

SHOSHONE NEWS-PRESS

THURSDAY, FEBRUARY 13, 1992

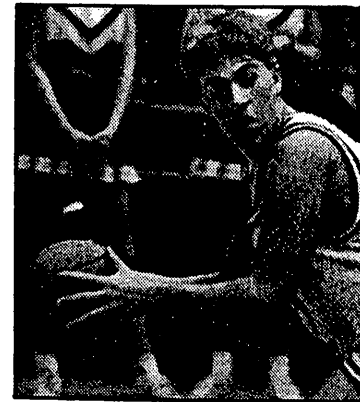
50 CENTS

THURSDAY

World, NationB-1
Calendar2
StocksB-2
Comics7
Weather3

METALS

NY Silver\$4.213
NY Gold\$358.10
Lead35
Zinc55-5737



Sports, Page 6

Announces again

part-time position she has held for almost nine years.

She serves on the Region I Council for Children and Youth, (serving over two years as an appointment by Governor Cecil Andrus as chairman of the Council). In October 1990, she was elected to the TESH Board of Directors and last fall she was re-appointed by Andrus to the Clean Lakes Coordinating Council. Krulitz is a member of Chapter M sisterhood of P.E.O. and is a deacon on the church council of Our Savior Lutheran Church.

Krulitz has been an active Democrat in Shoshone County, working on Governor Andrus' campaign along with being the county chairman for Governor Evans re-election campaign.

She is married to Art Krulitz Transportation Director at School District 391. The couple recently celebrated their 25th wedding anniversary. They have two daughters Keri, an administrative assistant at the Coeur d'Alene Press and Karla, a full time student at North Idaho College and a weekend receptionist at Silver Mountain. The family has resided in Pinehurst for 20 years.

Archie Hulsizer of Wallace will serve as campaign treasurer. Those wishing to assist with the campaign are encouraged to contact

Krulitz. Campaign contributions may be mailed to Citizens for Krulitz box 695, Pinehurst, Idaho 83850.

Hecla hits major strike

By BART SMITH
Staff writer

COEUR d'ALENE — Hecla Mining Co. has discovered what could be a major silver ore body near its Lucky Friday mine at Mullan.

The discovery could be the most significant in the mining industry in a long time, said Art Brown, Hecla chairman and chief executive officer.

At best, it could extend the life of the Lucky Friday mine for many years. At the least, it is ensuring the jobs of nine or ten miners conducting exploration efforts. The company recently laid off 20 workers, and more would have lost their jobs if the exploration work was not in progress, Brown said.

"It is rare to find good news in the mining industry these days," Brown said. "And this is some really good news."

The company announced Wednesday it had discovered several mineralized structures located below the old Gold Hunter Mine, 5,000 feet northwest of the existing Lucky Friday workings about 4,050 feet below the surface.

Exploration has continued

**See related story
on Page 3**

about 200 feet along one vein, with assays running in the range of 30 ounces of silver per ton and 2.5 percent lead over an average width of six feet.

The high grade is significant; the Lucky Friday ore averages 13 ounces of silver per ton.

The discovery is important to the 145 miners who continue to work at the Lucky Friday mine.

"This will really help the life of the mine," Brown explained. "Because of current metal prices, it is a tossup whether to shut it down or keep mining. This will really help reinforce the decision to keep it open for when metal prices do turn around."

"It has given us an incentive to spend some more money to do additional exploration and see if this really is a significant as it could be ... It has allowed us to keep more people working than would otherwise be the case."

Brown emphasized they do not know yet whether this is a major ore body. They will continue to develop and explore it to deter-

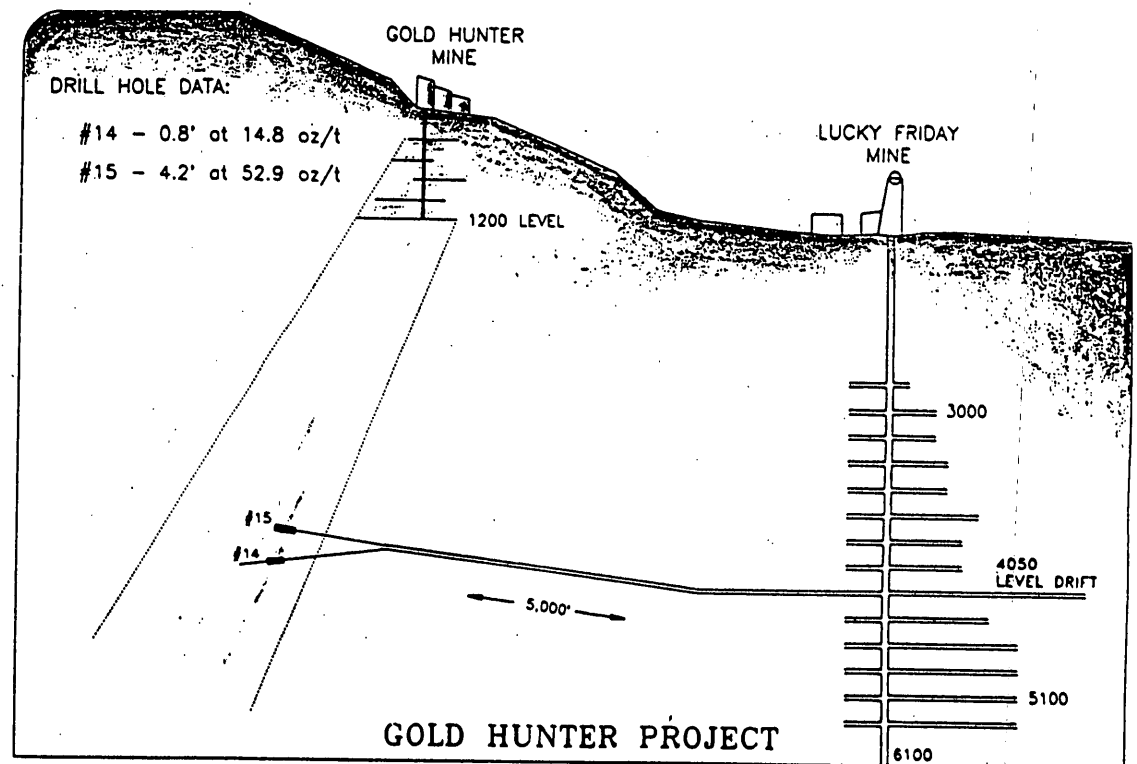
mine exactly what they have, he said.

"This is at least one stope which means that it will add to our mill production incrementally," he said. "What I am hoping for is something four or five items as big. That would really make a difference to the Lucky Friday Mine."

"It could be really, really significant. It could add dozens of years to the mine, or we could find out that is one little plug out there by itself," he said.

He said Hecla believes it to be a major find because ore was mined above that level previously at the Gold Hunter Mine, and it is a very strong structure, 4,000 feet below the surface.

Not until several months of



Please see STRIKE, pg. 8

Errors in reporting the brick sales also occur from time to time, and sometimes even when corrections are attempted!

Last week the names of Walter

Ashton Marcus of West Linn, OR, secured two bricks, one to be engraved for Mr. & Mrs. Reg Marcus, and the second for Ashton Marcus.

Lucille & Viri McCombs of

for Charles & Edna Capparelli.

Irene Bowen of Cataldo purchased one brick for Charles & Irene Bowen.

Ruthie Smith of Pinehurst

Girls need funds to attend Girls State

SILVER VALLEY — Efforts to raise funds to send five junior class girls from this area to Girls State are now under way.

The cost for the 1992 session is \$200 per delegate, and tentative plans call for sending one girl from Mullan, two girls from Wallace and two girls from Kellogg. School enrollments are used as a basis for quotas.

Objectives of Girls State are to develop pride

and interest in government, plus an understanding of its functions and traditions. At Girls State, delegates participate in elections and mock government sessions.

Anyone wishing to contribute to the effort sponsored by the auxiliary to American Legion Gus Zoellner Post No. 36 can send checks to Pat Timms, secretary/treasurer, HCO1 Box 128, Kellogg, Idaho 83837.

Shoshone Ladies Golf plan first meeting

The Shoshone Ladies Golf Association will have a planning meeting for the new season on Thursday, Feb. 20 at 11:30 a.m. at Sweets Cafe in Wallace.

All interested ladies are welcome. The officers serving this year are Carol Johnson, Silverton, President; Fritz Mattingly, Silverton, Vice President; Carolyn MacPhee, Kellogg, Secre-

tary and Elsie Magnuson, Wallace, Treasurer.

A definite opening day the

first part of April will be set at the meeting and committees will be formed.

COUNCIL

Continued from Page 1

Feb. 18. The hours will be reduced to 11 a.m. to 4 p.m. The city insurance plan will also be reviewed to try to lower costs, and the council will begin long

term planning for the city.

The city's application for a Community Development Block Grant has been completed and turned in to Boise. Kimberling will be making a presentation to the Department of Commerce on March 18. More information will be forthcoming to property owners regarding the vaults under the sidewalks which have to be filled in before the LID goes into effect.

Dick Caron spoke to the Council about the need for a general clean up of the town in preparation for the upcoming tourist season. Caron, of the Wallace Business Community Association, noted that the WBCA is concentrating on the cleaning of store fronts and on filling empty ground floor windows with displays in keeping with the historic mining theme of Wallace.

He mentioned that an effort to gather materials for the displays will probably include requests for the loan or donations of items from the public. Caron asked that the Council support the WBCA's efforts.

Concerning other matters, a letter was read to the Council from a citizen who was concerned about the appearance of vehicles being parked under and adjacent to the freeway on Nine Mile Road. The City will determine ownership of the land and send a letter to the owner expressing the Council's concern. In a related issue, Kimberling will report at the next Council meeting on parking under the freeway.

advantage of better silver prices when they do occur as we expect they will," he said. "It's only a question of when. I don't know when that might be, but I certainly expect they will turn around."

Brown said their costs to produce silver are around \$5 per ounce. At that price, the corporation does not have to put money into the Lucky Friday operation, and at \$6, receives some benefit.

Last year, the mine lost \$2 million, Brown said.

Of significance to the mine, is the proximity of the new discovery. The existing facility currently operates at about half of capacity because of the complexity of mining the different levels of the Lucky Friday. Ore from the new discovery can come up the same shaft, through the common hoisting and milling facility. This means they can add tonnage to the plant without increasing costs.

"That is why this is so significant. It adds more production, and reduces costs, allowing us to keep the mine open and look at other alternatives," Brown said.

He said the present Lucky Friday facility can handle everything discovered so far, a lot more above and a lot more below it.

STRIKE

Continued from Page 1

try. That's in large part due to the technical ability to change mining methods and also the willingness of our hourly workers, not only to take a reduction in wages, but to improve productivity, and their output. They do a great job of producing silver at a very low cost."

Hecla has closed the Lucky Friday mine before, in 1986 and 1987 for a 14-month period because of low silver and lead prices. During the shutdown, the company began converting the mine to a mechanized mining method to increase productivity and safety.

Although production costs are low, the low price of silver has threatened the mine for years.

"Quite frankly we've seriously considered shutting the mine down on a number of occasions. But we have continued to keep it open because of the improvements," Brown said.

"We now recognize that to shut the mine down and keep it on a maintenance basis is almost as expensive as the losses that we are experiencing now.

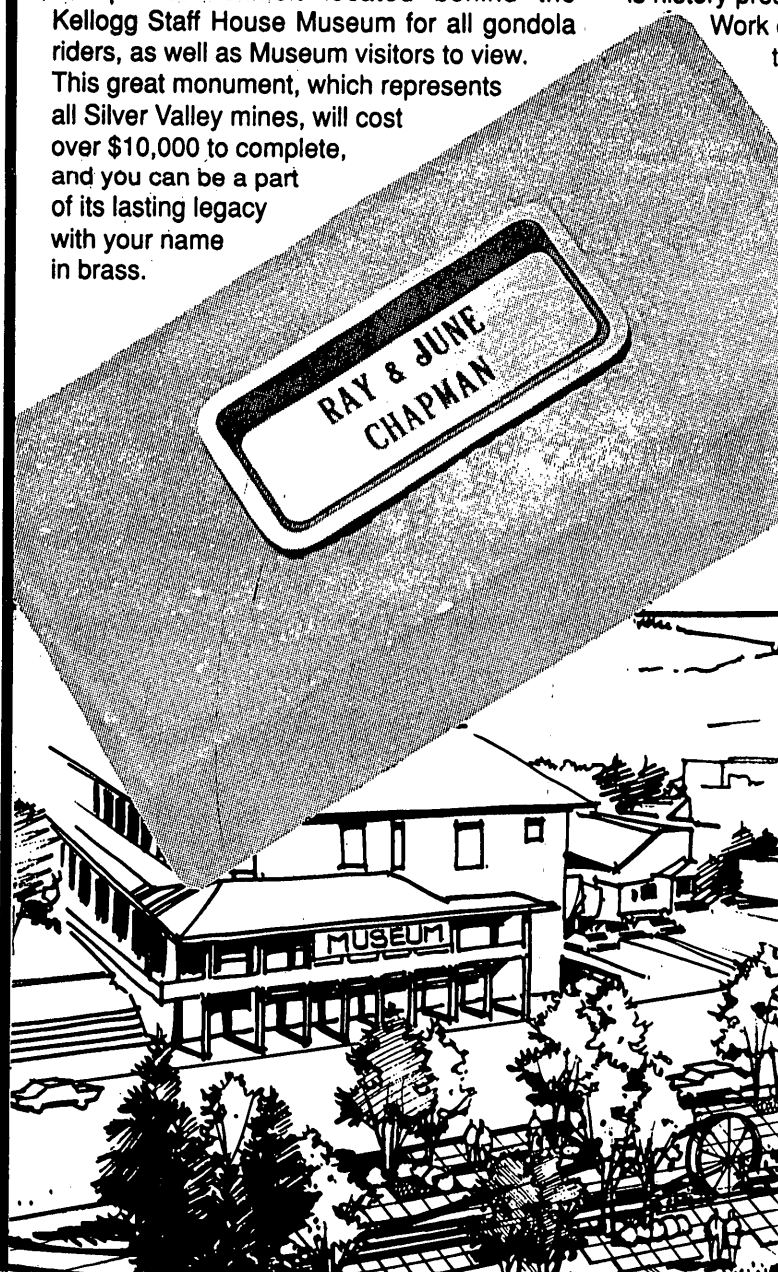
"So we have decided to keep it open. Obviously that continues to provide employment, but also puts us in the position to take

PUT YOUR NAME ON BRICK

Become a part of history. Your name engraved on a brass plate and inserted in your own brick, will be placed within the landscape surrounding the 1899 Nordberg Air Compressor exhibit located behind the Kellogg Staff House Museum for all gondola riders, as well as Museum visitors to view.

This great monument, which represents all Silver Valley mines, will cost over \$10,000 to complete, and you can be a part of its lasting legacy with your name in brass.

Purchase a brick to create a family heirloom or dedication to your history preserve. Work on it.



History of Gold Hunter

By WENDELL BRAINARD
Staff writer

The Gold Hunter was first discovered in 1884 and was mined between 1903 and 1947. The old Gold Hunter red mill was a landmark for many years at the east Mullan city limits.

The property is controlled by Hecla under a long-term operating agreement with Independence Lead Mines Co. of Wallace and Abot Mining Co. of Coeur d'Alene. With its combined interests, Hecla is entitled to a 79.08 percent interest in the net profits from the property. Hecla will be obligated to pay a royalty of 18.52 percent of defined net profits to Independence Lead Mines Co. and 2.4 percent to Abot Mining Co. after Hecla has recouped its costs to explore and develop the property.

Hecla owns 42 percent of the capital stock of Abot. Hecla took over an original agreement dated Feb. 8, 1968 between Day Mines (since merged with Hecla) and Independence Lead Mines Co. and started exploring the properties of the three companies.

At that time Hecla drove a crosscut 3,700 feet on the Lucky Friday 4,050-foot level, seeking the downward projection of the Gold Hunter vein system, which had produced some three million tons of silver-lead-zinc ore at higher levels. The zone was reached in the first half of 1977, and narrow veins of silver-lead-zinc mineralization were found. A west drift was started on a strong structure, but was left for future exploration.

When Hecla became operator of the Lucky Friday Mine in 1959, estimated ore reserves totaled 668,000 tons averaging 20.6 ounces of silver per ton, 13.7 percent lead and 1.2 percent zinc. During a 25-year period since 1959, 4,290,000 tons of ore grading 16.8 oz. silver per ton, 10.5 percent lead and 1.2 percent zinc had been mined, yielding 71 million ounces of silver, 450,000 tons of lead and 47,000 tons of zinc. At the end of fiscal 1983, estimated ore

reserves totaled 518,000 tons.

In August of 1979, Hecla elected to sink a new shaft from the surface that would enable mining of the Lucky Friday vein at depths deeper than could be serviced by the No. 2 shaft. Called the Silver Shaft, it was bottomed at a depth 6,025 feet below the surface.

The shaft was completed in July of 1983. Hecla was able to increase production to 1,000 tons per operating day. In 1983, as a result of the new shaft, total production from Lucky Friday was 257,000 tons, a new record. This resulted in the production of over five million ounces of silver from the mine and made Lucky Friday the top silver producing mine in the United States at that time.

The Gold Hunter Mine, a mile northeast of Mullan, was owned by the Gold Hunter Mining and Smelting Co., named for one of its discoverers, and soon became noted for its rich argentiferous ore, which, according to the "Coeur d'Alene Sun" in Dec. 3 1885, carried as much as 400 ounces of silver per ton.

From 1902 through 1906, the Gold Hunter mined 160,249 tons of ore, which produced 606,475 ounces of silver and 9,563,642 pounds of lead. The No. 5 tunnel had its portal an elevation of 3,900 feet. A 4,000-foot tramway carried ore to the mill at the mouth of Hunter Gulch, not far from the present Lucky Fridays Silver Shaft.

The Gold Hunter ore carried a variety of minerals, including galena, sphalerite, pyrite, tetrahedrite (silver), stibnite, siderite, barite and quartz. The tetrahedrite was more abundant in the upper levels of the mine. In 1904, lessees, working close to the surface were taking out ore said to contain as much as 140 ounces of silver and 53 percent lead.

Material from the U.S. Geological Survey, from which the above facts were taken, said ore sent to the Gold Hunter Mill averaged about 6 percent lead and 7 to 8 ounces of silver per ton.



Young takes post

Carol Young has been named Director of Business and Marketing at Shoshone Medical Center. In her new position, Young will oversee the functions of accounting, business office, data processing, accounts payable, medical records, and marketing.

Prior to working at Shoshone Medical Center, Young was employed by Silver Mountain for two years as Office Manager/Personnel Director.

Prior experience in the medical field includes working four years for Dr. Stan Shapiro and two years previous to that with the Data Processing Department at Shoshone Medical Center.

GARRY'S LUBE & OIL 121 N. 3rd, Osburn 753-4461

Tune Up & Service Specials

4 cyl.....\$47.50
Tax.....2.38
Total.....49.88

6cyl.....\$55.75
Tax.....2.79
Total.....58.54

8cyl.....\$64.00
Tax.....3.20
Total.....67.20

Lube oil & filter
up to 5 qts.....\$20.95
Tax.....1.05
Total.....22.00

Tune Up includes spark plugs, air filter, PCV valve & fuel filter, extra charge for fuel filter on high pressure fuel injected models

Wallace Elks
Sadie Hawkins, BBQ & Dance
Saturday, February 15th, Wallace Elks Lodge
Dinner: 5:30-7:30 - Dancing to Follow

*10.00 per person includes:

Osburn Club

312 Mullan Ave.
556-3391

Live Music

"Good n Plenty"

Valentine's Day
Friday, Feb. 14th

9 PM - 1 AM

4

Service will be held for Ann R. Kellogg who died Feb. 11, 1992, at the Funeral Service of Kellogg's.

Stonega, Va., the daughter of first married to Fred Irvin who he then married Harry Sharpe

the Grays Knob Post Office in 1977 to reside with her daughter

s, Mrs. Herb (Ginny) Solum of Glen of Maimisburg, Ohio; five children and several nieces and

bove, she was preceded in death

will be held.

cott, 97

Pinhurst, died Tuesday night, at the Shoshone Medical Center, Kellogg.

and for 10 a.m. Tuesday, Feb. 18, at the Shoshone Funeral Services.

94, in Andersonville, Ohio, the Black. She and George Turcott of Mont.

life working as a school teacher in various western states.

in 1984, Martha moved to this

of the Alpha Phi Sorority and a member of the Star for over 70 years. She had a remote cabin and lake in Montana.

s. Turcott was preceded in death by his sister, Leah Flack both of Boise,

LeAnne Neils of Kingston; a son, and six grandchildren; six great-grandchildren of New York City, N.Y.

als be made to the Excellence in Education award at Missoula or to the local food bank.

83

n, a lifelong resident of this area died Wednesday, Feb. 12, 1992, in Coeur d'Alene.

published when available. Shoshone Funeral Service has charge of arrangements.

lowers in the mid-20s to the mid-30s.

LOTTERY

Idaho Lotto America
3-15-27-29-39-45

Washington Lotto
3-22-27-40-42-46

Bennett, E. H., and R. Venkatakrishnan. A Palinspastic Reconstruction of the Coeur d'Alene Mining District Based on Ore Deposits and Structural Data. Econ. Geol. and Bull. Soc. Econ. Geo., v. 77, No. 8, 1982, pp. 1851-1866.

CARD NO: 01690. COUNTY: 079. MINING DIST: 013. COMMODITY: . SUBJECT: HY,OD,SG,ST. SEQ. NO: 0790045, 0790010, 0790245, 0790040, 0790022, 0790060, 0790063, 0790019, 0790032, 0790012, 0790241, 0790009, 0790011, 0790420, 0790072, 0790464.

Griggs, A. B., R. E. Wallace, and S. W. Hobbs. Geologic Map and Structure Sections of the Mullan and Vicinity Quadrangle, Idaho. U.S. Geol. Surv. Open File Rep. 53-80, 1953, Scale 1:24,000.

CARD NO: 11570. COUNTY: 079. MINING DIST: 016, 017, 018. COMMODITY: . SUBJECT: GL,SG,ST. SEQ. NO: 0790464, 0790072, 0790073, 0790247, 0790364, 0790073, 0790086, 0790012, 0790063, 0790216, 0790185.

Hobbs, S. W., A. B. Griggs, R. E. Wallace, and A. B. Campbell. Geology of the Coeur d'Alene District, Shoshone County, Idaho. U.S. Geol. Surv. Prof. Paper 478, 1965, 139 pp.

