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Mining properties in Montana that were involved in the DMA,
DMEA, or OME Mineral Exploration Programs, 1950-1974

By

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Introduction

This report and accompanying map (plate 1) presents information on the Defense Minerals Administration (DMA), Defense Minerals Exploration Administration (DMEA), and Office of Minerals Exploration (OME) mineral exploration programs in Montana. Under these programs, the federal government participated in the exploration costs for certain strategic and critical minerals. Federal funds for mineral exploration under the programs were available from 1950 to 1974, although limited funds for OME administrative work were continued until 1979. Federal consideration for exploration at a particular property was initiated by submittal of an application for financial assistance by the owner or operator of the property. Each application received was assigned a docket number and all subsequent correspondence and information resulting from the application was filed under that docket number.

The report reviews the three programs and some of the associated regulations and procedures. It also describes the various types of information generated by the programs, presents information on mining properties in Montana that were involved in the exploration programs, and advises on location of compiled mineral exploration information that resulted from the work.

Defense Production Act programs

The Defense Production Act of 1950 (Public Law 774, 81st Congress) provided financial assistance to private enterprise for the production of goods and services necessary for national security. Title III, Section 302 of the Defense Production Act, provided for encouragement of exploration, development, and mining of critical and strategic metals and minerals. Under provisions of the Act, the Secretary of the Department of the Interior, established the Defense Minerals Administration, within the Department, by a Secretarial Order dated December 4, 1950. Along with other duties, the Defense Minerals Administration was to serve as a direct contracting agency for minerals exploration.

Defense Minerals Administration (DMA) program

The DMA program was administered at National Headquarters, Department of the Interior building, Washington D.C., by a small group of senior mining engineers and geologists, recruited from the minerals industry. These men were widely experienced in mineral exploration and mine development. The headquarters group developed guidelines, forms, and operational procedures for the government-supported (DMA) minerals exploration program. They prepared pamphlets that described the DMA program, identified minerals classified as strategic and critical, advised on the percentages of exploration costs the government would pay on exploration for the minerals. They developed application forms for use in seeking federal financial assistance in strategic and critical mineral exploration contracts and contract forms for

use in those cases where an application was approved and a mineral exploration contract was negotiated between the applicant and the federal government.

DMA officials relied on Field Teams composed of U.S. Geological Survey (USGS) geologists and U.S. Bureau of Mines (USBM) engineers for all field work. The United States was divided into regions, with different USGS-USBM Field Teams responsible for appropriate field investigations in the different regions. Regional headquarters for Field Team work in Montana, Idaho, Oregon, and Washington was the U.S. Geological Survey Field Office in Spokane, Washington.

The initial step of an applicant seeking Federal mineral exploration aid was submittal of an application. The application required description of the real property to be involved in the proposed exploration, and description of the proposed exploration work. Description of geologic features of the property to be explored also was required, along with an explanation of the type of ore deposit being sought, and reasons for expecting the proposed work to result in the discovery of a significant ore body. Also required were maps and cross sections of the prospective property showing location of the proposed work, existing mine workings, related geologic features, and property boundaries with respect to location of the proposed exploration workings. Many applications contained supporting geologic or engineering reports, assay maps and cross sections showing grades and thickness of known parts of the deposit, and other descriptive information.

Upon receipt of an application, DMA officials would request that a field examination of the proposed exploration site be made by the appropriate USGS-USBM Field Team, and that a report covering the field examination be submitted to DMA. If the field team application examination report was favorable, DMA usually entered into an exploration contract with the applicant, who, thereafter, was identified as the contract operator. The contract specified the work to be done, the time frame in which the work was to be done, the amount of exploration costs to be paid by the government, and other pertinent data.

The exploration contract also obligated certain responsibilities to the contract operator. These included submittal of monthly progress reports, which were used by the government to justify payment of the government's share of exploration costs for work completed during the reporting period. A final report was required upon completion of the exploration project. This report was supposed to cover all aspects of the exploration project, including accomplishments, costs, and findings. The contract operator also was obligated to repay the government for its share of the exploration costs from a fixed percentage of funds derived from the sale of ore that might be mined from the obligated property during the life of the exploration contract. In the event a significant quantity of ore was found by the exploratory project, and the government certified the contract project as a discovery, a fixed percentage of all funds derived from the sale of ore mined from the obligated property, commonly 5 percent of the net smelter returns, was to be repaid to the government for a specified limit of time or until the government's share of the exploratory costs were repaid, whichever occurred first. If no discovery was made, repayment was not required.

DMA was a short-lived program that was terminated on November 20, 1951.

Defense Minerals Exploration Administration (DMEA) program

The previously described Defense Minerals Administration program was concerned with aspects in the minerals field other than mineral exploration. These other aspects included, serving as a claimant agency for materials and facilities, as an advisory agency responsible for a minerals supply expansion program, and as an allocation program for ores and concentrates in short supply. The various aspects, other than mineral exploration, were transferred to the Defense Materials Procurement Agency (DMPA), General Services Administration, on November 20, 1951. As a means of continuing the mineral exploration program started under DMA, the Secretary of the Department of the Interior established the DMEA program within the department, effective November 20, 1951.

