Sheep Mountain Project – Mine Permit 381C

APPENDIX D-5 – GEOLGY AND OVERBRUDEN
2011 ADDENDUM

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Appendix D5 - Geology and Overburden

D5.1 Introduction

This report summarizes the geologic setting and overburden characteristics for the Sheep Mountain Project, WDEQ/LQD Mine Permit 381C and was developed on behalf of Titan Uranium USA.

Previous overburden analysis has been completed and approved for Mine Permit 381C. This addendum provides additional data with respect to overburden characterization, defines material types, and proposes selective handling methods to be employed during mining and reclamation.

D5.2 Regional Geology

Surface geology and regional geologic cross sections are shown on Figure 1 from Stephens, 1964. Within the project area surficial geologic exposures include:

- Quaternary alluvial and colluvial deposits mapped as;
  - Qal - Quaternary Alluvium
  - Qf –Quaternary Floodplain
- Tertiary Battle Spring Formation Tbs (Eocene);
  - Tbs Member B (Upper)
  - Tbs Member A (Lower)
- Tf - Tertiary Fort Union (Paleocene)
- Kc – Cretaceous Cody Shale

The permit area and the area immediately proximal to it are underlain by sedimentary formations ranging from recent to Cambrian in age. Cretaceous to recent age rocks outcrop in the general area. Uranium has been mined from the lower member of the Eocene Battle Spring Formation. It and overlying Quaternary sediments are the only formations that are expected to be disturbed by proposed mining operations.

In Early Eocene time, the Granite Mountain structural block, including overlying Paleozoic, Mesozoic, and Paleocene sedimentary rocks, was thrust southerly along the Emmigrant Trail Thrust Fault over extensions of those same sedimentary formations. Rapid erosion of the developing early Eocene Highland removed sedimentary as well as granite detritus, resulting in deposition southward in an unconformable manner across folded and eroded rocks of Cambrian to Paleocene age. The resulting debris is classified locally as the Battle Spring Formation and rests on either the Cody Shale or Fort Union Formation in the Crooks Gap area.

Pre-existing folds in the Paleozoic and Mesozoic rocks were modified in an asymmetrical manner by early-Eocene over-thrusting. The presence of similar, although generally not as intense, folds in overlying lower Eocene rocks suggests that over-thrusting continued as Battle Spring Formation deposition was active.

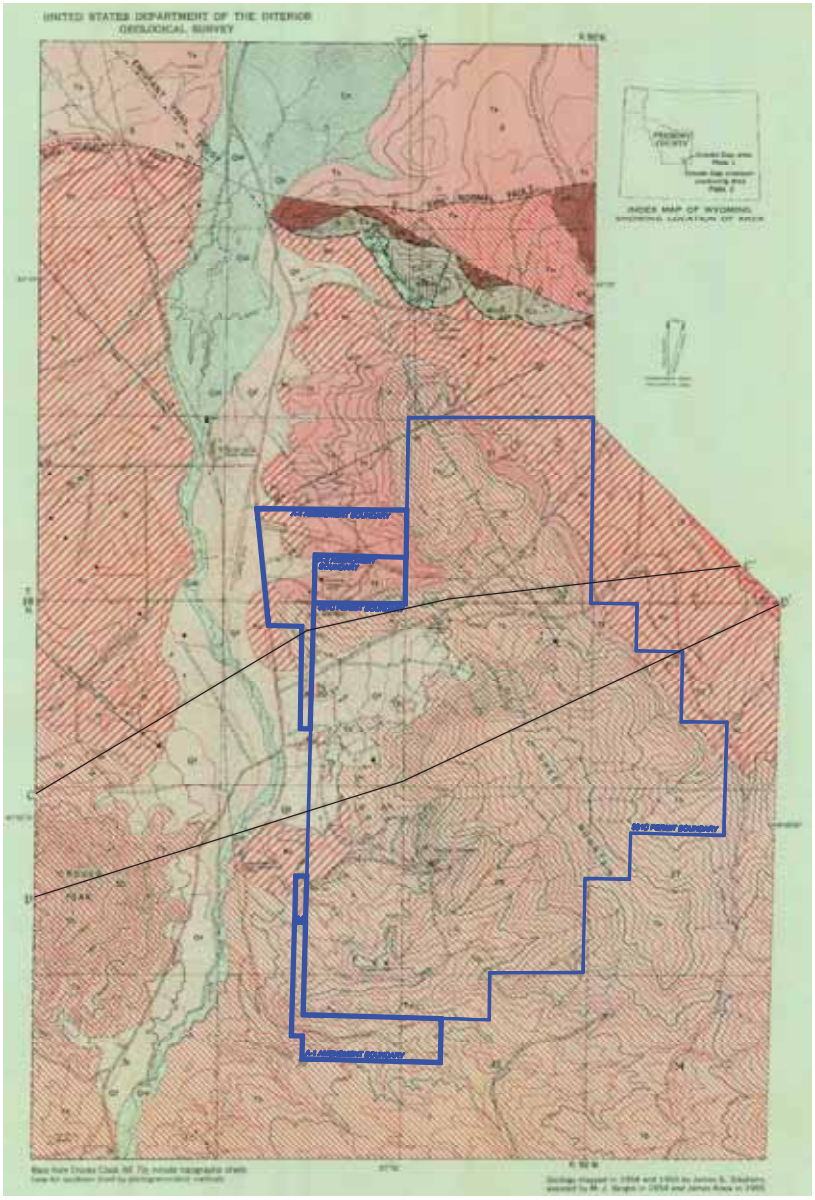
Within the Battle Spring Formation in the project area limited faulting has been observed and where present, displacement is minor. The largest reported displacement from the historic mining is four feet. The Battle Spring Formation is folded with a series of southeast plunging anticline/syncline features. Folding is reported to be more extensive in the lower Battle Spring Formation or A Member than in the upper or B Member. The nature of the folding and faulting in the Battle Spring Formation suggests that it was either contemporaneous with deposition of the sediments or occurred shortly after deposition. Post-Miocene erosion has exhumed portions of the Granite Mountains regionally and has exposed the Battle Spring Formation.