CARD NO: 03560. COUNTY: 079. MINING DIST: 013. COMMODITY: 5400, 3400, 7000, 1700, 2600. SUBJECT: GL,ST,SG. SEQ. NO: 0790012, 0790060, 0790019, 0790420, 0790011, 0790069, 0790030, 0790009, 0790032, 0790045, 0790464, 0790072, 0790073, 0790063, 0790022, 0790574.

McElroy, G. E. Mine Ventilation in the Coeur d'Alene Mining District, Idaho. BuMines IC 6382, 1931, 37 pp.

CARD NO: 05250. COUNTY: 079. MINING DIST: 013. COMMODITY: . SUBJECT: MI. SEQ. NO: 0790032, 0790060, 0790070, 0790063, 0790019, 0790045.

Ransome, F. L. and F. C. Calkins. The Geology and Ore Deposits of the Coeur d'Alene District, Idaho. U.S. Geol. Surv. Prof. Paper 62, 1908, 203 pp.

CARD NO: 06620. COUNTY: 079. MINING DIST: 013. COMMODITY: 5400, 3400, 7000, 1700. SUBJECT: GL,OD. SEQ. NO: 0790012, 0790060, 0790019, 0790420, 0790011, 0790069, 0790030, 0790009, 0790032, 0790045, 0790464, 0790072, 0790073, 0790063, 0790022, 0790574.

U.S. Bureau of Mines. Silver in the United States. Potential Resources. BuMines OFR 22-69, 1969, 300 pp.

CARD NO: 08780. COUNTY: 079, 037, 013, 073. MINING DIST: 013, 100, 098, 171, 172, 059, 142. COMMODITY: 5400. SUBJECT: CY,PR. SEQ. NO: 0790011, 0790032, 0790060, 0790070, 0790010, 0790072, 0790069, 0790012, 0790420, 0790019, 0790063, 0790464, 0790073, 0370034, 0370301, 0370283, 0370413, 0370023, 0130076, 0130013.

Varley, T., C. A. Wright, E. K. Soper, and D. C. Livingston in cooperation with the University of Idaho. A Preliminary Report on the Mining Districts of Idaho. BuMines B 166, 1919, 113 pp.

CARD NO: 11430. COUNTY: 001, 003, 005, 007, 009, 013, 015, 017, 019, 021, 023, 025, 031, 035, 037, 039, 043, 045, 049, 055, 057, 059, 061, 065, 069, 073, 079, 081, 085, 087. MINING DIST: 128, 068, 118, 098, 148, 179, 015, 069, 111, 153, 181, 027, 135, 085, 036, 097, 155, 115, 062, 031, 158, 033, 083, 171, 174, 122, 004, 129, 049, 066, 162, 061, 127, 131, 084, 019, 173, 063, 166, 170, 132, 117, 087, 121, 114, 013, 055, 164, 034, 093, 017, 136, 058, 006, 140, 016, 144, 141, 102, 067, 074, 078, 092, 021, 095, 059, 157, 137, 038, 076, 001, 163, 054, 110, 056, 099, 005, 041, 139, 161, 120, 018, 002, 080, 003, 072, 123, 071, 035, 145, 032, 028, 023, 134, 104, 077, 103, 065, 146, 025, 026, 160, 176, 113, 126, 182, 012, 119, 112, 090, 037, 133, 105, 142, 073, 108, 159, 009, 100, 088, 091, 020, 147. COMMODITY: 1400, 1700, 2600, 5400, 3400, 1500, 1700, 6400, 7000, 0200. SUBJECT: MS,OD,PR,HY,ML. SEQ. NO: 0130014, 0130076, 0110018, 0370235, 0590012, 0370301, 0370223, 0370279, 0370019, 0230022, 0130336, 0130440, 0730005, 0730056, 0730404, 0030096, 0030009, 0490139, 0490043, 0490344, 0570019, 0170075, 0170069, 0210011, 0790063, 0130150, 0590028.

Gold Hunter

**HUNTER
LUCKY FRIDAY
CONSOLIDATED - SILVER**

**GALENA
CALADAY
COEUR**

Hecla Mining Co Companies

a portion of the
area.
and Mining Co.
of 53 ha.

1985 1984
3,093 3,070
30.1 30.5
3,093 3,070
431 453
79.74 R72.88
192.81 R79.53

gold/t. 0.22 kg/t.
tonnes, grade
at R24,000/kg).

2,000,000 shares

64% of issued
Co Ltd 15.18%
and Barclays
546%

share)

1985 1984

155 475.75

nil

603 113.882

310 82.711

600 81.200

110 1.511

310 82.711

142 R0.734

280 R0.725

938 553.918

890 360.790

881 24.540

569 12.534

321 348.250

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Subsidiaries/Associates
Havelock Barberton Properties (Pty) Ltd.

Operating Summary

Year to 31 December	1985	1984	1983
Production (tonnes)	25,327	26,980	26,300

Hecla Mining Co

324

Founded 1891; incorporated 12 July 1898 in Washington, USA;
reincorporated 1983 in Delaware, USA.

Head Office 6500 Mineral Drive, Box C-8000, Coeur d'Alene,

Idaho 83814-1931, USA.

Telephone: (208) 769 4100. Telex: 326 476 Hecla Co Walc.

Directors A.Brown (Chairman, President and Chief Executive),

J.E. Clute, J.M. Dahl, L.O. Erdahl, W.A. Griffith, R.J. Stoehr, N. Visnes,

W.B. Warren.

Officers W.J. Grismer (Senior Vice-President and Secretary);

L. Bierly (Investor and Public Affairs), G.K. Ealy (Exploration),

H.A. Kaufman (Industrial Minerals), R.H. Wallace (Treasurer) (Vice-

Presidents); J.T. Heatherly (Controller).

Senior Management M.P. Gross (Metal Mines), R.B. Kahler

(Technical Services), J.T. Langstaff (Personnel), N.M. Tower

(Marketing) (Managers); E.H. Hahne (Escalante Unit), G.R. Johnson

(Lucky Friday Unit), R.R. Noyes (Highwood Thor Lake Joint

Venture), F. Stahlbush (Republic Unit) (Operations Managers);

M.B. White (Corporate Counsel and Assistant Secretary),

D.F. Wolfe (Assistant Treasurer), W.G. Zinn (Assistant to the

Chairman).

Business

Mining and concentrating precious and nonferrous metal ores. Since its takeover of Ranchers Exploration and Development Corp during 1984, the company has become the largest silver producer in the USA, currently managing operator of three precious metals mines and with ownership or royalty interests in three others.

Subsidiaries/Associates

Colorado Aggregate Co of New Mexico, Hecla Mining Co of Canada Ltd, Kentucky-Tennessee Clay Co, Consolidated Silver Corp (68.5% of Common and 74.18% Preferred shares), Granduc Mines Ltd (NPL) (35% of Common and all Preferred shares).

Property and Operations

The company acquired complete interest in production from the Lucky Friday unit in the Coeur d'Alene mining district of Idaho, USA, through the acquisition of Day Mines Inc in 1981 and it now controls the Hunter Ranch property adjacent to and mined through the Lucky Friday mine. The new Silver shaft reached its initial objective of 6,205 ft in April 1983 and was placed in service, increasing the mine's capacity by approximately 35%. In 1985, it became the largest US silver producer. As of 11 April 1986 the mine was put on a care and maintenance basis. However, the mine was reopened in June 1987, with full production expected by end-1987.

Hecla is the managing operator of the Consolidated Silver venture, formed in 1980 for the purpose of exploring at depth the properties of Consolidated Silver Corp in the Coeur d'Alene district. Hecla's interest in the venture is approximately 83% following the acquisition of Sunshine Mining's 18% interest in mid-1984. Coeur d'Alene Mines Corp holds 17%. Ore production began during 1981 in an effort to defray the costs of the five-year US\$11 mn development programme, but this proved unsuccessful and operations were suspended in January 1982. The shaft was completed to a planned depth of 5,524 ft in 1983 to commence a 4-year exploration and development project. In August 1986 all work was discontinued because of disappointing results.

Hecla has a realised interest of 12.5% of net profits from the Galena mine, through its quarter share in the operating lease held by Asarco Inc. The mine is owned by Callahan Mining Corp.

Hecla also participates in a joint venture with Asarco and Callahan Mining Corp to develop a 5,100 ft shaft at a cost of US\$26.6 mn on the Caladay property, immediately southeast of the Galena mine. Callahan is operator and will bear the costs. In 1985, shaft sinking was completed to the 4,900 ft level and a long-term exploration programme was begun. In 1982 Hecla entered into a long term lease with Callahan which added the adjoining Hecla's Hornsilver-Peerless properties to the Caladay project. Under the terms of the lease agreement Hecla's participation in the Caladay project is maintained at 12%, and Hecla will retain a 30% net profits interest in the Hornsilver-Peerless properties after reimbursement of expenditures to Caladay. Hecla assumed from Day Mines 5% share in costs and proceeds of the Coeur mine, owned by Coeur d'Alene Mines and operated by Asarco.

Hecla owns the Knob Hill silver and gold mine at Republic, Washington. In 1985 the company announced the discovery of additional reserves of 300,000 tons grading 0.8 oz/t gold. In 1986 two new veins were discovered and a new shaft was sunk.

Hecla acquired full ownership of the Escalante silver mine in southwest Utah in 1984 through acquisition of Ranchers Exploration and Development Corp.

The company owns the underground Victoria unit, in Elko County, Nevada, which has proven copper mineralisation of 1,375,000 tons, grade 0.35 silver oz/t, 2.55% copper. Production has been suspended since 1981.

The Lisbon Valley uranium-vanadium mine, Moab, Utah, a joint venture with Union Carbide Corp has been placed on a maintenance and standby basis pending recovery of uranium prices. The Florence-Queen silver mine at Neihart, Montana, and the Revenue Virginus silver property near Ouray, Colorado, were also on a care-and-maintenance status during 1986.

Hecla, through the merger with Ranchers, acquired the Kentucky-Tennessee Clay Co, which mines and processes ball clay. Clay reserves have an anticipated life of 20 years at current production rates. Also acquired by the merger was Colorado Aggregate Co of New Mexico, which mines and processes volcanic scoria. The company has an 8 to 10-year reserve at the New Mexico mine and a 20-year reserve at the Colorado mine at current production rates.

In March 1986 Hecla agreed to spend approximately US\$1 mn on underground exploration and development at Mosquito Creek Gold Mining Co's gold property in Barkerville-Wells, British Columbia.

In September 1986 Hecla and Highwood Resources Ltd signed a joint venture agreement to determine the economic feasibility of developing the Thor Lake property in Northwest Territories, Canada. The deposit contains reserves of beryllium, yttrium, niobium, lanthanides, gallium, columbium and zirconium. Hecla can earn a 50% interest in the venture.

In March 1987 Hecla agreed to purchase a 28% interest in the Greens Creek joint venture from Amselco Minerals Inc. The joint venture is engaged in final project engineering and anticipates bringing into production a gold-silver-lead-zinc ore body on Admiralty Island, 15 mi southwest of Juneau, Alaska.

Operating Summary

Year to 31 December	1986	1985	1984
Ore production (tons)			
Lucky Friday	82,041	276,817	257,315
Sunshine			20,510
Galena	25,102	25,022	26,125

Companies Hecla Mining Co

	1986	1985	1984
Coeur	7,731	7,581	7,213
Republie	58,681	60,551	61,440
Leadville	—	—	37,216
Escalante	305,717	296,946	286,554
Total	479,272	666,897	696,373
Contained metal production			
Silver (oz)	4,370,389	7,925,824	8,445,412
Lead (tons)	10,890	34,789	31,522
Gold (oz)	40,554	41,710	27,218
Zinc (tons)	1,254	3,915	3,304
Copper (tons)	346	749	742
Clay (tons)	398,789	401,270	411,202
Scoria (tons)	54,555	53,858	47,313

a Hecla's interest terminated 30 April 1984.

c Production ceased September 1984; Hecla's interest sold to Leadville Corp 14 December 1984.

Latest Ore Reserves 31 December 1986

Proven and probable: Lucky Friday: 604,200 tons grading 16.7 oz/t silver, 12.3% lead, 1.9% zinc; Escalante: 917,700 tons grading 9.4 oz/t silver; Republic: 372,000 tons grading 4.5 oz/t silver, 1 oz/t gold; Galena (Hecla share): 129,700 tons grading 15.6 oz/t silver, 2.4% lead, 0.5% copper; Coeur (Hecla share): 35,000 tons grading 19.8 oz/t silver, 0.9% copper.

Capital 31 December 1986

Authorised 5,000,000 shares Preferred stock issuable in series, and US\$12,500,000 in 50,000,000 shares of Common stock of 25 cents each; issued US\$6,748,434 in 26,993,738 shares of Common stock.

Financial Summary in US\$000s (except per share)

Year to 31 December	1986	1985	1984
Income account			
Turnover	62,057	82,579	113,750
Depreciation etc	11,112	13,764	12,677
Income taxes (credit)	(2,024)	249	8,900
Net income (loss)	(21,232)	(4,224)	12,092
Distributed	1,349	5,391	5,277
Retained (deficit)	(22,581)	(9,615)	6,815
Cash flow (deficit)	(10,120)	9,540	24,769
Earned (lost) per share	(US\$0.79)	(US\$0.16)	US\$0.45
Dividends per share	US\$0.05	US\$0.20	US\$0.20
Balance sheet			
Total assets	140,281	170,932	190,305
Capital employed	131,910	160,867	175,930
Working capital	13,750	24,821	27,152
Long-term debt	nil	nil	546
Stockholders' funds	118,162	143,840	156,884
High/low share price	US\$16.25/ 8.375	US\$18.125/ 13.875	US\$23.50/ 13.25

a Includes extraordinary credit, 3,617, and 1984 change in accounting for supplies, 846.

Annual general meeting May.

Common stock listed New York, Pacific.

Hedman Resources Ltd

325

Incorporated August 1956 in Ontario, Canada as Hedman Mines Ltd; name changed 3 September 1982.

Head Office PO Box 590, Timmins, Ontario P4N 7E7, Canada. Telephone: (705) 264 3709/0593. Cables: Hedman. Directors J.J. Mangen (President and Managing), G.B. Sukornyk (Chief Executive), J.C. Lavigne (Vice-President), S. Charbula, M.C. Mangen, H.K. Passmore (Secretary-Treasurer). Senior Management R.F. Bertrand, J.J. Mangen.

Property and Operations

The company holds 29 mining claims in Munro and Warden townships in the Matheson area, northern Ontario, Canada.

and conducts open pit mining of serpentine ore. Ore reserves to 300 ft exceed 10,000,000 tons, sufficient to produce in excess of 5,000,000 tons lizardite serpentine mineral filler. Open along strike and beyond 740 ft vertical. The potential of the known base and precious metals and other industrial minerals on the above and other properties being acquired will be investigated.

A 300 tpd mill was constructed on a 97 acre site on the main line of the Ontario Northland railway in the town of Matheson, Ontario, and production of Hedmanite commenced early-1969. Mill feed is transported 24 mi by road from the mine.

In 1986 Hedman reported a net loss of C\$245,428, which doubled the net loss of C\$105,698 which was realised in 1985.

Capital 31 December 1984

Authorised 6,000,000 Common shares of no par value; issued 3,000,000. Of the 3,000,000 issued, Hedman repurchased 1,501,000 of its shares (50.03%) on 12 September 1979.

Dyman Prospecting Syndicate owns 750,000 shares (25%).

Hellenic Mining and Metallurgical Co of Larymna SA

326

Larco

State-owned.

Head Office 20 Amalias Avenue, 105 57 Athens, Greece. Telephone: (1) 3236011, 3236091. Telex: 215047 Feni Gr. Directors J. Hatzinicolaidis, B. Jenkins.

Business

Producer of ferronickel.

Property and Operations

Mining and metallurgical complex at Larymna, 130 km north of Athens, and on the island of Euboea, Greece. Proven reserves 50 mn tons lacterite. Plant at Larymna, production capacity 25,000 tpy of Ni contained in ferro-nickel; nickel content from 17-25%.

Operating Summary (000 tonnes)

Year to 31 December	1986	1985	1984
Nickel production	11	16	16

Hierro Patagonico de Sierra Grande SA Minera

327

Hipasa

Head Office Belgrano 1370, 1093 Buenos Aires, Argentina.

Telephone: 37-1161/68. Telex: 22509.

Directors R.A. Mancini (Chairman), G.E. Preisz (Deputy Chairman), O.O. Bruzzo, A.A. Di Fonzo, M. Herschberg, A.J.S. MacLeod, J.E. Moro, E.P. Murad, M.R. Vicens.

Business

Iron ore mining and metallurgy; exploitation of iron ore deposits in the Sierra Grande, Rio Negro province, Argentina.

Property and Operations

In 1984 Hipasa produced 723,000 tonnes of iron ore and processed a total of 884,000 tonnes, together with 18,000

tonnes of q 1984 was year. The p company s 24,000 ton Acindar's d were 490.0 level.

Capital 31 Authorised

Financial s

Year to 31 Dec Income acct Operating inc Net income (l Balance she Total assets Capital empic Working capis Shareholders

Annual gener

Highlan

Incorporated

Head Office Columbia V6E Telephone: (6 Directors G./ K.I. Hymas, C.F. Officers R.W. (Controller).

Business Mineral, oil z

Subsidiarie Middle Fork

Property at The compan claims on th east of Sau venture part On the Nat 50% workin Timmins, On identify diar has acquirec property, cor surface explc drilling. In 1986, a l determine th mine was sh distinct style Potential op tons. It was e and Noramc The Spring of The company Cross proper claims in the it acquired o Cruz county. Highland-Crc interest in 75

Editor Helen Wilcock
Editorial Assistance Joan Bowen
David Sanders
Advertisement Sales Sheila Luck

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Beccles and London

FINANCIAL TIMES

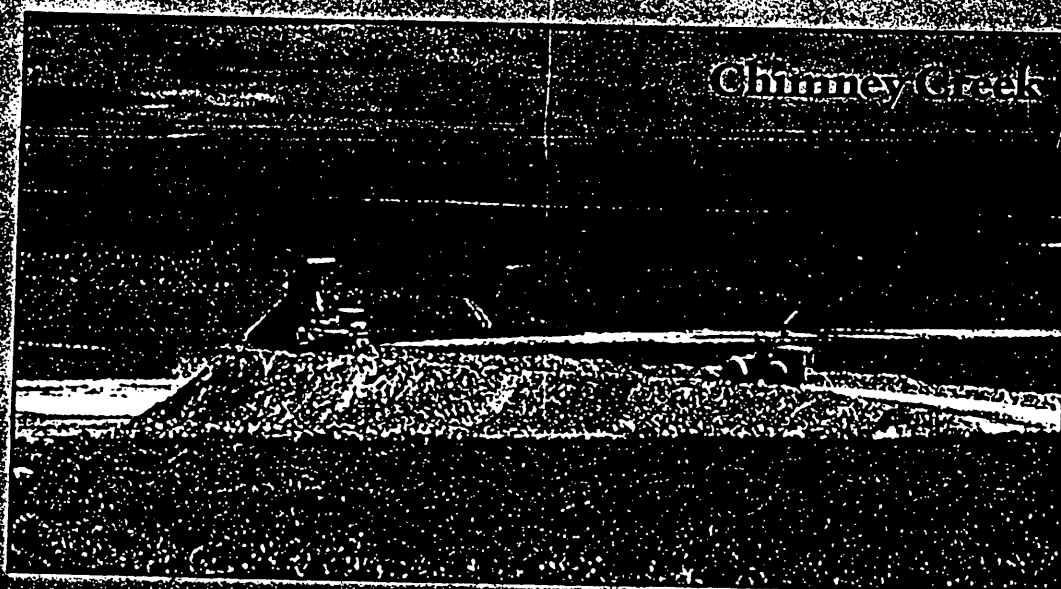
INTERNATIONAL

YEAR BOOKS

INFORMATION TO

BUSINESS

Mining 1988



Early development of the Chimney Creek gold mine in Nevada, USA.

Consolidated Gold Fields PLC

31 Charles Street, St James's Square, London, SW1A 4AC

01/08/88
GENE Hyatt
Hecla

Vienna International
Gold Hunter
Princeton Property
Rock Creek

recall John Beck
on this one

Vienna International - up Placer Creek
Owned by Hecla, leased to
Shelton Clements S 7, 18 T 47N R 5E
20,000 tons stockpile
Au (gold)
pyrite

Active; Producing, exploring
(They figure on leasing Dayrock Mill)

Beacon Light - Gene Hyatt did not buy stock
Inactive

Princeton Property - S 33, 34 T 48N R 06E
Inactive, explored

Gold Hunter - Pb, Ag
Hecla Separate depos.
NW 1/4 Sec 26 T 48N R 5E

Hecla cut vein from Lucky Friday
in a Long Cross cut

Steve Murray - is the one to talk to
on Hardscrabble

Rock Creek - Tech Resources, good property

Gene Hydt
Hecla Mining Co.
01/08/88

GOLD HUNTER

Pb > Ag

- HECLA MINING COMPANY
- Recommended by - STAN HUFF, ASARCO, WALLACE
- GENE HYDT, HECLA MINING CO., COEUR D'ALENE
- Gene Hydt - "Separate deposit from Lucky Friday. Hecla cut Gold Hunter vein from long cross cut from Lucky Friday."
"located in NW 1/4 Sec 26 T48N R51E"
- Inactive, Past Producer, Re-Explored
- Location SE 1/4 NW 1/4 S 26 T48N R05E
N 47° 28' 59"
W 115° 47' 00"

GoldHunter Check @ Cluster # 732

Seq# 016 079 0063

QUAD MAP - WALLACE, 15'

0160790063

*
732 NAME - GOLD HUNTER MINE
STATE - IDAHO COUNTY - SHOSHONE SEQUENCE NUMBER - 0160790063
LATITUDE - N 47 28 18 PRECISION - ELEV:PREC - 001034
LONGITUDE - W 115 47 11 REFERENCE POINT - MAIN ENT
UTM: ZONE 11N NORTHING 5258075 EASTING 591452
PUBLIC LAND SURVEY TOWNSHIP - 048 N RANGE - 005 E
DESCRIPTION SECTION - 35 SECTION SUBDIVISION - C N2NW
RIVER BASIN - 76U COEUR D ALENE RIVER DOMAIN - NAT FOREST
STATUS - PAST PRODUCER OPERATION TYPE - UNDERGROUND
MSHA ID NO. 00 00000 YEAR FIELD CHECKED - 9991MAP REPOSITORY - IFOC
MAP NAME - WALLACE TYPE -
1:250,000 MAP NAME - WALLACE MINERAL PROPERTY FILE - 37.236
PRIMARY NAME - GOLD HUNTER MINE
COMMOD/MOD - LEAD SILVER
ZINC SULFIDE
HOBBS AND OTHERS 1965 USGS PROF PAPER 478
UMPLEBY AND JONES 1923 USGS BULL 732 P 63-64
SHANNON 1926 US NATL MUSEUM BULL 131 P 98-100, 111-112, 166
CROSBY 1969 COLO SCH MINES QTRLY V 64 NO 1 P 169-194
RANSOME 1905 USGS BULL 260 P 274-303
FRYKLUND 1964 US GEOL SURVEY PROF PAPER 445 P 69
CALKINS AND JONES 1914 USGS BULL 540-E P 183-187

732 NAME - GROUSE MINE
STATE - IDAHO COUNTY - SHOSHONE SEQUENCE NUMBER - 0160790319
LATITUDE - N 47 29 34 PRECISION - ELEV:PREC - 001467
LONGITUDE - W 115 49 25 REFERENCE POINT - MAIN ENT
UTM: ZONE 11N NORTHING 5260379 EASTING 588612
PUBLIC LAND SURVEY TOWNSHIP - 048 N RANGE - 005 E
DESCRIPTION SECTION - 21 SECTION SUBDIVISION - SWNWSE
RIVER BASIN - DOMAIN -
STATUS - EXP PROSPECT OPERATION TYPE - UNDERGROUND
MSHA ID NO. 00 00000 YEAR FIELD CHECKED - 9991MAP REPOSITORY - FOC
MAP NAME - WALLACE TYPE -
1:250,000 MAP NAME - WALLACE MINERAL PROPERTY FILE - 99.999
PRIMARY NAME - GROUSE MINE
COMMOD/MOD - LEAD SILVER
ZINC SULFIDE
HOBBS AND OTHERS 1965 USGS PROF PAPER 478

Idaho

MINERAL PROPERTY FILE

COUNTY Shoshone

STATE Idaho

Present file No. 1224.9

File No. 37.216

TWP. —

RANGE —

SECS. —

Main Commodity Lead Zinc

Others Silver

PROPERTY NAME Gold Hunter Mine

OWNER NAMES —

Day Mines, Inc., et al.

