ANNUAL SUBSIDENCE REPORT
PLATEAU MINING COMPANY
1983

RECEIVED
MAR 15 1984
DIVISION OF
OIL, GAS & MINING

SUMMARY

In September 1983, a visual survey of surface effects of subsidence was initiated. All mined areas were surveyed, with particular attention given to areas where pillars have been pulled. Plate 12-2, Sheets 1,2,3 and 4 of 4 show Plateau's lease area with subsidence effects.

To date, all surface subsidence has occurred on the eastern portion of Plateau's Permit Area. This area is characterized by very steep, narrow ridges running south and north from the main east-west ridge. Overburden ranges from 0 to 600 feet with the surface effects occurring anywhere in this overburden range. The majority of the effects have occurred where the overburden is 300 feet or less. No new effects could be identified in this survey.

Where overburden is greater than 600 feet, no effects have been found. Substantial areas under greater cover have been development mined (room and pillar) in the past two years. No surface effects have been found over development mining. There are five areas where pillars have been pulled in 1982-1983 as shown on Plate 12-2, Sheets 1,2 and 3 of 4. Of these, no surface effects were found.

SURFACE EFFECTS

Surface effects consist of tension cracks both parallel with the slope and at a diagonal, holes and one area that slumped. Cracks range in width from a few inches to 3 feet. Holes range from 2 feet to 10 feet in diameter. Cross sections A-A and B-B on Plate I give typical details of two areas as shown on Plate 12-2, Sheet 1 of 4.

Because the areas where subsidence has occurred are located over previously mined areas, and there was no monumentation prior to mining, it is impossible to draw any meaningful data from these areas. However, where the overburden is over

600 feet, there has been no subsidence.

There is considerable evidence that the soil displacements are healing themselves, the older the cracks, the more healing is evident. Soil at the edges of the displacements is migrating into the crack seeking the angle of repose, refer to Section A-A and Photograph No. 7. More photographs and site measurements to document healing processes will be taken in 1984.

VEGETATION

There appears to be little or no effect on vegetation from subsidence. Grasses, shrubs and trees at the edge of displacements show no adverse effects, and in some cases, appear to be doing very well; possibly due to added water penetration to their root systems.

SURFACE AND GROUNDWATER

Numerous small drainage channels are intercepted by displacements, but no adverse erosion is occurring. Undoubtedly, some interruption of surface drainage is occurring, but as the drainages only have flows from thunderstorms and snowmelt, this effect is negligible.

There are no perennial streams in the areas mined or to be mined within Plateau's permit boundary.

SURFACE STRUCTURES

A TV tower, one small cabin, a Plateau owned powerline, drift fences and unpaved Forest Service roads are the only structures existing on the permit area above mining areas.

There have been no effects to any structures due to subsidence.

PROJECTED MINING

Current mining operations are being conducted in Leases SL-031286, U-37045 and 22729.

A longwall mining system is being installed in Lease SL-031286 and will be operational by the end of April, 1984. Longwall mining was addressed in Volume I, Chapter 3, Sections 3.4.1.1, 3.4.1.3, 3.4.1.4, 3.4.1.5, 3.4.3, 3.4.3.2 and 3.4.3.2.3 of Plateau's Mining and Reclamation Plan. Approximately 50 percent of this lease will be mined with the longwall system, with support and development mining by continuous miners.

MONITORING

The Forest Service monitoring plan, as outlined in Volume I, Chapter 3, Section 3.5.8.3 of Plateau's Mining and Reclamation Plan, was conducted in 1983 whereby aerial photography was taken for evaluation of subsidence effects. There is no subsidence on National Forest ground.

Subsidence monitoring baselines were established in 1983, as shown on Plate 12-2, Sheets 3 and 4 of 4. State Plane System Coordinates with elevations are shown on Table I. These baselines will be monitored yearly for horizontal and vertical location.

The baselines are tied into an extensive monument system used for the Forest Service Photogrammetry Program.

The monitoring baselines are located over the first longwall panel, barrier and main development panels.