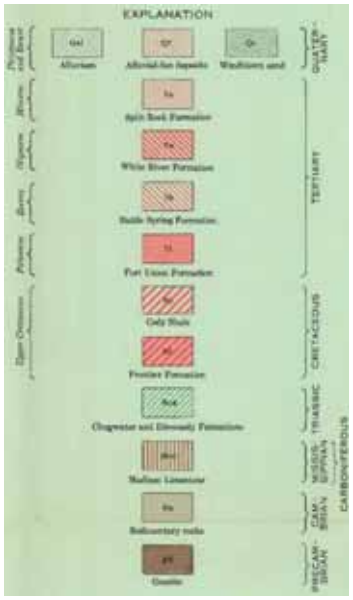
The Battle Spring Formation as a result of topography and structure ranges from 0 to 2000 feet in thickness within the study area. The average thickness in the area of the proposed Congo pit mine is about 800 feet. To the south under Sheep Mountain the Battle Spring Formation reaches 2,000 feet thick.

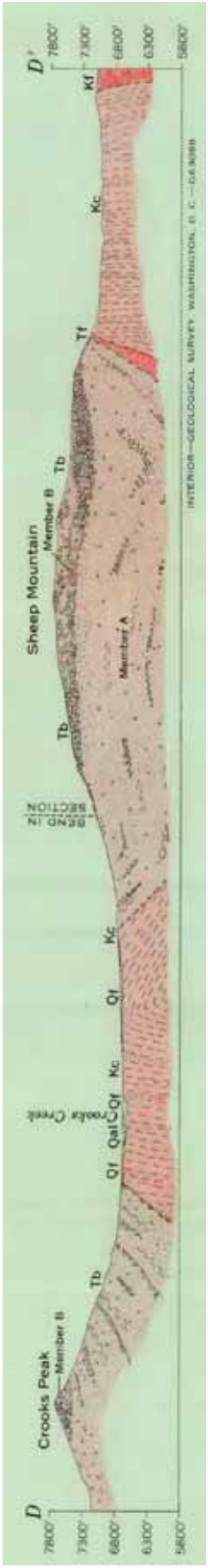
As shown on Figure 1 the Battle Spring Formation and associated mineralization at Sheep Mountain is bounded to the east by the western flank of the Sheep Mountain Syncline and to the west by the Spring Creek Anticline. To the north the system is exposed by erosion. To the south the Battle Spring Formation is continues into the northern portions of the Great Divide Basin. In cross section (Figure 1) the Battle Spring Formation within the project area is underlain and bounded on three sides by the Fort Union and/or Cody Shale in areas where the Fort Union was removed by erosion prior to deposition of the Battle Spring Formation.

The Battle Spring Formation is characterized as a high energy fluvial deposit. Both members consist of discontinuous interbeds of conglomerate, arkosic sandstone, siltstone and mudstone. There is a marked coarsening northward in the lower member, with conglomerates becoming the dominate rock type. The remaining upper member consists primarily of conglomerate and arkosic sandstone. The entirety of the formation functions as an aquifer, containing scattered discontinuous aquitards. The lower member contains increasingly large amounts of sedimentary detritus, derived from Mesozoic and Paleozoic rocks. The upper member of the Battle Spring Formation consists primarily of granitic detritus. The upper member no longer exists in the northern portion of the study area. The underlying Cody Shale and Fort Union Formation contain abundant argillaceous sediments and siltstone, providing a low vertical permeability.

The geologic setting of the project is important in that it controlled uranium mineralization by focusing the movement of the ground waters which emplaced the uranium into the stream channels which had developed on the pre-tertiary landscape. In a similar manner the geologic setting influences the current hydrologic setting by limiting the available recharge and discharge areas and therein bounding the hydrologic environment.