The DMEA program was confined to exploration of critical and strategic minerals, was administered by the same personnel who had formerly administered the DMA program, and operated from the same national headquarters site. It was responsible for completing exploration contracts started under the DMA program, and for the processing of all exploration applications received under the DMA program. It utilized the same USGS-USBM Field Team arrangement, and operated more or less under the same regulations, practices, and procedures that had been established by DMA. It was a much more extensive program than DMA and continued until 1958, when it was terminated.

Mineral Exploration under Public Law 85-701

Government-supported mineral exploration under the Defense Production Act of 1950 was not considered justifiable in 1958, as defense needs of mineral supplies were considered to have been met. It was recognized, however, that there continued to be a need for mineral raw materials to meet an expanding national economy. To meet this need, Congress, on August 21, 1958, enacted Public Law 85-701, under which governmental financial assistance, on a participating basis, was available to private industry for stimulation of exploration of such raw materials as might be designated by the Secretary of the Department of the Interior. Under this law, the Secretary of the Department of the Interior established the Office of Minerals Exploration (OME) on September 11, 1958.

Office of Minerals Exploration (OME) program

The OME program was similar to the previous DMA and DMEA programs but more restrictive. It was operated under the same administrative offices and utilized the same USGS-USBM Field Team arrangement as did the previous DMA and DMEA programs. It adhered, more or less, to the practices, regulations and procedures that had been established under the two preceding programs. One change in the OME program was allowance of participating funds for the exploration of certain minerals and metals,

including gold and silver, that had not been allowed under the previous programs. Funds for the government-supported mineral exploration program came from annual appropriations to the Department of the Interior.

To economize on costs, all administrative and operating responsibilities of the OME program were transferred to the USGS in 1965. Thereafter, all field functions previously handled by the USGS-USBM Field Team were performed by USGS personnel. Funds for participation in OME mineral exploration projects were not allocated to the USGS in 1974, although limited administrative funds continued to be received by the USGS until 1979. These administrative funds covered costs of such work as closing out existing exploration contracts, preparation of final reports on completed contracts, and continued review and audit of royalty funds received from the sale of ore mined from deposits found by government-supported exploration projects, which had been certified as discoveries by the government. A change in regulations concerning acquisition of federal assistance in financing exploration for mineral reserves in the United States, its territories and possessions became effective on January 19, 1993 (Federal Register, vol. 57, no. 243, December 17, 1992). The change in regulations terminated the OME program.

Filing practices for DMA, DMEA, and OME data

Applications for financial assistance in mineral exploration were sent either directly to national headquarters, Department of the Interior, Washington D.C., or else to USGS-USBM Field Team headquarters of the region in which the property to be explored was located. Applications received at a Field Team headquarters were forwarded to the national headquarters in Washington D.C. At national headquarters, applications were filed under individual docket numbers, which subsequently were used by both national headquarters and the field team as a means of cataloguing and identifying the particular applicant or property. All correspondence and information resulting from an application or from an exploration contract that may have resulted from the application was filed under the same docket number. The national headquarters file, in effect, became the master file for all compiled information resulting from the application. Copies of much compiled information on applications and on exploration contracts that resulted from the applications also commonly were filed at the Field Team headquarters office in the region where the concerned properties were located. For applications that concerned properties in Montana, the Field Team regional headquarters was in Spokane, Washington.

After 1965, when OME activities were consolidated under the USGS, OME applications were sent either to the OME office of the USGS in Washington D.C., or to field offices of the USGS in Knoxville, Tennessee, Denver, Colorado, Menlo Park, California, or Spokane, Washington, depending on the location of the applicant's property.

Information compiled under the DMA, DMEA, or OME programs

A variety of technical information was generated by the DMA, DMEA, and OME programs. Property and proposed work descriptions together with geologic and analytical information on the target to be explored were submitted with the initial application. Such information commonly was accompanied by unpublished supporting technical reports or production records on the property. Operators of active exploration contracts were obligated by contract terms to submit monthly progress reports that described work that had been completed. Exploration contracts also obligated contract operators to submit final reports on completed projects. These final reports described exploration work that that was done, costs, problems, and findings. The USGS-USBM Field Team wrote application reports that covered initial field investigation of the proposed exploration project, interim reports that covered field investigations of active exploration projects, and final reports that covered accomplishments and findings of completed contracts. After administrative responsibilities for the OME program were transmitted to the USGS in 1965, all reports formerly written by the USGS-USBM Field Team were written by the USGS personnel.

Field Team Application Report

Applications for financial assistance in Montana, once received at national headquarters, Department of the Interior, Washington D.C., were transmitted to the regional office in Spokane, with the request that a Field Team examination be made of the applicant's property and proposal, and that an application report on the examination be prepared and submitted to the national headquarters office. The Field Team application report investigated all factors concerned with the applicant's proposal. Principal attention was given to the geology of the exploration target and to whether the proposed work had a reasonable chance of resulting in a significant discovery. The applicant's maps and illustrative material were examined at the project site and compared with the local geology. If the maps were found to be inadequate, new maps or other illustrative material was prepared. Samples were taken at the applicant's property and assayed to check sample values reported by the applicant. The location of the proposed work, with respect to existing mine workings and to mining claim or property boundaries was examined as were the applicants rights to the property in question. The estimated costs, time schedule, equipment to be used, and operating experience of the applicant or the applicant's supervisor were considered. The proposed work was carefully studied to see if it presented the most logical way of exploring the mineralized target. Modifications of the proposed work often were discussed with the applicant and commonly were adopted.