Particular attention will be given to monitoring the first longwall panel mining effects. Visual inspections will be conducted periodically and instrument surveys will be conducted to monitor any effects.

Groundwater is being monitored as a part of Plateau's overall Hydrologic Monitoring Program. Results are sent to the Division on a quarterly basis; no data are included in this report.

The photographs that follow are some examples of subsidence. The photographs can be identified with site by comparing the photo number with the same number on Plate 12-2, Sheet 1 of 4.

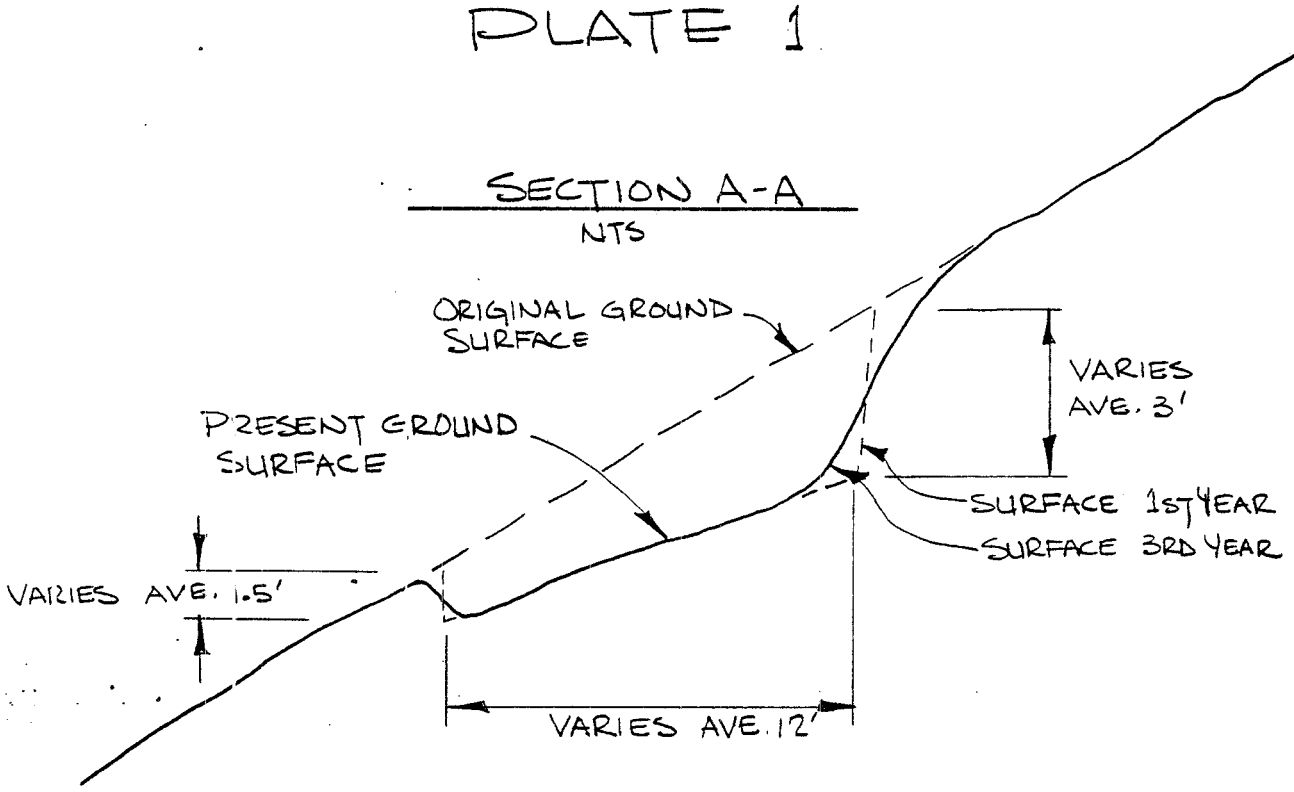
TABLE I

LONGWALL SUBSIDENCE MONITORING BASE LINE

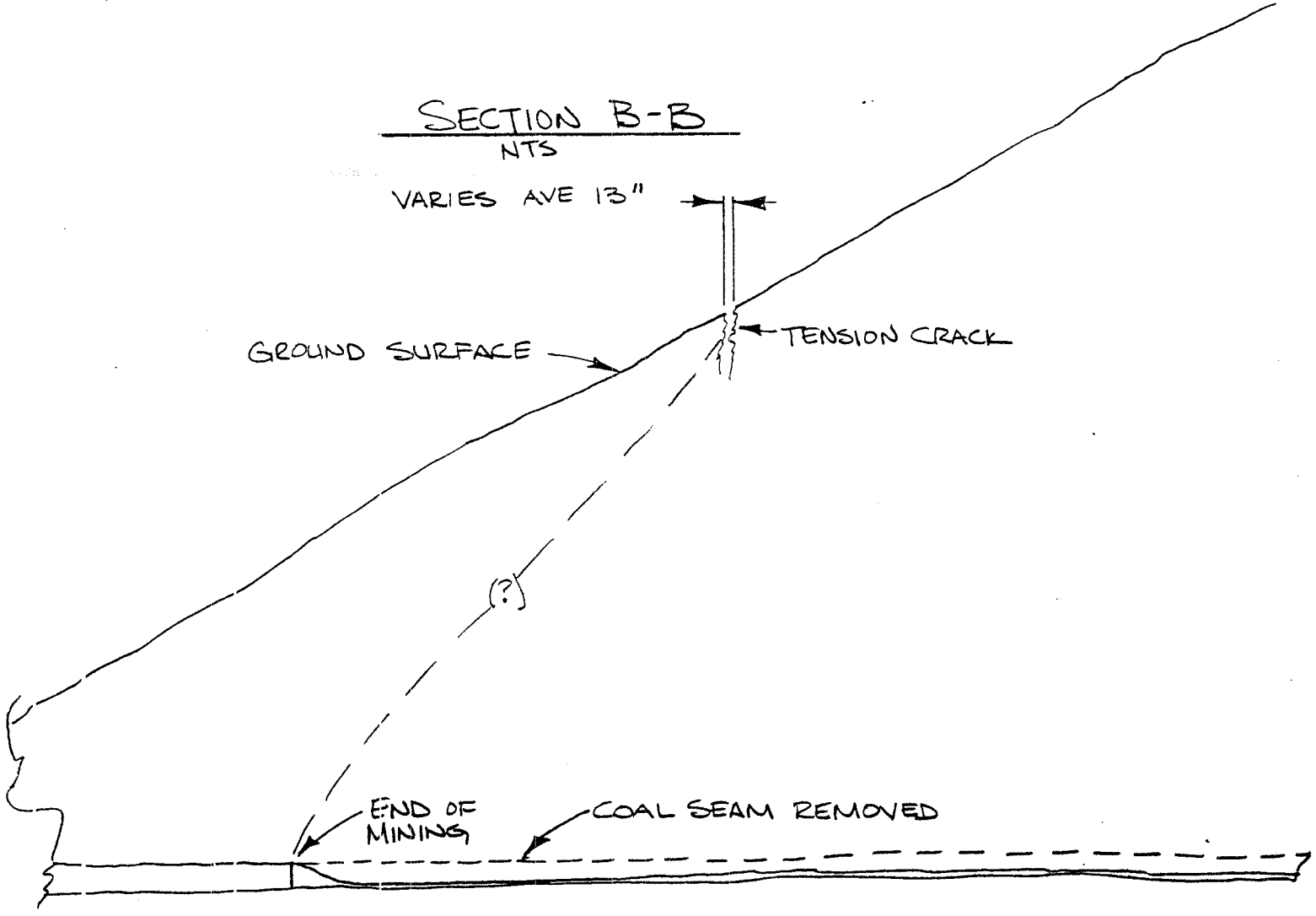
MONUMENT	NORTHING	EASTING	ELEVATION
P87	433377.87	2115969.54	10075.98
P89	433279.50	2118900.20	9953.16
P90	433322.15	2118381.30	10000.23
P91	433367.44	2117857.35	10047.51
P92	433215.75	2117592.48	10076.94
P93	433174.34	2117303.05	10089.10
P94	433159.29	2116992.10	10088.26
P95	433275.59	2116613.14	10095.92
P96	433200.11	2116197.77	10071.48
P97	433261.30	2115811.27	10052.24
P98	433094.13	2115380.23	9982.65
P99	433090.97	2114905.63	9907.48
P100	433058.92	2113995.94	9855.00
P101	433219.89	2113420.63	9022.92
P103	432285.24	2115934.01	9962.86
P105	432757.42	2116369.21	10033.12
P106	434197.07	2116030.20	10118.79
P107	433699.15	2116242.14	10125.68
P108	431717.56	2116265.11	9946.57
P109	431353.37	2116376.21	9951.97
P111	435011.56	2116019.08	10136.52

