

Dry Valley Mine

The Dry Valley Mine of the FMC Corporation is located in Section 31, T. 7 S., R. 44 E., and Sections 5, 6, 8, 9, 16, 21, and 22, T. 8 S., R. 44 E., about 14 air miles northeast of Soda Springs, in Caribou County, Idaho (Figure 196). The leasehold for the mine extends over six miles in length in a northwest-southeast direction, while actual mining as of the writing of this report extends about two miles.

Known exploration for phosphate ore in the vicinity of the Dry Valley Mine started in 1910 when the USGS opened a shallow pit on the west limb of the Schmid Syncline in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 7, T. 8 S., R. 44 E., in Caldwell Canyon about 1½ miles southwest of the future mine (Mansfield, 1927, p. 258) (Figure 197).

There was very little, if any, phosphate exploration conducted in the area of the future mine until March, 1947. In that month, there was a flurry of phosphate lease applications filed with the BLM. The following companies and cooperatives made application for Federal leases in the area of the future mine:

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| Farm Bureau Services, Inc. | Farmers' Union Central Exchange, Inc. |
| Iowa Plant Food Company | Farm Bureau Service Co. of Missouri, Inc. |
| Illinois Farm Supply Co. | Midland Cooperative Wholesale |
| Western Idaho Potato Growers, Inc. | |

For administrative reasons such as failure to file administrative fees and the lack of proper regulations, all of those lease applications were rejected. It is unknown what caused this activity but a focus was placed on the phosphate deposits in the area of the future Dry Valley Mine.

The USGS, probably encouraged by the number of lease applications, excavated an exploratory trench, Lot # 1259, in the NW $\frac{1}{4}$ of Section 31, T. 7 S., R. 44 E., in August, 1948 (O'Malley and others, 1953). This trench was located on phosphate ore of the east limb of the Schmid Syncline in the area of what would become the "A" pit of the Dry Valley Mine. The USGS also conducted geologic field mapping in the area of the future mine starting in 1950.

The next adventure in phosphate in this area was the advent of prospecting and leasing that would eventually lead to the leasehold as it currently exists. The J. R. Simplot Company, of Pocatello, Idaho, made an application for a Federal lease on September 23, 1949. This application covered lands in Sections 15, 21, and 22, of T. 8 S., R. 44 E. This application was withdrawn on March 15, 1950 and later reinstated in part on May 22, 1950. A competitive lease sale was scheduled to be held September 26, 1951. There were two bidders at the sale; the J. R. Simplot Company and the FMC Corporation. The Simplot Company was the high bidder and was awarded the Federal lease I-0678 on December 1, 1951. The lease was assigned to the Monsanto Chemical Company on March 1, 1956. The lease was further assigned to the FMC Corporation April 1, 1981.

