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PURPOSE OF REPORT:

The following report is a study to determine the viability of future potash mining in the nine square section area surrounding and including Section 16-T20S-R33E (Area) in Lea County, New Mexico. The nine square mile area is located in the northeast portion of the known potash area as designated by the Bureau of Land Management and the New Mexico Oil Conservation Division. As a result of its designation as a potash area, provisions for protecting potash and potash mining operations have been established for the gross known potash area. The question of viability of potash mining in the subject Area is a consideration in the decision to relax some of the provisions placed on oil and gas exploration efforts within the Area.

CONCLUSION OF STUDY:

No potash mining is expected to occur in the subject area in the foreseeable future due to the declining economics of the potash industry in New Mexico and the physical lack of commercial potash in the Area of this report.

NEW MEXICO POTASH ECONOMICS

Two potash minerals are mined from the known potash area, sylvite and langbeinite. Langbeinite is mined only in the southern portion of the known potash area and produces sulfates and magnesium sulfates of potash in relatively small quantities to a limited market. Sylvite is the mineral mined to produce the most common potash fertilizer, muriate of potash, and is the major potash mineral known to exist in the subject Area and the predominate potash mineral commercially mined within 20 miles of the Area.

The New Mexico potash mining industry is a mature industry that has been in decline since 1966 after the last new mine opened. Sylvite mining is principally responsible for the overall decline as langbeinite production has been relatively stable in the recent past. EXHIBIT ___, NEW MEXICO POTASH PRODUCTION, demonstrates the decline in

production for the past 28 years in terms of tons of K_2O produced.

EXHIBIT ___ shows the US potash demand, its sources, and distribution of US production that has been experienced over the last few years. In summary, most potash consumed in the US is used for fertilizer, comes from Canada, and a significant portion of US production, 80% of which comes from New Mexico, is exported. The US is much more dependent on Canada for potash than New Mexico.

EXHIBIT ___ shows that a large majority of potash fertilizer is used as muriate of potash in terms of K_2O and that a majority of the fertilizer is consumed in the US cornbelt.

EXHIBIT ___ indicates that 89% of the cornbelt demand comes from Canada and when Missouri is excluded from the cornbelt, 95% of cornbelt demand is provided from Canada. New Mexico produces muriate and sulfates at approximately the same ratio as the US demand for those products putting New Mexico muriate production in direct competition with Canadian sylvite reserves.

EXHIBIT ___ is a map of the US showing the general location of Canadian potash deposits in Saskatchewan and New Brunswick, large potash reserves developed in the 1960's and 1980's respectively. Most producing US reserves are located in New Mexico and Utah. The table in the lower right corner of the EXHIBIT shows the percent of US consumption in various states. Note that Missouri consumes only 5% of the US demand and that 59% of its consumption is supplied from domestic production. (Most likely New Mexico).

The red line across the map represents an equi-distant line between the Saskatchewan deposits and the New Mexico deposits. Potash is apparently transportation cost sensitive. However, one would expect the distribution of potash to Illinois and Indiana to be more evenly divided between Canada and New Mexico but in fact only 3% of the total consumed in Illinois comes from the US and only 5% of the total consumed in Indiana comes from the US suppliers. Canadian potash has a price advantage as well.

A portion of the potash produced in New Mexico is exported through Gulf Coast ports where there is currently a transportation advantage of potash to Central and South America. However, the New Brunswick higher grade production will soon be competitive with New Mexico's gulf coast exports.

EXHIBIT ___ shows the decline of prices of muriate of potash realized by US producers over the past seven years in terms of price/metric ton of K_2O in 1994 dollars. This price decline is common with commodities that are developed on a broad scale. Canadian producers are operating at approximately 60% of capacity in order to stabilize the prices they receive, an indication that they are in control of the North American market and that the US producers, mainly the New Mexico muriate producers, are only able to sell at prices set in Canada and supply those areas where transportation cost advantages exist.

EXHIBIT ___ strongly supports the economic circumstance of the Canadian producers being in control. They produce 5 times more than the entire US, control nearly half of the known potash reserves of the world, and nearly 60% of the potash resources known to the world.

The second table on the EXHIBIT shows why there will be no more New Mexico sylvite mines developed. The Canadians realize a lower price per ton but can produce 10 times the amount of the New Mexico producers while having the advantage of mining a much higher average grade. The last line of the table demonstrates why no rational lender or realistic mining company would open a new mine in New Mexico with grades that give its prime competitor a 2.27:1 advantage. Couple the grade disadvantage with declining prices and increasing mining costs and the economics at 15% K_2O would be disastrous for a new mine selling to the US or international market.