Wallace, Idaho

ADDRESS —

ADDRESS —

LOCATION About 1 mile east from Mullan, Idaho.

ACCESS Paved and gravel roads

TYPE OF DEPOSIT:

Disseminated —

Vein ✓

Bedded —

Lenses or pods —

Contact —

Residual —

Placer —

Other —

WORKINGS:

Underground ✓

ACCESSIBLE: Yes ✓

No —

Unknown ✓

Drift, X-cut ✓

Shaft —

Total lengths less than 200' —

200' to 1,000' —

More than 1,000' ✓

Surface —

Open pit —

Small —

Large —

Trenches —

Test pits —

Drill holes —

Undeveloped —

TON PRODUCTION: Yes ✓

No —

Unknown —

DATE OF REPORT: May 1958

Standard Examination —

Sample Report —

Map —

DMA or OMA ✓

Access Road —

Non Bureau —

WHR —

MRB —

Correspondence ✓

Other —

RECOMMENDED ✓

NOT RECOMMENDED —

DMEA-5003 (lead-zinc-copper) - Day Mines, Inc., Gold Hunter Mine
Shoshone County, Idaho

MAY

The application was sent to Washington on May 1. The Field Team report will recommend a project.

DMEA-5003 (lead-zinc-copper) - Day Mines, Inc., Gold Hunter Mine
Shoshone County, Idaho

JUN - Rec'd

The application was sent to Washington on May 1, 1958, and a Field Team recommendation for a project, together with a cost analysis, was submitted on May 16.

DMEA-5003 (lead-zinc-copper) - Day Mines, Inc., Gold Hunter Mine
Shoshone County, Idaho

JUN 1959

The application was sent to Washington on May 1, 1958, and a Field Team recommendation for a project, together with a cost analysis, was submitted on May 16. Washington did not concur with the Field Team recommendations and ~~denied~~ the application on June 30, 1958, on the basis of geologic evidence.

GOLD HUNTER MINE

Location: Center, North $\frac{1}{2}$, NW $\frac{1}{4}$, Section 35, T 48 N, R 5 E, Shoshone County, Idaho. The mine is located just east of Mullan, near the mouth of Gold Hunter Gulch.

Owner/Operator: Claims are believed to be owned by Hunter Creek Mining Company, Spokane, Washington. No recent activity other than annual assessment work is known.

History: The Gold Hunter lode was discovered in 1884 and became noted for its rich silver ore which reportedly carried as high as 400 oz Ag/ton. However, with increasing depth, the ores became lower grade. Ransome and Calkins (1908, USGS Prof. Paper 62) list the production for 1902 to 1906 as 160, 249 tons of ore mined. No earlier or later yearly production records could be located; however, Crosby (1969, Colo. Sch. of Mines Quarterly, V. 64, No. 1) gives total production as 3,159,921 tons of ore averaging 3.8 oz ag/ton and 3.6% Pb. Last reported production was in 1947.

Geology and Ore Deposits: The Gold Hunter Workings are in pale greenish-gray slates of the Wallace Formation, St. Regis Formation and a short section of Revett quartzite. The main vein workings, however, are in the Wallace.

The veins are parts of a shear zone about 70 feet wide that strikes N 75°-85°W and dips 80° or more to the south. Total length of the productive zone is 1000 ft. Individual stopes were generally less than 200 feet in length. The ores were deposited mainly by metasomatic replacement of quartz-sericite argillite and schist.

Known minerals include galena, sphalerite, pyrite, tetrahedrite, stibnite, siderite, barite, chalcopryrite, boulangerite, and quartz.

Matrix: The workings were mined-out in 1947 and no resources are known to exist.

← Bull Shit!

1224.9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane 4, Washington

May 14, 1958

MEMORANDUM

To: DMEA Field Team, Region I

From: A. E. Weissenborn, U. S. Geological Survey

Subject: Application evaluation report, Docket No. DMEA-5003
(Lead-Zinc-Copper), Day Mines, Inc., Gold Hunter Mine,
Shoshone County, Idaho

INTRODUCTION

Day Mines, Inc., Box 1010, Wallace, Idaho, has applied for aid for a long-range, deep exploration project for lead, zinc, and copper in the Gold Hunter or Mullan area near Mullan, Shoshone County, Idaho. As this area has been mapped by U. S. Geological Survey geologists as part of the Survey's Coeur d'Alene project, no geological field examination was made. The proposal was discussed thoroughly with S. W. Hobbs and V. C. Fryklund, Jr., of the Geological Survey, who are very familiar with the geology of the area of the proposed project. W. A. Prinz of the Geological Survey drafted a number of cross sections to check the map and cross section submitted by the applicant.

John D. Bardill, U. S. Bureau of Mines, spent most of 2 days at the office of Day Mines, Inc., discussing costs of the proposed work. His revised cost estimates are the subject of a separate memorandum.

SUMMARY

The area to be explored lies between the Gold Hunter and the Morning mines and includes the Gold Hunter property. The Gold Hunter mine, one of the early mines in the district, has had a substantial production from the unfavorable Wallace formation. The Morning mine, together with the adjacent Star property, exploits one of the great ore shoots of the world. The combined Morning-Star ore body has a known strike length of 4,000 feet and a known rake length of 6,000 feet.

Day Mines, Inc., proposes to sink a 3,080-foot shaft from the Gold Hunter No. 6 adit and to explore from the bottom of the shaft by approximately 7,300 feet of drifts and crosscuts and 10,050 feet of diamond drilling. Exploration is expected to be in the favorable St. Regis and Revett formations. The company estimates that the total cost will be \$1,505,261.10.

RECOMMENDATIONS

Approval of a project essentially similar to that proposed by the applicant is recommended. Modification of the estimated cost brings the total cost of the project to \$1,438,506.90, to which the Government would contribute 50 percent, or \$719,253.45.

LOCATION, ACCESSIBILITY AND LOCAL FACILITIES

The property to be explored is comprised of three contiguous groups of claims, all in the Hunter district, near the town of Mullan, Shoshone County, Idaho. The Hunter district is in the eastern part of the area generally known as the Coeur d'Alene district.

The climate is typical of that of the Coeur d'Alene district with relatively severe winters and mild summers.

Access to the property is through the long Gold Hunter No. 6 adit. This adit portals at an altitude of 3,374 feet, about 500 feet north of both U. S. Highway 10 and a branch line of the Northern Pacific Railroad. The property is connected to lines of the Idaho Power Company.

HISTORY AND PRODUCTION

The Coeur d'Alene district is one of the leading domestic producers of lead, zinc, and silver, and is one of the relatively few districts in the world with a production of over one billion dollars.

All of the production from the land under consideration in this application has come from the Gold Hunter mine. The Gold Hunter mine is one of the oldest mines in the Coeur d'Alene district. It was discovered in 1884 and was in operation almost continuously from 1887 until 1950. Production records are incomplete, but from 1902 to 1947 production was in the neighborhood of 3 million tons of ore. The grade in the most productive years (1911-1930) averaged around 4.1 ounces silver per ton and 4.1 percent lead, with lesser amounts of zinc. In the first half of this period the grade was appreciably higher but declined as the ore reserves became exhausted. The Gold Hunter is one of the few productive mines in the district in which the Wallace formation forms

the walls of the vein. The Wallace formation is regarded as an unfavorable host rock for ore in the Coeur d'Alene district.

About 8,000 feet to the northwest of the Gold Hunter mine, along the trend of the area to be explored, is the Morning mine belonging to the American Smelting and Refining Company. This mine, together with the adjacent Star mine, exploits an ore shoot with a known strike length of over 4,000 feet and a known length down the rake of the ore shoot of over 6,000 feet. The Morning-Star ore shoot is thus one of the great ore shoots, not only of the Coeur d'Alene district, but of the world.

Approximately 3,800 feet directly to the south of the Gold Hunter is the Lucky Friday mine. This property has developed an ore shoot which, although only 75 feet long on the 300 level and but 175 feet long on the 1200 level, has opened up on the 2300 level to a strike length of 1,200 feet. Reserves are estimated at 768,000 tons averaging 17.9 ounces silver per ton, 8.9 percent lead, and 1.4 percent zinc. The mine, which is becoming one of the important producers of the Coeur d'Alene district, is described in the April 1958 number of MINING WORLD.

OWNERSHIP

The ground to be explored consists of three groups of claims: the Gold Hunter property, the Independence Lead property, and the Clear Grit group. Day Mines, Inc., through subsidiary companies or directly, owns or controls this ground. The location of the three groups is shown in Exhibit "C" accompanying the application and the ownership is detailed in the application and in the accompanying lease agreements. At our request, Day Mines, Inc., is preparing a map showing the individual claims by name.

The Gold Hunter No. 6 adit portals on the Gold Hunter ranch, which is part of but physically separated from the Gold Hunter group. Underground rights on Gold Hunter ranch are not included in the ground subjugated to the contract as they have been under lease for many years to the Lucky Friday mine.

The Gold Hunter No. 6 adit traverses ground which is not controlled, or is only partly controlled, by Day Mines, Inc. The company states that Idaho law, plus many years of usage, gives Day Mines right of access to the property through this adit. All exploration work will be well within ground subjugated to the contract.

DEVELOPMENT

The Gold Hunter mine has not produced since about 1950 and the extensive workings of the property are only partly accessible. The No. 5 and 6 adits and the Brennan shaft connecting the two adits have been rehabilitated and the Main shaft, which is collared on the No. 6 adit level 4,200 feet inward from the portal, has been enlarged and retimbered for 750 feet of its 1,200-foot length.

Production facilities on the property include a machine shop, timber-framing shop, change house and associated facilities, a trolley locomotive haulage system for the No. 6 adit, a 150-hp hoist installed at the Main shaft, surface transformers and a No. 2 power cable from No. 6 portal to the Main shaft hoist room, a compressed air-driven hoist for the Brennan shaft and air mains and receivers throughout the accessible parts of the mine. Also on the property are a 400-hp synchronous Ingersoll-Rand Class PE compressor (1904) and an obsolete 250-hp compressor.

GEOLOGY

Regional setting

The following discussion is in large part summarized and modified from various memoranda prepared by Hobbs or Fryklund of the Geological Survey for use in discussing other Coeur d'Alene district applications.

The Coeur d'Alene district is underlain by quartzites, argillites and phyllites of the Precambrian Belt series. The Belt rocks have been folded and faulted and intruded by stocks and dikes. Recognizable map units in the district are from bottom up, the Prichard, Burke, Revett, St. Regis, Wallace, and Striped Peak formations. The stratigraphic thickness of these formations totals 20,000 feet.

Ore deposits have been found in all the Belt formations except the Striped Peak. Of the others, the Wallace is the least favorable host rock and the St. Regis and Revett the most favorable.

The largest district structures are the Osburn fault, the Burke anticline, whose east flank is cut by the productive veins that lie north of the Osburn fault, and the Pine Creek anticline, whose east flank is cut by the westernmost of the productive veins that lie south of the Osburn fault. It has been postulated that the Pine Creek and Burke anticlines are parts of the same structures that have been separated by post-mineral movement along the Osburn fault.

Drag folds on the two major anticlines, cross-folding, together with northwesterly, easterly, and northerly striking faults complicate the geologic picture.

The great bulk of the production from the Coeur d'Alene district has come from two separate areas: (1) the Nine Mile-Congress Creek-Mullan area north of the Osburn fault, and (2) the Page-Bunker Hill-Sunshine, Silver Summit-Galena area south of the fault. Area (1) is centered approximately 16 miles east of the center of Area (2) and is separated by the Osburn fault (fig. 1). Whether the two centers represent a post-mineral offset of a district that was once a single center of metalization is a question which need not be argued here.

Hobbs and Fryklund have pointed out in previous DMEA memoranda that within the two productive areas the important ore deposits are localized along nearly parallel zones or belts that trend slightly more northerly than the Osburn fault and appear to be independent of the local structure. Six of those zones are recognized north of the Osburn fault and two south of the fault (fig. 1). Experience in the Coeur d'Alene district has shown that the best chance for finding an important ore body is to explore blank or untested spots along any of these zones.

The area of the proposed exploration lies wholly within what has been termed the Gold Hunter-Success zone (Zone 5 of fig. 1). Included within this zone are such mines as the Success, Gem, Frisco, Black Bear Fraction, and Morning-Star -- some of the most productive properties within the Coeur d'Alene district. Figure 2 shows the mines in Zone 5 and their positions with respect to the area of the proposed exploration. Figure 3, a longitudinal section along the zone prepared by Day Mines, Inc., at our request, shows the stoping along Zone 5. Only the more important mines are shown, but the great productivity of the mines in Zone 5 is at once apparent.

Reference is made to geologic maps of the Pottsville and Vicinity quadrangle and the Mullan and Vicinity quadrangle, Shoshone County, Idaho, U. S. Geological Survey Open File series, for surface geologic relations in and around the area of the proposed project. These maps are not included with this memorandum report, but they were included in a complete set of Geological Survey open file maps of the Coeur d'Alene district sent to DMEA some time ago. They should also be available through the Washington, D. C. office of the Geological Survey.

Local geology

The proposed project is designed to test an unexplored stretch of Zone 5 between the Morning and the Gold Hunter mines and to test the Gold Hunter vein itself in the favorable St. Regis formation.

The project area lies between the Paymaster fault on the south and the Cincinnati and Independence faults on the north.

Examination of the surface maps referred to above shows that the Star and other faults associated with the productive mineralization west of the project area strike toward the area to be explored. The map of the proposed Gold Hunter 3000 level (Exhibit "F" of the application) shows the principal faults that will be explored; others are known from surface mapping.

None, except the Gold Hunter, have been mined in the project area, but any of them could have ore associated with them, particularly within the St. Regis or Revett formations.

The surface is underlain by beds of the Wallace formation. Even though the Gold Hunter mine over the years has been a substantial producer, the Wallace formation is not regarded as a favorable host rock for ore deposits. The exploration is planned to be in the St. Regis or Revett formations, which are two of the more favorable host rocks in the district.

APPLICANT'S PROPOSAL

Day Mines, Inc., proposes to sink a new vertical shaft to a depth of 3,080 feet below the No. 6 adit. The collar of the shaft will be approximately 3,700 feet inby from the portal of the No. 6 adit. The shaft will connect with the existing "Main" shaft at the 1200 level. The 3,000-foot level will be explored by 7,300 feet of crosscutting and drifting and 10,050 feet of diamond drilling, which will test the ground between the Paymaster fault on the south and the Cincinnati and Independence faults on the north. A length of approximately 4,000 feet northwesterly along the so-called Gold Hunter-Success zone previously described will be tested. Figure 4 shows the proposed exploration and its position with respect to the boundaries of the subjugated area.

Cross sections through the project area made by Prinz of the Geological Survey check essentially the plan and cross section submitted with the application and show that on the proposed 3000 level the St. Regis formation is expected to lie a short distance to the north of the shaft. This is subject to some uncertainty because of the long projection of the St. Regis-Wallace contact from surface exposures and because the amount of displacement along

the Independence fault is not known. This displacement, however, is believed to be minor. It is believed that the Gold Hunter vein will be in St. Regis at the exploration level directly north of the shaft, but there is a possibility that it may still be in Wallace. However, even if this should be the case, as the exploration proceeds to the north and west it should enter into St. Regis or Revett within a short distance.

Day Mines, Inc., retimbered the Gold Hunter Main shaft with the expectation of using it in this and other exploration. However, because of its proximity to the Gold Hunter vein, the shaft is in heavy ground, and as shown in the section through the Gold Hunter No. 6 adit (Exhibit "D" of the application), the shaft, if deepened, would intersect the Independence fault at a low angle and additional heavy ground could be expected. The Main shaft was sunk in the vein and is in an area which has been stoped on all sides as well as above and below the No. 6 adit level. It would be difficult to support the necessary facilities for a project of this magnitude in this stoped ore and therefore it is considered impractical to use this old shaft. Furthermore, the shaft is needed for ventilation and as a second escapeway. For these reasons the company does not believe it practicable to deepen the Main shaft and proposes an entirely new shaft about 500 feet to the west.

RECOMMENDED PROPOSAL

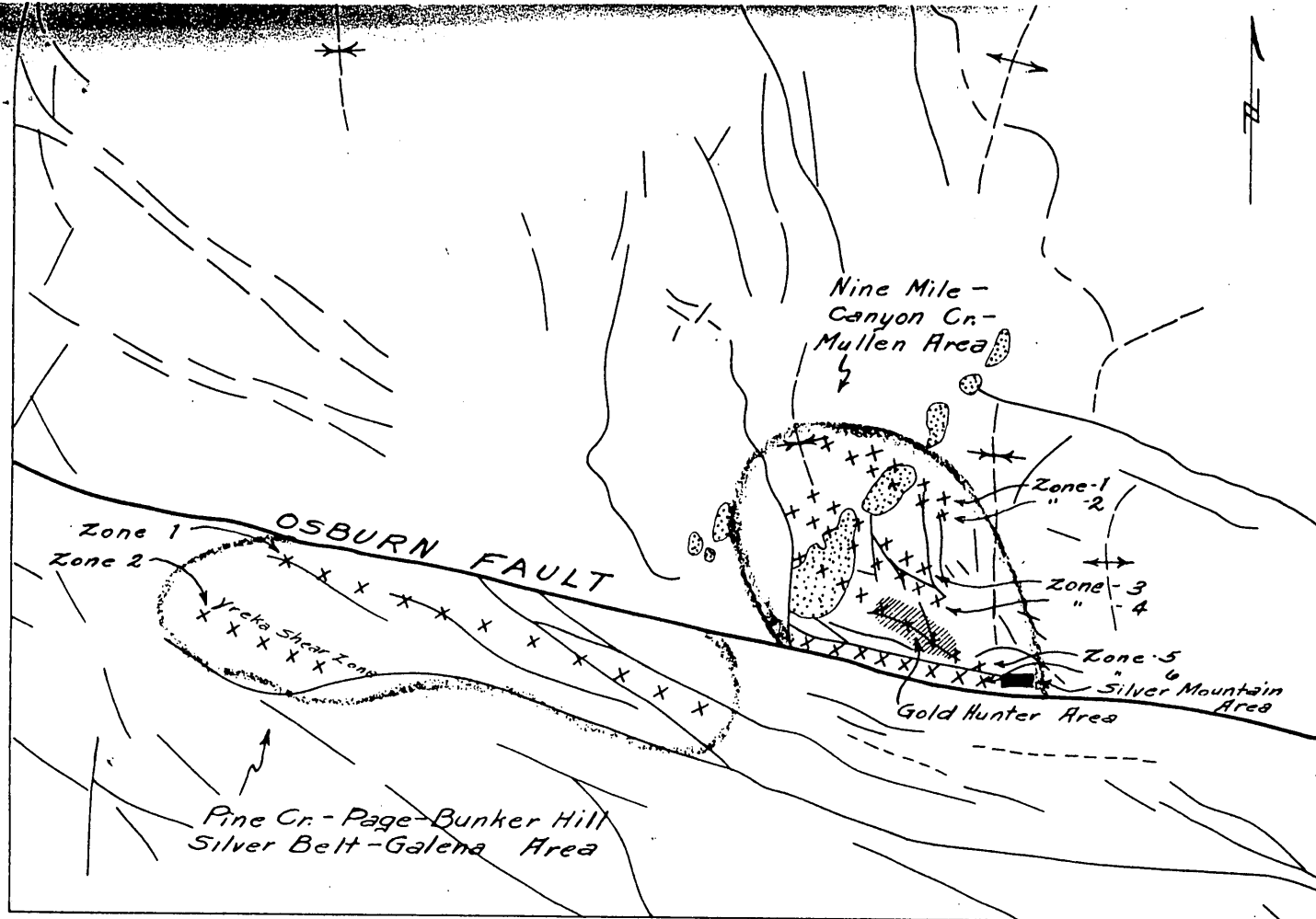
The plan proposed by the applicant seems well thought out and no changes are recommended.

At a later date Day Mines plans exploration of adjoining properties to the north (the so-called Abot consolidation). This exploration is not included in the present application but will use facilities to be created by the proposed project. If DMEA participates in the proposed project, the contract should contain a provision similar to that of the East Page contract (Docket No. DMEA-4712) to assure the Government its due share of royalty on any ore passing through any workings to which it has contributed.

Enclosures

Distribution:






DMEA(3)
USEM(2) ✓
USGS(SRO)
Docket
Sample



SKETCH MAP OF THE COEUR D'ALENE DISTRICT
Scale: 1"=6 Miles

Showing the two areas of mineralization
and the mineral zones in each.

Explanation:

	Monzonite		Major anticline
	Major fault		Major syncline
			Zones in which major mines occur

JAMES D. MURPHY
ATTORNEY AT LAW
111 WEST WASHINGTON STREET
CHICAGO 2

November 1, 1950

Bureau of Mines
Albany, Oregon

Gentlemen:

In re: Gold Hunter Mines

The writer is president of the Gold Hunter Mines in Mullan, Idaho, representing the Keeley interest who own the mine.

