

## **APPENDIX G**

**Memorandum - Results of Additional Geological Field Work  
October 20 to October 24, 2008**

**MEMORANDUM**

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**To: Alan Kuhn**

**From: Greg Schlenker**

**Date: February 24, 2009**

**Subject: Results of additional geological field work October 20 to October 24, 2008, Piñon Ridge Uranium Mill Site, Montrose County, Colorado**

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Alan,

Regarding results of the additional field work at the Piñon Mill Site October 20 to October 24, 2008:

Prior to our field program we conducted aerial photography analyses of the site and surrounding areas and identified apparently circular features and recorded the GPS locations of these features using a GIS. During our field program we visited and photo documented 35 circular features identified from the aerial photography. The features consisted of either circular shaped clearings surrounded by sage brush, or small mounds populated by strong cryptogamic soil development. During our reconnaissance of the 35 features we observed no indications of potential subsidence hazard on or off the site.

A drilling program was also conducted across the location of Trench 2 where a stratigraphic discontinuity was identified in our exploration trenches during our December 2007 field program. The drilling program included four continuous sampling borings to depths ranging from 72 to 92.5 feet in depth. Dry core sampling was used to continuously sample soils from the surface to bedrock, and HQ core sampling was used to sample the bedrock at depth.

Boring GB-1 was located 160 feet north of the stratigraphic discontinuity near the north end of Trench 2, Boring GB-2 was located on the stratigraphic discontinuity, Boring GB-3 was located 40 feet south of the stratigraphic discontinuity and Boring GB-4 was located 465 feet south of the stratigraphic discontinuity near the south end of Trench 2. A summary of the stratigraphy encountered in the borings is provided in Table 1

The locations of the borings are shown on attached Figure 1.

Table 1  
Summary of Stratigraphic Units  
Geologic Borings over Exploration Trench 2 Piñon Ridge Uranium Mill Site

GB-1	SM/ML 0-26'	Light Green Claystone 26 to 48'	Transitional brown clay with Gypsum blocks 48 to 82'	Gypsum bedrock (Hermosa formation) 82 to 92.5'
GB-2	SM/ML 0-24.5'	Light Green Claystone 24.5 to 38'	Transitional brown clay with Gypsum blocks 38 to 74'	Gypsum bedrock (Hermosa formation) 74 to 82.5'
GB-3	SM/ML 0-37'	Light Green Claystone 37 to 46'	Transitional clay with Gypsum blocks 46 to 57'	Gypsum bedrock (Hermosa formation) 57 to 82.5
GB-4	SM/ML 0-37	Light Green Claystone 37 to 49'	Transitional brown clay 49 to 52'	Yellow brown weathered Claystone (Cutler-Moenkopi formation ?) 52 to 72'

