

TEM-257

SpColl  
Energy  
TEM

This document consists of 4 pages  
plus 1 plate, Series A

CATEGORY VI (Colorado Plateau  
preliminary reserve estimate  
for ore blocks)

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

PRELIMINARY RESERVE STATEMENT 19,  
SUPPLEMENTAL REPORT ON RESERVE BLOCK F,  
LEGION CROOK AREA, SAN MICHAEL COUNTY, COLORADO

by

Henry Bell and Marjorie A. Gramer

November 1951

PROPERTY OF  
MESA STATE COLLEGE LIBRARY  
GRAND JUNCTION, COLO. 81501

Trace Elements Memorandum Report 257

PRELIMINARY RESERVE STATEMENT 19,  
SUPPLEMENTAL REPORT ON RESERVE BLOCK F, LEGION CROFT AREA,  
SAN MIGUEL COUNTY, COLORADO.

By Henry Bell and Marjorie A. Grauer

- Location:** W $\frac{1}{2}$  sec. 28, T. 43 N., R. 19W., New Mexico principal meridian.
- Ownership:** **Government:**  
Public land  
King No. 2 and Sam claims; leased to T. W. Skidmore, lease No. AT-(05-1)-ML-1.  
Cowgirl and May claims; leased to Minerals Engineering Co., lease No. AT-(05-1)-ML-2.  
Otero, Eloisa, and Sam Fraction claims (not leased).  
**Private:**  
Black Jack claim; Sitton and Dulaney, Inc. (according to affidavit of ownership, September 1950).  
Mintah and Mintah No. 2 claims; Ward Mining Co. (according to affidavit of ownership, April 1950).
- Access and nearest mill:** Three miles by unimproved road to Colorado highway 80, thence 42 miles via Colorado highway 80 and U. S. highway 160 to AEC mill at Monticello, Utah.
- References:** Trace Elements Memorandum Report 200, February 1951.  
Trace Elements Memorandum Report 192, August 1951.
- Reserves:** Reserves are calculated as in detailed reports on drilling projects, using a thickness cut-off of 1 foot, and grade cut-offs of 0.10 percent U<sub>3</sub>O<sub>8</sub> or 1.0 percent V<sub>2</sub>O<sub>5</sub>. Where assay values appear abnormal, data on the average grade of ore produced from nearby mines and the data from gamma-ray drill logs were used to supplement the assay data. This reserve statement is preliminary and subject to revision.
- Block 1:** See Trace Elements Memorandum Report 192, August 1951.

PRELIMINARY RESERVE STATEMENT 19 -- Continued

Block F: Indicated: 5,400 short tons, average 0.35% U<sub>3</sub>O<sub>8</sub>,  
2.25% V<sub>2</sub>O<sub>5</sub>.

Inferred: 650 short tons, average 0.35% U<sub>3</sub>O<sub>8</sub>,  
2.25% V<sub>2</sub>O<sub>5</sub>.

Minimum depth to reserve block: 130 feet.

Minimum distance from reserve block to mine working:  
about 450 feet southwest to King No. 2 Incline.

Block G: See Trace Elements Memorandum Report 192, August  
1951.

Discussion: Reserve Block F consists of two roughly tabular deposits of ore grade material. The average thickness of the deposit penetrated by drill holes 326, 393, 399, and 404 is 3.6 feet and the deposit is estimated to contain 4,000 short tons of indicated reserves and no inferred reserves. The average thickness of the deposit penetrated by drill holes 403, 410 and 416 is approximately 3.0 feet and the deposit contains about 1,400 short tons of indicated reserves and 650 short tons of inferred reserves. Material which does not meet the thickness and grade requirements for ore occurs in places above and below the ore grade rock. This material is not calculated as a reserve, although some of it may be minable with the higher grade material. Therefore, the tonnage of minable reserves may exceed the tonnage of calculated reserves. In places the mineralized layers may contain local thickenings or rolls of ore. If present, these rolls probably trend southeast.

No further drilling around this deposit is planned.

Table of assay and gamma-ray data, reserve block F,  
Legin group area, San Miguel County, Colorado

Geological Survey exploration 1948-1951. Assays by the Geological Survey 1948-1951.

Assay data listed under "block F" are within the block of calculated reserves discussed in this report.

Assay data listed under "other holes" are within reserve blocks not discussed in this report, or are within areas from which no reserves are calculated because the samples recovered are too thin or too weakly mineralized to qualify for the selected grade and thickness cut-offs.

