO_0269	-	-	-	0.54
RO_0270	-	-	-	1.31
RO_0271	-	-	-	4.52
RO_0272	175	5	-	-
R_0059	-	-	-	-
R_0061	-	-	-	-
Subtotal	2,135	10	70	11.41
Township 8S, Range 39E, Section 14				
C_0052	570	25	-	-
C_0053	175	15	-	-
C_0054	610	100	-	-
C_0055	200	35	-	-
C_0056	350	20	-	-
C_0059	920	20	-	-
RO_0229	-	-	-	1
RO_0230	-	-	-	0.21

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

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 14 (Continued)				
RO_0231	-	-	-	2.56
RO_0232	-	-	-	0.04
RO_0233	-	-	-	2.5
RO_0241	145	15	-	-
RO_0242	85	5	-	-
RO_0243	160	20	-	-
RO_0244	110	10	-	-
RO_0261	415	5	-	-
RO_0262	360	10	-	-
RO_0263	-	-	-	0.54
RO_0264	-	-	-	0.03
RO_0265	-	-	-	3.66
RO_0266	-	-	-	0.22
R_0054	-	-	-	-
R_0055	-	-	-	-
R_0056	-	-	-	-
R_0057	-	-	-	-
R_0060	-	-	-	-
O_0019	140	40	-	-
Subtotal	4,240	25	0	10.76
Township 8S, Range 39E, Section 15				
C_0050	870	10	-	-
C_0051	135	30	-	-
RO_0210	-	-	-	0.16
RO_0211	150	15	-	-
RO_0212	-	-	-	0.09
RO_0213	20	10	-	-
RO_0214	-	-	-	0.21
RO_0215	110	5	-	-
RO_0216	390	15	-	-
RO_0219	510	5	-	-
RO_0225	-	-	-	180 ft ²
RO_0226	-	-	-	1.46
RO_0227	-	-	-	0.55
RO_0228	-	-	-	1.01
R_0049	-	-	-	-
R_0050	-	-	-	-
R_0051	-	-	-	-
R_0053	-	-	-	-
Subtotal	2,185	13	0	3.48

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 22				
C_0044	80	15	-	-
C_0045	90	15	-	-
C_0046	20	10	-	-
C_0047	145	10	-	-
C_0048	70	25	-	-
C_0049	175	100	-	-
RO_160	-	-	-	0.98
RO_161	-	-	-	0.63
RO_162	230	5	-	-
RO_163	110	10	-	-
RO_164	-	-	-	6.41
RO_165	100	50	15	-
RO_166	70	10	-	-
RO_167	-	-	-	0.14
RO_169	-	-	-	0.26
RO_170	-	-	-	0.09
RO_171	-	-	-	0.71
RO_172	-	-	-	0.34
RO_173	-	-	-	0.16
RO_174	-	-	-	0.76
RO_175	300	10	-	-
RO_176	-	-	-	0.26
RO_177	260	15	-	-
RO_178	140	20	-	-
RO_179	770	5	-	-
RO_180	300	5	-	-
RO_181	-	-	-	1.39
RO_182	-	-	-	1.1
RO_183	50	5	-	-
RO_184	-	-	-	2.56
RO_185	-	-	-	0.13
RO_186	-	-	-	2.05
RO_187	-	-	-	1.07
RO_188	-	-	-	0.16
RO_189	-	-	-	0.2
RO_190	-	-	-	0.64
RO_196	-	-	-	0.13
RO_197	-	-	-	0.18
RO_198	-	-	-	0.21
RO_199	-	-	-	0.43
RO_200	-	-	-	0.06
RO_201	240	5	-	-
RO_202	90	20	-	-