LEGEND

- ORIGINAL PERMIT BOUNDARY
- PERMIT BOUNDARY AMENDMENT
- CROSS-SECTION

REGIONAL GEOLOGY				SHEEP MOUNTAIN MINES FREMONT COUNTY, WYOMING	NO.	REVISION DATE: None	DATE	BY	ISSUED FOR	DATE	BY
SCALE: 1"=1500'	DATE	DWG. NO.	REV.		LAST PLOT DATE: 10/4/10						
DRAWN BY: LAS	10/4/10	1			CAD FILENAME: Sheep Mountian Total Resource Area.dwg						
CHECKED:											
APPROVED:											

D5.3 Overburden characteristics

The majority of the overburden will be generated during the mining of the Congo Pit. Limited amounts of overburden will be generated from the Sheep Underground Mine. These materials will be backfilled in the existing Paydirt pit. Surficial geologic units exposed in the Congo pit area consist of Quaternary Alluvial deposits and weathered Battle Spring Formation. The Battle Spring Formation is the uranium host and is mineralized at or near the surface in some locations. Stratigraphic zones within the boreholes were defined as unclassified, marginal or unsuitable based on WDEQ/LQD guidelines, where unclassified material did not contain any deleterious properties with respect to radiological or metal concentrations and was not acid forming.

Mine overburden may contain metals and other constituents which are potentially acid forming and/or exhibit elevated levels of radionuclides. As discussed in the Addendum to Appendix D10, the principal radiological parameters of concern, based on potential health effects, are Radium 226 and its immediate daughter product Radon 222. Based on the available data, recommended clean-up criteria for Radium 226 (20 pCi/gm), and applicable standards and/or criteria, mine spoil has been subdivided into the following categories:

> Topsoil/Coversoil - Coversoil consists of native topsoil and subsoil but also includes buried alluvial soils, salvageable mine reclamation soils, and other material which is suitable as a plant growth medium. Coversoil is reasonably free from, clay, rocks, and other chemical or physical properties which inhibit the germination of seeds or growth of cover crops.
>
> Unclassified - Material which does not meet criteria as coversoil yet is not radioactive, is not acid forming, and does not contain concentrations of metals or other constituents in excess of WDEQ criteria. This material can be used for most construction purposes.
>
> Marginal - Material which is not radioactive or only slightly elevated in radionuclides but does have the potential to be acid forming and/or contains metals in excess of WDEQ criteria. This material can be used for most construction purposes. When placed near the surface a lime amendment may be necessary.
>
> Unsuitable - Material which is radioactive (exceeds 20 pCi/gm), acid forming, and/or exceeds WDEQ criteria for metals. This material will be isolated below the rooting zone.

Table D5-1 – Overburden Suitability Characteristics summarizes the overburden analysis for the boreholes. Without exception the upper oxidized portions of the boreholes, whether collared in Battle Spring or Quaternary Alluvium, where unclassified