The Field Team application report, in effect, evaluated the applicant's proposal and the geologic probability of the proposed work resulting in a significant discovery. It provided a basis for the national headquarters decision on whether to approve or deny an application. For applications that subsequently were denied, the application report

commonly represented the best-documented source of geologic information on the concerned property.

Exploration contract

An approved application usually resulted in an exploration contract between the federal government and the applicant. The contract was designed to do the work proposed in the application or in a jointly-approved modification of work proposed in the original application. Under the contract, the government agreed to participate, on a prorated basis and for a fixed amount, in the costs of completed work. The contract obligated the contract operator to prepare and submit certain reports. The Field Team also prepared reports that dealt with the exploratory work done by the contract operator.

Reports from exploration contract operators

Monthly progress report

An exploration contract obligated the contract operator to submit a monthly progress report that described exploration work accomplished and costs that had been incurred during the reporting period. Payment to the operator, for the government's share of exploration costs incurred during the reporting period, was based on the monthly progress report, which usually was brief and factual. Occasionally, the operator would request an amendment to the contract and would use the monthly progress report to justify the request. For example, the exploration work might have uncovered evidence that indicated the exploration target should be changed, in which case the operator would use the monthly progress report, along with an accompanying map or section, to illustrate his reasons for requesting the change. In such instances, the monthly progress report might constitute the only documented information on an amended change in the exploration project.

Final report

An exploration contract stipulated that the contract operator submit a final report upon completion of contract work. This report reviewed exploration accomplishments, problems encountered, findings, and costs. It usually contained maps and sections to illustrate what had been done and found. In instances where a significant mineral discovery was made, the report commonly presented estimates of the tonnage and grade of ore reserves found. Final reports on unsuccessful contracts usually were brief and non-informative.

Field Team reports

Interim reports

Interim reports by the USGS-USBM Field Team, and, after 1965, by the USGS, were based on routine field investigations of a property being explored under an exploration

contract. The purpose of the investigations was to see that exploration work was being done in conformance to contract specifications. Some interim reports, particularly those that described amended changes in contract specifications, often contained assay information and sketches of the geologic findings.

Final report

A final report by the USGS-USBM Field Team, and, after 1965, by the USGS, described and summarized accomplishments of the exploration contract. The report reviewed the geologic setting of the deposit, geologic structures that controlled the ore body, the mineralogy, and alteration features of the deposit or associated wallrock. It presented information on tonnage and grade of discovered ore reserves, using the contract operator's data, where acceptable, otherwise it presented Field Team calculations, based on contract findings, and supported those figures with maps and assay data. It discussed geologic guides to ore, where they had been determined, additional targets that warranted exploration, or commonly expressed the conclusion that further government-supported exploration of the exploratory target was not warranted. Geologic maps and cross sections commonly were included, as were maps showing location of the completed work with respect to property boundaries. The report included a description of completed work and a summary of costs of the project. It recommended a Certification of Discovery, when appropriate, or noted the existence of an already declared Certification of Discovery, should one have been declared previously. Also discussed was whether the government should participate in the funding of further exploration work at the property. The Field Team final report was comprehensive and contained most available compiled information on the explored deposit.

Mineral exploration in Montana

The location of properties in western Montana for which exploration applications were received is shown on the enclosed map (plate 1). Property locations are shown in appropriate townships and in approximate sections. Property location and other information also is shown in Tables 1 and 2, the information based on material available in the USGS files at Spokane, Washington, prior to 1996. Applications that subsequently resulted in exploration contracts are shown on the map by different symbols that are keyed to the program under which the application was filed. Properties on which government-supported exploration work resulted in a significant mineral discovery, are shown by still another symbol. A number near the property symbol keys the property to Table 1, which contains additional information on the property. Many property locations shown on the map are only approximate and are based on indefinite information. Topographic maps of usable scale, and covering the location of many properties, were not available in parts of western Montana when much of government-supported exploration work was done. In such areas, USGS-USBM Field Team members commonly used the applicant's description of the property location. Such location

descriptions may have referred to a site as a certain distance from a town or from a road or stream junction. As these distances commonly were measured in miles, the location, in terms of section, township and range, was indefinite.

In certain townships in Jefferson, Silver Bow, and Granite Counties, the location-density of mining properties for which applications were received prohibits showing appropriate map symbols and property numbers at correct locations. Expanded outlines some of those townships and included property symbols and map numbers are shown on the right or left side of the map.

Table 1 lists the docket number under which all material pertaining to the exploration application was filed, the name of the applicant, the property or claim name, strategic and critical minerals of the property, and the location of the property by section, township and range. The map number shown on the right side of the table corresponds to the map number near the property location shown on the map. The symbol shown on the map, at a located site, identifies the type of program that was concerned, whether the application resulted in an exploration contract, and whether exploration done under the contract was successful and was certified by the government as a discovery.

Table 1 shows that more than one application was filed on many properties. In such instances, the property is identified on the map by the symbol and number applicable to the initial application, whether it was filed under the DMA, DMEA, or OME program. This is for map clarification, for more than one symbol or map number at the same site would be confusing. For properties on which more than one application was filed, Table 1 lists the first application, which is keyed the property map number. Successive applications on the property do not show a map number but do show the status of the application, which may have been denied or withdrawn by the applicant. Some successive applications were approved as contracts and show as such in the status heading. Contracts under which a significant discovery was made show as certified contracts.