Gamma-ray intensity obtained by probing of drill holes with radiometric logging unit.  
Abbreviations used for gamma-ray intensity:

- VW Very weak; concentrations of radioactive material in which the equivalent  $U_3O_8$  content is probably between 0.020% and 0.049%.
- W Weak; concentrations of radioactive material in which the equivalent  $U_3O_8$  content is probably between 0.050% and 0.099%.
- S Strong; concentrations of radioactive material in which the equivalent  $U_3O_8$  content is probably 0.10% or more.

Note: Rock units containing less than 0.020%  $U_3O_8$ , less than 0.020% equivalent  $U_3O_8$ , and less than 0.10%  $V_2O_5$  are considered to be barren. Barren holes are omitted from this table.

e Equivalent  $U_3O_8$

<Less than

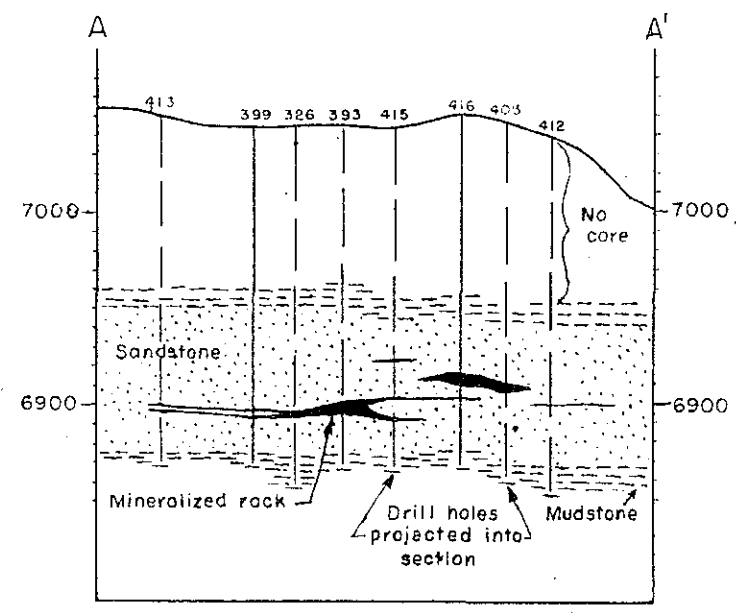
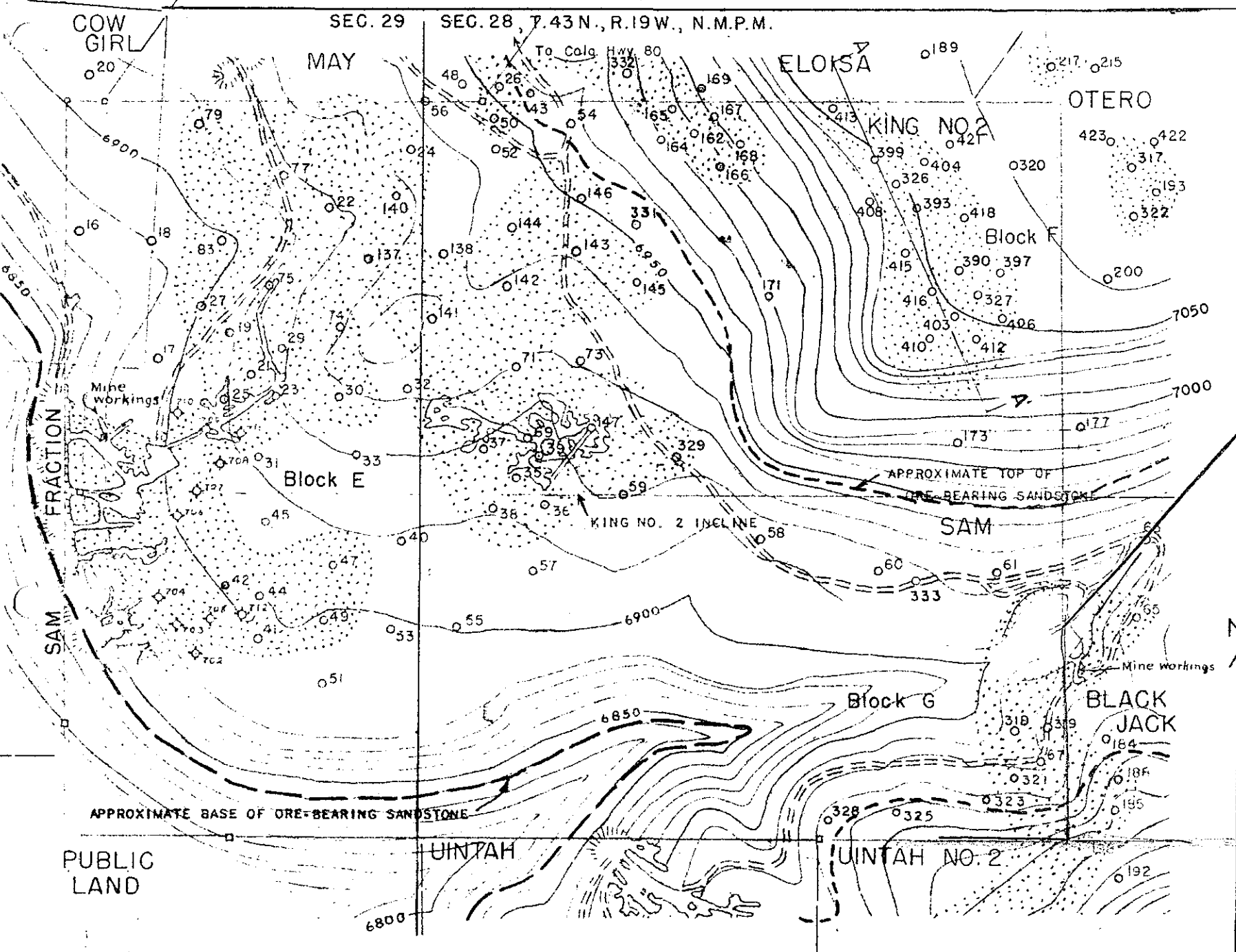
Hole No.	Assay data						Gamma-ray intensity	Gamma-ray data		
	Depth in feet		Thickness (feet)	Percent				Depth in feet		Thickness (feet)
	From	To		$U_3O_8$	$V_2O_5$	$CaCO_3$	From	To		
Block F										
326	146.90	148.60	1.70	0.021	1.05	<0.1	S	147.2	148.1	0.9
	148.60	149.65	1.05	<0.02	0.21	0.9	VW	148.1	149.2	1.1
