

## UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

P. O. Box 829 Carlsbad, New Mexico

January 31, 1961

Mr. R. H. Blackman, Jr. Resident Counsel Potash Company of America P. O. Box 31 Carlsbad, New Mexico

Dear Mr. Blackman:

Recently you requested the opinion of this office as to whether or not an oil test proposed to be drilled by Earl G. Colton in the NEZSEZ Section 29, T. 20 S., R. 34 E., N.M.P.M., New Mexico, would penetrate commercial quality potash ore if drilled.

The records of this office show that the proposed oil test is located approximately 2,100 feet inside the potash orebody as delineated by the Geological Survey to cutoff limits of 4 feet of 14% K<sub>2</sub>O for minimum commercial mineralization.

Please feel free to use this opinion concerning the proposed oil test location in any manner you wish.

Very truly yours,

Q. J. Fulton

R. S. Fulton Regional Mining Supervisor

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## UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY P. 0. Box 829 Carlsbad, New Mexico

February 2, 1961

Potash Company of America P. O. Box 31 Carlsbad, New Mexico

Gentlemen:

Recently you requested that this office compile tonnage and value data relative to recoverable potash ore under the following fixed conditions:

1. Ore 4 feet thick of 14% K<sub>2</sub>0 grade.

- 2. Mining extraction of 45%.
- 3. Milling efficiency of 90%.
- 4. Average price of 35 cents per unit of  $K_20$ .

You also requested that similar data be compiled for a 200-foot radius ore pillar left to protect a producing oil well. Recoverable values are determined by using the following formula:

Recoverable value per acre =  $2,722.5 \times \text{thickness}$  of ore in feet x grade of ore in % K<sub>2</sub>0 x mining extraction x mill efficiency x units of K<sub>2</sub>0 per ton x price per unit of K<sub>2</sub>0. The constant, 2,722.5, reflects the ore tonnage contained in one acre-foot, using 16 cubic feet = 1 ton. Following are the values determined:

RecoverableRecoverableValuePerTonsPerAcreValueValuePerAcreValue

Total Mining (extraction 45% mill efficiency 90%)

\$ 4.41 4,900.5 \$ 21,611.10

The following reflects the tonnage, and recoverable potash value in a 200-foot radius pillar:

Tons of ore in pillar = Recoverable value per ton = Total value of ore in pillar = \$ Recoverable value of ore in pillar = \$ (at 45% extraction, if could be mined)

31,416 4.41 6年2月1日日 011138.544 1.81.3. (62,345.05 CASE

Very truly yours, R. J. Hullow

R. S. Fulton Regional Mining Supervisor