Table D5-1 – Overburden Suitability Characteristics

2009 DRILLING
CONGO#1 THROUGH CONGO #5
OVERBURDEN SUITABILITY CHARACTERISTICS

TABLE D5-1 OVERBURDEN SUITABILITY CHARACTERISTICS

	Drill Hole Interval		Ra 226 pCi/gm	Ra 226* pCi/gm	Gamma cps	GRADE	pH	Acid / Base Potential	As mg/kg	Se mg/kg	Mo mg/kg	CLASSIFICATION
CONGO 1	0	5	11.1		296.7	0.0033	8.3	3.88	<0.05	<0.02	0.08	Unclassified
	5	20	10.4		277.8	0.0031	8.3	2.38	<0.05	<0.02	<0.05	Unclassified
	20	26	54.8		685.0	0.0163	4.4	2.4	0.21	0.02	<0.05	Unsuitable
	25	30	106.2		3072.2	0.0316	3.9	-0.25	0.22	<0.02	0.22	Ore Zone
	30	40	16.0		511.8	0.0048	4.6	1.55	<0.05	<0.02	<0.05	Marginal
	40	45	22.2		789.9	0.0066	7.1	1.77	<0.05	<0.02	<0.05	Unsuitable
	45	55	17.8		534	0.0053	8.1	1.1	0.07	0.05	0.08	Marginal
	55	65	57.6		1510.8	0.0172	7.6	1.95	<0.05	0.32	0.08	Unsuitable
	80	95	61.5	23.0	1492.1	0.0183	3.8	-2.79	0.28	<0.02	0.13	Unsuitable
	95	110	20.3		487.3	0.0060	6.6	-1.2	0.07	<0.02	0.16	Unsuitable
	110	120	86.7		2009.6	0.0258	4.1	-0.75	0.34	0.21	0.15	Unsuitable
	120	130	13.8		378.7	0.0041	7.2	1.98	<0.05	<0.02	0.11	Unclassified
	130	140	12.6		301.4	0.0038	7.4	-0.12	<0.05	<0.02	0.09	Unclassified
	140	150	13.4		316.6	0.0040	7.5	1.21	<0.05	<0.02	<0.05	Unclassified
	150	155	10.8		265.6	0.0032	8.5	1.91	<0.05	<0.02	<0.05	Unclassified
	155	180	11.4		274.3	0.0034	8.4	2.59	<0.05	<0.02	<0.05	Unclassified
	180	200	10.2	5.8	249.4	0.0031	8.7	2.37	<0.05	<0.02	<0.05	Unclassified
	200	210	10.2		248.1	0.0031	8.8	14.8	<0.05	<0.02	<0.05	Unclassified
	210	220	13.3		310.7	0.0040	8.7	2.59	<0.05	<0.02	0.05	Unclassified
	220	230	10.1	19.7	231.3	0.0030	8.9	2.75	<0.05	<0.02	0.08	Unclassified
	230	240	35.6		845.3	0.0106	8.2	5.21	0.06	0.6	0.44	Unsuitable
	240	260	10.7		248.6	0.0032	8.2	0.27	<0.05	<0.02	0.18	Marginal
	260	285	19.0		528.5	0.0056	8.1	0.72	0.09	0.4	0.66	Marginal
	285	300	9.3		226.9	0.0028	8.5	11.4	<0.05	<0.02	0.14	Unclassified
	300	310	11.3		250.6	0.0034	8.6	7.74	<0.05	<0.02	0.14	Unclassified
	310	315	16.1		352.8	0.0048	8.7	6.11	<0.05	<0.02	0.15	Unclassified
	315	325	13.7		455.9	0.0041	8.4	1.86	0.1	0.03	0.22	Unclassified
	325	345	16.1		391.6	0.0048	8.3	3.38	0.07	0.02	0.3	Unclassified
	CRITERIA					>0.006	5.5-8.5	>-5	<2	<.3	<1	
	AVERAGE						7.4	2.74	0.15	0.21	0.18	
CONGO 2	0	20	0.0		219		8.3	3.06	<0.05	<0.02	<0.05	Unclassified
	20	45	0.0	28.5	288.3		8.2	2.79	<0.05	<0.02	0.06	Unclassified
	45	55	0.0		106.5		8.0	2.7	<0.05	<0.02	<0.05	Unclassified
	62	70	0.0		563.6		7.1	0.65	<0.05	<0.02	0.15	Unclassified
	80	95	0.0		351		8.3	2.43	0.12	0.08	0.48	Unclassified
	95	110	162.6	311.0	2314.8	0.0484	7.7	3.05	0.11	0.04	3.39	Ore Zone
	110	130	216.7		1611.5	0.0645	8.0	3.03	0.13	0.14	0.54	Ore Zone
	130	150	0.0		323.9		8.4	2.13	<0.05	0.03	0.09	Unclassified
	150	170	0.0		228		8.3	3.69	<0.05	<0.02	0.06	Unclassified
	170	190	0.0	209.0	296.4		8.6	10.5	<0.05	0.6	0.06	Marginal
	190	198	0.0		194.1		8.7	7.94	<0.05	<0.02	0.05	Unclassified
	198	210	0.0		336.8		8.7	8.73	<0.05	<0.02	<0.05	Unclassified
	218	225	0.0		6592		8.1	1.85	0.19	0.55	0.59	Marginal
	225	236	0.0		543.6		8.3	4.03	0.21	0.35	0.8	Marginal
	CRITERIA					>0.006	5.5-8.5	>-5	<2	<.3	<1	
	AVERAGE						8.2	4.0	0.2	0.3	0.6	
CONGO 3	20	40	0.0		415.4		8.4	1.66	<0.05	<0.02	<0.05	Unclassified
	40	50	0.0		1030.3		8.2	1.49	<0.05	<0.02	0.06	Unclassified
	50	55	215.5		4126.6	0.0641	8.2	1.4	<0.05	<0.02	<0.05	Ore Zone
	55	65	248.6	1500**	6492.3	0.0740	4.3	0.08	0.72	<0.02	0.9	Ore Zone
	65	80	0.0		909.4		4.6	0.09	0.09	<0.02	0.08	Marginal
	80	85	0.0		861.8		7.1	2.71	0.24	0.49	0.18	Marginal
	85	90	0.0		659		7.6	0.83	0.05	0.02	<0.05	Unclassified
	90	105	420.0		5880.2	0.1250	5.1	0	0.27	0.11	0.66	Ore Zone
	105	115	0.0		431.2		6.5	4.44	<0.05	0.02	0.06	Unclassified
	115	120	196.4		5001.8	0.0584	6.0	1.49	0.32	0.4	0.18	Ore Zone
	120	135	0.0		1918.1		4.5	-1.55	0.52	0.04	0.79	Marginal
	135	150	0.0		439		4.4	-4.46	0.56	<0.02	0.71	Marginal
	150	160	224.4		4038.5	0.0668	5.3	0.15	0.96	0.13	12	Ore Zone
	165	170	0.0		417.2		7.4	2.62	<0.05	<0.02	0.25	Unclassified
	170	180	126.7	324.0	2564.4	0.0377	4.3	-2.28	0.52	0.21	1.91	Ore Zone
	185	200	0.0		649.3		3.5	-7.59	0.53	<0.02	1.46	Unsuitable
	200	218	0.0		440.1		7.6	-2.94	0.07	<0.02	0.42	Unclassified
	CRITERIA					>0.006	5.5-8.5	>-5	<2	<.3	<1	
	AVERAGE						6.1	-0.1	0.4	0.2	1.4	