							W	149.2	150.3	1.1
327	136.30	137.70	1.40	<0.02	0.42	1.4	VW	136.3	138.1	1.8
	137.70	138.95	1.25	<0.02	0.25	1.3				
	139.20	139.55	0.35	<0.02	0.28	<0.1	S	140.8	141.9	1.1
	140.00	141.80	1.80	<0.02	0.33	1.9				
	144.80	145.35	0.55	<0.02	0.20	0.2				
390	133.30	134.30	1.00	<0.02e	0.71	0.7	VW	133.3	134.6	1.3
	137.70	138.30	0.60	<0.02e	1.16	<0.1	W	139.5	142.0	2.5
							VW	142.0	143.5	1.5
	138.70	139.70	1.00	0.028e	0.24	Undet.	W	143.5	147.1	3.6
	139.70	140.70	1.00	0.052	0.49	<0.1	S	147.1	148.1	1.0
	140.70	141.45	0.75	<0.02e	0.65	<0.1	VW	148.1	151.6	3.5
							S	151.6	153.3	1.7
	142.40	142.65	0.25	<0.02e	1.17	1.5				
	142.65	143.90	1.25	0.041	1.02	1.2	VW	160.2	170.5	9.3
	143.90	145.15	1.25	0.054	0.71	2.6				
	145.15	146.15	1.00	0.044	0.73	2.2				
	146.15	146.30	0.15	0.13	1.24	0.6				
	146.30	146.40	0.10	0.12	3.13	0.2				
	146.40	147.30	0.90	0.093	0.70	3.9				
	147.30	147.40	0.10	0.025e	1.58	1.3				
	147.90	148.15	0.25	0.029e	0.13	Undet.				
149.55	150.55	1.0	0.031e	<0.1	Undet.					
150.55	151.80	1.25	0.15	<0.1	17.2					
151.80	152.30	0.50	0.046	<0.1	19.1					
152.30	152.55	0.25	0.023e	<0.1	Undet.					