PLATE 1

SECTION A-A
NTS



SECTION B-B
NTS



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

April 3, 1984

Mr. Ben Grimes
Environmental Coordinator
Plateau Mining Company
P. O. Drawer PMC
Price, UT 84501

RE: 1983 Annual Subsidence Report
ACT/007/006, folder #10
Carbon County, Utah

Dear Mr. Grimes:

The Division has received and reviewed Plateau Mining Company's 1983 Annual Subsidence Report. The attention you have given it has greatly improved its overall usefulness. Thank you for considering the division's comments expressed in my February 1, 1983 letter. The report satisfies the commitments made and approved in the Mining and Reclamation Plan (MRP). The following comments and questions are offered for your examination:

1. How often will the monitoring points be inspected? Visually? Surveyed?

2. Although the dates of some areas of retreat mining may be taken from three separate maps of old workings submitted in the MRP an addition of these dates to the subsidence maps would make them more useful. A columnar approach to placing on the maps the dates of mining in the various seams next to the plots of observed subsidence features would be ideal. This would make correlating time-lapses between surface expression of subsidence features and undermining much easier.

Thank you again for your time and effort on the project.

Sincerely,

Thomas N. Tetting
Engineering Geologist

TNT/grc
81640

SUBSIDENCE REPORT SUMMARY

Plateau Mining Company
ACT/007/006, Folder #10

Date of Report:	March 15, 1984 for 1983.
Type of Subsidence Effects:	Cracks, fractures, slumps, holes.
Extent:	Less than 1200 feet long, 3 inches to 3 feet, 2 feet by 10 feet.
Estimate Time of Undermining (Retreat):	1953 to 1983. Room and Pillar.
Seams:	Wattis 0 - 12 feet, Third 0 - 10 feet, Hiwatha 0 - 7 feet.
Overburden Depth (Range):	0 - 600 feet.

Comments:

No effects where overburden is greater than 600 feet. Majority of effects are seen where overburden is less than 300 feet.

ACT/007/006
Folder No. 10

PLATEAU MINING COMPANY

A Subsidiary of Getty Oil Company
P.O. Drawer PMC Price, Utah 84501
Telephone (801) 637-2875

March 14, 1984

Mr. James Smith
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

RE: 1983 Subsidence Report

Dear Jim;

Enclosed please find four (4) copies of the Plateau Mining Company Annual Subsidence Report.

If you have questions, please call.

Respectfully,

PLATEAU MINING COMPANY

Ben Grimes
Environmental Coordinator

BG:sd

Enclosure

cc: Bill Boley, Manti-LaSal National Forest

Tom T.

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

February 1, 1983

Mr. Ben Grimes, Environmental Coordinator
Plateau Mining Company
P.O. Drawer PMC
Price, Utah 84501

RE: Subsidence
Monitoring Report
ACT/007/007
File #10
Carbon County, Utah

Dear Mr. Grimes:

I wish to thank you for forwarding a copy of the 1982 field inspection report on the visual observation of surface effects of subsidence. The Division shares PMC's concern with upholding the commitments made in section 12.4.4, Subsidence Monitoring, of the Mining and Reclamation Plan (MRP). I would offer the following comments on behalf of the Division.