***Note:** Laboratory testing was performed by Inter-Mountain Laboratories, refer to _____.

***Note:** This sample is associated with high grade material, and is not correlatable with the other samples.

Exceeds Criteria
Marginal
Alkaline

Table D5-1 – Overburden Suitability Characteristics (continued)

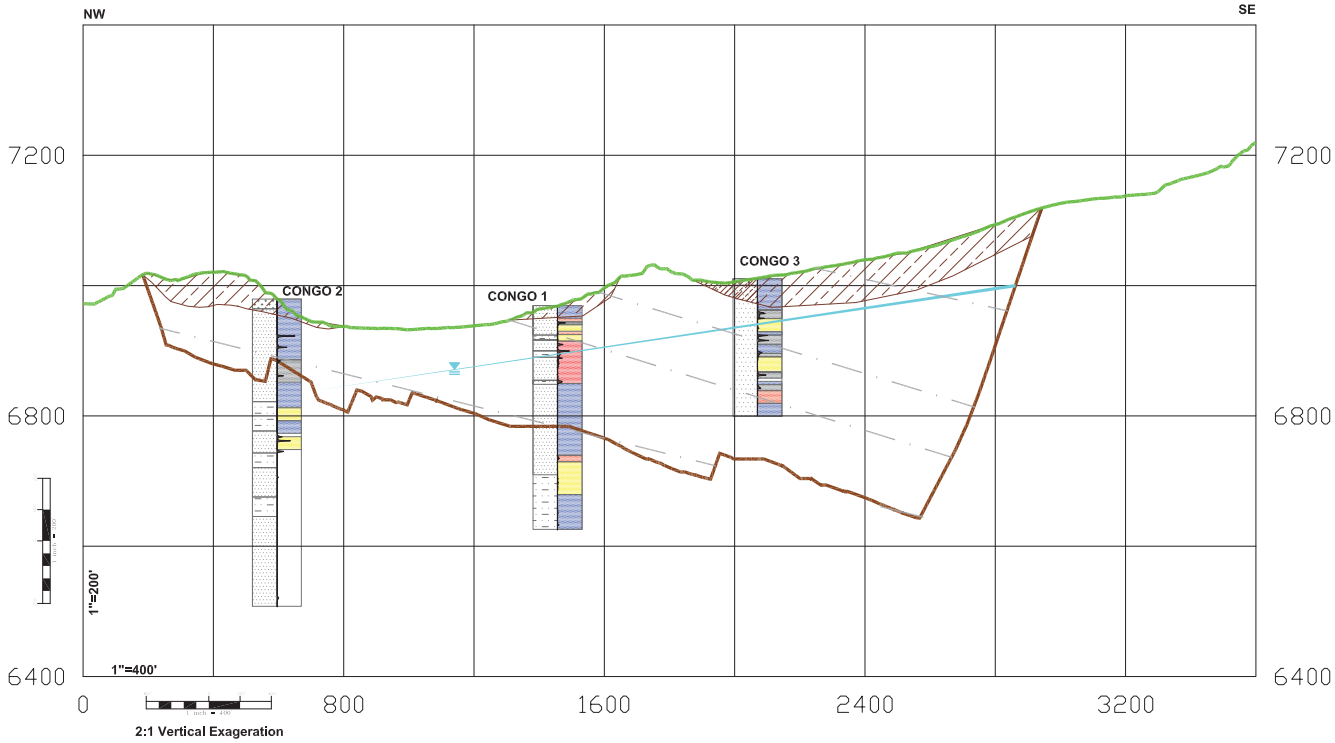
	Drill Hole Interval		Ra 226 pCi/gm	Ra 226* pCi/gm	Gamma cps	GRADE	pH	Acid / Base Potential	As mg/kg	Se mg/kg	Mo mg/kg	CLASSIFICATION
CONGO 4	0	5	0.0				7.7	2.78	0.09	<0.02	<0.05	Unclassified
	5	20	0.0		299.9		8.5	3.14	<0.05	<0.02	<0.05	Unclassified
	20	40	0.0	20.7	368.0		7.8	1.33	<0.05	<0.02	<0.05	Unclassified
	60	80	0.0		360.2		7.3	0.95	<0.05	0.04	<0.05	Unclassified
	80	90	0.0		1446.7		7.2	-0.51	0.11	0.15	0.1	Unclassified
	94	110	0.0		4347.0		7.8	0.39	0.13	0.31	0.47	Marginal
	110	135	0.0	468.0	2107.6		5.3	0.26	0.57	0.15	1.16	Marginal
	135	145	0.0		507.2		8.3	1.29	0.12	0.45	0.57	Marginal
	145	150	0.0		553.4		8.6	1.98	0.06	0.56	0.22	Marginal
	150	163	0.0		381.9		8.5	2.34	<0.05	0.3	0.13	Marginal
	163	175	402.4		2530.8	0.1198	6.7	1	0.37	0.98	0.18	Ore Zone
	175	195	0.0		461.0		8.3	2.85	0.13	0.7	0.1	Marginal
	195	215	173.4	292.0	2722.7	0.0516	8.5	0.04	0.14	0.59	0.16	Ore Zone
	215	230	0.0		456.7		8.7	8.8	<0.05	0.13	0.06	Unclassified
	230	245	44.9		1051.0	0.0134	8.5	4.76	0.1	0.16	0.1	Unsuitable
	245	260	0.0		523.0		8.0	6.62	0.1	0.08	0.21	Marginal
	260	280	0.0		316.3		8.2	0.31	0.05	0.05	0.23	Marginal
	280	300	0.0		359.8		8.1	5.71	0.05	<0.02	0.6	Marginal
	CRITERIA					0.006	5.5-8.5	>-5	<2	<.3	<1	