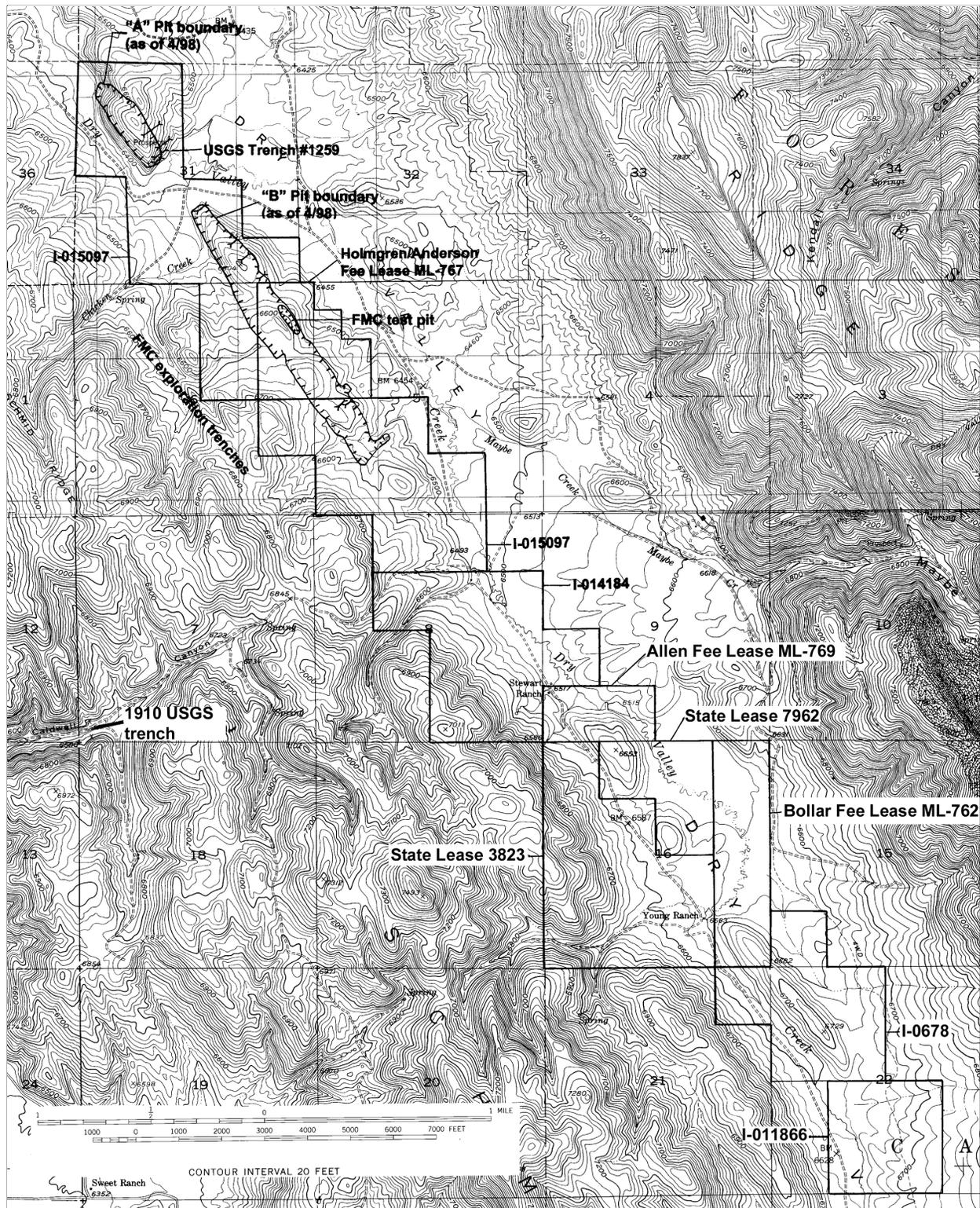


Figure 196. Map showing the location of the Dry Valley Mine, Caribou County, Idaho.



Figure 197. Site of the 1910 USGS trench in Caldwell Canyon, later modified by bulldozer, view east, June 8, 1998. Photo by the author.

The next leasing or permitting action to occur was when Veryl Ershel Larsen applied for a Federal prospecting permit for lands in Section 22, T. 8 S., R. 44 E. The application was rejected for failure to file appropriate documentation. Mr. Larsen reapplied July 25, 1961. It is interesting to note that before the prospecting permit was issued, Mr. Larsen tried to assign the application to the FMC Corporation, however the attempt at assignment was rejected because there were no issued rights to assign. The prospecting permit was eventually issued to Mr. Larsen on February 13, 1962. Mr. Larsen lost no time assigning the now issued permit to the FMC Corporation on March 30, 1962. The FMC Corporation explored the permit area by drilling during the field seasons of 1962, 1963, and 1965. A total of 28 holes were drilled with an aggregate footage of 5,165 feet with 91 samples analyzed. The information generated by this exploration program was sufficient for the company to make an application for a preference right lease on January 19, 1966. The Federal phosphate lease, I-011866, was issued to FMC February 1, 1967.

The next round of phosphate interest in this area occurred when Kerr-McGee Oil Industries, Inc. applied for a Federal prospecting permit for lands in Section 8 and 9, T. 8 S. R. 44 E. on May 24, 1963. The permit was issued to Kerr-McGee on October 14, 1963. During the remainder of 1963, 1964, and into 1965, the company initiated a drilling program to investigate the phosphate resources covered by the permit. Kerr-McGee assigned the prospecting permit to the FMC Corporation on

December 1, 1965. The FMC Corporation conducted additional exploration throughout 1966. All told, exploration on the prospecting permit consisted of fourteen drill holes aggregating 2,414 feet with 224 samples analyzed. The FMC Corporation applied for a preference right lease and on April 1, 1968, Federal lease I-014184 was issued to FMC.

The last round of Federal leasing activity was on January 28, 1964, when Kerr-McGee Oil Industries, Inc. made an application for a competitive lease for lands located in Section 31, T. 7 S., R. 44 E., and in Sections 5, 6, and 8, T. 8 S., R. 44 E.. A lease sale was held on June 4, 1964. There were four bidders at the sale; J. W. Colman, Kerr-McGee Oil Industries, Inc., J. A. Terteling and Sons, and the FMC Corporation. The FMC Corporation was the high bidder and the Federal phosphate lease, I-015097, was issued September 1, 1964.

