

MEMORANDUM

Re: Madera-Ellwood Area. Work by Kerr-McGee Oil Company

Kerr-McGee have been drilling in this area with one diamond drill rig since about January, 1964. Recently they approached Inspiration on the basis of Inspiration buying cement copper from them, or participation in further exploration or purchase of the property. Mr. E. F. Reed of Inspiration asked to examine the logs of our drill holes in the area. In exchange he allowed me to examine a report on the Kerr-McGee work by M. J. Fitzgerald, geologist for Kerr-McGee on the project.

Three holes were drilled in the area of the Ellis adit on the south side of the mountain. All were essentially devoid of copper mineralization. These holes were spaced at intervals of 2000 feet.

Seven holes were drilled in the area of Santa Ana's cabin about a mile north of the Ellis area. Five of these holes were reported as having an average grade of 0.35% Cu over an average interval of 65 feet. These holes were drilled at intervals ranging from 1000 to 1500 feet. Tons and grade were computed using polygons around each hole. On this basis, Fitzgerald computed 17.5 million tons averaging 0.37% Cu. Waste to ore stripping ratio was computed as 3.4:1. In calculating gross value of the material in place he assigned a value to contained metal having the following ranges.

<u>Cu%</u>	<u>Zn%</u>	<u>Pb%</u>	<u>Mo%</u>	<u>Au/oz/T</u>	<u>Ag</u>
.05-.45	Nil.-.05	Nil.-.20	Nil.-.01	Tr.-.02	.1-36

Included in the report were 7 sections. On these mineralized zone was projected horizontally to its projected outcrop and in the opposite direction to the limit of the zone of influence of the hole. Data from these sections are tabulated on the following page.

<u>Section</u>	<u>Hole No.</u>	<u>Ore Thickness</u>	<u>% Cu</u>	<u>Hgts. Strip</u>	<u>Length</u>
1	CS3	60	0.35	0-360	800
2	CS3	60	0.35	0-150	320
3	CS5	45	0.45	60-430	900
4	CS5	45	0.45	0-370	1150
5	CS4	80	0.38	0-300	1400
6	?	80	0.38	0-190	750
6	?	70	0.22	70-390	1000
7	?	60	0.22	0-370	1000

Tabular Summary of Drilling

<u>Hole No.</u>	<u>Length</u>	<u>% Cu Range</u>	<u>Best Interval</u>		<u>Depth Top</u>
			<u>Length/ft.</u>	<u>% Cu</u>	
CS1	692.0	0.05-0.33	9	0.33	421
CS2	429.7	0.04-0.34	19.6	0.34	252
CS3	359.5	0.05-0.35	65	0.35	195
CS4	260.0	0.10-0.56	30	0.56	165
			25	0.39	210
			20	0.24	195
CS5	175.3	0.05-0.49	36	0.49	141
CS6	325	0.05-0.57	45	0.57	230
CS7	263.9	0.06-0.23	65	0.23	255
CS8	300.3	0.07-0.08			
CS9	424.4	0.11-0.33	55	0.33	370
DD4 CS9	216	0.08-0.44	20	0.44	385
CS10	440	0.10-0.32	20	0.32	90

Mr. Fitzgerald stated the tonnage and grade were not sufficient to support mining and milling. He proposed to mine the material with a 1:1 stripping ratio and heap leach. The remaining material was to be drilled, blasted and leached in place. He proposed holes on 50 foot centers to be churn drilled.

Estimated tons, recovery and cost follows:

<u>Method</u>	<u>Tons</u>	<u>Recovery</u>	<u>Rec. Lbs. Cu</u>	<u>Cost/lb. Cu</u>
Mine & Heap Leach	4,900,000	80%	30,600,000	23.7¢
In Place Leach	12,800,000	50%	46,400,000	18.8¢

Detailed costs in cents per lb. recoverable copper are:

<u>Method</u>	<u>Mining</u>	<u>Precip.</u>	<u>Gen.</u>	<u>Frnt.Smelt. & Refine</u>
Heapleach	6.4	9.5-10	1.0	5.1-7.7
In Place	* Prep. 1.5	Frnt.Smelt. & Refine 5.1-7.7	Precip. 9.5-10	Gen. 1.0

* Preparation includes churn drilling on 50 foot centers. Average depth 180 feet, cost \$2.50 per foot including explosives. No mention was made of roads or drill sites.

Mr. Reed said Inspiration was not interested in the property. He said they would stall Kerr-McGee long enough to make a geophysical survey of the property. He did not mention what type. They have previously made a geochemical survey and found anomalies around our drilling.