	AVERAGE						7.9	2.4	0.2	0.3	0.3	
CONGO 5	0	5	0.0		224.1		7.4	2.93	<0.05	<0.02	<0.05	Unclassified
	5	25	0.0		238.8		8.3	1.18	<0.05	<0.02	<0.05	Unclassified
	35	40	0.0		428.3		7.4	0.16	0.07	<0.02	<0.05	Unclassified
	40	45	0.0		254.3		7.8	2.9	0.05	<0.02	<0.05	Unclassified
	45	50	0.0		734.0		6.9	2.7	0.08	0.1	<0.05	Unclassified
	50	65	0.0	39.2	336.1		7.4	2.53	<0.05	<0.02	<0.05	Unclassified
	65	75	0.0		297.2		7.8	1.4	<0.05	<0.02	<0.05	Unclassified
	75	85	0.0		198.8		8.2	2.74	<0.05	<0.02	<0.05	Marginal
	85	105	0.0		595.4		8.1	0.27	0.21	0.37	<0.05	Marginal
	105	120	0.0	26.2	315.0		8.0	1.76	0.7	0.7	<0.05	Marginal
	120	133	0.0		911.1		7.7	2.24	0.18	1.53	0.05	Marginal
	133	151	0.0		914.5		6.0	0.81	1.06	0.69	0.25	Marginal
	155	160	225.5		4660.0	0.0671	6.0	-0.13	0.93	0.03	27.3	Ore Zone
	165	175	0.0		2206.0		6.1	0.28	1.05	0.04	12.6	Marginal
	179	195	0.0		1497.3		8.2	1.32	0.12	0.42	0.87	Marginal
	195	220	118.3		1895.2	0.0352	8.0	2.03	0.2	0.37	1.07	Ore Zone
	220	245	75.6		1195.3	0.0225	8.7	2.86	0.08	0.16	0.26	Unsuitable
	245	260	0.0	20.1	338.0		8.5	2.56	<0.05	0.26	0.06	Unclassified
	260	274	141.4		1748.4	0.0421	6.6	-0.43	0.51	0.37	0.91	Ore Zone
	274	290	73.1		991.7	0.0218	8.4	0.57	0.21	0.07	0.12	Unsuitable
	290	306	160.9		2286.4	0.0479	8.7	5.4	0.08	0.15	0.11	Ore Zone
	306	320	158.3		2235.2	0.0471	8.5	3.57	0.09	0.42	0.09	Ore Zone
	320	335	292.0		6682.2	0.0869	7.4	-4.85	0.31	0.05	3.5	Ore Zone
	335	350	82.9		942.0	0.0247	5.3	-2.87	1.29	0.02	1.05	Unsuitable
	CRITERIA					0.006	5.5-8.5	>-5	<2	<.3	<1	
	AVERAGE						7.6	1.3	0.4	0.3	3.4	