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

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 22 (Continued)				
RO_203	-	-	-	0.03
RO_204	-	-	-	0.86
RO_205	100	5	20	-
RO_206	-	-	-	0.27
RO_207	310	5	-	-
RO_208	-	-	-	1.61
RO_209	300	10	-	-
RO_217	-	-	-	0.12
RO_218	20	30	-	-
R_0039	-	-	-	-
R_0040	-	-	-	-
R_0041	-	-	-	-
R_0042	-	-	-	-
R_0043	-	-	-	-
R_0044	-	-	-	-
R_0045	-	-	-	-
R_0048	-	-	-	-
O_0015	60	20	-	-
O_0016	40	25	-	-
O_0017	200	15	-	-
O_0018	60	20	-	-
Subtotal	4,330	18	35	23.94
Township 8S, Range 39E, Section 23				
RO_0191	60	5	-	-
RO_0192	60	15	-	-
RO_0193	-	-	-	0.09
RO_0194	-	-	-	1.08
RO_0195	-	-	-	0.12
RO_0220	70	-	20	-
RO_0221	115	10	-	-
RO_0222	-	-	-	0.14
RO_0223	-	-	-	0.02
RO_0224	45	15	-	-
RO_0260	-	-	-	0.11
R_0047	-	-	-	-
R_0052	-	-	-	-
Subtotal	350	11	20	1.56

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 24				
RO_0245	-	-	-	0.61
RO_0246	-	-	-	0.1
RO_0273	50	5	-	-
R_0058	-	-	-	-
O_0020	40	15	-	-
O_0021	205	15	-	-
Subtotal	295	12	0	0.71
Township 8S, Range 39E, Section 25				
C_0031	65	15	-	-
C_0032	40	10	-	-
C_0033	55	10	-	-
C_0034	100	10	-	-
C_0037	10	15	-	-
C_0061	210	25	-	-
C_0062	195	45	-	-
C_0063	200	45	-	-
C_0064	425	50	-	-
RO_0094	-	-	-	0.08
RO_0095	-	-	-	0.07
RO_0096	65	5	-	-
RO_0097	-	-	-	0.03
RO_0098	200	10	-	-
RO_0102	-	-	-	0.15
RO_0103	85	5	-	-
RO_0149	330	15	-	-
RO_0274	-	-	-	0.6
RO_0275	-	-	-	0.11
RO_0276	255	5	-	-
RO_0277	-	-	-	0.14
RO_0278	215	10	-	-
RO_0279	50	5	-	-
RO_0280	-	-	-	0.1
RO_0281	-	-	-	0.14
RO_0282	90	15	-	-
R_0033	-	-	-	-
R_0062	-	-	-	-
O_0022	145	20	-	-
Subtotal	2,735	18	0	1.42

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 26				
C_0038	80	20	-	-
C_0039	80	15	-	-
C_0040	115	15	-	-
C_0041	60	10	-	-
C_0042	500	10	-	-
C_0043	860	25	-	-
RO_0109	-	-	-	0.05
RO_0112	-	-	-	0.78
RO_0113	200	-	20	-
RO_0114	-	-	-	1.28
RO_0115	-	-	-	0.15
RO_0116	40	10	-	-
RO_0117	35	20	-	-
RO_0118	380	30	-	-
RO_0119	60	10	-	-
RO_0120	45	15	-	-
RO_0121	35	5	-	-
RO_0122	35	10	-	-
RO_0123	110	15	-	-
RO_0124	110	5	-	-
RO_0125	60	-	10	-
RO_0126	-	-	-	0.04
RO_0127	210	5	-	-
RO_0128	-	-	-	0.11
RO_0129	200	10	-	-
RO_0130	-	-	-	0.04
RO_0131	-	-	-	0.2
RO_0132	-	-	-	0.07
RO_0133	200	5	-	-
RO_0134	20	10	-	-
RO_0135	90	5	-	-
RO_0136	-	-	-	0.55
RO_0148	-	-	-	130 ft ²
R_0034	-	-	-	-
R_0035	-	-	-	-
R_0036	-	-	-	-
R_0063	-	-	-	-
O_0023	120	20	-	-
Subtotal	3,645	13	30	3.27