Successive applications on a single property resulted from different reasons. The original application may have proposed mine development rather than exploration and therefore did not qualify under regulating terms of the program. The first application may have classified the property as a lead-zinc deposit, when production statistics and geological data showed the deposit to have been worked primarily for gold and silver, which did not qualify for federal financial assistance under the DMA and DMEA programs, but did under the OME program. An application on a property may have been denied, but the property then came under control of different people, or another organization, who subsequently filed another application on the property. In another instance, exploration under a contract that resulted from an application may have indicated another target on the property that also warranted exploration, which subsequently may have been done under a separate application and contract.

Table 2 presents information on mining properties in Montana for which mineral assistance applications were received but which are located east of the area shown on the enclosed map.

Location of compiled DMA, DMEA, and OME data

In 1996, compiled DMA, DMEA, and OME applications and mineral exploration data, covering the United States, was located at the USGS Field Office in Spokane, Washington. Prior to 1996, the Spokane files contained only information generated by the exploration programs in the states of Montana, Idaho, Washington, and Oregon. By 1996, the national headquarters master files, which had previously been stored at the National Records Center, Suitland, Maryland, had been transferred to the U.S. Geological Survey office at Spokane, Washington. Also, U.S. Geological Survey files on DMA, DMEA, and OME business, which formerly were held at Denver, Colorado, or at Herndon, Virginia, had been transferred to Spokane, Washington. As of 1996, the accumulated files were at the U.S. Geological Survey office at 904 W. Riverside, Spokane, WA, 99201-1087.

Information at the Spokane office on properties involved in the DMA, DMEA, or OME programs can be made available, upon request, provided the requester presents a letter from the property owner authorizing release of the information.

Table 1--Mining properties in western Montana that were involved in the DMA, DMEA, or OME mineral exploration programs

<u>Docket No.--Operator</u>	<u>Property-Commodity</u>	<u>Location</u>	<u>Map No. or Status</u>
<u>BEAVERHEAD COUNTY</u>			
DMEA-4840 Minerals Engineering Co.	Fool Hen property (tungsten)	Sec. 20, T. 1 N., R. 12 W.	214
DMA-1980 G. S. Gluck and H. F. Weyerstall	G-W mine (lead-silver)	Sec. 34, T. 1 S., R. 11 W.	215
OME-6635 Vipond Mining Corp.	Burgierosa group (silver)	Sec. 34, T. 1 S., R. 11 W.	Application
DMEA-2254 Roberta Wegener	Faithful mine (lead-copper)	Sec. 3, T. 2 S., R. 11 W.	216
OME-6903 George S. Gluck	Montana lode claims (silver)	Secs. 2 and 3, T. 2 S., R. 11 W.	217
DMEA-3465 Cyrus Whittier	Queen of the Hills mine (lead-zinc-copper)	Sec. 10, T. 2 S., R. 11 W.	218
OME-6816 Jack DeBoer	Moosehorn mining claims (copper-silver-gold)	Sec. 20, T. 3 S., R. 17 W.	219
DMA 148 American Alloy Metals, Inc.	Browne's Lake deposit (tungsten)	Secs. 3 and 4, T. 4 S., R. 10 W., Secs. 32, 33, and 34, T. 3 S., R. 10 W.	219
DMA-1951 American Alloy Metals, Inc.	Browne's Lake deposit (tungsten)	Secs. 3 and 4, T. 4 S., R. 10 W., Secs. 32, 33, and 34, T. 3 S., R. 10 W.	Cert. Cont.
DMEA-2292 American Alloy Metals, Inc	Browne's Lake deposit (tungsten)	Secs. 3 and 4, T. 4 S., R. 10 W., Secs. 32, 33, and 34, T. 3 S., R. 10 W.	Cert. Cont.
DMEA-2240 Minerals Engineering Co.	Lost Creek mine (tungsten)	Secs. 13 and 14, T. 4 S., R. 10 W.	221
OME-6326) Wayne Erickson.	Comet mine (silver)	Secs. 26 and 27, T. 4 S., R. 12 W.	222
OME-6840 Blue Sky Mining Co.	Comet mine (silver)	Secs. 26 and 27, T. 4 S., R. 12 W.	Contract
DMEA 1138 Charles MacKenzie	Amadon claim group (copper-molybdenum)	Sec. 8, T. 5 S., R. 11 W.	223