***Note:** Laboratory testing was performed by Inter-Mountain Laboratories, refer to _____.

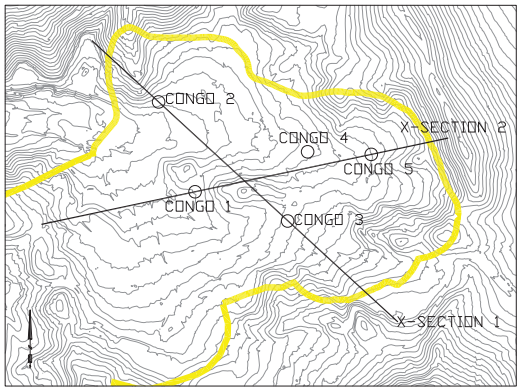
Exceeds Criteria
Marginal
Alkaline

Figures D5-2 and D5-3 provide representative cross sections through the Congo Pit area. Borehole logs and laboratory analysis are provided included in Attachments A and B, respectively.

The cross sections show that in a general sense the near surface material is suitable when non-mineralized and the majority of unsuitable material is commonly associated with the ore zones. Numerous mineralized zones (up to 16) exist within portions of the Congo Pit. Based on the formational dip the elevation that the various mineralized zones are encountered in the pit will vary.



Vicinity Map



Not to Scale

Cross Section Legend

- Ground Elevation
- Proposed Congo Pit
- Potentiometric Surface
- Qal / Weathered Tbs

Mineralized Sands

80's	89
	86
	83
70's	79
	77
	75
60's	67
	66
	63
50's	59
	54-56
	52
40's	48
	41
	41a

Overburden and Lithology Legend

- Unclassified
- Marginal
- Unsuitable
- Potential Ore Zone
- No Recovery
- Gamma Relog
- Clayey Sand
- Sandstone
- Shale

TITAN URANIUM USA INC

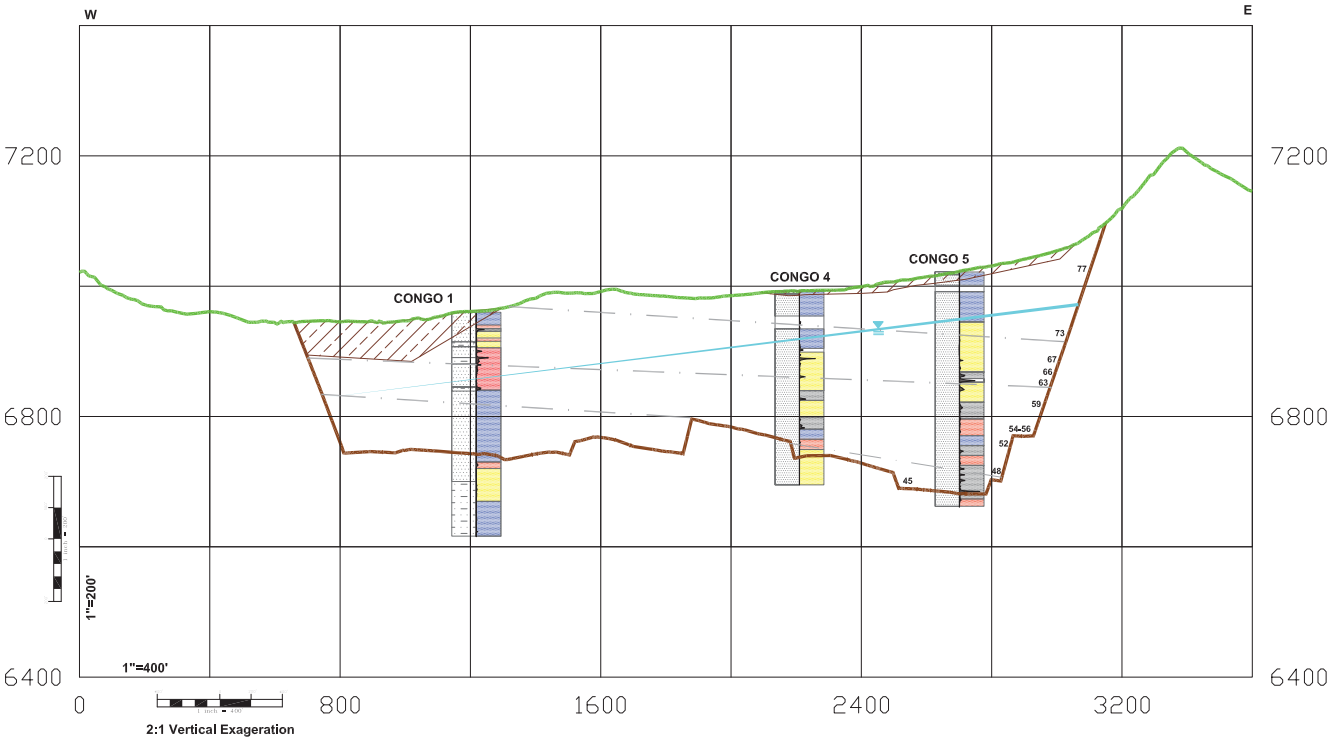
REVISION DATE: 06/10/11
CAD FILENAME: LP2008/PERMITTING/OVERBURDEN X-SECTIONS
DWG. NUMBER:

SHEEP MOUNTAIN MINES
FREMONT COUNTY, WYOMING

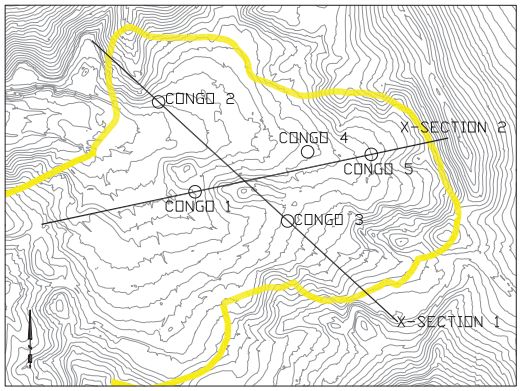
Cross Section 1

SCALE: Variable
DRAWN BY: RJB
DATE: 5/20/11

BRS ENGINEERING



Vicinity Map



Not to Scale

Cross Section Legend

- Ground Elevation
- Proposed Congo Pit
- Potentiometric Surface
- Qal / Weathered Tbs