Throughout this entire period when FMC was gaining control over Federal phosphate leases, there was action to lease the State of Idaho lands in the vicinity of the future mine as well. The Monsanto Chemical Company was issued the State of Idaho lease 3059 in January, 1948. This lease was renewed in 1953, 1958, and 1968. For unknown reasons, Monsanto allowed the lease to expire in January, 1978. However, the company must have realized their error, for on February 16, 1978, Monsanto applied for a new State lease on the same land. State of Idaho lease 7962 was issued to the company on May 1, 1978. The lease was assigned to the FMC Corporation on May 29, 1981. The lease was renewed in 1988 and is up for renewal as of the writing of this report.

Kerr-McGee Oil Industries, Inc. applied for selected State lands in Section 16, T. 8 S., R. 44 E., on May 20, 1963. The State of Idaho lease 3823 was issued to Kerr-McGee on October 30, 1963. The lease was assigned to the FMC Corporation on May 11, 1967. The lease was renewed in 1973, 1983, and 1993.

As one can see from the above discussion, the FMC Corporation consolidated the Federal and State leaseholds by 1981. Along the way, the FMC Corporation obtained three private fee leases to obtain continuity in the total leasehold. These three private leases are the Holmgren/Anderson lease, ML-767, the Allen lease, ML-769, and the Bollar lease, ML-762. These leases were acquired prior to 1974. The FMC Corporation controlled over six miles of phosphate reserves with their mix of Federal, State, and private leases. In addition, FMC purchased or leased the surface rights to all private lands overlying or adjacent to the Federal, State, and private mineral leases (Richard Conroy, personal communications, 1998)

The FMC Corporation did not waste much time getting a lease exploration and development program started. In fact, just after the issuance of Federal lease I-015097 in the northern part of the leasehold on September 1, 1964, FMC initiated a program of trenching that started on September 14, 1964. In addition to several new trenches, FMC also cleaned out and relogged and sampled the 1948 USGS trench #1259 in the NW¼, Section 31, T. 7 S., R. 44 E. There was a period of relative inactivity until FMC excavated a small pit on their Holmgren/Anderson private lease, ML-767, in July, 1971 (James



Figure 198. Test pit, Dry Valley Mine, August 15, 1973. Photo courtesy of the FMC Corporation.

Spaulding, personal communications, 1998) (Figure 198). This pit was developed to provide 51,000 short tons of phosphate ore for testing purposes at FMC's elemental phosphorous plant in Pocatello, Idaho (Rioux and others, 1975; Richard Conroy, personal communications, 1998). It wasn't until August, 1975, that FMC initiated a comprehensive drilling program located principally in the northern portion of the leasehold (Figures 199, 200, and 201). Sixteen holes were drilled that month with a portable rotary table Winter-Weiss rig, Model 524, with water/air circulation. Additional drilling for exploration and hydrological studies was conducted periodically through 1989. Mine development drilling was initiated in 1991 and is ongoing. A total of more than 600 drill holes had been completed on the property prior to 1992 (Richard Conroy, personal communications, 1998).

In anticipation of actual mining, FMC built a railroad spur into the mine area and constructed a tippie during the summer of 1991. A mine-office complex was completed and occupied in 1992. On June 8, 1992, excavation started on the northern-most "A" pit portion of the Dry Valley Mine (FMC, 1998, personal communication). The area of "A" pit is a small hill located near the mouth of Dry Valley. Initially, the equipment used at the start of "A" pit was a P&H 2250 23-yard shovel and 150-ton haul trucks (Bennett and Gillerman, 1994). The first phosphate ore mined at "A" pit was in the Fall of 1992 and was stockpiled on-lease (I-014184) during the winter of 1992-93. The first phosphate ore shipped from the "A" pit of the Dry Valley Mine was on August 23, 1993, and went by rail to the FMC elemental phosphorous plant in Pocatello (Bennett, 1994).

