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DIVISION OF
OIL, GAS & MINING

ANNUAL SUBSIDENCE REPORT

PLATEAU MINING COMPANY

1985

SUMMARY

During the months June through September, subsidence monitoring was conducted on the surface lands above underground mining. All mined areas were visually searched for evidence of surface disturbance. Monitoring points over the active longwall mining areas were surveyed and additional monitoring points were established over Longwall Panel 4. The Manti-LaSal National Forest Monitoring Program was also conducted as per Plateau's commitment with that Agency on lands controlled by them.

Photographs were not taken in 1985 of past subsidence. Little visual change took place other than evidence of healing of previous subsidence scars. The older cracks are showing signs of filling in and vegetation is becoming established on the scars.

Refer to the 1983 Annual Subsidence Report for discussions of previous subsidence.

Mining in Lease SL-031286 constituted the majority of mining during 1985 with a small area developed and pillared in Lease U-37045. Mining in Lease SL-031286 was development mining and longwall block removal. Refer to Plate 12-2, Sheets 1, 2, 3, and 4 of 4, for mining locations and monitoring points.

SURFACE EFFECTS

No new effects were observed over the older mined areas. Two cracks were observed over the mined areas in Lease U-37045 shown on Plate 12-2, Sheet 2 of 4, where the cover is approximately 500 feet. Survey data of control points over Longwall Panels 1, 2, and 3 indicate surface subsidence from mining of panels 1 and 2. Table 1 summarizes survey data for monitoring points shown on Plate 12-2, Sheets 3 and 4, showing the change in elevation of monitoring points.

As can be seen on Table 1, Longwall Panel No. 1 is showing the most subsidence at 2.99 feet. This would be expected since it is the oldest panel having been started in April, 1984, and completed in November, 1984. Panel 2, started November, 1984, and completed July, 1985, shows 2.43 feet subsidence for a maximum and less overall than Panel 1. Panel 3, which was being mined during the field survey, shows the least amount of subsidence at 0.40 feet, and less than 1 foot generally. Panel 3 subsidence is likely showing effects from Panel 2.

A determination of the angle of draw is somewhat inconclusive. The area south of the longwall panels has been mined out by U. S. Fuel Company. The area east of the longwall panels has also been mined by U. S. Fuel Company, and the area west of the panels is highly faulted because of the graben zone. All of these factors make it doubtful that an accurate angle of draw can be determined on the east, south, and west. The north side of the panels remains as the only reliable area to determine the angle of draw. The survey monuments are approximately 400 feet apart, which is too far apart to accurately determine the angle, but based on the monuments as set, we are estimating the angle of draw to be approximately 18° to 22°. Additional survey work will be conducted during 1986 to accurately determine the angle of draw.

Two ground search methods were used to search for cracks above the longwall panels. A helicopter was used to view the area from the air, and ground search parties covered most of the area on foot. No cracks or other evidence was found of subsidence. At the present level of subsidence, the overburden strata appear to be deforming with little or no fracturing taking place.

VEGETATION

There appears to be no effect on vegetation from subsidence. Grasses, tress, and shrubs at the edges of displacements show no adverse effects. No visible changes are evident at the longwall subsiding area.

SURFACE AND GROUNDWATER

Numerous small drainage channels are intercepted by displacements in the older mined areas (pre-1984). There are no erosion problems at these locations. There are no perennial streams in the areas mined to date.

A cursory review of spring monitoring data indicates no perceptible affects from mining. A detailed evaluation of hydrologic data will be made during the repermitting effort in progress. Results of probable hydrologic consequences determination will be included in the application for permit renewal.

Surface Structures

There are no visible affects to structures above mined areas; these structures consist of a TV relay station, one small cabin, a Plateau owned power line, drift fences, and a series of unpaved Forest Service roads.

PROJECTED MINING

Mining will continue in Leases U-37045 and SL-031286. Continuous miner development and pillar extraction will be conducted in Lease U-37045 and longwall mining in Lease SL-031286.

MONITORING

Plateau is participating with the Manti-LaSal National Forest subsidence monitoring plan, where photogrammetry is used to evaluate subsidence effects on the surface and vegetation resources. We have been informed that the Forest Service will have available sometime this year a report on the results of their photogrammetry.

Plateau has established a system of monitoring points on the surface above the mine. Above the longwall area, we have established monitoring points as seen on Plate 12-2, Sheets 3 and 4. Results of surveys conducted over the past two years are shown on Table 1.

If the Forest Service comes through with their report this year, no further ground surveys will be necessary.

The photogrametric system will be able to identify subsidence with an accuracy of plus or minus 0.5 feet. Where subsidence occurs, contours will be generated of the area to document surface changes.

Please refer to the Monitoring section of our 1983 Annual Subsidence Report for further discussion of monitoring.

TABLE 2

CHANGE IN ELEVATION

<u>Monitoring Point</u>	<u>1983-1985</u>
PANEL 1	89 + 0.58
	90 - 1.20
	91 - 2.16
	92 - 2.26
	93 - 2.54
	94 - 2.51
	95 - 2.99
	96 - 2.88
	97 - 2.85
	98 - 0.91
	99 - 0.67
100 -0-	
101 -0-	
	<u>1984-1985</u>
PANEL 2	102 - 0.20
	103 - 0.17
	106 - 0.33
	108 - 0.14) Over U.S. Fuel
	109 - 0.13) pillared area
	110 -0-
	111 -0-
	112 - 0.07
	113 - 0.13
	114 - 0.56
	115 - 1.80
116 - 2.32	
117 - 2.43	
118 - 2.14	
119 - 1.03	
120 - 0.18	
121 - 0.06	
122 -0-	
123 -0-	
PANEL 3	124 - 0.26
	126 - 0.33
	127 - 0.37
	128 - 0.40
	129 - 0.37
	130 - 0.30
	131 - 0.25
	132 - 0.19
	133 -0-
	134 -0-
	135 - 0.26
	136 -0-
	137 + 0.87
	138 - 0.49