OME-6865 William H. Hand	Berdic claims (silver-gold)	Secs. 29 and 32, T. 7 S., R. 11 W.	224
OME-6700 Modern Mines Development Co.	Buster Nos. 1 and 3 claims (silver)	Secs. 17, 18, 19, and 20, T. 5 S., R. 10 W.	225
OME-6820 Ajax Mining Company	Ajax mine (gold-silver)	Secs. 7 and 8, T. 6 S., R. 17 W.	226
DMEA-4338 John and Ida B. Hand	Maulden mine (lead-zinc-copper)	Sec. 29, T. 6 S., R. 10 W.	227
DMA-1305 Roy R. Ford	Copper Queen claims (copper)	Sec. 19, T. 7 S., R. 16 W.	228
DMEA-2361) Minerals Engineering Co.	Greenstone mine (copper-silver)	Secs. 11 and 14, T. 5 S., R. 10 W.	229
OME-6619 Rex Land Co.	Greenstone mine (copper-silver)	Secs. 11 and 14, T. 5 S., R. 10 W.	Application
OME-6668 George H. Allison and Robert Allen	Iron Mask mine (silver-gold)	Secs. 27, 28, 33, and 34, T. 7 S., R. 11 W.	230
OME-6389 Spokane National Mines, Inc.	New Departure mine (silver)	Secs. 26 and 27, T. 7 S., R. 11 W.	231
OME-6263 Grand Deposit Mining Co.	Excelsior, et al., claims (silver-gold-bismuth)	Sec. 8, T. 8 S., R. 11 W.	232
OME-6586 Silver Queens Explorations	Silver Queen claims (silver)	Sec. 18, T. 10 S., R. 7 W.	233
DMA-1186 Elkhorn Mining Co.	Last Chance group (thorium)	Secs. 20, 28, and 29, T. 10 S., R. 15 W.	235
DMEA-5043 Sawyer Petroleum Co.	Last Chance, et al., (thorium)	Secs. 20, 28, and 29, T. 10 S., R. 15 W.	236
DMEA-2640 H. and S. Leasing Co.	H. and S. mine (lead-zinc)	Sec. 9, T. 11 S., R. 13 W.	237
DMA-1515 John McNamee	Barbara and Judy claims (copper)	Sec. 10, T. 14 S., R. 11 W.	238
OME-6026 Agency Creek Thorium Co.	Cago claims (thorium)	Secs. 19, 20, and 30, T. 10 S., R. 15 W	271

BROADWATER COUNTY

OME-6695 W. M. Hanlon	Avalanch group (gold)	Secs. 8, 9, 16, 20, 21, and 29, T. 11 N., R. 2 E.	198
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OME-6040 S. and S. Mining Co.	Sullivan and Stewart claims (lead-zinc)	Sec. 20, T. 10 N., R. 3 E.	199
DMEA-2814 E. B. Dittmer and H. K. Smith	Iron Mass and Golden Glow claims (tungsten)	Sec. 22, T. 8 N., R. 1 W.	200
DMEA-3271 Harold R. Hogan	North Star mine (platinum-gold)	Sec. 3, T. 7 N., R. 1 W.	205
OME-6200 The East Pacific Co.	John L., et al., claims (lead-zinc-gold- silver)	Secs. 26 and 27, T. 8 N., R. 1 W.	202
DMEA-2260 Pohl and Hogan	January mine (lead-zinc-copper)	Sec. 26, T. 8 N., R. 1 W.	203
OME-6102 Little Scott Corp.	January mine (lead-copper-zinc)	Sec. 26, T. 8 N., R. 1 W.	Application
DMEA- 2731 Pohl and Kleinschmidt	Pearl No. 1 and No. 2 (lead-zinc-copper)	Secs. 34 and 35, T. 8 N., R. 1 W.	204
DMEA-3668 Hogan and Pohl	Silver Saddle mine (lead)	Secs. 27 and 28, T.8 N., R. 1 W.	201
OME-6174 Harold R. Hogan	Silver Saddle and North Star claims (gold, lead,silver)	Secs. 28 and 33, T. 8 N., R. 1 W.	Application
DMEA-1132 Albert and Jewell Dance	Whitehorse mine (lead-zinc)	Sec. 10, T. 7 N., R. 1 W.	206
OME-6082 Northern Milling Co., Inc.	Marietta mine (lead-zinc)	Secs. 10, 11, 14, and 15, T. 7 N., R. 1 W.	207
DMEA-4884 Fred P. Schreiner	Sentinel, et al., claims (lead-zinc-copper)	Secs. 24 and 25, T. 7 N., R. 1 W.	208
DMA-274 Broadwater Zinc and Lead	Iron Mask claim (lead-zinc)	Sec. 30, T. 7 N., R. 1 W.	209
OME-6661 Chester G. Cushman	Silver Dome property (silver)	Sec. 35, T. 7 N., R. 1 W.	210
DMA-1509 Blue Bird Mines, Inc.	Blue Bird mine (lead-zinc)	Secs. 6, 7, and 18, T. 6 N., R. 1 E.	211
DMEA-4776 GeoChem Development Co.	Santa Anita and Jo Dandy claims (lead-zinc)	Secs. 28 and 33, T. 5 N., R. 1 W.	212
OME-6511 GeoChem Development Co.	Santa Anita and Jo Dandy claims (lead-zinc)	Secs. 28 and 33, T. 5 N., R. 1 W	Application

DMEA-5047 Chemical Copper Co.0	Copper City mine (copper)	Secs. 25 and 26, T. 3 N., R. 1 E.	213
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CASCADE COUNTY

DMA-202 Florence Co.	Minute Man group (lead-zinc)	Sec. 15, T. 14 N., R. 8 E.	64
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DMEA-129 Bennett Mining Co.	Dacotah mine (lead-zinc)	Sec. 28, T. 14 N., R. 8 E.	65
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DMEA-2015 Boss Mines	Boss and Atlantus claims	Sec. 29, T. 14 N., R. 8 E.	66
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DMEA-3548 Boss Mines	Boss and Atlantus claims	Sec. 29, T. 14 N., R. 8 E.	Contract
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OME-6557 Carroll R. Bennett	Florence mine (silver)	Secs. 29, 30, 31, 32, T. 14 N., R. 8 E.	67
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DMEA-2054 Lewis B. Stark	Galt mine (lead-zinc)	Secs. 29 and 32, T. 14 N., R. 8 E.	68
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DEER LODGE COUNTY