Table of assay and gamma-ray data, reserve block F,  
Legin group area, San Miguel County, Colorado

Hole No.	Assay data			Percent			Gamma-ray intensity	Gamma-ray data		
	Depth in feet		Thickness (feet)	U <sub>3</sub> O <sub>8</sub>	V <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>		Depth in feet		Thickness (feet)
	From	To					From	To		
Block F Continued										
393	143.90	144.15	0.25	<0.02e	1.54	<0.1	S	144.2	145.6	1.4
	144.15	144.60	0.45	0.076	3.71	<0.1	<0.1	145.6	145.9	0.3
	144.60	145.75	1.15	0.28	2.22	Undet.	S	145.9	148.3	2.4
	145.75	146.60	0.85	0.17	1.72	1.0				
	146.60	147.20	0.60	0.40	1.57	1.8	VW	151.7	152.4	0.7
	147.20	147.80	0.60	0.21	2.93	0.7				
	147.80	148.50	0.70	0.14	1.26	1.4				
	148.50	149.50	1.00	0.052	2.05	0.9				
	149.50	150.30	0.80	<0.02e	1.13	2.5				
397	148.90	149.65	0.75	0.023e	<0.1	Undet.	VW	148.4	149.4	1.0
	155.00	155.75	0.75	0.045	<0.1	2.9	VW	154.2	156.3	2.1
	155.75	156.50	0.75	0.024e	<0.1	Undet.				
	156.50	156.80	0.30	0.067	<0.1	0.6	VW	157.7	161.9	4.2
399	145.60	146.00	0.40	0.20	1.28	0.1	S	145.9	146.8	0.9
	146.00	146.20	0.20	0.057	0.34	<0.1	VW	146.8	149.8	3.0
	146.20	147.20	1.00	0.022	1.89	0.1				
	147.20	147.60	0.40	0.043	1.12	0.2	VW	163.7	164.5	0.8
	147.85	148.90	1.05	0.025e	0.46	Undet.	VW	165.6	171.0	5.4
403	136.80	138.00	1.20	0.12	1.12	0.2	S	136.6	140.6	4.0
	138.00	139.35	1.35	0.15	1.05	0.2				
	139.35	141.10	1.75	0.13	0.93	0.1	VW	158.3	159.2	0.9
404	145.10	146.00	0.90	0.047	0.23	3.4	S	145.0	146.0	1.0
	146.00	146.20	0.20	0.24	3.03	0.1	W	146.0	147.9	1.9
							S	147.9	148.7	0.8
	146.45	147.40	0.95	0.029e	0.33	Undet.	VW	148.7	150.1	1.4
							S	150.1	150.8	0.7
	147.50	148.40	0.90	0.09	1.53	Undet.				
	148.40	148.70	0.30	0.20	3.55	Undet.				
	148.70	149.10	0.40	0.42	1.72	0.1				
149.10	149.40	0.30	0.02	0.66	0.1					
	150.70	151.05	0.35	0.18	Undet.	Undet.				
406	156.25	156.60	0.35	0.030e	<0.1	Undet.	VW	153.9	155.9	2.0
410	129.20	130.30	1.10	0.07	3.72	0.1	S	128.5	130.6	2.6
	130.30	130.60	0.30	0.10	3.47	1.4				
	130.60	131.70	1.10	0.033	3.60	0.2	S	150.2	152.1	1.9
							W	152.1	153.2	1.1
	132.25	132.75	0.50	0.025e	0.48	Undet.				
	149.80	150.85	1.05	0.067	0.35	0.7	W	153.7	154.5	0.8
	150.85	152.60	1.75	0.11	0.94	3.1				
	152.60	153.00	0.40	0.043	1.12	0.2				
153.00	153.50	0.50	0.068	0.39	5.8					
	154.50	154.95	0.45	0.031e	<0.1	Undet.				
412	148.70	148.95	0.25	0.035	<0.1	2.2	S	148.6	149.3	0.7
	148.95	149.20	0.25	1.29	<0.1	1.8				
413	144.50	145.10	0.60	<0.02	1.18	0.1	VW	143.9	145.4	1.5
	147.15	147.65	0.50	0.046	0.31	8.0	VW	146.5	147.3	0.8
							VW	165.4	166.1	0.7
415	119.10	119.40	0.30	0.23	4.11	1.2	S	118.7	119.5	0.8
	142.00	142.50	0.50	0.037	0.62	2.5	S	142.1	142.7	0.6
	142.50	142.70	0.20	0.088	2.97	0.2				
							W	149.2	150.8	1.6
	149.00	150.00	1.00	0.029e	0.24	Undet.				
	150.00	150.90	0.90	0.043	2.56	0.4	VW	169.0	170.1	1.1

Table of assay and gamma-ray data, reserve block F,  
Legin group area, San Miguel County, Colorado