Mineralized Sands

80's	89
	86
	83
70's	79
	77
	75
60's	67
	66
	63
50's	59
	54-56
	52
40's	48
	41
	41a

Overburden and Lithology Legend

- Unclassified
- Marginal
- Unsuitable
- No Recovery
- Gamma Relog
- Clayey Sand
- Sandstone

TITAN URANIUM USA, INC.

REVISION DATE: 06/10/11
CAD FILENAME: T2008/PERMIT/OVERBURDEN X-SECTIONS
DWG. NUMBER: MAP 2.1

SHEEP MOUNTAIN MINES
FREMONT COUNTY, WYOMING

Cross Section 2

SCALE: Variable
DATE: 5/20/11
DRAWN BY: RJB

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D5. 4 Selective Handling

Selective Handling/Construction Control

The mining plan will segregate both available topsoil and oxidized surficial mine overburden with low radiological levels for final cover of the mine and heap areas during reclamation. During construction, unsuitable materials can be identified and selectively excavated and placed based on radiological levels, visual identification, and sampling. Radiological levels in excess of 70 MicroR/Hr would indicate unsuitable material and can be readily identified in the field with hand held scintilometers (refer to Appendix D10 for gamma/Radium 226 correlation).

Materials with non-radiological parameters of concern are generally correlated with elevated radiological parameters. The majority of unsuitable material is represented by or closely associated with the ore which will be mined and processed and thus will not be of concern in the mine reclamation. Control of radiological parameters during construction by field methods will thus generally serve to control non-radiological parameters of concern as well. Visual identification in combination with field monitoring of radiological levels will provide for reasonable classification and control of unsuitable materials during construction which exceed radiological suitability criteria, have visual sulphide minerals, and/or have a high acid forming potential based on regraded spoil sampling. Marginal materials will also be controlled by both visual identification and radiological levels as discussed above, and sampling of the regraded surface prior to topsoil placement will determine acid/base potential and required levels of lime as an amendment.

A formal in-pit grade control will be utilized for this project which includes.

<u>Radiometric Scanning:</u> Field personnel equipped with calibrated hand-held gamma meters will be assigned to both the stripping and mining crews. Grade control personnel along with mine supervisory personnel will continually monitor excavations for radiometric and/or visual indications of uranium mineralization and will identify materials for selective handling and excavation.

<u>In-Pit Assay:</u> In-pit there will be a portable sample trailer equipped with a portable x-ray fluorescence (XRF) assay instrument and appropriate sample preparation equipment. All mine trucks working within identified mineralized zones will be sampled with with an auger system and the samples prepared and assayed. The individual trucks will then be directed to deliver the material to the heap leach facility or mine waste area depending on the results of the assay. Grade control and supervisory personnel will also have the ability to collect spot samples for immediate assay to field calibrate their gamma meters for variations in radiometric equilibrium conditions. The XRF can assay for uranium and heavy metals which may be present if needed for determination of overburden suitability.

Quality Control: Daily ore conrol samples will be blended and split to provide representative samples which will in turn be assayed at the plant laboratory. The plant lab will assay both solid and liquid samples and will be subject to an outside and/or third party quality control system.

These grade control procedures will also be used to segregate material for final reclamation cover. The procedure would be the same except rather than segregating the material with concentrated the scanning and assaying would be used to identify material which do not contain deleterious metals and/or radionuclides.

D5.5 Mine Reclamation Goals

WDEQ guidelines and regulations and standards for metals, acid forming potential, pH and other parameters will be employed in the salvage and utililization of topoil and other suitable coversoil material. While there are not specific numeric standards for mine reclamation with respect to surficial radiological concentrations, it is proposed that the guidance developed by the Wyoming Department of Environmental Quality, Abandoned Mine Lands Division (AML) be employed for future mining and reclamation activities at the Sheep Mountain Project under WDEQ Mine Permit 381C. Current AML practice is reclaim mine lands for unrestricted use based on an assessment of radiological health risks. Based on the findings of "Radiological Risk Assessment for Various Abandoned Mine Lands Clean-Up Criteria", Hersloff and Johnson, et al, 1988, prepared for the State of Wyoming, Abandoned Mine Lands Program, a surface clean up criteria of 20 pCi/g Radium 226 has been employed by AML. For the Sheep Mountain Project, as discussed in Appendix D10, Radiology, a near surface soils/overburden concentration of 20 pCi/g Radium 226 would equate to approximately 70 μR/hr. Where local conditions and such factors as availability of cover and topsoil affect the ability to meet this goal, principals of ALARA will be employed.