DMA-594 Canyon Lode Mining Co. 00	Cable mine (copper)	Secs. 9 and 10, T. 5 N., R. 13 W.	117
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DMEA-2323 Canyon Lode Mining Co.	Cable mine (copper)	Secs. 9 and 10, T. 5 N., R. 13 W.	Application
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DMEA-4100 Tip Top Mining Co.	Tip Top mine (tungsten)	Secs. 6 and 7, T. 5 N., R. 12 W.	118
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DMEA-3757 Douglas M. Murphy	Sager-Murphy claims (tungsten)	Sec. 1, T. 5 N., R. 12 W.	119
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DMEA-3242 R. E. DeKay	Diamond Placer property (lead)	Secs. 9 and 10, T. 5 N., R. 11 W.	120
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DMEA-3098 Sunshine Mining Co.	Storm Lake property (tungsten)	Secs. 7 and 8, T. 4 N., R. 13 W.	121
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OME-6237 Ames Mining, Inc.	Thumper Lode, Nos. 1 and 2000000	Sec. 30, T. 4 S., R. 5 E.	Application

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DMEA-315 Double Eagle Tungsten Co.	Bear and Float claims (tungsten)	Sec. 16, T. 8 N., R. 14 W.	93
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OME-6446 Paul J. Heany, Sr.	Parnell, et al., claims (silver)	Secs. 7 and 8, T. 7 N., R. 13 W.	97
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OME-6899 W.J. Wheeler	Morning and Midnight claims (lead-zinc)	Secs. 7, 17, and 18 , T. 7 N., R. 5 W.	Application
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MADISON COUNTY

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OME-6522 Janus Mining Co.	Nellie Bly group (silver-gold)	Sec. 12, T. 7 S., R. 3 W.	261
OME-6521 Janus Mining Co.	Latch String group (silver-gold)	Secs. 11 and 14, T. 7 S., R. 3 W.	262
OME-6342 Pacific Mines, Inc.	Pacific mine (silver-gold)	Secs. 9, 10, and 15, T. 7 S., R. 3 W.	263
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DMEA-5045 C. R. Oliphant	Copper State mine (lead-zinc)	Secs. 15, 16, and 22, T. 11 N., R. 8 E.	74
DMEA-3230 William Hendrix	Penny Lou No. 1 and Success claims (manganese)	Sec. 34, T. 10 N., R. 10 E.	75
DMEA-5046 C. R. Oliphant	Blackhawk mine (manganese-lead)	Sec. 36, T. 9 N., R. 8 E.	76

DMA-565 Castle Lead and Zinc Co.	Yellowstone mine (lead-zinc)	Sec. 11, T. 8 N., R. 8 E.	77
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MINERAL COUNTY

DMA-2109) Mineral King Mining Co.	Tarbox (Mineral King) mine (lead-copper)	Secs. 35 and 36, T. 20 N., R. 31 W.	19
DMEA-3758 Mineral King Mining Co.	Mineral King mine (lead-copper)	Secs. 35 and 36, T. 20 N., R. 31 W.	Application
DMEA-4292 Willie Downs and Oscar Hahn	Saltese Metals mine (copper)	Sec. 15, T. 19 N., R. 31 W.	20
OME-6325 Silver Keyster Mine, Inc.	Prosperity claims (silver-lead)	Secs. 1 and 2, T. 17 N., R. 26 W. Sec. 35, T. 18 N., R. 26 W.	21
OME-6396 The Silver Keyster Mine, Inc.	Prosperity, et al., claims (silver)	Secs. 27, 28, 33, and 34, T. 18 N., R. 26 W.	Application
OME-6862 Chester Johnson	Tawney (Lenore) mine (gold)	Secs. 4 and 5, T. 17 N., R. 29 W.	22
DMEA-1425 Pittsburg Silver Mining Co.	Pittsburg mine (lead-copper-	Sec. 1, T. 17 N., R. 27 W.; Sec. 36, T. 18 N., R. 27 W.	23
DMEA-2951 Nancy Lee Mines, Inc.	Nancy Lee mine (lead-zinc-copper)	Secs. 31 and 32, T. 18 N., R. 26 W.; Secs. 5 and 6, T. 17 N., R. 26 W.	24
DMA-341 Amador Mining Co.	Amador mine (copper)	Secs. 27 and 28, T. 16 N., R. 27 W.	25
DMEA-2013 Amador Mining Co.	Amador mine (copper)	Secs. 27 and 28, T. 16 N., R. 27 W.	Application

MISSOULA COUNTY

OME-6673 Dahl Evans, et al.	Bellview, et al., claims (copper-silver)	Sec. 17, T. 12 N., R. 16 W.	26
DMA-925 Simons and Martell	Blue Bird claim (copper)	Sec. 11, T. 12 N., R. 15 W.	27
DMEA-5074 Hera Exploration Co.	Hidden Treasure mine (copper-lead)	Sec. 19, T. 12 N., R. 16 W.	28
DMA-208 Linton Mines Co.	Blacktail mine (lead)	Sec. 30, T. 12 N., R. 15 W.	29
DMEA-4480 Pioneer Corp. of Idaho	Cook prospect (manganese)	Sec. 3, T. 11 N., R. 16 W.	30