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 27				
RO_0137	110	10	-	-
RO_0138	-	-	-	0.22
RO_0139	330	15	-	-
RO_0140	-	-	-	0.24
RO_0141	180	20	-	-
RO_0142	210	10	-	-
RO_0143	-	-	-	0.37
RO_0144	310	15	-	-
RO_0145	90	30	-	-
RO_0146	270	5	-	-
RO_0147	210	15	-	-
RO_0150	110	5	-	-
RO_0151	125	5	-	-
RO_0152	200	5	-	-
RO_0153	230	5	-	-
RO_0154	110	5	-	-
RO_0155	-	-	-	0.68
RO_0156	75	10	-	-
RO_0157	70	20	-	-
RO_0158	40	30	-	-
RO_0159	-	-	-	0.04
RO_0168	-	-	-	0.23
R_0037	-	-	-	-
R_0038	-	-	-	-
Subtotal	2,670	13	0	1.78
Township 8S, Range 39E, Section 35				
C_0016	125	40	-	-
RO_0016	4,530	-	200	-
RO_0029	-	-	-	0.03
RO_0030	340	20	-	-
RO_0031	30	5	-	-
RO_0032	120	10	-	-
RO_0033	-	-	-	7.56
RO_0034	465	10	-	-
RO_0035	230	10	-	-
RO_0036	-	-	-	1.72
RO_0037	160	5	-	-
RO_0039	-	-	-	0.23
RO_0040	-	-	-	0.15
RO_0108	-	-	-	1.21
RO_0110	-	-	-	0.23

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 35 (Continued)				
RO_0111	275	-	15	-
R_0002	-	-	-	-
R_0015	-	-	-	-
R_0016	-	-	-	-
R_0017	-	-	-	-
O_0006	155	20	-	-
O_0007	115	15	-	-
O_0008	90	30	-	-
Subtotal	6,635	17	215	11.13
Township 8S, Range 39E, Section 36				
C_0005	65	30	-	-
C_0006	50	40	-	-
C_0007	130	20	-	-
C_0008	25	30	-	-
C_0013	90	15	-	-
C_0014	130	10	-	-
C_0015	45	10	-	-
C_0017	570	25	-	-
C_0018	25	30	-	-
C_0028	90	10	-	-
C_0029	195	20	-	-
C_0035	240	10	-	-
C_0036	30	10	-	-
RO_0006	410	10	-	-
RO_0007	-	-	-	0.18
RO_0008	45	10	-	-
RO_0009	300	15	-	-
RO_0010	230	5	-	-
RO_0011	75	5	-	-
RO_0012	80	5	-	-
RO_0013	210	5	-	-
RO_0014	-	-	-	0.52
RO_0015	-	-	-	2.68
RO_0016	-	-	-	0.03
RO_0020	305	-	20	-
RO_0021	110	5	-	-
RO_0022	35	10	-	-
RO_0023	-	-	-	0.32
RO_0024	-	-	-	0.01
RO_0025	25	10	-	-
RO_0026	-	-	-	1.15
RO_0026a	-	-	-	0.1

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

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 39E, Section 36 (Continued)				
RO_0027	100	10	-	-
RO_0028	-	-	-	6.97
RO_0038	-	-	-	8.39
RO_0041	65	10	-	-
RO_0081	-	-	-	0.44
RO_0082	-	-	-	0.17
RO_0083	110	10	-	-
RO_0084	-	-	-	0.08
RO_0091	50	5	-	-
RO_0092	40	15	-	-
RO_0093	190	5	-	-
RO_0099	-	-	-	0.17
RO_0100	70	10	-	-
RO_0101	50	10	-	-
RO_0104	-	-	-	0.13
RO_0105	-	-	-	0.52
RO_0106	-	-	-	0.54
RO_0107	50	10	-	-
R_0011	-	-	-	-
R_0012	-	-	-	-
R_0013	-	-	-	-
R_0014	-	-	-	-
R_0018	-	-	-	-
R_0019	-	-	-	-
R_0020	-	-	-	-
R_0030	-	-	-	-
O_0005	85	20	-	-
O_0009	230	40	-	-
O_0010	90	15	-	-
O_0011	150	30	-	-
Subtotal	4,790	15	20	22.4
Township 8S, Range 40E, Section 29				
C_0027	370	20	-	-
RO_0087	20	15	-	-
RO_0088	40	-	20	-
RO_0089	-	-	-	0.06
RO_0090	20	10	-	-
Subtotal	450	15	20	0.06