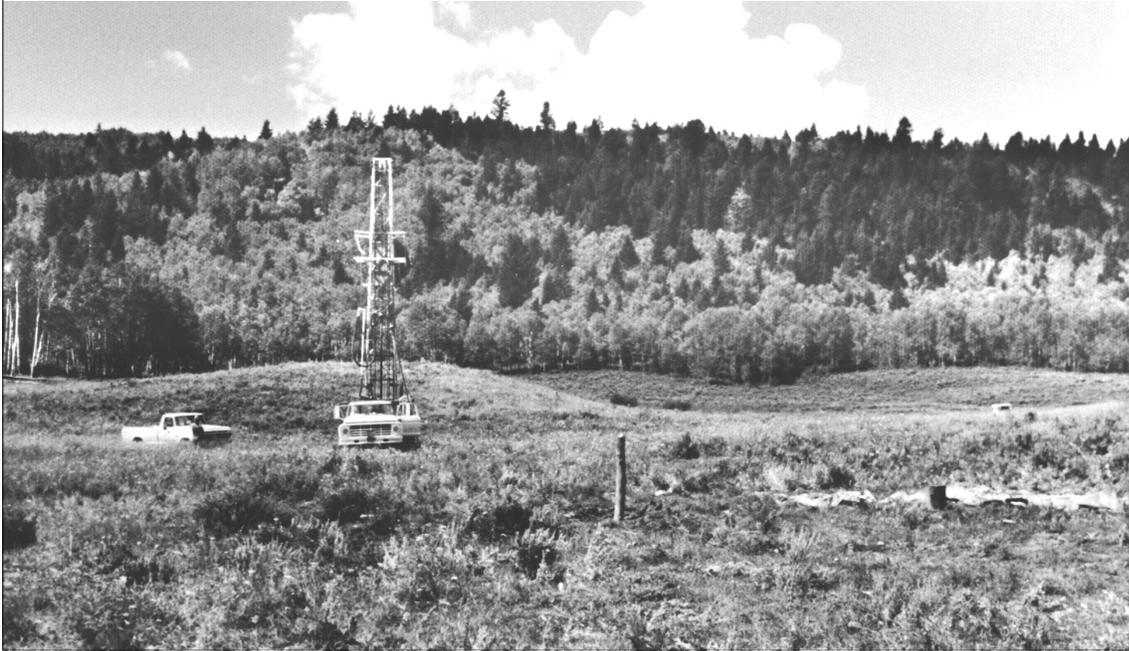


Figure 199. Exploration drilling, Dry Valley Mine site, September 22, 1975. Photo courtesy of the FMC Corporation.



Figure 200. FMC's Winter-Weiss Model 524 drilling rig, Dry Valley Mine, September 22, 1975. BLM file photo.

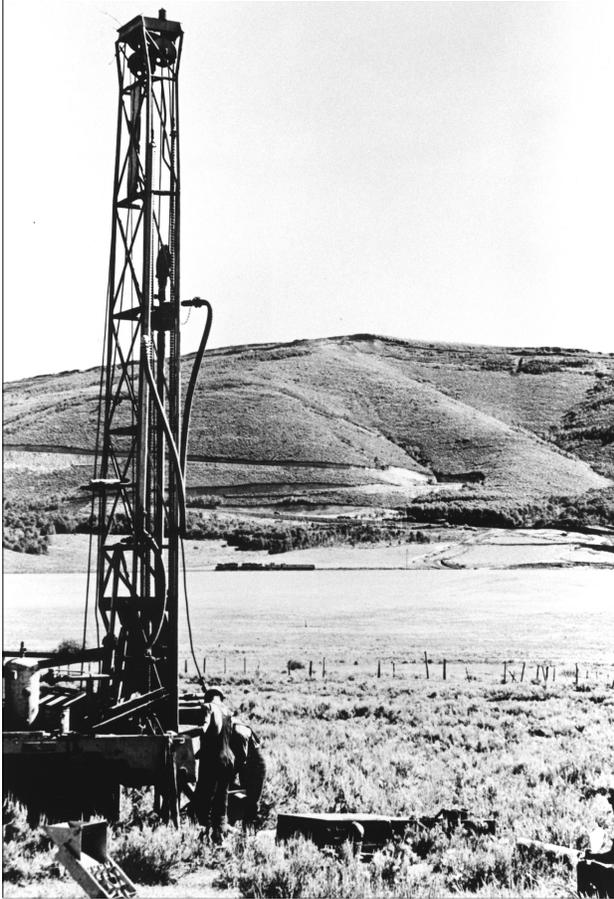


Figure 201. Early exploration, Dry Valley Mine. Photo courtesy of the FMC Corporation.

The area of “B” pit is located along a northwest-southeast trending ridge (Figure 202). This ridge is a prominent feature in Dry Valley along the west side. Stripping of overburden started in the “B” pit area during the summer of 1994. All of the economic phosphate ore was removed from “A” pit by the summer of 1995. Waste materials from “B” pit were then placed in the worked-out “A” pit when reclamation started (Figures 203, 204, and 205).

During late 1996 and throughout 1997, the FMC Corporation conducted an extensive drilling program in their southern leasehold in preparation for the design of the future “C” and “D” pits. Thirty-nine drill holes were put down in the future pit areas in 1997 totaling 10,050 feet. These holes bring the total number of drill holes in the “C” and “D” pit areas to approximately 240.



Figure 202. "B" Pit, Dry Valley Mine, October 13, 1994. Photo by Peter Oberlindacher, BLM.



Figure 203. "B" Pit, Dry Valley Mine, view south, June 27, 1996. Photo by the author.



Figure 204. "A" Pit backfilling, Dry Valley Mine, October 13, 1994. Photo by Peter Oberlindacher, BLM.



Figure 205. Reclaimed "A" Pit, Dry Valley Mine, view north, June 27, 1996. Photo by the author.