Hole No.	Assay data						Gamma-ray data			
	Depth in feet		Thickness (feet)	Percent			Gamma-ray intensity	Depth in feet		Thickness (feet)
	From	To		U <sub>3</sub> O <sub>8</sub>	V <sub>2</sub> O <sub>5</sub>	CaCO <sub>3</sub>		From	To	
Block F Continued										
416	132.50	132.80	0.30	0.073	0.27	0.8	S	132.5	147.5	15.0
	132.80	133.20	0.40	0.30	0.83	0.4	VW	147.5	149.0	1.5
	133.20	133.80	0.60	1.04	3.57	0.3	S	149.0	149.9	0.9
	133.80	134.80	1.00	0.069	1.42	2.9	VW	149.9	152.6	2.7
	134.80	135.20	0.40	0.17	4.09	1.0				
	135.20	136.55	1.35	0.40	1.45	4.2	VW	153.9	154.9	1.0
	136.55	136.90	0.35	0.74	2.24	1.1				
	136.90	137.40	0.50	1.28	4.28	0.3				
	137.40	138.15	0.75	0.12	0.71	5.3				
	138.15	138.90	0.75	0.14	0.75	0.1				
	138.90	139.40	0.50	0.12	1.86	<0.1				
		146.40	147.90	1.50	0.055	0.32	35.8			
		147.90	148.30	0.40	0.023	5.95	1.7			
		149.80	150.30	0.50	0.69	5.47	3.8			
		150.30	151.30	1.00	0.055	0.17	<0.1			
	418	144.50	145.00	0.50	0.042	0.43	30.2	S	147.7	153.2
145.00		145.40	0.40	0.15	1.33	0.2				
145.40		145.80	0.40	0.42	1.85	11.8	VW	171.5	172.2	0.7
145.80		146.40	0.60	2.81	5.42	3.1				
146.40		146.65	0.25	1.08	2.29	1.9				
146.65		147.10	0.45	0.19	0.75	8.8				
147.10		147.35	0.25	0.15	0.22	13.1				
147.35		148.00	0.65	0.029	0.23	10.1				
148.00		148.50	0.50	0.89	4.56	2.1				
148.50		149.50	1.00	0.18	1.28	4.7				
149.50		150.30	0.80	0.065	1.40	0.8				
150.30		151.35	1.05	0.074	0.77	6.1				
151.35		151.90	0.55	0.031e	0.66	1.2				
Other holes										
422	136.35	136.85	0.50	0.023e	0.11	Undet.	Gamma-ray data not available			
	136.85	138.10	1.25	0.048	0.33	1.6				
	138.60	138.85	0.25	0.039	0.24	10.9				

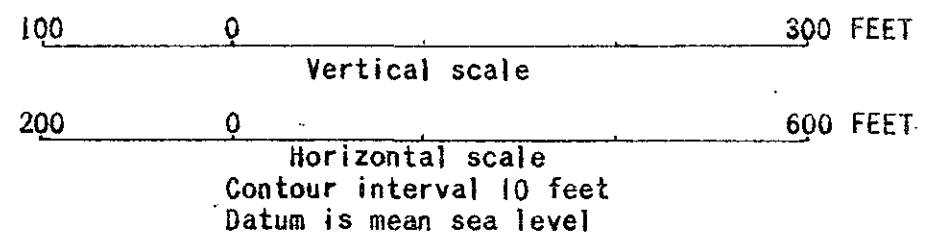


GEOLOGIC SECTION A-A'

EXPLANATION

- 57 Diamond-drill hole, Geological Survey. Holes located by plane-table survey methods. (Numbers on drill-hole standpipes in field have prefix LE).
- ◇704 Diamond-drill hole, Bureau of Mines. Holes located by plane-table survey methods.
- Ground underlain by carnotite-bearing rock, projected to the inferred outer edges of mineralized layers, some of which overlap and are not connected between adjacent drill holes.
- Claim corner or monument found in the field and located by plane-table survey methods. Claim lines connecting these corners are shown by solid lines. Dashed claim lines are plotted from information of doubtful reliability and are subject to correction.

MINE MAPPING COMPLETE  
AS OF APRIL 1951



Map of reserve blocks E, F, and G, and geologic section of reserve block F, W $\frac{1}{2}$  sec. 28, E $\frac{1}{2}$  sec. 29,  
T. 43 N., R. 19 W., Legin group area, San Miguel County, Colorado