DMA-2208 Whaley Copper and Lead Co.	Whaley property (copper-lead)	Secs. 22 and 28, T. 11 N., R. 19 W.	31
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POWELL COUNTY

DMEA-2340 Robert O. Miller	Prospect (uranium)	Sec. 2, T. 15 N., R. 11 W.	32
DMEA-2468 Western Mines Co.	Progress and Old Time claims (tungsten)	Secs. 22 and 23, T. 13 N., R. 10 W.	33
OME-6177 L. Eich, Wagner, and H. Kallestad	Jefferson Gulch placers (gold)	Sec. 11, T. 12 N., R. 9 W.	34
OME-6425 C. H. Kroll and W. M. Hanlon	Silver Reef claim (silver)	Sec. 26, T. 11 N., R. 10 W.	35
OME-6654 Wesley Dix	Fairview (Coulson) mine (silver)	Sec. 25, T. 11 N., R. 8 W.	36
DMEA-2973 Boulder Ores, Inc.	Snowshoe Gulch property (tungsten)	Secs. 27 and 28, T. 11 N., R. 7 W.	37
DMA-183 Clark Mines, Inc.	Sherman Clark mine (lead-zinc)	Sec. 19, T. 9 N., R. 6 W.	38
DMEA-2217 Clark Mines, Inc.	Sherman Clark mine (lead-zinc)	Sec. 19, T. 9 N., R. 6 W.	Application
DMA-1944 Kimball Mines, Inc.	Sunset Mining claims (lead-zinc)	Secs. 1 and 12, T. 8 N., R. 7 W.	39
DMA-414 Elliston Consolidated	Lilly mine (lead-zinc)	Secs. 4, 5, 8, 9, 10, and 15, T. 8 N., R. 6 W.	40
DMEA-2395 Elliston Consolidated	Lilly mine (lead-zinc)	Secs. 4, 5, 8, 9, 10, and 15, T. 8 N., R. 6 W.	Application
OME-6849 Merlyn and Bernice Butler	Wolverine mine (silver-gold)	Sec. 20, T. 8 N., R. 6 W.	41
DMA-1171 Lester Thompson	Hard Luck mines (lead-zinc)	Secs. 20 and 21, T. 8 N., R. 6 W.	42
DMEA-4437 Monarch Copper and Uranium Mines.	Monarch mine (uranium-copper- lead)	Secs. 31, T. 8 N., R. 6 W.	43
OME-6566 Monarch Minerals, Inc.	Monarch mine (uranium-copper)	Secs. 30, 31, and 32, T. 8 N., R. 6 W.	Application

OME-6867 Monarch Minerals, Inc.	Monarch mine (uranium-copper)	Secs. 30, 31, and 32, T. 8 N., R. 6 W.	Application
OME-6028 H. C. Banks	Hidden Hand mine (lead-zinc)	Secs. 2 and 3, T. 7 N., R. 8 W.	44
DMEA-2496 Golden Anchor Min. and Mill. Co.	Golden Anchor mine (lead-zinc)	Sec. 1, T. 7 N., R. 7 W.	45

RAVALLI COUNTY

DMEA-3118 Homer H. Dundas	Broken Hills mines (manganese)	Sec. 20, T. 6 N., R. 18 W.	78
DMEA-2189 Crystal Mountain Mining Co.	Crystal Mountain mine (fluorspar)	Sec. 18, T. 3 N., R. 18 W.	79
DMEA-4837 Slate Creek Mines	Slate Creek property (tungsten)	Sec. 6, T. 2 S., R. 21 W.	80
OME-6270 Larrigon Mining Company	Larrigon mine (gold)	Sec. 34, T. 2 S., R. 21 W.	81
DMEA-3270 Copper Canyon Mining Corp.	New Strike and Silver Top Lode claims (copper)	Sec. 21, T. 3 S., R. 22 W.	82
DMEA-3884 Dark Star Mining Co.	Star mine (columbite-monazite-	Secs. 3 and 4, T. 4 S., R. 22 W.	83

SANDERS COUNTY

DMEA-4992 Halliday Mines, Inc.	Homestead claims (lead-zinc-copper)	Sec. 30, T. 26 N., R. 33 W.	10
DMEA-2498 Monia Mine Co., Inc.	Monia mine (copper)	Sec. 6, T. 25 N., R. 27 W. Sec. 1, T. 25 N., R. 28 W.	11
OME-6876 C. Liebig and T. D. Watts	May claims (copper-silver-gold)	Sec. 18, T. 24 N., R. 27 W.	12
DMA-1593 Ambassador Mines Corp.	Ambassador mine (lead-zinc)	Sec. 4, T. 23 N., R. 32 W.	13
DMEA-4560 Montana Standard Mining Co.	Nellie, et al., claims (lead-zinc)	Sec. 35, T. 21 N., R. 31 W.	14
DMEA-2518 J. W. Miller	Bonanza mine, et al. (lead-zinc)	Sec. 31, T. 20 N., R. 27 W.	15
DMEA-2103 Elmer L. Allen	Allen property (copper)	Sec. 19, T. 18 N., R. 23 W.	16