The property operated up to the spring of 1949 when it was closed. No doubt you are fully informed as to this property located outside Mullan. In recent years, with the aid of premiums, it has milled about 45,000 tons a year and produced 1250 tons of lead, some silver and zinc. The average assay during the last few years has fallen until it is about 2.5 oz. of silver, 2.5% lead and .50% zinc. At the mill they make a zinc concentrate as well as a lead concentrate.

The mill and surface properties are in excellent condition. The mine has been permitted to take water and I believe that there is water to the 600 level. When this property was last operated and was shut down by reason of the low grade of the ore and the falling off of prices, there remained the following places in which work was being conducted:

48TH FLOOR. The management was mining a long narrow stope that contained fair silver values. Lies West of some of the former workings in the old ground and the ground is beginning to move.

NUMBER 6 TUNNEL. A stope was opened up for about three or four floors. Values of the lead were believed to be less than 3%. The width of the stope was not in excess of 15 feet.

NUMBER 400 LEVEL. This was a very fine stope with an 85 foot length, having a width of 25 to 35 feet. It had been worked up to the 9th floor and was holding good. On the 1st floor of the stope an ore shoot goes northeasterly and one goes southeasterly which contained millable ore and showed fine prospects of continuing. The management was drifting on both of these showings with the plan of stoping both of these shoots.

Bureau of Mines
Page No. 2
November 1, 1950

NUMBER 800 LEVEL. A fair showing of ore lies under the stope that was mined on the 600 and is now being mined on the 400. It was the plan of the company to open up a stope at this point.

NUMBER 1200 LEVEL. The 1200 level is mineralized for over 300 feet with width up to 30 feet. A stope had been worked on this level 20 or more years ago and had been abandoned when the mine shut down in 1931. In 1948 they went in again and extended a stope 100 feet west of the old stope. Sample assays show that it was averaging better than 3% lead. It is not believed, however, that this stope will assay more than 2.5% lead. Here is a great body of ore mineralized 300 feet in width with a back of about 800 feet. The ground is all twisted and turned and great stress appears in the open stopes. It is believed that when mined, a type of filling must be used.

THE EAST ORE BODY. Many years ago at the east end of the mine and north of the so called Pearly White Schist, a stope ran from the 1200 foot level to the 29th floor above the 1200 and averaged between 12 and 15 feet wide and was 75 feet long. This stope carried values of about 5% of lead. A winz was sunk in this east ore body many years ago to the 1800 foot level and while good ore highest values are shown down to the 1700 level, no ore was extracted or mined below the 1200. Our geologists expressed the opinion that this body of ore carried upward through the mine. The management endeavored to locate it at the 600 level and in 1948 did some more work, going 64 additional feet on the south crosscut without finding any evidence of mineralization. Our geologist, the late William D. Mark, was of the opinion that not sufficient work had been done to locate this ore body going up and he last expressed the opinion that it may have been faulted.

The mine is physically in fair shape. Has electric locomotive, sufficient drills, haulage cars, motors and loaders to efficiently operate a mine. There has been some slight movement in the shaft from the collar of the 400, due mostly to old timbers, and to again go into operation the mine must be unwatered, there would be a substantial shaft repair and the main hoist is insufficient for an economical and profitable operation. Perhaps with a hoist of larger capacity and with the shaft repaired, the tonnage taken out from below the shaft should be doubled.

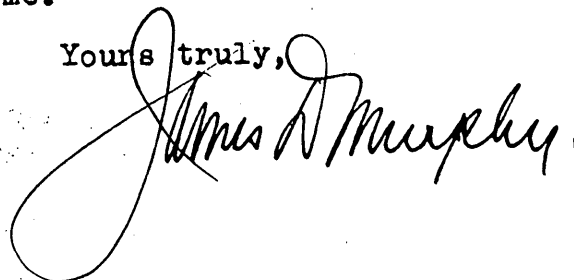
Bureau of Mines
Page No. 3
November 1, 1950

I am writing at perhaps some great length about a property that is well known to be a producer for many many years of low grade ore. We lay no claims that the ore will persist to any such depth as our illustrious neighbor the Morning Mine but we do say that there is considerable ore available today, and while perhaps it cannot be mined even at the present prices profitably, one cannot but be confident that if the property were to be placed in operation again and a sufficient tonnage of low grade ore moved, the property might well operate at a small profit. One thing is apparent, without any other additional development or discovery in the Gold Hunter, it can produce for many years 40,000 ton of ore annually averaging 2.50% lead, .50% zinc and 2.50 oz. of silver.

I read that your department will consider applications for advance payments, loans or long term contracts. The Gold Hunter Mines, Inc. would like again to operate the Hunter property even if there is but little profit so long as it became an active mine, for we do believe that unless it is operated the prospects of it ever growing to be a great mine once again are lost. The Gold Hunter is debt free but has exhausted its capital and would need assistance to operate.

I would appreciate hearing from you and any assistance or advice that you can give to me.

Yours truly,

A large, stylized handwritten signature in dark ink, appearing to read "James D. Murphy". The signature is written over the typed name and extends below the line.

JDM:IB

MINION SILVER MINE
(FORMOSA)

NE 1/4 S 24 T 48 N R 45 E (ALSO NW 1/4 NW 1/4 S 19 T 48 N R 45 E)

47° 29' 54"

115° 52' 38"

WALLACE QUADRANGLE
IDAHO-MONTANA
15 MINUTE SERIES (TOPOGRAPHIC)

2879' COOPER GULCH

GOLD HUNTER

SE 1/4 NW 1/4 S 26 T 48 N R 45 E
N 47° 28' 59"
W 115° 47' 00"

VINDICATOR C 8 1/2 S 25 T 48 N R 45 E

115° 45' 39" W
47° 28' 29" N

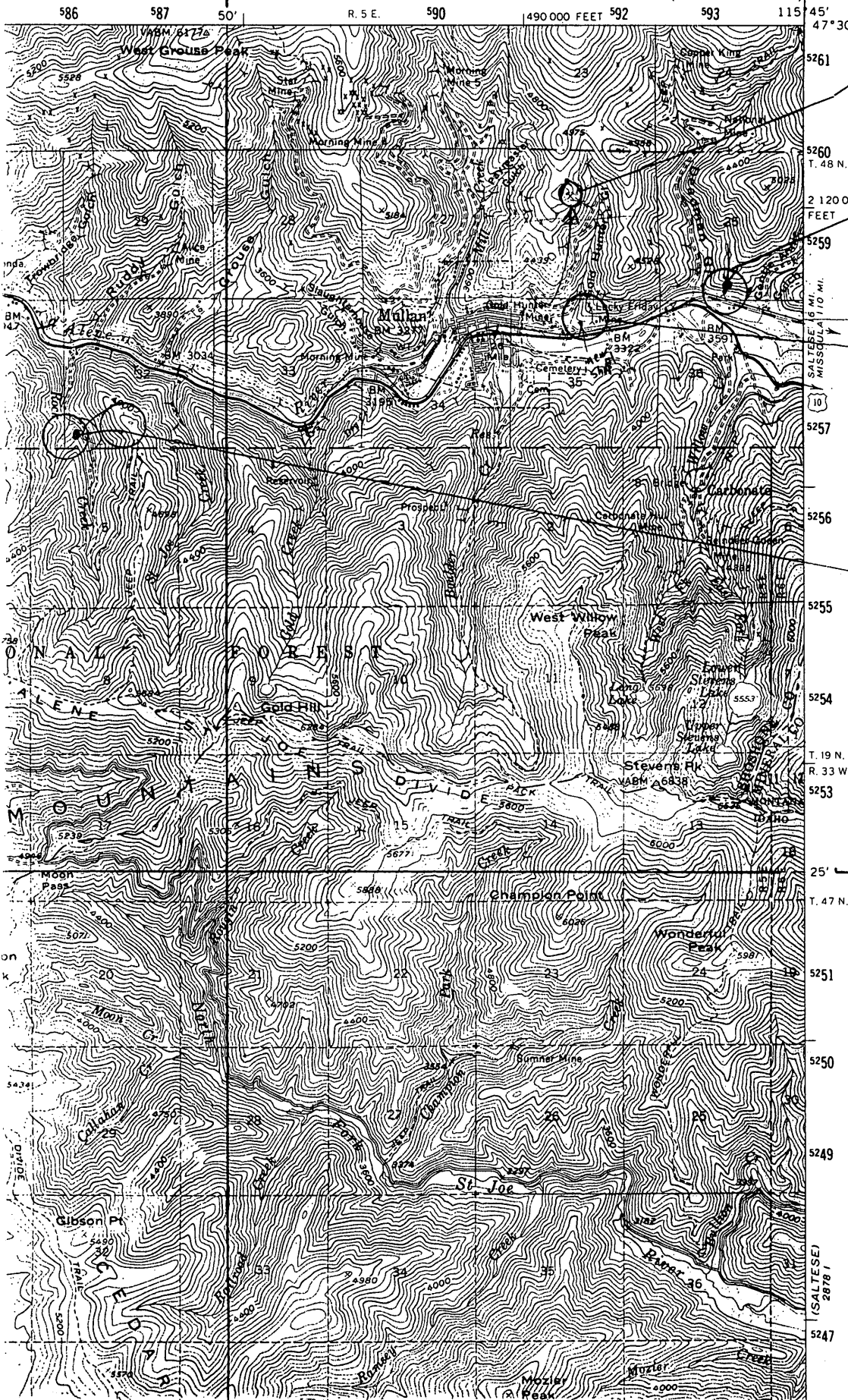
LUCKY FRIDAY
NW 1/4 NE 1/4 S 35 T 48 N R 45 E

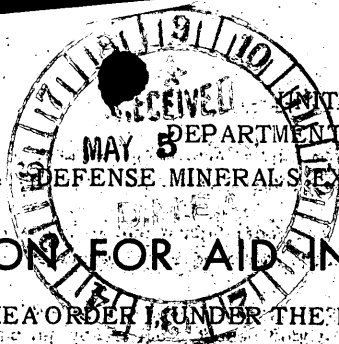
N 47° 28' 15"
W 115° 46' 56"

Rock Creek

N 47° 27' 35"
W 115° 51' 18"

115° 45' 39"





APPLICATION FOR AID IN AN EXPLORATION PROJECT

PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

NAME OF APPLICANT (Full legal name and mailing address as it should appear on contract if one is executed) DAY MINES, INC., P. O. Box 1010, Wallace, Idaho.	RECEIVED MAY 1 1958 U. S. G. S. SPOKANE, WASH.		APPLICANT NOT TO USE THIS BLOCK
			Docket Number DMEA-5003
			Date Received 5-5-58
			Government Participation %
			Region I
		Division Code 500	

BUSINESS ORGANIZATION (Choose one)	LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE		
Individual <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Partnership <input type="checkbox"/> Other (Specify) <input type="checkbox"/>	Name	Address	Title
	Henry L. Day	Box 1010, Wallace, Idaho	President.
	Wray D. Farmin	317 Paulsen Bldg., Spokane, Wash.	Vice Pres.
	S. F. Heitfeld	Box 1010, Wallace, Idaho	Secretary.
	R. W. Anno	Box 1010, Wallace, Idaho	Treasurer.
State in which firm is organized Idaho			
Mineral(s) for which you wish to explore lead, zinc, copper	LOCATION OF PROPERTY		
Estimated Cost of Project \$ 1,503,696.70	Name Mullan	County Shoshone	State Idaho

GENERAL INSTRUCTIONS

Before filling out this application, please read DMEA Order-1, Amended, "Government Aid in Defense Exploration Projects." To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. Please submit four copies of this application and all accompanying papers except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or

sketches should be used to supplement narrative descriptions of the property location and boundaries in item 1, existing mine workings and geology in item 2, and the proposed exploration project in item 4. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 2(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, not originals, of leases, contracts, and other documents which are an essential part of your business records. File this application with the Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest DMEA Field Office.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

May 1st, 1958

Dated

Wray D. Farmin
BY (Signature)

Vice President

Title

1. *Applicant's Property Rights:*

(a) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all land adjacent to the proposed project area which you own or control. Describe any part of the project land or workings which should not be subject to Government lien for royalty payments. If the land consists of unpatented claims, state the book and page number for each recorded location notice, including amended locations, and the place where recorded (court-house, recorder's office, county, and state).

(b) State all the names by which you know the property.

(c) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise. If you are not the owner, submit with this application one exact copy of the lease, contract, or other document (with address of owner) under which you control the property.

(d) Describe all liens, mortgages, or other encumbrances on the property.

2. *Physical Description:*

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the lands, including existing mine workings. Describe all production facilities.

(b) State your interest, if any, in operations stated in 2(a).

(c) State, as far as you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves on the property giving quantities and grades and sampling methods used, supporting your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least two copies of all geologic or engineering reports, assay maps, or technologic information which you may have, indicating on each whether you require its return to you.

3. *Accessibility of Project:*

(a) To aid DMEA representatives who may be required to examine the property, state the name and address of the person who will meet the DMEA representative; give directions for reaching the property; and describe accessibility of the property including the mine workings.

(b) Name the shipping and supply points and places where employees reside and state the distances between them and the property.

4. *The Exploration Project:*

(a) Describe fully the proposed exploration project giving individual footages and sizes of openings for each item of work. Use narrative, maps, plans, and longitudinal and cross sections as necessary. Show the location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to property boundaries or to the closest identifiable corner.

(b) If an access road to the project must be built, show the location on the property map and state the length, type, and construction methods proposed.

(c) In the event that an exploration contract with DMEA is executed, how soon will the work start and how many months will be

required to complete it? State your anticipated average daily or monthly rate of progress for each type of work.

5. *Experience:*

State your operating experience and background with relation to your ability to carry out this exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of Costs:*

Furnish detailed estimates of the costs for each item of the work proposed in 4(a) under the headings listed below with a total for each heading and the estimated total cost of the project. Costs for any work to be performed by an independent contractor should be shown separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be given in detail under categories (b) through (g).

(a) Independent contracts. State the cost of any proposed independent contract for the performance of all or any part of the work, expressed in units of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (Note - If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. For necessary supervision, engineering and geological services, and labor, include an itemized schedule of numbers, classes, rates of wages, salaries or fees, and periods of employment. State whether these technicians and employees are available.

(c) Operating materials and supplies. List items of material and supplies with their cost. Include under this heading power, water, and fuel, and units of equipment and tools costing less than \$50 each.

(d) Operating equipment. List items of operating equipment to be used giving specifications and indicating how each item is to be acquired - i.e., rented, purchased, or provided by the applicant. If it is rented or purchased, state the estimated rental or purchase price. If it is to be furnished by the applicant, give its present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of necessary initial rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant, which will be used on the exploration project.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration project stating specifications and cost including labor, materials and supervision.

(g) Miscellaneous. For the operating equipment listed in 6(d), describe the type and estimate the cost of repairs and maintenance expected during project operations. Do not repeat initial repairs listed in 6(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories.

Note - No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (a) State whether you are prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation stated in Sec. 7 of DMEA Order-1, Amended.

(b) Explain to what extent you propose to furnish your share of the costs by providing money, by use of equipment owned by you, or otherwise.

* * * * *

RECEIVED
DATE A
SERIAL 571958

NOTE	DATE	CODE

Copy of the Gold Hunter
sets forth the legal

A. Gold Hunter property.

- 1.

(a) That attached hereto and marked Exhibit "B" is copy of the lease in which Independence Lead Mines Company is Lessor, and Day Mines, Inc., is Lessee, and by reference thereto is made a part hereof which sets forth the legal description of the property involved in this lease. That all of the property described in said lease is subject to Government lien for royalty payment.

- "Independence Lead Group"
 "American Commander Mine" and
 "West Hunter Mine,"

- (c) Attached hereto and marked Exhibit "B" is a copy of the lease which has been executed by Independence Lead Mines Company and Day Mines, Inc., and by reference thereto it is made a part hereof as though fully set forth herein. Under this lease Day Mines, Inc., controls the property for a 60-year period commencing January 1, 1951.

1.
B. Independence Lead property (continued).

- (d) There are no liens, mortgages or other encumbrances against any of the property involved in this lease.

1.
C. CLEAR GRIT GROUP:

- (a) PAYMASTER patented lode mining claim, M.S. 1504, in the Hunter Mining District, Shoshone County, Idaho, Section 27, T. 48 N., R. 5, E.B.M., recorded in Book A of Patents at page 205.

LOST WONDER patented lode mining claim, M. S. 1504, in the Hunter Mining District, Shoshone County, Idaho, Section 27, T. 48 N., R. 5, E.B.M., and recorded in Book A of Patents at page 205.

CLEAR GRIT patented lode mining claim, M. S. 1501, located in Hunter Mining District, Shoshone County, Idaho, in Sections 26 and 27, T. 48 N., R. 5, E.B.M., and recorded in Book 54 of Deeds at page 521.

That all of the property heretofore described is subject to Government lien for royalty payment.

- (b) This property is known as the "CLEAR GRIT GROUP."
- (c) Day Mines, Inc., owns 80/96ths interest of the Lost Wonder and Paymaster claims and William P. Flood owns 4/96ths and E. J. Clark owns 16/96ths in the foregoing claims.

Day Mines, Inc., owns 40/64ths interest in the Clear Grit patented claim, William P. Flood owns 10/64ths and E. J. Clark owns 16/64ths interest in the foregoing claim.

- (d) There are no liens, mortgages or any encumbrances against the foregoing property.

The foregoing property and the general relationship is shown on the plat which has been attached hereto enumerated Exhibit "C" and by reference thereto made a part hereof as though fully set forth herein. This plat is on a scale of 1,000 feet to the inch and shows the general location of the property in relationship to the Village of Mullan, Shoshone County, Idaho. The Gold Hunter property has been colored in yellow, the Independence Lead property has been colored in purple, and the Clear Grit property colored in green.

2. Physical Description.

- (a) The Gold Hunter is one of the oldest mines in the Coeur d' Alene District. Discovered in 1884, it produced lead, zinc and silver almost continuously from 1887 until 1950, when it was acquired by the present owner. Since 1950, only rehabilitation work has been undertaken but this has been extensive, both to surface buildings, underground workings, fire protection facilities, etc.

Underground retimbering has included part of the No. 5 Adit level, about 1000 feet of the No. 6 Adit and the 600-ft. Brennan Shaft which connects the two Adits. (See composite plan of levels, Exhibit C.). The Main Shaft, located 4,200 feet inward from the No. 6 portal, has been enlarged to three compartments and completely retimbered for the upper 750 feet of its 1,200 ft. vertical depth. A new set of pockets has been added at the top and all mine levels have been unwatered from the 300 ft. to the 1,200-ft. level below the No. 6 Adit and permanent pumps installed. (See geological cross section Exhibit D.).

Production facilities now include (1) a 400 H.P. synchronous, Ingersoll-Rand Class PE compressor (1904); (2) a truly old 250 H.P. compressor driven by manila rope; (3) a trolley locomotive haulage system for No. 6 Adit together with a train of mine cars; (4) a 150 H.P. Union Iron Works hoist at the main shaft, together with its electrical controls, skips, sheaves and cables; (5) surface transformers and a No. 2 power cable from No. 6 portal to the main shaft hoist room; (6) a compressed-air-driven hoist for the Brennan Shaft and air mains and receivers throughout the mine; (7) machine shop, timber framing shop, change house and associated surface facilities; (8) waste dump; (9) ore bins and a concentrating mill which is not presently in operating condition.

- (b) The Gold Hunter Mining Company, (subsidiary of DMI) has owned and operated the property since June 7, 1951. The Independence property, owned by Independence Lead Mines Company, was leased to Day Mines, Inc., January 31, 1951. Day Mines, Inc. acquired a majority interest in the Clear Grit property in 1947, 1949 and 1952.
- (c) Past production: records are incomplete but include:

1902 - 1930

Year	Tons Mined	Grade		Ounces Silver	Pounds Lead
		Oz. Ag.	% Pb.		
1902	34,871	4.7	3.9	162,528	2,731,092
1903	34,331	4.2	4.1	145,262	2,795,746
Part of 1904	11,760	3.3	3.0	39,200	705,469
1905	31,930	3.3	3.0	106,500	1,917,213
1906	47,357	3.2	1.5	152,985	1,414,122
	160,249			606,475	9,563,642
1911	86,190	6.6	5.1	566,146	8,867,486
1912	114,803	5.6	4.7	581,092	9,663,992
1913	114,025	5.1	4.9	511,170	9,729,484
1914	114,737	5.9	5.1	676,948	11,703,174
1915	118,764	5.6	5.1	611,722	11,315,730
1916	119,490	5.9	4.6	658,044	10,303,248
1917	122,424	4.6	4.5	538,948	10,490,510
1918	151,595	3.5	3.8	530,278	11,596,185
1919	132,921	3.6	3.5	470,888	9,518,431
1920	160,027	3.7	3.9	585,699	12,482,106
1921	5,373	26.6	8.1	142,100	942,509
1922	15,690	16.1	5.2	56,970	511,904
1923	28,760	7.8	3.8	223,852	2,126,872
1924	104,633	4.3	4.3	448,875	8,997,511
1925	123,125	3.1	3.8	387,875	9,358,260
1926	119,915	3.0	3.8	359,945	8,873,710
1927	130,742	3.2	4.0	370,392	10,441,056
1928	133,160	3.1	4.0	393,887	10,556,924
1929	115,522	2.8	3.8	328,084	8,641,083
6 mos. 1930	81,193	2.7	3.7	219,383	5,935,208
	2,253,338	4.13	4.11	9,268,773	181,619,025

Year	Tons Mined	Gross Value
1907	49,453	\$ 172,616
1908	37,667	206,663
1909	61,979	149,014
1910	82,481	308,957
1907 to 1910	231,580	\$ 837,250
TOTAL	2,484,918	

Between 1933 and 1947 lessees produced an average of approximately 45,000 tons yearly, with a metal content of about 2.5 per cent lead, 0.5 per cent zinc, and 3.0 ounces of silver per ton.

2. Physical Description (continued):

- (d) Known ore (by current prices of metals) all has been exhausted. Marginal to submarginal mineralization is present in considerable volume.
- (e) The Gold Hunter mine is mainly in the Wallace formation, metamorphosed sediments of the Algonkian Belt Series. (See Exhibits D & E). Revett and Saint Regis formations also are penetrated by the Adits. The beds lie nearly parallel to a series of strong faults which traverses the area. The faults strike N. 60° - 70° West and dip steeply to the south.