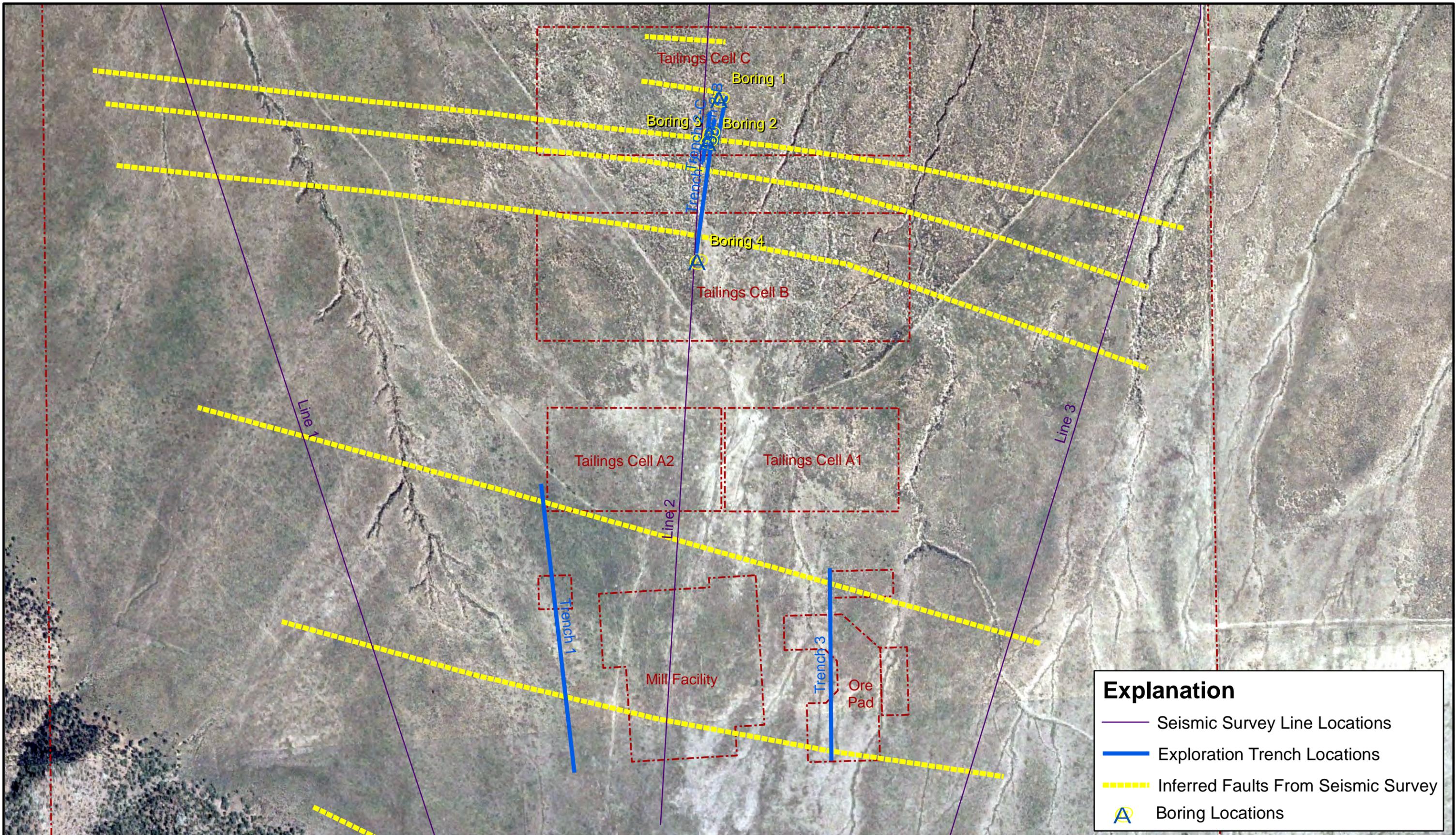
Scaled cross-sectional interpretation of the units encountered in the borings is shown on attached Figure 2. The soil and rock core samples recovered from the borings are stored at our Salt Lake City Laboratory. No significant indications of karst or subsidence were encountered during our October 2008 drilling program.

Additional surface mapping on the north of the site was conducted to resolve the contact of underlying Hermosa formation with the thick eolian cover sands that cover much of the site. During our October 2008 field program all locations were queried with a sub-meter precision global positioning system device. Below are the locations of our borings and the soils feature observed northeast of the site boundary.

Boring Locations UTM Zone 12 NAD 83

Name	X_North	Y_East
Boring 1	695291.6	4236389.2
Boring 2*	695278.5	4236342.0
Boring 3	695275.8	4236330.2
Boring 4	695261.0	4236166.0
Soil Feature to the northeast of the site	695650.0	4237645.0

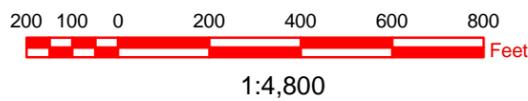
\*Boring 2 was placed over the stratigraphic discontinuity in Trench 2



**Explanation**

- Seismic Survey Line Locations
- Exploration Trench Locations
- - - Inferred Faults From Seismic Survey
- A Boring Locations

Base Image, 2005 1-Meter NRSCS Color  
NAIP Image Titled "co085\_2005\_12.jpg"



Seismic Survey Line, Exploration Trench Locations and Geologic Boring Locations Piñon Ridge Mill Site, Montrose County, Colorado		
Originator: G. Schlenker	Drawn By: G.Schlenker	Date: February 2009
Checked By:	Project No: 83088	Drawing No: 83088_1.4.1-TBA
Approved By:	Scale: 1" = 400'	Drawing Category: TBA

FIGURE  
**1**

Boring 4

Boring 3

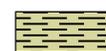
Boring 2

Boring 1

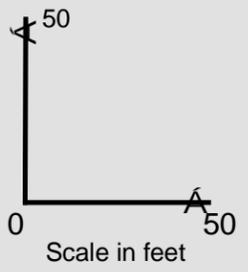
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**Stratigraphic Unit**

-  SM/ML
-  Claystone
-  No Recovery
-  Trans Clay
-  Gypsum
-  Background

 Inferred Faults From Seismic Survey



Interpreted Cross-Section of Stratigraphic Units Geologic Borings Pinion Ridge Mill Site, Montrose County, Colorado		
Originator: G. Schlenker/M. Ivers	Drawn By: G.Schlenker	Date: February 2009
Checked By:	Project No: 83088	Drawing No: 83088_1.4.1-TBA
Approved By:	Scale: 1" = 50'	Drawing Category: TBA

FIGURE  
**2**