DMA-1486 J. E. Hall	Revais Creek Copper property (copper)	Sec. 33, T. 18 N., R. 22 W.	17
DMA-1175 Amador Mining Co.	Green Mountain mine (copper)	Sec. 4, T. 17 N., R. 22 W.; Sec. 33, T. 18 N., R. 22 W.	18
<u>SILVER BOW COUNTY</u>			
DMEA-3603 Mitchell Mining Co.	Marget Ann claim (lead-zinc)	Sec. 1, T. 3 N., R. 8 W.	124
DMEA-5002 J. Medvit and C. Doyle	Night Hawk and Gregory claims (manganese-copper)	Sec. 2, T. 3 N., R. 8 W.	125
OME-6809 Kibbe and Co.	Florida group (silver)	Sec. 2, T. 3 N., R. 8 W.	126
DMEA-5014 United Idaho Mining Co.	Rampart mine (copper-lead)	Sec. 3, T. 3 N., R. 7 W.	127
DMEA-3464 William Mulcahy	New Jersey claim (manganese)	Sec. 10, T. 3 N., R. 8 W.	128
OME-6887 Eagle Mining Co.	Dubuque (silver)	Secs. 10 and 11, T. 3 N., R. 7 W.	129
DMA-1790 Umont Mining Co.	Norwich-Plutus mine (manganese)	Secs. 10 and 15, T. 3 N., R. 8 W.	130
DMEA-2874 Umont Mining Co.	Norwich mine (manganese)	Secs. 10 and 15, T. 3 N., R. 8 W.	Contract
DMEA-4129 Umont Mining Co.	Norwich mine (manganese)	Secs. 10 and 15, T. 3 N., R. 8 W.	Cert. Contract
DMEA-2740 I. G. Irving and R. H. Nelson	Garibaldi mine (manganese)	Sec. 15, T. 3 N., R. 8 W.	131
DMA-323 Harper MacDonald and Co.	Wrong Font prospect (fluorite)	Sec. 18, T. 3 N., R. 8 W.	132
DMEA-2267 West Slope	Birdie mine (tungsten)	Sec. 15, T. 3 N., R. 7 W.	133
DMEA-2484 A.C. Fisher	Rising Sun mine (lead-zinc)	Secs. 21 and 22, T. 3 N., R. 8 W.	134
OME-6307 Ruby Silver Mines, Inc.	Hancock, et al., claims (silver-gold)	Sec. 22, T. 3 N., R. 8 W.	135
DMEA-3658 Butte Western Mining Co.	Isele claim (manganese)	Sec. 23, T. 3 N., R. 8 W.	136
DMEA-3679 Atomic Minerals Corp.	Mooney group (uranium)	Secs. 32 and 33, T. 3 N., R. 9 W.	137

DMEA-3042
J. S. Kaserman

Apex No. 2 claim
(copper)

Sec. 28, T. 1 S., R. 8 W.

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Table 2. Mining properties in eastern Montana that were involved in DMA, DMEA, or OME mineral exploration programs. The properties are not shown on the accompanying map of western Montana.

Docket No. / Applicant	Property / Commodity	Location	Status
<u>BLAINE COUNTY</u>			
DMEA - 3542 Bear Paw Development Company	Linda et al. claims (lead-copper)	Sec. 19, T. 29 N., R. 19 E.	Application
<u>CARBON COUNTY</u>			
DMEA -4619 Midland Mining Co.	Sandra group (uranium)	Sec. 33, T. 8 S., R. 27 E.	Contract
DMEA -3716 The Ferris Co.	Rosebud et al. claims (asbestos)	SW 1/4 of T. 6 S., R. 18 E.	Application
<u>FALLON COUNTY</u>			
DMEA-4107 Burmec xploration Co.	Cox lease (uranium)	Secs. 17 and 18, T. 10 N., R. 61 E.	Contract
<u>FERGUS COUNTY</u>			
OME-6349 Vitro Minerals Co.	Beta Kapa claims (gold-silver)	Sec. 30, T. 16 N., R. 20 E.	Contract
DMA-36 George C. Darrah	Armells Producer claim (lead-zinc)	Secs. 15 and 22, T. 17 N., R. 20 E.	Application
OME-6472 George C. Darrah	Armells Producer and High Slope claims (gold-silver)	Secs. 15 and 22, T. 17 N., R. 20 E.	Application
OME-6880 Viking Exp. Corp.	Spotted Horse mine (gold)	Sec. 5, T. 16 N., R. 20 E.	Contract
OME-6904 C. L. Kuhnhausen	Republic mine (gold-silver)	Sec. 23, T. 16 N., R. 17 E.	Application
<u>PARK COUNTY</u>			
DMEA-3367 Orrin B. Hart	Copper Glance group (copper-lead-zinc)	Sec. 19, T.8 S., R. 15 E.	Application
DMEA-2291 McLaren Gold Mines	Miller Creek claims (copper)	Sec. 24, T. 9 S., R. 14 E.	Application
DMA-1693 Falk Metals Corp.	Glengary mine (copper)	Sec. 11, T. 9 S., R. 14 E.	Application

PARK COUNTY -Continued

DMA -1483 Parkmont Corp.	Homestake, Morning Star mines (copper-gold)	Secs. 11 and 23, T. 9 S., R. 14 E.	Application
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PHILLIPS COUNTY

OME-6236 Northern Continental	Gold Bug et al. claims (gold-silver)	Secs. 15 and 22, T. 25 N., R. 24 E.	Certified Contract
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SWEET GRASS COUNTY

DMEA-2881 Dewey Whittaker	Pine and Sunshine claims (platinum-nickel)	Sec. 32, T. 4 S., R. 13 E.	Application
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