The report seems primarily directed towards concerns of the Forest Service, as indicated by the continued use of itemization 1 - 8. The Division, however, is looking at the subsidence question not only with regard to this minesite, but also as to how it may relate to general mining practices in Utah and the effect subsidence regulations could have on the coal industry. Therefore, little benefit can be derived from the generalized comments expressed in the report received January 17, 1983. Essentially, no quantitative information is presented and no comparative data may be generated. It appears to be a collection of photographs in defense of the opinion that subsidence is not causing any harm. I realize that this may be the prime motivation behind the work, but request that a more thorough presentation be submitted which could prove more beneficial and serve what I view are the intentions of the regulations. Reports of this kind may eventually serve to save quite a bit of money for future operators and should not be treated so lightly.

I hope my time and concern in the matter may be appreciated as I would like to offer some suggestions to a receptive company. Commitments in the MRP indicate that the reports will be submitted 60 days after the survey is conducted. This survey was done, I believe, in September of 1982. If quantitative measurements cannot be made from the helicopter perhaps a ground

team could assist (?). Could a table be compiled of actual surveyed measurements which might indicate the amount of movement perceived (feet, inches, millemeters) at specific monitoring points or the difference from prior measurements? These points might be numbered for clarification on the maps (and future mutual reference). Depths of "slumped" areas and the size of extention cracks could be listed. Although springs are mentioned, flow rates, prior dates of measurements and other considerations that might be more explicit, have not been incorporated into the report. One final comment; reference on page 1 to photo #5 of the report is not clear as they are not numbered. The clarity of duplication is poor enough that they could be considered components of a Rorschach test. Would it be possible to submit the original photos?

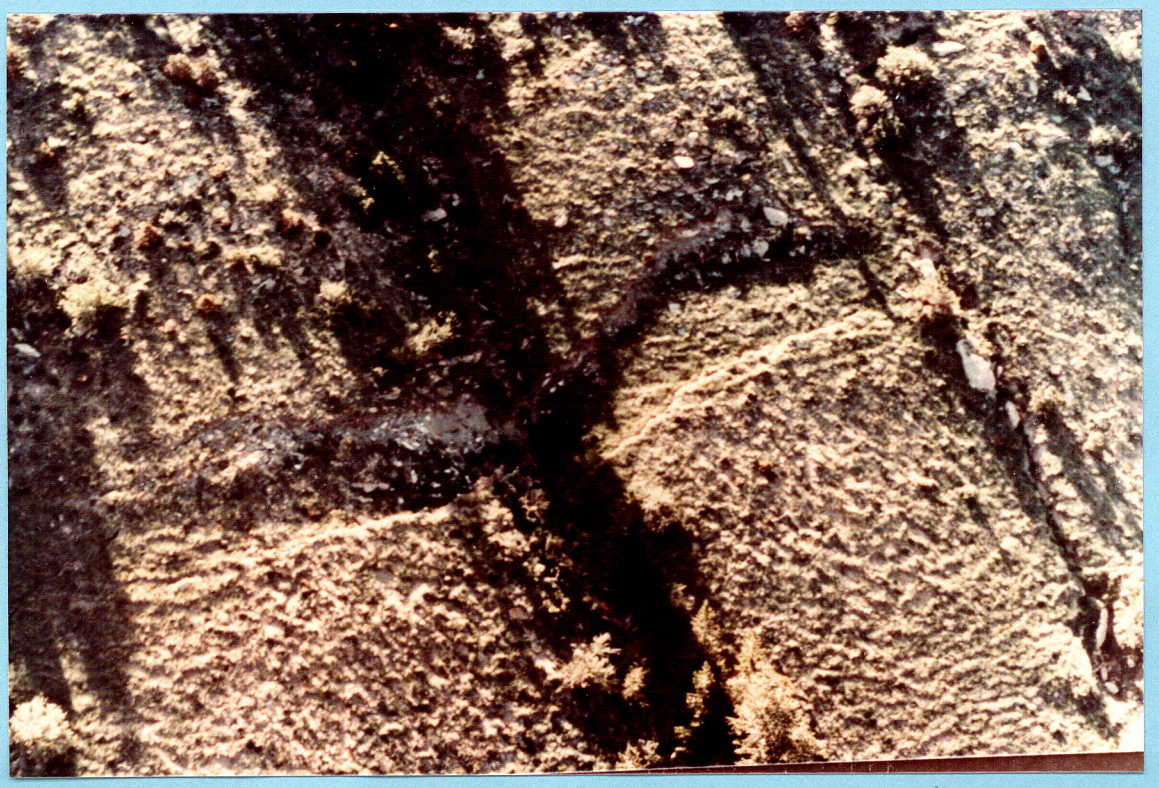
I seriously believe that we may work together in the future to further the potential of certain items within the MRP and improve both our understanding of the situation.