Ore is found in an east-west belt, nearly vertical in dip, which has been silicified, sideritized and pyritized for about 150 feet in width, and 1500 feet in length. Two or three bands within this silicified mass carry most of the ore minerals and have been stoped separately. The ore minerals are galena, sphalerite and tetrahedrite. Gangue minerals include pyrite, quartz, siderite and barite. The deposit is a bedded replacement but the role of parallel shears or fractures seems to have been important, as well as the character of the altered beds, in localizing ore.

- (f) Reasons for expecting to find ore in the area to be explored:
 - (1) At greater depth a more favorable host rock should be encountered - St. Regis quartzitic beds which generally have been more favorable than the Wallace formation in which the known deposit has been mined.
 - (2) The main deposit has not been explored at depth below 1200 level because of doubtful extralateral ownership of the veins. Bringing the adjoining Independence ground into this project clears the way for deeper exploration of the main ore zone with assured ownership.
 - (3) The south ore shoot may have greater dimensions at depth than it had in the winze below 1200 level.
 - (4) In the adjoining Lucky Friday mine 3800 ft. to the south, which now is highly productive, a depth of 1400 feet was required before the deposit attained commercial size and the present depth of 2,450 feet shows very greatly improved size and grade. A comparable depth may bring similar improvement at Gold Hunter.

2. Physical Description (continued):

- (5) Explorationn of adjoining properties of the new Abot consolidation is expected to follow after the Gold Hunter exploration is completed. Such exploration is not included in the present application but could utilize the facilities to be created by it.

3. Accessibility of Property.

- (a) Surface plant of Gold Hunter Mine, from which the work will be done is located on Highway 10, one-quarter mile east of the Village of Mullan, Idaho. The Mine workings are readily accessible through Gold Hunter No. 6 Adit, served by this surface plant.

Rollin Farmin, Assistant Manager, and G. M. Crosby, Chief Geologist, Day Building, Wallace, Idaho, will be ready at all times to guide DMEA representatives to and through the property.

- (b) Shipping Points:

Gold Hunter's own Northern Pacific Railroad Spur, Mullan, Idaho; also Day Mines, Inc.'s spurs on Northern Pacific and Union Pacific, Wallace, Idaho.

Supply Point:

Wallace, Idaho, 8 miles westerly.

Employees reside at:

Mullan, Idaho ($\frac{1}{2}$ mile westerly)
Wallace, Idaho (8 miles westerly)

4. The Exploration Project.

Summary:

Sink a new main shaft to permit exploration on the 3000 ft. level (3000 ft. vertically below No. 6 Adit).

Connect the new shaft to the old 1200 level workings for ventilation and escapeway.

Explore the 3000 ft. level with crosscuts, drifts and diamond drilling.

4. The Exploration Project (continued):

- (a) The new shaft will be timbered with local red fir, 10" x 10" wall plates 16 ft. long, 10" x 10" end plates 7 ft. long and 8" x 12" dividers to produce a 3-compartment shaft. The excavation required, allowing for 10" blocking, will be 8-2/3 ft. x 17-2/3 ft. or 153 cu. ft. per ft. of depth.

Item 1. The shaft will be raised 125 feet above the collar to provide head room.

Item 2. The shaft will be sunk 3,080 feet below collar to allow room for pockets and sump below a new 3000 foot level.

Additional facilities that will be constructed and equipped near the shaft include:

Item 3. Lateral for hoist room and transformer room 8' x 8' cross section, 135 feet long.

Item 4. Hoistroom 20' x 30' x 15', with supports.

Item 5. Transformer room 10' x 15' x 8'.

Item 6. Rope raise from hoist to shaft top, 6' x 8' x 125'.

Item 7. Top Station, 25' x 18' x 10'.

Item 8. Haulage Lateral, 8' x 8' x 150'.

Item 9. Head Pocket Raise, 7' x 10' x 80'.

Item 10. Compressor and Fan Station, 10' x 30' x 8'.

Item 11. Pipe and cable crosscut, 6' x 6' x 25'.

Item 12. 1200 level station, 10' x 20' x 9'.

Item 13. 1200 level pocket,

Item 14. 1200 level pump station and sump.

Item 15. 1200 level crosscut to old mine 8' x 8' x 200'.

Item 16. Pumping and service relay stations at 400, 800, 1600, 2000, 2400 and 2800 ft. levels.

Item 17. 3000 level station.

4. The Exploration Project (continued).

(a) Item 18. 3000 level pocket raise.

Item 19. 3000 level sump and pump room.

Item 20. 3000 level station tail drift.

Item 21. 3000 level transformer room.

Item 22. After the 3000 level station has been established and equipped, a crosscut 8' x 8' in cross-section will be driven to and through the Gold Hunter vein zone, estimated distance 550 feet.

Item 23. Drifts, 8' x 8' in cross-section will be driven northerly and southerly on the Gold Hunter vein zone for a total distance of 1500 feet. They may require bolting and/or timbering and/or retimbering.

Item 24. A crosscut will be driven south from the 3000 level shaft station a distance of 550 feet and from it a drift will follow the American Commander vein for a distance of 600 feet. These headings will be 8' x 8' in cross-section and may require bolting and/or timbering.

Item 25. From the west end of the 3000 level Gold Hunter drift a northwesterly lateral will be extended 2,000 feet parallel to the Independence fault and from it 2,100 feet of additional drifts and crosscuts will be extended to explore the Independence, Cincinnati and Commander fault zones. These workings may require bolting and/or timbering and/or retimbering.

The total footage of drifts and crosscuts proposed for the 3000 level is 7,300 feet, all 8' x 8' in cross-section.

Item 26. 10,050 feet of diamond drilling (AX core) will be extended north and south from the drifts to further explore the vein zones, as shown in the map of the 3000 level, Exhibit E.

Item 27. Rock bolt and/or timber as necessary all drifts and crosscuts, and re-timber in case unusually bad ground requires it.

4. The Exploration Project (continued).

(b) No access road is needed.

(c) Work on the project will start one month after the project is approved by DMEA. 48 months will be required to complete the project. Rates of progress anticipated are:

Time Schedule:

Excavate all openings above track level of No. 6 Adit	- 0 -	3 months
Sinking with temporary hoist	- 3 -	5 "
Installing new hoist	- 3 -	5 "
Sinking 150 - 1200 level at 175'/mo.	- 5 -	11 "
Station, pocket and pumps at 1200 level	2 weeks.	
Sinking 1200 - 3080 level	- 11 -	22 "
Pocket and Station at 3000 level	- 23	"
Crosscut Gold Hunter Vein at 3000 level	- 24 -	25 "
Drifts 1500 ft. on Gold Hunter vein	- 26 -	32 "
Additional drifts and crosscuts	- 30 -	42 "
Diamond Drilling	- 36 -	48 "

48 months required.

5. Experience.

Day Mines, Inc. and its predecessors have been in the mining business in the Coeur d' Alene District of northern Idaho for more than 50 years. During this period a number of prospects have been converted into successful, well-known mines. Several are not yet worked out.

Day Mines, Inc. participates to the extent of 25% in the Galena Project, quite similar to this one, which involved the sinking of a vertical shaft to a depth of 3000 feet, and resulted in the discovery of the area's newest, substantial mine. The company's managerial and supervisory staff members are thoroughly conversant with all problems attendant upon such an enterprise.

The Gold Hunter Shaft Project will be under the supervision of Assistant Manager Rollin Farmin and General Superintendent C. E. Sparks, who have had many years successful experience in the proposed type of work.

6. Estimate of Costs.

- (a) Independent contracts. The diamond drilling, Item 26, is work which will be let to independent contractors. The facilities of the plant, including transportation power, water, lighting, hoisting, compressed air, core boxes, etc., will be furnished by Day Mines, Inc.

10,050 ft. of AX core drilling will be done at an estimated cost for the contractor of \$4.00 per foot.

(Total independent contract cost estimated \$42,000.00).
(Re-stated in following cost summaries).

Periodic removal of waste rock from the waste dumping trestle will be performed as an hourly hired service by an employee who owns and maintains a bulldozer for hire. This cost is listed under indirect labor (see the cost appendices) rather than as an independent contract, because of its mixed nature.

Estimate of Costs - Summary of Items.

- Item 1. Shaft Head-Raise. A three-compartment shaft, timbered with 10" x 10" x 16' wall plates, 10" x 10" x 7' end plates and 8" x 12" dividers, all of red fir, will be raised 125 ft. above the track of No. 6 Adit. The excavation required will be 8 2/3 ft. x 17 2/3 ft. or 153 cu. ft. per ft. of length. Estimate of cost 125 ft. of shaft head-raise at \$161.79 per ft.;
- | | |
|------------|--------------|
| Total cost | \$ 20,223.75 |
|------------|--------------|
- (see Appendix 6, Item 1).
- Item 2. Sink Shaft 3,080 ft. below the No. 6 Adit. The shaft to have the dimensions stated in Item 1 above. Cost is estimated to be 3,080 ft. at \$245.01 per lin. ft.
- | | |
|------------|--------------|
| Total cost | \$754,630.80 |
|------------|--------------|
- (see Appendix No. 6, Item 2).
- Item 3. Drive lateral for hoist room and transformer room. Lateral 135 ft. long, of 8 ft. x 8 ft. cross section. Cost is estimated to be 135 ft. at \$52.33 per lin. ft.
- | | |
|------------|-------------|
| Total cost | \$ 7,064.55 |
|------------|-------------|
- (see Appendix 6, Item 3).

Estimate of Costs - Summary of Items. (Continued)

<u>Item 4.</u>	Excavate Hoistroom, 20 ft. x 30 ft. x 15 ft., and support ground by rock bolts. Cost is estimated to be 9,000 cu. ft. excavation at \$1.00 per cu. ft. Total cost (see Appendix 6, Item 4).	\$ 9,000.00
<u>Item 5.</u>	Excavate transformer room and support with rock bolts: 10 ft. x 15 ft. x 8 ft.; 1,200 cu. ft. at \$1.00 per cu. ft. Total cost	\$ 1,200.00
<u>Item 6.</u>	Excavate rope raise from hoist room to shaft head and rock bolt; 6 ft. x 8 ft. x 125 ft.; 6,000 cu. ft. at \$1.00 per cu. ft. Total cost	\$ 6,000.00
<u>Item 7.</u>	Excavate top station for shaft and timber: 25 ft. x 18 ft. x 10 ft.; 4,500 cu. ft. at \$1.00 per cu. ft. Total cost	\$ 4,500.00
<u>Item 8.</u>	Drive lateral for haulage from shaft head pockets: 8 ft. x 8 ft. x 150 ft. long. Estimated cost \$52.33 per ft. Total cost (see Appendix 6, Item 8)	\$ 7,849.50
<u>Item 9.</u>	Drive a pocket raise from the haulage lateral to the shaft head: 7 ft. x 10 ft. x 80 ft.; 5,600 cu. ft. at \$1.00 per cu. ft. Total cost	\$ 5,600.00
<u>Item 10.</u>	Excavate room for compressor and main ventilation fan: 10 ft. x 30 ft. x 8 ft.; 2,400 cu. ft. at \$1.00 per cu. ft. Total cost	\$ 2,400.00
<u>Item 11.</u>	Drive pipe and electric cable crosscut to shaft from compressor room: 5 ft. x 7 ft. x 25 ft.; 875 cu. ft. at \$1.00 per cu. ft. Total cost	\$ 875.00
<u>Item 12.</u>	1200 level shaft station: 10 ft. x 20 ft. x 9 ft.; 1,800 cu. ft. excavation at \$1.00 per cu. ft. Total cost	\$ 1,800.00

Estimate of Costs - Summary of Items. (Continued)

<u>Item 13.</u>	1200 Level pocket: 7 ft. x 7 ft. x 35 ft.; 1,715 cu. ft. excavation at \$1.00 per cu. ft.		
	Total cost	\$	1,715.00
<u>Item 14:</u>	1200 Level pump room and sump; 4,000 cu. ft. excavation at \$1.00 per cu. ft.		
	Total cost	\$	4,000.00
<u>Item 15.</u>	1200 Level crosscut to connect the old mine level for ventilation, second exit, etc.; 8 ft. x 8 ft. x 200 ft. long; at \$70.12 per lin. ft.		
	Total cost	\$	14,024.00
	(see Appendix 6, Item 15).		
<u>Item 16.</u>	Excavate pumping and service relay stations at 400 ft. intervals where other stations are not available; 1,500 cu. ft. each at \$1.00 per cu. ft.; 6 needed; 9,000 cu. ft. at \$1.00 per cu. ft.		
	Total cost	\$	9,000.00
<u>Item 17.</u>	Excavate 3000 Level station: 15 ft. x 20 ft. x 9 ft.; 2,700 cu. ft. at \$1.00 per cu. ft.		
	Total cost	\$	2,700.00
<u>Item 18.</u>	Excavate 3000 Level pocket: 7 ft. x 7 ft. x 50 ft. 2,500 cu. ft. at \$1.00 per cu. ft.		
	Total cost	\$	2,500.00
<u>Item 19.</u>	Excavate 3000 Level sump and pump room; 8 ft. x 10 ft. x 50 ft.; 4,000 cu. ft. at \$1.00 per cu. ft.		
	Total cost	\$	4,000.00
<u>Item 20.</u>	Excavate 3000 Level station tail drift; 8 ft. x 8 ft. x 50 ft. long; Estimated cost \$70.12 per lin. ft. 50 ft. at \$70.12 per lin. ft.		
	Total cost	\$	3,506.00
<u>Item 21.</u>	Excavate 3000 Level transformer room; 8 ft. x 8 ft. x 12 ft., 768 cu. ft. at \$1.00 per cu. ft.		
	Total cost	\$	768.00

Estimate of Costs - Summary of Items. (Continued)

<u>Item 22.</u>	Drive a 3000 Level crosscut northerly through the Gold Hunter vein; 8 ft. x 8 ft. x 550 ft. long; Estimate of cost 550 ft. at \$70.12 per lin. ft.	
	Total cost	\$ 38,566.00
<u>Item 23.</u>	3000 Level drifts easterly and westerly on Gold Hunter vein; 8 ft. x 8 ft. x 1,500 ft. long; Estimate of cost 1,500 ft. at \$70.12 per ft.	
	Total cost	\$ 105,180.00
<u>Item 24.</u>	3000 Level crosscut south 500 ft. to cut American Commander vein plus 600 ft. drifting on vein; estimate of cost 1100 ft. at \$70.12 per lin. ft.	
	Total cost	\$ 77,132.00
<u>Item 25.</u>	From west end of 3000 Level drift on Gold Hunter vein (Item 23) drive northwesterly lateral with branching crosscuts and drifts as shown on Exhibit E; 8 ft. x 8 ft. x 4,100 ft. long. Estimate of cost 4,100 ft. at \$70.12 per ft.	
	Total cost	\$ 287,492.00
<u>Item 26.</u>	Exploratory diamond drilling, AX core as shown on Exhibit E; 10,050 lin. ft.; estimated cost \$4.00 per ft. for independent contractors and \$3.09 per ft. additional costs for providing services and facilities, etc. 10,050 ft. at \$7.09 per ft.	
	Total cost	\$ 71,254.50
<u>Item 27.</u>	Rock bolt and/or timber and/or retimber drifts and crosscuts as necessary in Items 3, 8, 14, 19, 21, 22, 23, and 24. Allow bolts at \$4.00 each (installed price) to a maximum average of two per linear foot for each of these above items. Allow timbering or retimbering at \$12.00 per lin. ft. of drift or crosscut timbered or retimbered in above named items. Estimate of cost (maximum) 7,785 ft. at \$8.00.	
	Total cost	\$ 62,280.00
	Grand total of estimated costs	\$1,505,261.10

GOLD HUNTER SHAFT PROJECT - DAY MINES, INC.

Estimated Cost of Shaft Head-Raise

S U M M A R Y

I	LABOR	<u>Cost per Lin. Ft.</u>	<u>Cost per Lin. Ft.</u>
	Direct Labor	\$ 62.22	
	Indirect Labor	12.09	
	Supervision, Eng'r. Clerical	10.82	
	Non-Wage Labor Costs	<u>15.32</u>	
			\$ 100.45
II	SUPPLIES		31.75
III	MATERIALS		28.29
IV	POWER		<u>1.30</u>
	TOTAL		\$ 161.79

(Cost of Shaft Head-Raise - continued)

I	LABOR	<u>Cost per lin. ft.</u>
A.	<u>Direct Labor</u>	
	Raise Crew (2 shifts of 3 men at day's pay wages of \$20.26 Day Shift and \$20.86 Night Shift and a contract rate of \$40.00 per ft.)	\$ 54.00
	Hoistmen (2 men at \$20.26 Day Shift and \$20.86 Night Shift)	<u>8.22</u>
		62.22
B.	<u>Indirect Labor</u>	
	Haulage (2 men at \$18.76 Day Shift and \$19.36 Night Shift 2/3 of time)	\$ 5.07
	Bulldozer Service (\$100.00 per week)	2.38
	Timber Framing (1 man at \$18.30)	2.62
	Mechanic - Electrician ($\frac{1}{2}$ Manshift at \$20.26)	<u>2.02</u>
		12.09
C.	<u>Supervision, Engineering, Clerical</u>	
	Mine Foreman (One at \$650.00 per month - 2/3 of time)	3.33
	Pusher Pay (One 2/3 of \$1.41)	0.94
	Engineering and Geology	1.10
	Superintendent and Assistant Manager	1.25
	Master Mechanic and Chief Electrician	0.50
	Clerical	<u>3.70</u>
		10.82
D.	<u>Non-Wage Labor Costs</u>	<u>15.32</u>
		\$ 100.45

(Cost of Shaft Head-Raise - continued)

	<u>Cost per lin. ft.</u>
II SUPPLIES	
Powder	\$ 7.46
Detonators and Blasting Wire	3.08
Bits	7.54
Steel	2.17
Drill Repair	2.71
Miscellaneous Supplies and Repair	2.30
Equipment Rent	5.43
Warehouse and Delivery Charge	<u>1.06</u>
	\$ 31.75
III MATERIALS INSTALLED	
Timber (\$19.88 plus \$3.66 for chute lining)	\$ 23.54
Guides	2.00
4" Air Pipe (\$2.00 less salvage)	1.50
2" Water Pipe (\$0.65 less salvage)	0.50
Ventilation Duct (\$1.50 less salvage)	<u>0.75</u>
	\$ 28.29
IV POWER	\$ 1.30

GOLD HUNTER SHAFT PROJECT - DAY MINES, INC.

Estimated Cost of Shaft Sinking Costs

S U M M A R Y

		<u>Cost per Lin.Ft.</u>	<u>Cost per Lin. Ft.</u>
I	LABOR		
	Direct	\$ 110.50	
	Indirect	13.06	
	Superintendence, Engineering, Clerical	11.68	
	Non-Wage Labor Cost	<u>24.34</u>	\$ 159.58
II	SUPPLIES		50.25
III	MATERIALS		30.36
IV	POWER		<u>4.82</u>
	TOTAL		\$ 245.01

Estimated Cost of Shaft Sinking Costs.I. LABORDirect Labor

<u>Item</u>	<u>Crew Number</u>	<u>Day Pay Rate</u>	<u>Contract Rate</u>	<u>Cost per Ft.</u>
Bottom Crew	12	\$ 20.26	\$ 65.00/ft.	\$ 87.70
Hoistman	3	20.26	--	12.00
Cager-supply man	3	18.30	--	10.80
				<u>\$110.50</u>

Indirect Labor

<u>Item</u>	<u>Crew Number</u>	<u>Day Pay Rate</u>	<u>Contract Rate</u>	<u>Cost per Ft.</u>
Haulage-supplies, rock	2	\$ 18.76		\$ 5.17
Bulldozer service on dump at \$100 per week				2.38
Timber Framing	1	18.30		2.62
Mechanic-Electrician	1	20.26		2.89
				<u>\$ 13.06</u>

Supervision, Engineering & Clerical

<u>Item</u>	<u>Cost per Ft.</u>
Mine Foreman	\$ 3.72
Pusher Pay	1.41
Engineering and Geology	1.10
Superintendent and Assistant Manager	1.25
Master Mechanic and Chief Electrician	0.50
Clerical	3.70
	<u>\$ 11.68</u>

Non-Wage Labor Costs

<u>Item</u>		
Social Security Taxes (Employer)		
Hospital		
Compensation Insurance	18% of above costs	\$ 24.34
Health and Welfare		
Pension		
Group Insurance		
<u>Shift Premiums</u>	2nd shift..... plus \$0.05 per hour (Afternoon)	
	3rd shift..... plus \$0.10 per hour (Graveyard)	

Estimated Cost of Shaft Sinking Costs. (Continued)II SUPPLIES

<u>Item</u>	<u>Cost per Ft.</u>
Powder	\$ 7.46
Detonators and Blasting Wire	3.08
Bits	7.54
Steel	2.17
Drill Repair	2.71
Miscellaneous Supplies and Repair including shaft mucker repair	6.76
Equipment Rent	19.47
Warehouse and delivery charge	1.06
	<hr/>
	\$ 50.25

III MATERIALS

<u>Item</u>	<u>Cost per Ft.</u>
Timber	\$ 19.88
Guides	2.00
Air Pipe \$2.00 less salvage	1.50
Water Pipe \$0.65 less salvage	0.50
24" Ventilation Pipe less salvage \$5.05 + 20¢ for hangers less 50% salvage	2.73
Pump Column \$3.00 less salvage	2.50
Hanging Rods	1.25
	<hr/>
	\$ 30.36

IV POWER

\$ 4.82

GOLD HUNTER SHAFT PROJECT - DAY MINES, INC.

Estimated Costs for Drifting and Crosscutting on Gold Hunter No. 6 Adit Level

S U M M A R Y

I LABOR

Direct	\$ 13.50	
Indirect	3.04	
Superintendent, Engineering, Clerical	5.76	
Non-Wage Labor Costs	<u>4.01</u>	\$ 26.31

II SUPPLIES

22.73

III MATERIALS

1.99

IV POWER

1.30

\$ 52.33

Estimated Costs for Drifting and Crosscutting on Gold Hunter No. 6 Adit Level
(continued).

I LABOR

Direct

<u>Item</u>	<u>Crew Number</u>	<u>Day's Pay</u>	<u>Contract Rate</u>	<u>Cost per Ft.</u>
Heading Crew	8	19.34/19.94	\$ 10.00/Ft.	\$ 13.50

Indirect

Haulage	2	18.76/19.36		2.03
Mechanic, Electrician	1	20.26		1.01

Supervision, Engineering, Clerical

Mine Foreman	1			1.30
Pusher Pay	1	21.34		1.16
Engineering, Geology, Assay				0.80
Superintendent, and Asst. Manager				0.86
Master Mechanic and Chief Electrician				0.35
Clerical				1.29

Non-Wage Labor Costs

18% of above items				<u>4.01</u>
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TOTAL LABOR

\$ 26.31

Estimated Costs for Drifting and Crosscutting on Gold Hunter No. 6 Adit Level
(Continued).

