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DR. FRED M. ANDERSON'S STORMY DAY TUNGSTEN MINE, HOOKER MINING DISTRICT,
PERSHING COUNTY, NEVADA.

Conclusion: This is a small mine and the calculated ore reserves indicate some profit should be made. If part of this profit is expended on exploration other comparable ore bodies may be found.

Location: The Stormy Day Tungsten Mine, of 9 unpatented claims, is 16 miles south of Gerlach, Nevada 2½ miles east of state highway 34. It is owned by Dr. Fred M. Anderson and associates of Reno, Nevada. It is on the west side of the Selenite or Limbo range. The mine was examined and data collected by J. McLaren Forbes on January 9 and 10, 1956.

History: The Stormy Day was discovered by J. J. Thrasher in 1941 and he started work in 1942. He shipped 1142 tons of 0.76% WO₃ up to July of 1944. No further work was done until 1950 when Mayfield and Reed shipped some 900 tons of which there is no record. In 1953 Stanley F. O'Leary obtained a lease and option from J. J. Thrasher and gave a one third interest to Dr. Anderson as payment for money for the 25% payment on a DMEA loan. After the death of Mr. O'Leary Dr. Fred M. Anderson, Alan Bible, Robert L. McDonald and Dr. A. J. Dingacci, a partnership, exercised the O'Leary option and bought the Stormy Day Mine. Under the partnership three DMEA projects were completed. During this time about 6000 tons of over 0.70% WO₃ ore was mined. Total production to date must be in the neighborhood of 8000 to 9000 tons of over 0.7% ore.

In August of 1954 a lease and option was given to the Modac Mines and Exploration Company. This was later dropped and the Nev-Tah Oil and Mining Company obtained a lease and option which was not fulfilled.

Geology: The mine is located in tactite along a north-south striking granodiorite, which makes up the core of the Selenite range, is to the east and the limestones are to the west and on the very edge of the range. The contact is known to extend for at least 19,000 feet. There are other tactite zones along this contact besides the one on which the Stormy Day is located.

The tactite is composed of contact metamorphic minerals such as garnet, epidate, tremalite, etc. Along with the ore mineral, scheelite, there are often found the sulphides pyrite and phyrrotite. On the granodiorite side of the contact there are places where the igneous rock is silicified and carries some molybdenite. The tactite has been found up to 20 feet thick and in a few places carries ore over this width. The ore bodies are up to 70 feet in length, 3 to 20 feet, and at least one of them extends for 300 feet down dip. All of the developed ore bodies appear to coalesce at the surface where the ore zone is 300 feet long.

The ore bearing areas occur near irregularities at the contact some of which are due to minor faulting. Diamond drilling has shown that the contact flattens and the ore cuts ^{out} on the middle ore body about 120 feet below the No. 2 level. Deeper drilling might show that the contact steepens and ore reappears.

Ore bearing outcrops have been exposed from 150 to 450 feet south of the developed area and the face of the lower level appears to be entering this zone. Reportedly a diamond drill hole cutting below an outcrop just to the north on the adjoining property intercepted ore at 250 feet. It appears that exploration work should develop ore beneath these outcrops and possibly others.

Ore Reserves: Ore reserves have been calculated from mine maps, reports and information furnished by John H. Uhalde the mine Superintendent. A vertical longitudinal projection showing ore blocks accompanies this report. There is also a map showing the mine workings, outcrops and some geology. The following ore reserves are indicated:

	Tons 0.7% Grade ore	Tons 0.4% Grade ore
Developed	14540	2280
Probable	5250	3290
Possible	540	5820
TOTAL	20330	11,390
Total tonnage of 0.7% and 0.4% ore equals 31,720 tons.		

Evaluation: The value of the ore reserves assuming that all the indicated ore will be recovered is as follows:

	Tons 0.7% Grade ore	Tons 0.4% Grade ore
Total tons of developed, probably and possible ore	20,330	11,390
Value at 80% recovery and \$63 per unit	\$ 717,595.	\$ 229,512
Operating costs using Uhalde's 1954 figure plus 20% for increase in overall costs	356,356	219,522
Operating profit	361,239	9,990

These figures exclude overhead and indirect costs. Operating profit

on .7% ore	\$ 361,239
Operating profit	
on .4% ore	<u>9,990</u>
Indicated operating profit	\$ 371,229

Minimum cost of the mine excluding interest etc. is \$175,000 and will give a net profit excluding overhead, indirect charges, interest, etc. of \$196,229

Maximum cost of the mine excluding interest etc. is \$225,000 and will give a net profit excluding overhead, indirect charges interest, etc. of \$146,229.

Price and Terms: Dr. Anderson wanted either a minimum price of \$175,000 with a \$50,000 down payment and the final payment in 15 months or a price of \$225,000 with a \$50,000 down-payment, a \$25,000 payment after five months followed by a 10% royalty until the total price is paid.

Milling: At the present time the ore is being shipped to the Wolfram Co., Custom Mill at Toulon. Since the recovery has not been satisfactory, but laboratory tests indicate that a change in the flow sheet would better the recovery, a joint venture was being negotiated with Wolfram whereby the Mill would be revised to handle the new flow sheet in hopes of obtaining better recovery. This joint venture would last until the present Tungsten Stockpiling Program is terminated. Payments of the net profit will be made on a sliding scale depending on the value of the ore.

Summary: The Stormy Day Mine has developed ore bodies along a tactite on an intrusive contact. Other ore bodies may occur along this same contact. Calculated ore reserves and indicated costs point to the possibility of making a profit on the present developed ore. There is also the possibility of developing more ore.

Recommendations: If Coppermines wishes to exploit a small tungsten mine in a favorable area:

1. The property be mapped and sampled to check the calculated ore reserves.
2. If the sampling checks the indicated ore reserve and the property is acquired part of the profits from mining this ore be used in exploring the other potential ore zones.
3. Other favorable areas along the contact be optioned or purchased for exploration.