The apparent conclusion one can draw from the economic data is that no new conventional sylvite mines will open in New Mexico, or any other place not having a distinct transportation advantage, unless it can mine grades in quantities that can compete with the grades the Canadians are presently mining and should continue to mine for decades to come.

PHYSICAL CHARACTERISTICS OF THE SUBJECT AREA

EXHIBIT ___, POTASH LEASE STATUS, shows that much of the Area is unleased for potash. The IMCF lease in section 8 is part of a large area acquired after Noranda determined it would not develop a mine and dropped or transferred its leases. The leases of both New Mexico Potash Corporation, NMPC and Mississippi Chemical are not contiguous to any of their other holdings and too small to develop independently.

EXHIBIT ___ is a reduced copy of the 1993 BLM Potash Map and shows the distances to the operating mines from the Area to Mississippi Chemical and New Mexico Potash Corporation mining operations. It is apparent that neither company has a mine close enough to incorporate the Area into its existing mine plans. IMCF holds a large block of leases north and west of the Area but has no mine in that area. The nearest mine to the west has been shut down since 1982.

EXHIBIT ___ demonstrates the potential for mining the tenth potash zone, the uppermost productive zone in the potash area. The BLM interpretation of nln-economic reserves is shown in red and based on economic criteria of 1975 when potash prices were higher. At that time, most Canadian mines were still under development, and average grades mined in New Mexico were much higher.

The BLM has a procedure for combining "economic" core hole indications from non-commercial zones with other zones ignoring that the non-productive zones are at a different elevation from the producing zones. Note core hole No. U-115 (Section 16) that is barren in the 10th Zone but not included in a barren area by the BLM. Further, the small barren (red) area around core hole K-125 is very limited in aerial extent and not connected to the adjacent barren areas as it should be under BLM guidelines.

The orange line defines a more realistic area barren of commercial potash than the BLM map shows. Delineation of the orange area makes the very important assumption that an existing mine in the immediate area exists and has written off or paid for the capital expense of mine development. This assumption is one that economics dictate will not exist in the foreseeable future. The orange outline of non-commercial potash would be much larger without the assumption of an existing mine in the immediate area.

The location of the orange line also assumes that sufficient quantities of sylvite exists outside the non-commercial line to justify mine development. The validation of that assumption is beyond the scope of this study. However, a review of the adjacent core hole information, the BLM's economically outdated mapping criteria, the fact that the area has not been leased for potash, nor recently drilled by any of the potash companies in the area, indicates that there is highly unlikely that sufficient quantities exist in the immediate areas surrounding the higher grades indicated by the mapped core holes.

It is of incidental interest that the NMOCD considered much of this area outside its potash area well into the 1980's through regulation R111O. The potash area recognized by the State was expanded when R111P was adopted in the late 1980's.

A possible physical constraint to mining potash in the area is the depth to the 10th Zone. The 10th Zone is predominately more than 2100' deep in the Area (20% deeper than the deepest mine operating in the potash area). Added pressure due to mining depth and more explosions caused by pressure in clay seams common within the 10th Zone. Explosions have been experienced in the deeper mining areas of the 10th Zone. In addition, the 10th Zone has been known to split into multiple zones in the general area making mining more expensive and difficult.

A study of the other potash zones encountered by drilling as shown on EXHIBIT ___, shows no indication of continuous economic ore in the Area. An indication of commerciallity can only be made with the assumption that the BLM's data is valid in Zone 3 in core hole U-115 in Section 16. However, note that core holes I-144 (northeast) and K-125 (southwest) are both indicated to be barren in the 3rd Zone by the BLM, limiting the lateral extent of a deposit and making the area "barren" by BLM standards. Throughout the potash area, Zone 3 is a low grade zone and usually not commercial except in limited circumstances.

There is no indication that the 8th Zone is of sufficient grade to be commercial either. The holes in Section 8 apparently didn't penetrate that zone nor did the core holes to the south.

EXHIBIT ___ shows the relative location of the known potash beds in the known potash area. In the subject Area, the 8th zone is ±50' below the 10th Zone and the 3rd Zone is ±150' below the 10th Zone. This is a considerable distance to sink shafts or ramp down through barren salt to reach, at best, a limited resource.

A review of the physical information available for the Area indicates that there is no indication of potential for commercial ore in quality (grade) or quantity (reserves) that would justify mine development in the Area even when ignoring the Canadian production advantages. In addition, depth and geology could prove to make the area non-competitive when compared to the existing mining operations

that mine higher grades, have larger proven reserves and have recovered capital costs.

The viability of potash mining in the Area is very low when considering either the physical characteristics of the Area or the economics of the New Mexico sylvite mining industry. Combining the two evaluations clearly eliminates the practicality of potash mining in the Area.