II SUPPLIES

Powder	\$ 4.95
Detonators and Blasting Wire	2.31
Bits and Steel	7.20
Drill Repair	1.30
Miscellaneous Supplies and Repair	1.37
Equipment Rent	5.09
Warehouse and Delivery	<u>0.51</u>
	\$ 22.73

III MATERIALS

2" Air Pipe at 0.57 less salvage	\$ 0.29
2" Water Pipe at 0.57 less salvage	0.29
Track, Ties, Spikes, etc., at \$1.91 less \$0.50 salvage	<u>1.41</u>
	\$ 1.99

IV POWER

\$3.84/3	\$ 1.30
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GOLD HUNTER SHAFT PROJECT - DAY MINES, INC.

Estimated Costs for Drifting and Crosscutting on Levels Below Adit

S U M M A R Y

I	<u>LABOR</u>	<u>Cost/Ft.</u>	
	Direct	\$ 14.85	
	Indirect	9.00	
	Superintendent, Engineering, Clerical, Assaying	5.76	
	Non-Wage Labor Cost	<u>5.33</u>	\$ 34.94
II	<u>SUPPLIES</u>		26.51
III	<u>MATERIALS</u>		4.83
IV	<u>POWER</u>		<u>3.84</u>
	TOTAL		\$ 70.12

Estimated Costs for Drifting and Crosscutting on Levels Below Adit (continued).

I LABOR

Direct Labor

<u>Item</u>	<u>Crew Number</u>	<u>Day's Pay Rate</u>	<u>Contract Rate</u>	<u>Cost per Ft.</u>
Heading Crew	4	\$ 19.34/\$19.94	\$ 11.00/Ft.	\$ 14.85

Indirect Labor

Haulage (Main Line) 2				
Supplies, Rock,				
Caging	2	\$ 18.76		\$ 2.03
Haulage, Level	4	17.26/\$17.66		3.75
Hoistman	2	20.26/20.66		2.21
Mechanic - Electrician	1	20.26		1.01
				<u>1.01</u>
				\$ 9.00

Supervision, Engineering and Clerical

Item

Mine Foreman at \$650/mo.	1			\$ 1.30
Pusher Pay	1	\$ 21.34		1.16
Engineering, Geology, and				
Assaying				0.80
Superintendent and Assistant				
Manager				0.86
Master Mechanic and Chief				
Electrician				0.35
Clerical (7/20) \$3.70)				1.29
				<u>1.29</u>
				\$ 5.76

Non-Wage Labor Costs

18%

\$ 5.33

\$ 34.94

Estimated Costs for Drifting and Crosscutting on Levels Below Adit (continued).

II SUPPLIES

Item

Powder	22.5#/ ft. at 22¢/#	\$	4.95
Detonators and Blast wire	42 Det. at 25¢ + 10% for wire		2.31
Bits, Steel and Drill Repair	(\$8.50 at Rainbow-Sterling crosscut, 1953)		8.50
Miscellaneous Supplies and Repair			2.74
Equipment Rent			7.50
Warehouse and Delivery Charge	at 8¢/ton		0.51
		\$	26.51

III MATERIALS

Item

4" Air Pipe \$1.50 less salvage	\$	0.75
2" Water Pipe \$0.57 less salvage		0.29
20" Vent Duct Trans. \$1.40 CWT + 3% Tax 4.35) less Hangers .20) salvage		2.38
		<u>4.55</u>
Track, ties, spikes, etc.	1.91 less salvage (.50¢ salvage)	<u>1.41</u>
	\$	4.83

IV POWER

\$ 3.84

GOLD HUNTER SHAFT PROJECT - DAY MINES, INC.

The cost per cubic foot for excavations adjoining the shaft will vary between a high equal to the cost of the shaft excavation itself (\$1.60 per cu. ft.) and a low equal to the cost of bolted drifts at about \$1.00 per cu. ft. This lower cost, \$1.00 per cu. ft., is equal to a cost of \$12.00 per ton. Comparable district mining costs now average about \$14.00 per ton (exclusive of milling and administrative expense). The miscellaneous excavations around the shaft are relatively small in volume and all require special support for ground and/or for equipment; an average estimated cost of \$1.00 per cu. ft. for them is probably somewhat low but is offered here as the most practical type of estimate.

[illegible]

GOLD HUNTER SHAFT PROJECT - DAY MINES, INC.

APPENDIX 6: (d) Schedule of Operating Equipment & Proposed Use Allowance

	Approx. New Price	Total	Depreciation Life	Monthly Use Allowance	Months Needed	Total Proposed Rents	Shaft	Head Raise	Main Level Laterals	Lower Laterals	Cubic Ft. Excav.	Diamond Drilling
1 Hoist, Installed	\$120,000.00	\$120,000.00	10 yrs.	1,000.00	43	\$43,000.00	\$22,000.00			13,700.00	1,300.00	6,000.00
Trolley Locomotive, 10 cars, tunnel & surface facilities	40,000.00	40,000.00	"	333.00	48	15,984.00	7,326.00	\$240.00	\$ 480.00	5,994.00	666.00	1,278.00
1 Electrical Substation	1,500.00	1,500.00	"	12.00	48	576.00	264.00			216.00	36.00	60.00
2 Compressors	10,500.00	21,000.00	5 yrs.	350.00	48	16,800.00	7,700.00	350.00	350.00	6,300.00	700.00	1,400.00
Cryderrnan Shaft Mucker	9,000.00	9,000.00	"	150.00	20	3,000.00	3,000.00					
Sheaves, Ropes, Skips	15,000.00	15,000.00	"	250.00	47	11,750.00	6,000.00			4,500.00	500.00	750.00
Pumps	15,000.00	15,000.00	"	250.00	36	9,000.00	4,000.00			4,000.00	250.00	750.00
Ventilation Fans	5,000.00	5,000.00	"	83.00	42	3,486.00	1,826.00			1,245.00	166.00	249.00
2 Locomotives with battery & Charger	14,000.00	28,000.00	"	444.00	18	7,992.00			250.00	6,898.00	400.00	444.00
20 Mine Cars	500.00	10,000.00	"	167.00	18	3,006.00			100.00	2,839.00	67.00	
2 Jumbos	2,800.00	5,600.00	"	93.00	18	1,674.00				1,674.00		
4 Car Transfers	500.00	2,000.00	"	33.00	18	594.00				594.00		
4 Rock Drills	800.00	3,200.00	3 yrs.	89.00	36	3,200.00	1,958.00	89.00	89.00	886.00	178.00	
2 Eimco 21 Loaders	5,500.00	11,000.00	5 yrs.	183.00	18	3,294.00			183.00	3,111.00		
H.U. Tugger	1,125.00	1,125.00	"	19.00	28	532.00				532.00		
1 Porter Air Hoist	2,000.00	2,000.00	"	33.00	5	165.00	165.00					
3050' #2 5000V. Lead Covered Armored Cable (50% salvage)	2.50	7,625.00				3,812.00	3,812.00					
6000' #2 3 cord, Portable Cord	1.75	10,500.00	"	175.00	24	4,200.00	1,925.00			2,275.00		
		\$307,550.00				\$132,065.00	\$59,976.00	\$679.00	\$1,452.00	\$54,764.00	\$ 4,263.00	\$10,931.00
							3,080'	125'	285'	7,300'	42,995 cu. ft.	10,050'
						Rent Per Foot	\$19.47	\$5.43	\$5.09	\$7.50	\$.10	\$1.09

GOLD HUNTER SHAFT PROJECT - DAY MINES, INC.

Exhibit #6, Items 1 - 27

	Shaft Head Raise		Shaft Sinking		Adit Level Drifts		Laterals Off Shaft		Excavations Adjoining Shaft		Diamond Drilling		Rockbolting
	Total 125 Ft.	Per Foot	Total 3,080 Ft.	Per Foot	Total 285 Ft.	Per Foot	Total 7,500 Ft.	Per Foot	Total 56,058 Cu.Ft.	Per Foot	Total 10,050 Feet	Per Foot	
I LABOR													
Direct Labor	\$ 62.22		\$110.50		\$13.50		\$14.85		\$.23		\$		
Indirect Labor	12.09		13.06		3.04		9.00		.23		.55		
Supt. Eng. Clerical	10.82		11.68		5.76		5.76		.09		.62		
Non-Wage Labor Costs (18%)	15.32		24.34		4.01		5.33		.08		.21		
Total Labor	\$12,556.25	\$100.45	\$491,506.40	\$159.58	\$7,498.35	\$26.31	\$262,050.00	\$34.94	\$35,316.54	\$.63	\$13,869.00	\$ 1.38	
II SUPPLIES & EXPENSE													
Explosives	10.54		10.54		7.26		7.26		.10				
Bits & Rods	9.71		9.71		7.20		7.20		.08				
Drill Repair	2.71		2.71		1.30		1.30						
Misc. Supplies & Repair	2.30		6.76		1.37		2.74		.05				
Equipment Rental	5.43		19.47		5.09		7.50		.10		1.09		
Warehouse & Delivery Charges	1.06		1.06		.51		.51						
Total Supplies & Expense	\$ 3,968.75	\$31.75	\$154,770.00	\$50.25	\$6,478.05	\$22.73	\$198,825.00	\$26.51	\$18,499.14	\$.33	\$10,954.50	\$ 1.09	
Drilling Contract											\$40,200.00	\$ 4.00	
III MATERIALS INSTALLED													
Timber	23.54		19.88										
Guides	2.00		2.00										
Air Pipe less Salvage	1.50		1.50		0.29		0.75						
Water " " "	0.50		.50		.29		.29						
Ventilation Duct Less Salvage	0.75		2.73				2.38						
Pump Column			2.50										
Hanging Rods			1.25										
Track					1.41		1.41						
Total Materials	\$3,536.25	\$28.29	\$93,508.80	\$30.36	\$567.15	\$ 1.99	\$36,225.00	\$ 4.83					
IV POWER	162.50	1.30	14,845.60	4.82	370.50	1.30	28,800.00	3.84	2,242.32	.04	6,231.00	.62	
TOTAL	\$20,223.75	\$161.79	\$754,630.80	\$245.01	\$14,914.05	\$52.33	\$525,900.00	\$70.12	\$56,058.00	\$ 1.00	\$71,254.50	\$ 7.09	\$62,280.00
											GRAND TOTAL	\$ 1,505.261.10	

EXHIBIT "A"

THIS INDENTURE, Made and entered into this 25th day of April, 1958, by and between THE GOLD HUNTER MINING COMPANY, an Idaho corporation, PARTY OF THE FIRST PART, hereinafter called LESSOR, and DAY MINES, INC., an Idaho corporation, PARTY OF THE SECOND PART, hereinafter called LESSEE,

WITNESSETH:

I

PREAMBLE:

Lessor is the owner of patented and unpatented lode mining claims situated in Hunter Mining District, Shoshone County, Idaho. Lessor is desirous of having exploration and development work performed on its property, and mining operations conducted thereon if such exploration and development work is successful. Lessor lacks the financial means to carry on such exploration and development work, and the operating and technical staff necessary to conduct mining operations if such work should prove successful. Lessee, both on its own behalf and in conjunction with associated interests, has the financial ability and operating and technical staff necessary to conduct such exploration, development and mining operations. Both parties desire that Lessee, either on its own behalf or with assistance from others, conduct exploration and development work on the property of Lessor in an effort to discover a commercial ore body and mine the same if discovered.

II

DESCRIPTION OF PROPERTY:

The Lessor for and in consideration of the covenants hereinafter contained, does hereby lease, demise and let unto the Lessee all the following described property situated in Hunter Mining District, Shoshone County, State of Idaho, to-wit:

<u>NAME OF CLAIM</u>	<u>U. S. M. S. Number</u>
Gold Hunter	612
Yolande	719
Away Up	1245
Joe Dandy	1245
Jersey Minior	1459
Northern Light	1832
Spokane	1832
Jap	2563
Hennessy Fraction	2563
Ted	2563
Victor Fraction	2563
Ryan Millsite	MS 732
Thomas Brennan Millsite	MS 733
P. M. Hennessy Millsite	MS 734
P. T. Kavanagh Millsite	MS 735

ALSO the MOLLIE No. 3 unpatented lode mining claim, Notice of Location of which is recorded in Book 31 of Quartz Locations at page 78 thereof, in the Office of the Recorder of Shoshone County, Idaho;

ALSO an undivided one-quarter interest in and to all ores lying and being within the vertical boundaries of the ELM ORLU, ELM ORLU FRACTION, ELM ORLU No. 2 and ELM ORLU FRACTION No. 2 unpatented lode mining claims, Notices of Location of which are recorded in Book 27 of Quartz Locations at pages 651 to 654, inclusive, thereof, in the Office of the Recorder of Shoshone County, Idaho;

ALSO the surface rights to those premises commonly known as the Hunter Ranch particularly described as follows situate in said Section 35:

PARCEL No. 1

Beginning at the N $\frac{1}{2}$ Corner of Section 35, thence S. 0° 11' East 1,062.30 feet to intersection of line 6-7 Hunter Ranch; thence N. 89° 55' 30" West 347.32 feet to Corner No. 7 Hunter Ranch; thence N. 1° 55' East 819.94 feet to Corner No. 8 Hunter Ranch; thence N. 87° 51' 30" West 1,471.09 feet to Corner No. 9 Hunter Ranch; thence N. 3° 47' East 185.11 feet to intersection of North line Section 35; thence North 89° 55' 30" East 1,774.27 feet to place of beginning.

PARCEL No. 2

Beginning at Corner No. 1 from which the Northeast Corner of Section 34, T. 48 North, R. 5 E.B.M., bears N. 46° 44' West 533.93 feet; thence South 6° 00' West 697.10 feet to Corner No. 2; thence South 4° 31' East 717.21 feet to Corner No. 3 identical with Northwest corner, Mt. View Cemetery; thence South 76° 23' East 1,095.21 feet to Corner No. 4 identical with Northeast Corner of Mt. View Cemetery; thence South 89° 43' East 1,208.88 feet to intersection of East line of Northwest $\frac{1}{4}$ of Section 35, thence N. 0° 11' West 979.40 feet along East line of Northwest $\frac{1}{4}$ of Section 35 to intersection of line 6-7 Hunter Ranch; thence North 89° 53' 30" West 347.32 feet to Corner No. 7; thence North 1° 55' East 819.94 feet to Corner No. 8; thence North 87° 51' 30" West 1,471.09 feet to Corner No. 9; thence South 3° 47' West 317.12 feet to Corner No. 10; thence N. 73° 10' West 462.78 feet to place of beginning.

ALSO all that certain lot, piece or parcel of land 100 feet by 150 feet formerly containing a two story log building thereon commonly known as the "Hackett House" about one-half mile east of Mullan, Shoshone County, Idaho, and more particularly described in that certain deed executed by JOHN A. McDONELL and HENRIETTA McDONELL, his wife, to GOLD HUNTER MINING & SMELTING COMPANY, a corporation, dated December 23, 1901, and recorded January 4, 1902, in Book 20 of Deeds at page 232, in the Office of the Recorder of Shoshone County, Idaho;

ALSO all the surface rights to that certain tract of land near the Hunter Mill east of Mullan, Shoshone County, Idaho, commonly known as the CARNEY RANCH more particularly described in that certain deed executed by JAMES CARNEY to GOLD HUNTER MINING & SMELTING COMPANY, a corporation, dated November 1, 1919, and recorded November 5, 1919, in Book 54 of Deeds at page 67 in the Office of the Recorder of Shoshone County, Idaho;

ALSO that certain leasehold interest in premises demised for a term of 99 years by JAMES FEAR, FRED M. FRANKS, and JOHN HACKETT, Lessors, to DENNIS RYAN, Lessee, on September 15, 1888, and recorded September 18, 1888 in Book "A" of Leases at page 92, in the Office of the Recorder of Shoshone County, Idaho;

ALSO all that certain tract or parcel of land situated in the Northwest Quarter of said Section 36 more particularly described in that certain deed executed by JOHN JUTILA and ANNA JUTILA, his wife, to GOLD HUNTER MINING & SMELTING COMPANY, a corporation, on August 30, 1918, and recorded November 5, 1919, in Book 54 of Deeds at page 68 in the Office of the Recorder of Shoshone County, Idaho;

ALSO an undivided one-half interest in and to Damsite and right-of-way for flume in Northwest Quarter of said Section 36, and more particularly described in that certain deed executed by JOHN JUTILA and ANNA JUTILA, his wife, to GOLD HUNTER MINING & SMELTING COMPANY, a corporation, on July 26, 1913, and recorded November 29, 1916, in Book 50 of Deeds at page 581 in the Office of the Recorder of Shoshone County, Idaho;

ALSO that certain dams site to be used with that certain water right theretofore located, said dams site being situate in the forks of Willow Creek and is more fully described in that certain notice recorded by T. M. BRENNAN, Agent, on October 2, 1913, in Book "R" of Miscellaneous at page 89 in the Office of the Recorder of Shoshone County, Idaho;

ALSO an undivided one-half interest in and to that certain water right to water of the South Fork of the Coeur d' Alene River, Hunter Mining District, Shoshone County, Idaho, appropriated by T. J. Kavanagh, Locator, on September 5, 1888, and recorded on September 8, 1888 in Book "A" of Quartz Locations at page 303 in Hunter Mining District Records, Shoshone County, Idaho, and also recorded on September 15, 1888, in Book "H" of Miscellaneous at page 603 in the records of the Recorder of Shoshone County, Idaho;

Reference is hereby had and made to the foregoing Mineral Survey Numbers, Location Notices, and records of Shoshone County, Idaho, for a more definite and specific description of all of the property herein conveyed.

ALSO, the Lessor's interest of, in and to all buildings, equipment, improvements and fixtures owned and used by the Party of the First Part, situate, lying and being on any of the above described premises and in particular situate, lying and being on those premises commonly known as the Hunter Ranch.

III

TERM OF LEASE:

TO HAVE AND TO HOLD unto said Lessee for the term of thirty (30) years from the date hereof, and for a further term of thirty (30) years at the option of the Lessee as hereinafter provided, unless sooner terminated by forfeiture, cancellation or surrender within said term or extended term as hereinafter provided. It is expressly understood and agreed that in the event the Lessee shall elect to exercise its option hereunder to extend said term it shall give written notice to Lessor on or before the 1st day of January, 1988.

IV

POSSESSION AND CONTROL OF PROPERTY:

The Lessor hereby gives and grants to the Lessee the right immediately to enter upon and take over the sole and exclusive possession and control of the property heretofore described and the whole and every part thereof, and during the effective term of this lease the Lessee shall remain in the sole and exclusive possession and control thereof. The Lessee is also granted the right to investigate, measure, sample, examine, test, explore, develop, work, mine, operate, use, manage and control said property, to erect, construct, use and maintain such building, structures, machinery and equipment as may be required by the Lessee for the conduct of its mining and milling operations and to mine, extract and remove from said property the ores and minerals contained therein, and to treat, mill, ship, sell, or otherwise dispose of the same and receive the full proceeds therefrom, subject to the terms and conditions hereinafter set forth.

ENTRY, MANNER OF WORK, POSTING NOTICES, AND CONFORMITY
WITH LAWS:

The Lessee agrees to cause all exploration, development and mining work hereunder to be done in a careful and miner-like manner, and to conform in all respects to the mining laws and regulations of the State of Idaho and of the United States of America, as more specifically outlined hereunder.

The Lessee shall post and keep posted written or printed notices in due form of law and in compliance with the requirements of the lien laws of the State of Idaho, showing that the property is being worked by the Lessee under lease only and that the Lessor will not be subject to any lien whatever, provided that the foregoing does not apply to any DMEA lien against said premises.

The Lessee shall observe and promptly comply with all local, county, state and federal laws, statutes, ordinances, rules, regulations, orders and requirements and those of any departments and bureaus of the federal, state and local governments with reference to said property, buildings thereon, and any labor performed thereon, or to any operations thereunder; provided, however, that the Lessee shall have the right to contest the validity of any of the foregoing, taking all such steps as shall be reasonably required to protect the interests of the Lessor; and all expenses incurred or reserves established in complying therewith shall be capital expenditures to which the Lessee shall be entitled to reimbursement as hereinafter provided until the property is placed on a profitable operating basis and thereafter shall be charged to operations.

WORK REQUIREMENTS:

The Lessee agrees to expend during the term of this lease or any extension thereof a minimum sum of THREE HUNDRED THOUSAND

(\$300,000.00) DOLLARS in the exploration, development, maintenance or operation of the property of the Lessor.

The minimum annual expenditures required for this purpose shall be FIFTEEN THOUSAND (\$15,000.00) DOLLARS.

Excess expenditures in any one year may be applied against requirements of future years.

Work performed in or from adjoining properties, designed ultimately to explore the property of the Lessor, shall be applicable on the work requirements hereunder. However, if an ore body of commercial grade and quantity is discovered in such adjoining property as a result of such work, for the purpose of applying the capital reimbursement provisions of this lease the cost of such work shall be equitably apportioned between the parties hereto in proportion to the benefit derived by each from such work,

Geological work in, on, or about the area where the Lessor's claims are located, qualifies as expenditures under such work requirements.

The Lessee agrees to perform the annual assessment work upon the unpatented claims of the Lessor, if and when required, and to prepare the claims for patent as soon as practical. Any and all expenditures incurred in this connection shall likewise apply upon the work requirements herein, including the cost of securing patents on such claims.

When expenditures in the amount of THREE HUNDRED THOUSAND (\$300,000.00) DOLLARS, (after applying the excess expenditures of any one year to future work requirements), have been made, the Lessee shall have the right to hold the lease for its original and extended term so long as the Lessee is making a reasonable effort to discover ore bodies in the property of the Lessor.

For the purpose of defining "reasonable effort" to discover ore bodies, the Lessee shall not be obligated (1) to perform work deeper than 1,000 feet above approximate sea level, and (2) to expend more than TEN THOUSAND (\$10,000.00) DOLLARS in any one year for such purpose.

The place and character of exploration and development work to be performed shall be at the sole discretion of the Lessee, and the amount expended shall be subject to the capital reimbursement provisions of this agreement.

The Lessee also agrees to commence work under this lease within six (6) months after the date of this instrument.

VII

TERMINATION BY LESSEE:

The Lessee reserves the right hereby expressly granted by the Lessor to terminate this lease and surrender the property to the Lessor during the term hereof or renewal thereof at any time when in the opinion of the Lessee the continuation of such work shall become economically unsound and impracticable, upon sixty (60) days' written notice to the Lessor of its intention to do so.

Upon such termination and surrender the Lessee shall be under no further obligation to the Lessor except for the making of expenditures or payments due at the date of termination. For this purpose the amount to be expended hereunder during the year in which termination occurs shall be on a pro rata basis to the termination date.

