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October 11, 1969

Grand State Mining Co.
P. O. Box 3382
Scottsdale, Arizona

Gentlemen:

You requested of the writer to prepare an appraisal of your "sand and gravel" deposit which is leased from and located within the Salt River Indian Reservation on the Salt River. Said lease is described as being two miles long following the river meander and 2000 feet wide with the common corner of Sec. 21 and 22 of T. 2 N., R. 6 E., G. & S. R. B. & M. in Maricopa County, Arizona being the midpoint of the lease length.

A field examination of the "deposit" was completed on October 11 as well as an inspection of the various sand and gravel saleable products your organization has produced with your present "gravel screen plant".

This letter report is a result of the writers findings based on the personal visit as mentioned.

CONCLUSIONS:

- (1) The sand-gravel admixture for most of this deposit is of excellent character in the smaller particle sizes resulting in a higher percentage of "sand" and small size ($-1\frac{1}{2}$ inch) gravel than most deposits in the valley.
- (2) The sand and gravel as observed in the 10 to 12 feet deep exploratory trenches and "working pit" is almost entirely free of silt or clay and is very highly amendable to the dry screening process with the respective particle sizes free of adhering dust.
- (3) Volume-wise or "reserve-wise", the figures become astronomical. For a one yard depth, 1,783,500 cubic yards of sand and gravel of minus $1\frac{1}{2}$ inch size should be available or for a 5 yard depth 6,101,000 cubic yards of minus $1\frac{1}{2}$ inch sand and gravel should be available.
- (4) The dollar value of the latter volume ore "reserve" (15 foot depth) is in excess of \$12,000,000.00 in place, however, the lease and the "reserve on the basis of a "security worth" would only approach \$1,200,000.00 or 20¢ per cubic yard for the horizontal dimensions used and a depth of 15 feet. This value would increase on an average of approximately \$75,000.00 for each yard of depth below the 15 foot depth.

APPRAISAL CALCULATIONS:

To substantiate the appraisal figures in the above conclusions, the following facts and figures have been used.

Lease Dimensions

Two miles long along river	10,560 feet
2000 feet wide. 80% of width used.	1,600 feet
Horizontal effective area.	1,877,300 square yards.

Volume Calculations

<u>Depth Yards</u>	<u>Volume Cubic Yards</u>	<u>Percent* Factor</u>	<u>Adjusted Volume Cubic Yards</u>	<u>Operation*Life Years**</u>
1	1,877,300	95	1,783,500	3 $\frac{1}{2}$
2	3,754,600	90	3,379,000	6 $\frac{1}{2}$
3	5,631,900	83	4,674,500	9
4	7,509,200	75	5,632,000	11
5	9,386,500	65	6,101,000	12

* Usable material, -1 $\frac{1}{2}$ inch products.

** Based on 1,700 cubic yards per day, 300 days per year.

Market prices of sand and gravel are "cheap" per ton as compared to metalliferous ore. Operating expenses to produce finished sand and gravel are lower than operating expenses for metalliferous ore. The ratio of profit to gross value for sand and gravel operation is much greater than that for metalliferous product operation. Good sand and gravel deposits in the Phoenix area are becoming more difficult to secure.

With these facts in mind, a greater percentage rate of a gross value figure can be justifiably used to calculate a "security appraised value" for this lease.

The present lease carries a 15¢ per usable ton royalty which is approximately 10% or more of the gross "in place" value. Because of the greater "ratio of profit" in this industry and the immensity of this deposit as calculated and projected to a 30 foot depth, the writer firmly believes that a "security value" of 20¢ per cubic yard for the greater calculated "materials reserve" is justified. Therefore, a security appraised value of \$1,200,000.00 is indicated and justified.

Respectfully submitted,

R. E. Mieritz,
Mining Consultant