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 40E, Section 30				
C_0022	30	30	-	-
C_0023	70	20	-	-
C_0024	100	15	-	-
C_0030	40	10	-	-
RO_0067	85	5	-	-
RO_0068	-	-	-	0.02
RO_0069	120	5	-	-
RO_0070	410	15	-	-
RO_0071	110	10	-	-
RO_0072	-	-	-	0.01
RO_0073	580	15	-	-
RO_0074	-	-	-	0.63
R_0032	-	-	-	-
Subtotal	1,545	14	0	0.66
Township 8S, Range 40E, Section 31				
C_0001	500	50	-	-
C_0002	1,000	15	-	-
C_0003	300	15	-	-
C_0004	200	40	-	-
C_0010	120	40	-	-
C_0011	100	10	-	-
C_0012	80	10	-	-
C_0025	40	20	-	-
C_0026	30	20	-	-
RO_0001	150	50	-	-
RO_0002	40	30	-	-
RO_0003	100	-	40	-
RO_0004	340	10	-	-
RO_0005	130	10	-	-
RO_0019	80	10	-	-
RO_0075	-	-	-	1.1
RO_0076	180	15	-	-
RO_0077	-	-	-	8.8
RO_0078	60	10	-	-
RO_0079	-	-	-	0.7
RO_0080	110	10	-	-
RO_0085	50	25	-	-
RO_0086	50	25	-	-
R_0006	-	-	-	-
R_0007	-	-	-	-
R_0008	-	-	-	-

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 8S, Range 40E, Section 31 continued				
R_0009	-	-	-	-
R_0010	-	-	-	-
R_0021	-	-	-	-
R_0022	-	-	-	-
R_0029	-	-	-	-
R_0031	-	-	-	-
O_0001	90	15	-	-
O_0002	180	20	-	-
O_0003	120	20	-	-
O_0004	70	20	-	-
O_0014	50	20	-	-
Subtotal	4,170	21	40	10.6
Township 8S, Range 40E, Section 32				
C_0021	80	20	-	-
RO_0066	35	10	-	-
Subtotal	115	15	0	0
Township 9S, Range 40E, Section 6				
C_0009	170	15	-	-
C_0019	150	15	-	-
C_0020	70	15	-	-
RO_0018	115	15	-	-
RO_0042	3890	20	-	-
RO_0043	-	-	-	0.13
RO_0044	120	10	-	-
Township 9S, Range 40E, Section 6				
RO_0045	100	20	-	-
RO_0046	-	-	-	2.61
RO_0047	60	10	-	-
RO_0048	40	10	-	-
RO_0049	105	5	-	-
RO_0050	100	25	-	-
RO_0051	-	-	-	0.64
RO_0052	-	-	-	0.19
RO_0053	15	10	-	-
RO_0054	-	-	-	9.68
RO_0055	-	-	-	2.47
RO_0056	100	15	-	-
RO_0057	-	-	-	0.18

Table 313D-1. Spring Creek Mine Special Habitat Features Summary (Continued)

FEATURE	LENGTH (FT)	HEIGHT (FT)	WIDTH (FT)	AREA (ACRES)
Township 9S, Range 40E, Section 6 (Continued)				
RO_0058	270	10	-	-
RO_0059	-	-	-	0.11
RO_0060	1810	10	-	-
RO_0061	555	20	-	-
RO_0062	1830	10	-	-
RO_0063	125	5	-	-
RO_0064	135	5	-	-
RO_0065	-	-	-	9.12
R_0025	-	-	-	-
R_0026	-	-	-	-
R_0028	-	-	-	-
O_0012	85	-	-	-
O_0013	160	15	-	-
Subtotal	10,005	13	0	25.13