DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

73-63 OPEN FILE 1973

Left Fork Canyon
Right Fork Canyon
Bruin Pt
North Spring
Cottonwood
Spring
Water Canyon
Bear Canyon
Bear Canyon Station
SUNNYSIDE NO. 1 MINE
RIDGE
Pasture
Sunnyside Canyon Recording Station
Approximate position of base of Sunnyside coal seam
SUNNYSIDE NO. 3 MINE
Sunnyside Canyon
Sunnyside
WHITMORE
Dragerton
Draw
Creek
Willow Spring
PUMPING STATION
Creek
MAIN HAULAGE SLOPE
SUNNYSIDE NO. 2 MINE
PATMOS MOUNTAIN
Spring
Columbia
Patmos Head
SUNNYSIDE FAULT ZONE
COLUMBIA MINE
Horse Canyon Station
Gouseberry
Canyon
Sheep Canyon Station
Sheep Canyon
Little Horse Canyon
CARBON CO
EMERY CO
Middle Canyon
MAIN SLOPE
GENEVA MINE
Bear Canyon
TIPPLE
HEAD HOUSE
BOOK CLIFFS COAL MINE
THE COVE
Mesaon Canyon
Spring
Colorado
SUMMIT
GOOSEBERRY
T 14 S
T 15 S
T 16 S

EXPLANATION
SEISMIC NETWORK

Basic seismometer station

Supplementary seismometer station

Central recording station and tiltmeter

TREMOR HYPOCENTERS

2.1–3.0 1.6–2.0 1.0–1.5
Richter Magnitude

FIRST MONTH
SECOND MONTH
THIRD MONTH
SEA LEVEL
0 2 4 6 -2 -4

Pie segment indicates range of focal depth, above or below sea level, in thousands of feet
Ring segment indicates first or second half of month
Example above: Tremor of Richer magnitude between 2.1 and 3.0 with focus between 0 and 2000 feet above sea level, occurring in the last half of the first month

MINES

Haulageways and bleeders

Mine portal

(1) (2)
(1) Mined-out area
(2) Area mined this quarter

GEOLOGY

U D
Fault at surface

U D
Fault in mine workings

NOTE: U, upthrown side; D, downthrown side. Divergence between faults in the mine workings and at the surface is due to relief and the dip of the fault plane

Plant Station

Base from U.S. Geological Survey Sunnyside 0915 reprinted 1948), Woodside (1948), Range Creek (1954), and Flat Canyon (1954) quadrangles, 1:62,500
United States Steel Corp. reference grid (in thousands of feet)
Headgateways and bleeders of the mine workings shown compiled from Kaiser Steel Corp., United States Steel Corp., and Book Cliffs Coal Co. mine maps

Geology compiled from maps of the Sunnyside district (Osterwald, 1962), Columbia mine area (Osterwald, Dunrud, and Maberry, 1969), Geneva mine area (Dunrud and Barnes, 1972)

APPROXIMATE MEAN DECLINATION, 1969

0 2000 4000 6000 8000 10,000 FEET
SCALE 1:24,000

U.S. Geological Survey
OPEN FILE REPORT
This map is preliminary and has not been edited or reviewed for conformity with Geological Survey standards.

Figure 3. Map of the Sunnyside mining district, Utah, showing topography, faults, coal outcrops, major mine workings, and tremor hypocenters for the period January–March 1969.