VIII

MINING OPERATIONS:

Upon completion of the exploration and development work required hereunder, unless this lease is sooner terminated as herein provided, and when profitable operations are conducted hereunder, the Lessee may continue with reasonable diligence the development of the property, placing thereon, or at other suitable location, within a reasonable time, all additional mining and milling facilities, including shafts, adits, crosscuts, raises, and other mine workings, equipment, buildings, etc., of the kind, type, character and quality deemed advisable in the Lessee's sole judgment, advancing all moneys required for that purpose, including working capital, subject, however, to the right of the Lessee to be reimbursed therefore as hereinafter provided.

It is within the contemplation of the parties that the Lessee may enter into leases or working agreements with the owners of other properties in the vicinity of the property of the Lessor. The Lessor agrees that the Lessee shall have the right to use the mine workings and facilities of the Lessor to conduct exploration, development and mining operations in such other property or properties, so long as such operations do not unreasonably interfere with the operations of the Lessee in the property of the Lessor.

In the event the mine workings and facilities of the Lessor are used in carrying on profitable mining operations in the property of another owner, the capital expenditures made in the property of the Lessor which are subject to the reimbursement requirements herein, which benefit the profitable mining operations conducted in such other property or properties, shall be equitably apportioned between the parties deriving benefit from the use of such capital expenditures in proportion to the benefit derived by each. In the event the parties cannot agree upon the fair capital expenditure reimbursement apportionment, the matter shall be submitted to arbitration as herein provided. The apportionment of the reimbursement for capital expenditures under this paragraph shall not affect the Lessee's compliance with the work requirements of this lease.

In the event the mine workings and facilities of another property owner are used on conducting profitable mining operations in the property of the Lessor, the capital expenditures made in the property of such other owner which are subject to reimbursement under provisions similar to those in this lease, which benefit the profitable mining operations conducted in the property of the Lessor, shall be equitably apportioned between the parties deriving benefit from the use of such capital expenditures in proportion to the benefit derived by each. In the event the parties cannot agree upon the fair capital expenditure reimbursement apportionment, the matter shall be submitted to arbitration as herein provided.

In the event this lease is terminated as herein provided, and mining operations are being conducted by the Lessee in the property of another owner or owners, and the mine workings and facilities of the Lessor are being used to conduct such operations, the Lessor agrees that the Lessee shall have the joint use of such mine workings and facilities during the life of such operations by the Lessee in the property or properties of other owners, so long as such joint use does not unreasonably interfere with the operations of the Lessor.

IX

ADDITIONAL WORK:

Nothing herein shall be construed to prevent the Lessee, if it so desires, from advancing additional funds for the exploration and development of the property after the Lessee has expended the sum of THREE HUNDRED THOUSAND (\$300,000.00) DOLLARS, for that purpose, either during the original term of this lease or the renewal thereof, subject to the right of reimbursement as hereinafter provided.

Nothing herein contained shall be construed to prevent the Lessee from conducting any and all such exploration, development or mining work on the property in addition to the minimum work requirements hereunder as may seem advisable to the Lessee in its sole judgment, advancing all moneys required in connection therewith, and subject to the right for reimbursement as hereinafter provided.

X

TREATMENT OF PRODUCT:

The Lessor and the Lessee shall each have the right to receive and market its own share of the ore won from the demised premises as provided in Paragraph XII of this instrument. In the event the Lessor does not instruct the Lessee to the contrary, the Lessee shall have the right as agent for Lessor to market the entire production. In the event the Lessor shall at a later time desire to market its share of said concentrates

Lessor shall give the Lessee at least ninety (90) days written notice prior to the termination of any smelter contract previously entered into by the said Lessee. The Lessee shall have the right to enter into a smelter contract for the entire production for a maximum period of one year. In the event the Lessor shall market its share of the concentrates derived from said demised premises, it shall promptly deliver unto the Lessee a true copy of the settlement sheets. The Lessee shall then bill the Lessor for its proportionate share of the costs of the mining and milling of said ore and the said Lessor shall pay unto the Lessee within ten (10) days after its receipt of billing the full amount for which it shall have been billed. Adjustments shall be made quarterly between the Lessor and the Lessee in order to equalize the amount of concentrates based upon weights and grade which shall during the preceding quarterly period have been marketed so that the Lessor and Lessee each shall receive its proportionate share of the metallic content contained in the ore mined.

XI

DMEA PARTICIPATION:

It is understood and agreed by and between the parties hereto, that the Lessee shall have the right to apply its Defense Minerals Exploration loan for the exploration and development of the mining claims heretofore set forth. It is further understood and agreed between the parties hereto that any and all royalties which shall become payable to said DMEA for production from the claims heretofore set forth, or from adjoining claims, shall be considered and treated as a part of the joint operating expense; that the Lessor will execute any and all DMEA contracts or instruments necessary to carry out provisions of this paragraph.

XII

APPLICATION OF ORES WON:

Any and all ore which shall be discovered in the demised premises during the term of this instrument shall, in place, belong 25% to the Lessor

and 75% to the Lessee, provided, however, that all ore in place which may be so discovered in the demised premises shall belong unto the Lessee until it has been fully reimbursed for its costs for exploration and development of said demised premises and there is a working capital in the sum of \$200,000.00; said costs for exploration and development shall include insurance, property taxes, mine license tax, administration expenses, social security taxes, rental plan, DMEA royalties, and all other expenses included directly or indirectly in the proration of said demised premises. These expenses outlined are only illustrative and are not to be construed in limiting the costs or expenses deductible.

In the event the expenses diminish the working capital to a sum less than \$200,000.00, then the ore in place shall again belong to the Lessee until the working capital shall have been reestablished.

XIII

RELATIONSHIP OF PARTIES:

It is agreed that the Lessor and Lessee elect to be excluded from the application of sub-chapter "K" of Chapter I of sub title A of the Internal Revenue Code of 1954, or as such part thereof that may be permitted or authorized by the Treasury of the United States. The Lessee, is hereby authorized to file the election to be excluded from said sub-chapter "K" of Chapter I of sub title A, attached to the partnership return and a copy of this lease, as more specifically is provided in regulation Section 1.761 (IV) promulgated under Section 761 of the Internal Revenue Code, 1954.

It is specifically understood and agreed by the parties hereto that in the event the underground or surface workings and/or facilities of the owner of another property are jointly used for the conduct of operations in the property of the Lessor, the cost of using such workings and facilities in such joint operations shall, if possible, be equitably apportioned between the parties jointly using the same. Wherever feasible such equitable apportionment shall be on a tonnage basis.

XIV

ADDITIONAL ADVANCES: REPLACEMENTS:

If at any time during the period of this lease, capital expenditures, in addition to those made before the property shall be placed on an operating basis, shall be required in the Lessee's sole judgment for the benefit of the operations conducted hereunder, either for increased mill capacity, substitution or replacement of equipment, or machinery, or otherwise, or to continue operation when working capital has been exhausted, the parties hereto agree that reimbursement shall be made for such expenditures.

XV

MAPS AND SURVEYS:

The Lessee shall at all times have sufficient surveys and maps made and kept subject to inspection by the Lessor so that the Lessor may be fully informed of the nature and character of the mine workings and operations performed hereunder. The Lessee shall furnish the Lessor with quarterly operating reports, with accompanying progress map or maps, and with copies of the logs of all diamond drill holes which have been drilled by the Lessee within the property.

XVI

STATEMENT OF ACCOUNT:

As soon as conveniently possible after the termination of each quarterly period of each calendar year, the Lessee will render to the Lessor a statement of account in reasonable detail, which quarterly statement shall be accompanied by a payment of the net amount to be accounted for hereunder, if any; and the Lessor shall have sixty (60) days from the date of mailing the said statements within which to examine the same and object thereto in writing if any error is found therein, it being understood and agreed that failing such objection within said period the statement shall be considered as correct.

XVII

RECORDS:

The Lessee agrees that it will keep and maintain at the property or its office correct and complete books of account and records showing

truthfully and accurately and in all reasonable detail the amount of all metals, minerals or ores mined or recovered and/or milled on the property, the weight and assay value of all products shipped therefrom, the names and addresses of the parties to whom shipments of product are made, any and all returns received therefrom, the gross proceeds thereof, the cost of mining operations and capital expenditures and working capital advances from time to time; and to enable the Lessor to be currently informed and assured as to the correctness of the statements of account to be rendered by the Lessee from time to time as herein provided, its accredited representatives at all reasonable time shall have full and free access to the property and to the plants on the property handling the ores at the sole risk and expense of the Lessor and also the right to inspect and audit all such records and books of account kept by the Lessee relating to any matters in this agreement referred to and to inspect, check and if deemed advisable or desirable make copies of any extracts from all reports, records, memoranda, books of account, assay or sampling, smelting, milling or concentrating returns, or other documents, vouchers or memoranda in any way relating to or referring to the matters in this agreement; provided, however, that such inspection, audit, checking and/or copying shall not unreasonably interfere with the business requirements of the Lessee.

XVIII

ENCUMBRANCE:

The Lessor agrees that during the period of this lease or extension thereof it will not mortgage, sell or otherwise encumber or dispose of the property subject to this lease without giving the Lessee previous written notice of its intention to do so, and further, that any such encumbrance or disposition of the property or any part thereof shall be made expressly subject to the rights of the Lessee hereunder in such manner as may be approved by the Lessee with advice of counsel.

XIX

PAYMENT OF TAXES:

The Lessee shall pay, or if the Lessor shall have paid, the Lessee shall reimburse the Lessor for all property taxes upon said property falling due during the term of this lease and while the same is in force and effect prorated from and after the date hereof, and shall also pay, when due and before delinquent, all taxes levied or assessed against any and all personal property, machinery and equipment placed upon said property by the Lessee during the term of this lease. The Lessee shall be liable for and undertakes to pay all sales taxes and other taxes of every kind, character and description levied or imposed during the term of this lease upon the ores, minerals, concentrates or products of ores produced, sold or otherwise disposed of by the Lessee, and all taxes levied against the Lessee as an employer of labor, all such taxes to be promptly paid when due and before delinquent; and the Lessee shall be entitled to reimbursement for all taxes paid hereunder as provided herein until the property shall be placed on a profitable operating basis when the same shall be added in determining joint expenses as herein provided. However, nothing herein contained shall be construed as obligating the Lessee to pay any taxes payable by the Lessor and which shall be for the Lessor's sole account.

XX

INSURANCE:

The Lessee, at all times during the term of this lease, shall:

(1) Keep the leased property and all structures at any time thereon, or at any time being erected thereon, adequately insured against loss or damage by fire, and other risks against which insurance is usually carried by mining companies operating in the same vicinity, by a reputable insurance company or companies in an amount equal to the insurable value thereof; any loss in respect of any property so insured to be made payable to the Lessor and Lessee, as their interests may appear, and any proceeds of insurance in excess of the amount necessary for the cost of repairs,

restorations and replacements to the property shall be applied as provided in the provision herein governing the application of net profits, it being also agreed that if the proceeds of insurance shall be insufficient to provide the cost of repairs, restorations and replacements, the amount of the deficit shall be charged to operations or advanced by the Lessee if operations shall not have been commenced;

(2) Take out and pay the premiums upon general and public liability insurance policy or policies whereby the insurance company will agree to defend, indemnify and hold harmless the Lessor and/or Lessee against and from any and all claims for damage by reason of injuries to person or loss of life sustained from any cause whatsoever by anyone other than an employee in or about or in connection with the property or the property adjacent thereto; and,

(3) Carry Workmen's compensation and such other insurance as may be required by the laws and mining regulations of the State of Idaho.

Should the Lessee fail to effect or maintain insurance as provided in this agreement, the Lessor may, but shall not be required to, take out insurance or additional insurance; and for which the Lessor shall be entitled to receive reimbursement from the Lessee.

XXII

PROTECTION FROM LIENS AND DAMAGES:

The Lessee shall keep said property and the whole and every part thereof free and clear of liens for labor done or work performed upon such property or materials furnished to it for the development or operation thereof under this lease and while the same is in force and effect, and the Lessee will save and keep harmless the Lessor from all costs, loss or damage which may arise by reason of injury to any persons employed by the Lessee in or upon said property or any part thereof, or which may arise by reason of injury to any persons, livestock or damage done to any other property as the result of any work or operations of the Lessee or of its possession and occupancy of the property.

XXII

ARBITRATION:

Any disputes arising under the application of this contract or the interpretation thereof upon which the parties cannot agree, shall be referred to arbitration. Each party shall select one arbitrator and the two thus chosen shall select a third arbitrator. If the two selected cannot agree upon the third arbitrator, such third arbitrator shall be selected by the American Arbitration Association under the rules of this latter organization. The decision rendered by the arbitrators in the event of a dispute shall be final and binding upon the parties to this agreement.

XXIII

FORCE MAJEURE:

If the Lessee shall be delayed at any time during the period of this lease in keeping or performing any agreement on its part to be kept or performed according to the terms and provisions hereof, except the payment of taxes, by any act or neglect of the Lessor, or by strikes, lockouts, fire, unusual delay in transportation, orders of the Government, or any duly constituted instrumentality thereof, unavoidable casualties, or any causes beyond the control of the Lessee, such delay shall not be deemed a breach of this lease or a default on the part of the Lessee constituting a cause for forfeiture and the Lessee agrees to use reasonable diligence to remove such causes of disability as may occur from time to time. The Lessee shall not be required to mine, mill, or otherwise dispose of the products from said property during periods of financial crises or when the metals produced are saleable only at abnormally low prices.

It is expressly understood and agreed that the Lessee will promptly notify the Lessor in writing of the commencement and termination of any such delays or suspensions of performance hereunder, and that the term of this lease shall be extended for a term equal to the period or periods thereof.

FORFEITURE:

The failure of the Lessee to make or cause to be made any payment herein provided for, or to keep or perform any agreement on its part to be kept and performed according to the terms and provisions of this lease shall, at the election of the Lessor, and upon giving notice thereof to the Lessee, constitute a forfeiture of this lease; provided, however, that in the event of a default on the part of the Lessee, and the election of the Lessor to terminate this lease on account thereof, the Lessor shall give the Lessee a written notice of its intention to declare a forfeiture of this lease and to terminate the same on account thereof, specifying the particular default or defaults relied upon by it. The Lessee shall have ninety (90) days after the receipt of such notice in which to cure such default or defaults, and if such default or defaults are fully cured, there shall be no forfeiture of this lease with respect to such default or defaults. No waiver of and no failure or neglect on the part of the Lessor to give notice of a default or defaults shall effect any subsequent default or impair the Lessor's rights resulting therefrom.

XXV

SURRENDER OF PROPERTY:

Upon the termination of this lease either by limitation or as is otherwise provided herein, the Lessee shall evidence such termination by recordable document, surrender possession of the property and pay all bills or other obligations incurred by it in connection therewith and all payments due to the Lessor up to the date of such termination.

In the event that such termination shall occur before the property is placed upon a profitable operating basis but before the Lessee shall have been fully reimbursed for its expenditures hereunder, then any cash available in the working capital account shall be applied to so reimburse the Lessee, and the Lessee shall have the further right to remove from the property equipment, materials and supplies at a fair

market value not exceeding the amount required for such reimbursement, subject, however, to the right of the Lessor to purchase any of such equipment, materials and supplies at the then fair market value.

If, however, the Lessee shall have been previously so fully reimbursed, or shall be so fully reimbursed through the application of working capital as hereinabove provided, then the amount of any remaining working capital shall be divided between the Lessor and Lessee in the same proportion that ore in place is shared hereunder, and for that purpose the equipment, materials and supplies remaining on the property shall be sold or otherwise disposed of on the basis of the best terms available.

Nothing herein contained shall be construed to permit the removal from the property of mine timbers, mine rail, ties and pipe lines in place or permanent surface structures on the property the title to which is hereby vested in the Lessor.

Upon termination of this lease either by limitation or otherwise the Lessee shall deliver up the property to the Lessor in good order and condition with all mine workings currently used by the Lessee in its mining operations in condition suitable for continued operations, to the end that the Lessor may operate the property if it so elects; provided, however, that unless the Lessor shall notify the Lessee that it intends to operate the property, the Lessee shall surrender the property only in such condition as good mining practice requires upon abandonment of operations.

XXVI

NOTICES:

Any notice provided for herein shall be sufficiently given if posted by registered mail addressed to the party entitled to receive the same as follows:

To: Gold Hunter Mining Company
Day Building
Wallace, Idaho

To: Day Mines, Inc.
Day Building
Wallace, Idaho

except as either party hereto shall otherwise instruct the other party by written notice to be appended to this lease.

XXVII

COSTS OF LITIGATION:

All costs of litigation, including counsel fees incurred by the Lessee, in and about the conduct of its operations hereunder shall be deemed a joint operating expense, and all such costs in defending the Lessee's right to proceed under this lease, unless the Lessee shall be in default hereunder, shall be for the Lessor's account and shall be deducted from that portion of the first settlement which the Lessor shall be hereafter entitled to receive hereunder; provided, however, that this paragraph shall not apply to any litigation brought by the Lessee against the Lessor under this agreement unless and until a final judgment shall have been rendered against the Lessor by a court of competent jurisdiction and the time to appeal therefrom has expired.

XXVIII

INUREMENT:

This lease and agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto, and the Lessee may assign this lease only with the written consent of the Lessor first had and obtained, which consent shall not be unreasonably withheld. Provided, however, that nothing herein contained shall be construed to require the consent of the Lessor to such participation as the Lessee may elect to grant to any other party, or parties, presently, or from time to time hereafter, but such participation shall not affect the obligations of the Lessee to the Lessor hereunder.

CONSTRUCTION:

It is expressly understood and agreed that the titles to the paragraphs of this lease shall not be deemed a part thereof, having been used for convenience only.

IN WITNESS WHEREOF, the parties hereto have caused their corporate names to be hereunto subscribed, and their corporate seals to be hereunto affixed and attested by their duly authorized officers, in duplicate counterparts, as of the day and year first above written which shall be the effective date of this lease upon ratification by the shareholders.

GOLD HUNTER MINING COMPANY

(SEAL)

ATTEST:

By WRAY D. FARMIN
Vice President

R. W. ANNO
Secretary
LESSOR

DAY MINES, INC.

(SEAL)

ATTEST:

By WRAY D. FARMIN
Vice President

S. F. HEITFELD
Secretary
LESSEE

ORIGINAL COPY
 D M E A
 RECEIVED 51958
 DATE

STATE OF IDAHO)
) ss.
 County of Shoshone)

On this 25th day of April, 1958, before me, the undersigned, a
 Notary Public in and for the State of Idaho, personally appeared

WRAY D. FARMIN, personally known to me to be the Vice President
 of the GOLD HUNTER MINING COMPANY, and acknowledged to me that
 such corporation executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed
 my notarial seal at my office in Wallace, Idaho, the day and year in
 this certificate first above written.

(SEAL)

KATHRYN A. EICHWALD
 Notary Public in and for the State of
 Idaho, residing at Wallace.

STATE OF IDAHO)
) ss.
 County of Shoshone)

On this 25th day of April, 1958, before me, the undersigned, a
 Notary Public in and for the State of Idaho, personally appeared

WRAY D. FARMIN, personally known to me to be the Vice President
 of DAY MINES, INC., and acknowledged to me that such corporation
 executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my
 notarial seal at my office in Wallace, Idaho, the day and year in this
 certificate first above written.

(SEAL)

KATHRYN A. EICHWALD
 Notary Public in and for the State of
 Idaho, residing at Wallace.

FILED
JAN 31 1951
5

"EXHIBIT "B"

THIS INDENTURE made and entered into this 31st day of January, A. D. 1951, by and between the INDEPENDENCE LEAD MINES COMPANY, an Arizona corporation, qualified to do business under the laws of the State of Idaho as a foreign corporation, PARTY OF THE FIRST PART, hereinafter called LESSOR, and DAY MINES, INC., an Idaho corporation, PARTY OF THE SECOND PART, hereinafter called LESSEE, WITNESSETH:

I

PREAMBLE:

Lessor is the owner of patented and unpatented lode mining claims situated in Hunter Mining District, Shoshone County, Idaho. Lessor is desirous of having exploration and development work performed on its property, and mining operations conducted thereon if such exploration and development work is successful. Lessor lacks the financial means to carry on such exploration and development work, and the operating and technical staff necessary to conduct mining operations if such work should prove successful. Lessee, both on its own behalf and in conjunction with associated interests, has the financial ability and operating and technical staffs necessary to conduct such exploration, development and mining operations. Both parties desire that Lessee, either on its own behalf or with assistance from others, conduct exploration and development work on the property of Lessor in an effort to discover a commercial ore body and mine the same if discovered.

II

DESCRIPTION OF PROPERTY:

The Lessor for and in consideration of the profit sharing arrangement hereinafter contained and the covenants and agreements of the Lessee hereinafter set forth, does hereby lease, demise and let unto the Lessee all the

following described patented lode mining claims situated in Hunter Mining District, Shoshone County, State of Idaho, to-wit:

ALMA Lode Mining Claim, Mineral Survey No. 3238, GETTYSBURG, GETTISBURG FRACTION and LION Lode Mining Claims, Mineral Survey No. 2196, LINK Lode Mining Claim, Mineral Survey No. 2963, INDEPENDENCE Lode Mining Claim, Mineral Survey No. 653, VICTOR, TRUE BLUE, BUCKEYE and WAR DANCE Lode Mining Claims, Mineral Survey No. 1249, MARY NOREM Lode Mining Claim, Mineral Survey No. 1285, KEY Lode Mining Claim, Mineral Survey No. 1316, AMERICAN Lode Mining Claim, Mineral Survey No. 1471, COMMANDER and COMMANDER FRACTION Lode Mining Claims, Mineral Survey No. 1492, CUBAN REPUBLIC Lode Mining Claim, Lot No. 1363.

Also the following described unpatented lode mining claims situated in Hunter Mining District, Shoshone County, Idaho.

SPRINGFIELD Lode Mining Claim, the original location of which is recorded in Book "Q" of Quartz Locations at page 77, in the office of the County Recorder of Shoshone County, Idaho.

MILES Lode Mining Claim, the original location of which is recorded in Book "11" of Quartz Locations at page 186, in the office of the County Recorder of Shoshone County, Idaho.

HAROLD Lode Mining Claim, the original location of which is recorded in Book "11" of Quartz Locations at page 193, in the office of the County Recorder of Shoshone County, Idaho.

MORNING GLORY Lode Mining Claim, the original location of which is recorded in Book "14" of Quartz Locations at page 388, in the Records of the County Recorder of Shoshone County, Idaho.

WONDER Lode Mining Claim, the original location of which is recorded in Book "14" of Quartz Locations at page 387, in the records of the County Recorder of Shoshone County, Idaho.