Sincerely,

THOMAS N. TETTING
ENGINEERING GEOLOGIST

TNT/lm

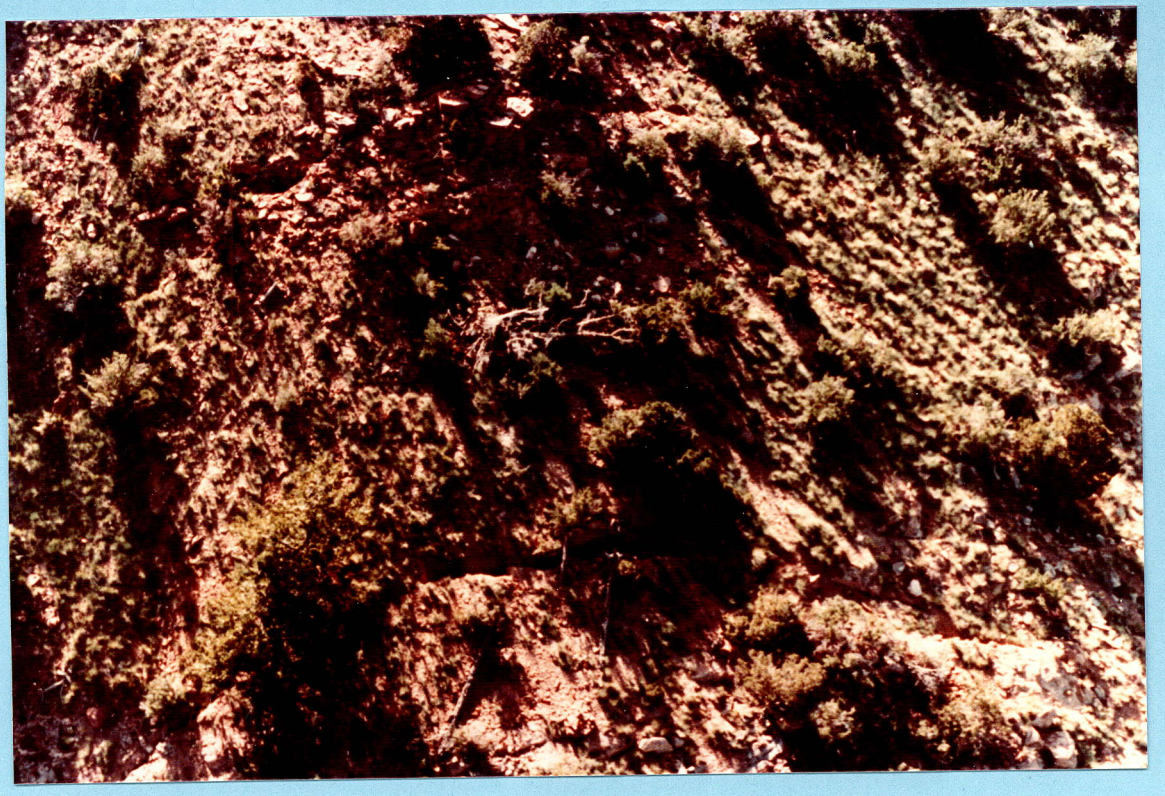
cc: Wayne Hedberg, DOGM
Marlene Berg, OSM, Denver



No. 7

No. 6

No. 8



No. 13

No. 5A

No. 3A