HOLIDAY Lode Mining Claim, the original location notice of which is recorded in Book "14" of Quartz Locations at page 100, in the office of the County Recorder of Shoshone County, Idaho.

PANAMA Lode Mining Claim, the original location notice of which is recorded in Book "14" of Quartz Locations at page 322 in the records of the County Recorder of Shoshone County, Idaho.

ATLIE Lode Mining Claim, the original location notice of which is recorded in Book "14" of Quartz Locations at page 325, in the records of the County Recorder of Shoshone County, Idaho.

PANAMA No. 3 Lode Mining Claim, the original location notice of which is recorded in Book "14" of Quartz Locations at page 386, in the records of the County Recorder of Shoshone County, Idaho.

GOETHALS Lode Mining Claim, the original location notice of which is recorded in Book "18" of Quartz Locations at page 199, in the records of the County Recorder of Shoshone County, Idaho.

PANAMA No. 2 Lode Mining Claim, the original location notice of which is recorded in Book "18" of Quartz Locations at page 200 in the records of County Recorder, Shoshone County, Idaho.

SILVER MOUNTAIN Lode Mining Claim, the original location notice of which is recorded in Book "18" of Quartz Locations at page 201 in the records of County Recorder, Shoshone County, Idaho.

ROOF Lode Mining Claim, the original location notice of which is recorded in Book of Quartz Locations at page in the records of the County Recorder of Shoshone County, Idaho.

PAT Lode Mining Claim, the original location notice of which is recorded in Book 27 of Quartz Locations at page 453 in the records of the County Recorder of Shoshone County, Idaho.

PAT No. 2 Lode Mining Claim, the original location notice of which is recorded in Book 27 of Quartz Locations at page 454 in the records of the County Recorder of Shoshone County, Idaho.

Subject to all rights of way heretofore granted for roads and power lines, and also subject to that certain lease dated September 20, 1950, in favor of the Premier Star Mining Company, a Delaware corporation, as Lessee, for a five year term on the GETTISBURG FRACTION Lode Mining Claim, M. S. No. 2196, and the joint use of the INDEPENDENCE No. 4 Tunnel.

III

TERM OF LEASE:

TO HAVE AND TO HOLD unto said Lessee for the term of thirty (30) years from the date hereof, and for a further term of thirty (30) years at the option of the Lessee as hereinafter provided, unless sooner terminated by forfeiture, cancellation or surrender within said term or extended term as hereinafter provided. It is expressly understood and agreed that in the event the Lessee shall elect to exercise its option hereunder to extend said term it shall give written notice to Lessor on or before the 1st day of January, 1981.

IV

POSSESSION AND CONTROL OF PROPERTY:

The Lessor hereby gives and grants to the Lessee the right immediately to enter upon and take over the sole and exclusive possession and control of the property and the whole and every part thereof, and during the effective term of this lease the Lessee shall remain in the sole and exclusive possession and

control thereof. The Lessee is also granted the right to investigate, measure, sample, examine, test, explore, develop, work, mine, operate, use, manage and control said property, to erect, construct, use and maintain such building, structures, machinery and equipment as may be required by the Lessee for the conduct of its mining and milling operations and to mine, extract and remove from said property the ores and minerals contained therein, and to treat, mill, ship, sell, or otherwise dispose of the same and receive the full proceeds therefrom, subject to the terms and conditions hereinafter set forth.

V

ENTRY, MANNER OF WORK, POSTING NOTICES, AND CONFORMITY WITH LAWS:

The Lessee agrees to cause all exploration, development and mining work hereunder to be done in a careful and miner-like manner, and to conform in all respects to the mining laws and regulations of the State of Idaho and of the United States of America, as more specifically outlined hereunder.

The Lessee shall post and keep posted written or printed notices in due form of law and in compliance with the requirements of the lien laws of the State of Idaho, showing that the property is being worked by the Lessee under lease only and that the Lessor will not be subject to any lien whatever.

The Lessee shall observe and promptly comply with all local, county, state and federal laws, statutes, ordinances, rules, regulations, orders and requirements and those of any departments and bureaus of the federal, state and local governments with reference to said property, buildings thereon, and any labor performed thereon, or to any operations thereunder; provided, however, that the Lessee shall have the right to contest the validity of any of the foregoing, taking all such steps as shall be reasonably required to protect the interests of the Lessor; and all expenses incurred or reserves established in complying therewith shall be capital expenditures to which the Lessee shall be entitled to reimbursement as hereinafter provided until the property is placed on a profitable operating basis and thereafter shall be charged to operations.

WORK REQUIREMENTS:

The Lessee agrees to expend during the term of this lease or any extension thereof a minimum sum of THREE HUNDRED THOUSAND (\$300,000.00) DOLLARS in the exploration, development, maintenance or operation of the property of the Lessor.

The minimum annual expenditures required for this purpose shall be FIFTEEN THOUSAND (\$15,000.00) DOLLARS.

Excess expenditures in any one year may be applied against requirements of future years.

Work performed in or from adjoining properties, designed ultimately to explore the property of the Lessor, shall be applicable on the work requirements hereunder. However, if an ore body of commercial grade and quantity is discovered in such adjoining property as a result of such work, for the purpose of applying the capital reimbursement provisions of this lease the cost of such work shall be equitably apportioned between the parties hereto in proportion to the benefit derived by each from such work.

Geological work in, on, or about the area where the Lessor's claims are located, qualifies as expenditures under such work requirements.

The Lessee agrees to perform the annual assessment work upon the unpatented claims of the Lessor, if and when required, and to prepare the claims for patent as soon as practical. Any and all expenditures incurred in this connection shall likewise apply upon the work requirements herein, including the cost of securing patents on such claims.

When expenditures in the amount of THREE HUNDRED THOUSAND (\$300,000.00) DOLLARS, (after applying the excess expenditures of any one year to future work requirements), have been made, the Lessee shall have the right to hold the lease for its original and extended term so long as the Lessee is making a reasonable effort to discover ore bodies in the property of the Lessor.

For the purpose of defining "reasonable effort" to discover ore bodies, the Lessee shall not be obligated (1) to perform work deeper than 500 feet above approximate sea level, and (2) to expend more than TEN THOUSAND

(\$10,000.00) DOLLARS in any one year for such purpose.

The place and character of exploration and development work to be performed shall be at the sole discretion of the Lessee, and the amount expended shall be subject to the capital reimbursement provisions of this agreement.

The Lessee also agrees to commence work under this lease within ninety (90) days after the ratification thereof by the shareholders of the Lessor as hereinafter provided.

VII

TERMINATION BY LESSEE:

The Lessee reserves the right hereby expressly granted by the Lessor to terminate this lease and surrender the property to the Lessor during the term hereof or renewal thereof at any time when in the opinion of the Lessor the continuation of such work shall become economically unsound and impracticable, upon sixty (60) days' written notice to the Lessor of its intention to do so.

Upon such termination and surrender the Lessee shall be under no further obligation to the Lessor except for the making of expenditures or payments due at the date of termination. For this purpose the amount to be expended hereunder during the year in which termination occurs shall be on a pro rata basis to the termination date.

VIII

MINING OPERATIONS:

Upon completion of the exploration and development work required hereunder, unless this lease is sooner terminated as herein provided, and when profitable operations are conducted hereunder, the Lessee shall continue with reasonable diligence the development of the property, placing thereon, or at other suitable location, within a reasonable time, all additional mining and milling facilities, including shafts, adits, crosscuts, raises, and other mine workings, equipment, buildings, etc., of the kind, type, character and quality deemed advisable in the Lessee's sole judgment, advancing all moneys required for that purpose, including working capital, subject, however, to the right of the Lessee to be reimbursed therefore as hereinafter provided.

It is within the contemplation of the parties that the Lessee may enter into leases or working agreements with the owners of other properties in the vicinity of the property of the Lessor. The Lessor agrees that the Lessee shall have the right to use the mine workings and facilities of the Lessor to conduct exploration, development and mining operations in such other property or properties, so long as such operations do not unreasonably interfere with the operations of the Lessee in the property of the Lessor.

In the event the mine workings and facilities of the Lessor are used in carrying on profitable mining operations in the property of another owner, the capital expenditures made in the property of the Lessor which are subject to the reimbursement requirements herein, which benefit the profitable mining operations conducted in such other property or properties, shall be equitably apportioned between the parties deriving benefit from the use of such capital expenditures in proportion to the benefit derived by each. In the event the parties cannot agree upon the fair capital expenditure reimbursement apportionment, the matter shall be submitted to arbitration as herein provided. The apportionment of the reimbursement for capital expenditures under this paragraph shall not affect the Lessee's compliance with the work requirements of this lease.

In the event the mine workings and facilities of another property owner are used on conducting profitable mining operations in the property of the Lessor, the capital expenditures made in the property of such other owner which are subject to reimbursement under provisions similar to those in this lease, which benefit the profitable mining operations conducted in the property of the Lessor, shall be equitably apportioned between the parties deriving benefit from the use of such capital expenditures in proportion to the benefit derived by each. In the event the parties cannot agree upon the fair capital expenditure reimbursement apportionment, the matter shall be submitted to arbitration as herein provided.

In the event this lease is terminated as herein provided, and mining operations are being conducted by the Lessee in the property of another owner or owners, and the mine workings and facilities of the Lessor are being used to conduct such operations, the Lessor agrees that the Lessee shall have the joint use of such mine workings and facilities during the life of such operations by the Lessee in the property or properties of other owners, so long as such joint use does not unreasonably interfere with the operations of the Lessor. For the privilege of using the mine workings and facilities of the Lessor in conducting such mining operations in the property or properties of other owners under the circumstances outlined in this paragraph, the Lessee agrees to pay the Lessor the sum of FIVE (5¢) CENTS per ton of ore or waste removed from such properties through the mine workings of the Lessor, with a maximum payment of FIVE THOUSAND (\$5,000.00) DOLLARS per year for such privilege.

IX

ADDITIONAL WORK:

Nothing herein shall be construed to prevent the Lessee, if it so desires, from advancing additional funds for the exploration and development of the property after the Lessee has expended the sum of THREE HUNDRED THOUSAND (\$300,000.00) DOLLARS for that purpose, either during the original term of this lease or the renewal thereof, subject to the right of reimbursement as hereinafter provided.

Nothing herein contained shall be construed to prevent the Lessee from conducting any and all such exploration, development or mining work on the property in addition to the minimum work requirements hereunder as may seem advisable to the Lessee in its sole judgment, advancing all moneys required in connection therewith, and subject to the right for reimbursement as hereinafter provided.

X

TREATMENT OF PRODUCT:

All ores won from the demised premises shall be concentrated by the Lessee as hereinafter provided, and the concentrates shipped to the smelter or reduction works offering the best terms. The concentrates shall be shipped in the name of the Lessee and the net smelter returns received for the same accounted for as hereinafter provided.

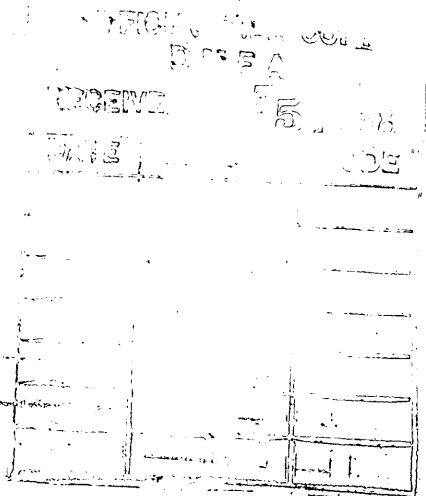
Until such time as the production of milling ores shall warrant in the Lessee's sole judgment the installation of a mill on the property or other suitable location and such mill shall be placed in operation, the Lessee shall have the right at its option to treat all milling ore produced from the property at its own concentrator or concentrators, or at such other concentrator or concentrators as it may deem expedient. When the milling ores are treated at the concentrator of the Lessee, the Lessee shall be entitled to be reimbursed for its pro rata cost for the milling of such ores on a tonnage basis.

The term "net smelter returns" shall be interpreted to mean the net amount received from the smelter in payment for direct smelting ores and concentrates less cost of transportation from the mine or mill to the smelter and smelter charges.

XI

DETERMINATION OF NET PROFITS:

"Net Profits" shall be determined by deducting from the proceeds derived from the sale of ores and concentrates the total costs or expenses



incurred in producing the same, excluding depreciation and depletion. Any premium or subsidy payments received from the production of ores shall be considered as part of the proceeds derived from the sale of the product produced, except where prohibited by law or regulation promulgated pursuant thereto.

The expenses deductible shall include insurance, property taxes, administrative expense, overhead and other expenses properly chargeable against the operations conducted hereunder. The expenses outlined are purely illustrative and are not to be construed as limiting the costs or expenses deductible.

It is specifically understood and agreed by the parties hereto that in the event the underground or surface workings and/or facilities of the owner of another property are jointly used for the conduct of operations in the property of the Lessor, the cost of using such workings and facilities in such joint operations shall, if possible, be equitably apportioned between the parties jointly using the same. Wherever feasible such equitable apportionment shall be on a tonnage basis.

XII

APPLICATION OF PROFITS:

Any and all net profits derived and determined as hereinabove provided shall be applied as follows:

1. To reimburse the Lessee for all its advances or expenditures incurred under this lease, not otherwise deducted in determining net profits.

2. To establish and maintain working capital in addition to that provided by the Lessee in the total amount not to exceed ONE HUNDRED THOUSAND (\$100,000.00) DOLLARS.

3. Any such net profits as may be in excess of the foregoing reimbursement and working capital requirements shall be divided between the Lessor and Lessees as follows:

Lessor - 35 per cent.

Lessee - 65 per cent.

XIII

APPORTIONMENT OF DEPLETION ALLOWANCE:

1. Each party shall be entitled to its own cost depletion.

2. The percentage depletion allowance shall be apportioned between the parties in the same ratio as net profits are shared.

XIV

LOSSES IN OPERATION:

Any loss sustained in the operation of the property during any month shall be a charge upon first net profits thereafter derived.

XV

ADDITIONAL ADVANCES: REPLACEMENTS:

If at any time during the period of this lease, capital expenditures, in addition to those made before the property shall be placed on an operating basis, shall be required in the Lessee's sole judgment for the benefit of the operations conducted hereunder, either for increased mill capacity, substitution or replacement of equipment, or machinery, or otherwise, or to continue operation when working capital has been exhausted, the parties hereto agree that reimbursement shall be made for such expenditures out of the first net profits thereafter derived.

XVI

MAPS AND SURVEYS:

The Lessee shall at all times have sufficient surveys and maps made and kept subject to inspection by the Lessor so that the Lessor may be fully informed of the nature and character of the mine workings and operations performed hereunder. The Lessee shall furnish the Lessor with quarterly operating reports, with accompanying progress map or maps, and with copies of the logs of all diamond drill holes which have been drilled by the Lessee within the property.

XVII

STATEMENT OF ACCOUNT:

As soon as conveniently possible after the termination of each quarterly period of each calendar year, the Lessee will render to the Lessor a statement of account in reasonable detail, which quarterly statement shall be accompanied by a payment of the net profits to be accounted for hereunder, if any; and the Lessor shall have sixty (60) days from the date of mailing the said statements within which to examine the same and object thereto in writing

if any error is found therein, it being understood and agreed that failing such objection within said period the statement shall be considered as correct.

XVIII

RECORDS:

The Lessee agrees that it will keep and maintain at the property or its office correct and complete books of account and records showing truthfully and accurately and in all reasonable detail the amount of all metals, minerals or ores mined or recovered and/or milled on the property, the weight and assay value of all products shipped therefrom, the names and addresses of the parties to whom shipments of product are made, any and all returns received therefrom, the gross proceeds thereof, the cost of mining operations and capital expenditures and working capital advances from time to time, and all other particulars necessary and proper for the true and accurate ascertainment of net profits, and to enable the Lessor to be currently informed and assured as to the correctness of the statements of account to be rendered by the Lessee from time to time as herein provided, its accredited representatives at all reasonable time shall have full and free access to the property and to the plants on the property handling the ores at the sole risk and expense of the Lessor and also the right to inspect and audit all such records and books of account kept by the Lessee relating to any matters in this agreement referred to and to inspect, check and if deemed advisable or desirable make copies of any extracts from all reports, records, memoranda, books of account, assay or sampling, smelting, milling or concentrating returns, or other documents, vouchers or memoranda in any way relating to or referring to the matters in this agreement; provided, however, that such inspection, audit, checking and/or copying shall not

unreasonably interfere with the business requirements of the Lessee.

XIX

ENCUMBRANCE:

The Lessor agrees that during the period of this lease or extension thereof it will not mortgage, sell or otherwise encumber or dispose of the property subject to this lease without giving the Lessee previous written notice of its intention to do so, and further, that any such encumbrance or disposition of the property or any part thereof shall be made expressly subject to the rights of the Lessee hereunder in such manner as may be approved by the Lessee with advice of counsel.

XX

PAYMENT OF TAXES:

The Lessee shall pay, or if the Lessor shall have paid, the Lessee shall reimburse the Lessor for all property taxes upon said property falling due during the term of this lease and while the same is in force and effect prorated from and after the date hereof, and shall also pay, when due and before delinquent, all taxes levied or assessed against any and all personal property, machinery and equipment placed upon said property by the Lessee during the term of this lease. The Lessee shall be liable for and undertakes to pay all sales taxes and other taxes of every kind, character and description levied or imposed during the term of this lease upon the ores, minerals, concentrates or products of ores produced, sold or otherwise disposed of by the Lessee, and all taxes levied against the Lessee as an employer of labor, all such taxes to be promptly paid when due and before delinquent; and the Lessee shall be entitled to reimbursement for all taxes paid hereunder as provided herein until the property shall be placed on a profitable operating basis when the same shall be deducted in determining net profits as herein provided. However, nothing herein contained shall be construed as obligating

The
the Lessee to pay any taxes payable by the Lessor and which shall be for
the Lessor's sole account.

XXI

INSURANCE:

The Lessee, at all times during the term of this lease, shall:

(1) Keep the leased property and all structures at any time thereon or at any time being erected thereon, adequately insured against loss or damage by fire, and other risks against which insurance is usually carried by mining companies operating in the same vicinity, by a reputable insurance company or companies in an amount equal to the insurable value thereof; any loss in respect of any property so insured to be made payable to the Lessor and Lessee, as their interests may appear, and any proceeds of insurance in excess of the amount necessary for the cost of repairs, restorations and replacements to the property shall be applied as provided in the provision herein governing the application of net profits, it being also agreed that if the proceeds of insurance shall be insufficient to provide the cost of repairs, restorations and replacements, the amount of the deficit shall be charged to operations or advanced by the Lessee if operations shall not have been commenced;

(2) Take out and pay the premiums upon general and public liability insurance policy or policies whereby the insurance company will agree to defend, indemnify and hold harmless the Lessor and/or Lessee against and from any and all claims for damage by reason of injuries to person or loss of life sustained from any cause whatsoever by anyone other than an employee in or about or in connection with the property or the property adjacent thereto; and,

(3) Carry Workmen's compensation and such other insurance as may be required by the laws and mining regulations of the State of Idaho

Should the Lessee fail to effect or maintain insurance as provided in this agreement, the Lessor may, but shall not be required to, take out insurance or additional insurance; and the Lessor shall be entitled to receive reimbursement from the Lessee.

XXII

PROTECTION FROM LIENS AND DAMAGES:

The Lessee shall keep said property and the whole and every part thereof free and clear of liens for labor done or work performed upon such property or materials furnished to it for the development or operation thereof under this lease and while the same is in force and effect, and the Lessee will save and keep harmless the Lessor from all costs, loss or damage which may arise by reason of injury to any persons employed by the Lessee in or upon said property or any part thereof, or which may arise by reason of injury to any persons, livestock or damage done to any other property as the result of any work or operations of the Lessee or of its possession and occupancy of the property.

XXIII

ARBITRATION:

Any disputes arising under the application of this contract or the interpretation thereof upon which the parties cannot agree, shall be referred to arbitration. Each party shall select one arbitrator and the two thus chosen shall select a third arbitrator. If the two selected cannot agree upon the third arbitrator, such third arbitrator shall be selected by the American Arbitration Association under the rules of this latter organization. The decision rendered by the arbitrators in the event of a dispute shall be final and binding upon the parties to this agreement.

XXIV

FORCE MAJEURE:

If the Lessee shall be delayed at any time during the period of this lease in keeping or performing any agreement on its part to be kept or performed according to the terms and provisions hereof, except the payment of net profits and taxes, by any act or neglect of the Lessor, or by strikes, lockouts, fire, unusual delay in transportation, orders of the Government, or any duly constituted instrumentality thereof, unavoidable casualties, or any causes beyond the control of the Lessee, such delay shall not be deemed a breach of this lease or a default on the part of the Lessee constituting a cause for forfeiture and the Lessee agrees to use reasonable diligence to remove such causes of disability as may occur from time to time. The Lessee shall not be required to mine, mill, or otherwise dispose of the products from said property during periods of financial crises or when the metals produced are saleable only at abnormally low prices.

It is expressly understood and agreed that the Lessee will promptly notify the Lessor in writing of the commencement and termination of any such delays or suspensions of performance hereunder, and that the term of this lease shall be extended for a term equal to the period or periods thereof.

XXV

FORFEITURE:

The failure of the Lessee to make or cause to be made any payment herein provided for, or to keep or perform any agreement on its part to be kept and performed according to the terms and provisions of this lease shall, at the election of the Lessor, and upon giving notice thereof to the Lessee, constitute a forfeiture of this lease; provided, however, that in the event of a default on the part of the Lessee, and the election of the Lessor to terminate this lease on account thereof, the Lessor shall give the Lessee a written

notice of its intention to declare a forfeiture of this lease and to terminate the same on account thereof, specifying the particular default or defaults relied upon by it. The Lessee shall have ninety (90) days after the receipt of such notice in which to cure such default or defaults, and if such default or defaults are fully cured, there shall be no forfeiture of this lease with respect to such default or defaults. No waiver of and no failure or neglect on the part of the Lessor to give notice of a default or defaults shall effect any subsequent default or impair the Lessor's rights resulting therefrom.

XXVI

SURRENDER OF PROPERTY:

Upon the termination of this lease either by limitation or as is otherwise provided herein, the Lessee shall evidence such termination by recordable document, surrender possession of the property and pay all bills or other obligations incurred by it in connection therewith and all net profits due to the Lessor up to the date of such termination.

In the event that such termination shall occur before the property is placed upon a profitable operating basis but before the Lessee shall have been fully reimbursed for its expenditures hereunder, then any cash available in the working capital account shall be applied to so reimburse the Lessee, and the Lessee shall have the further right to remove from the property equipment, materials and supplies at a fair market value not exceeding the amount required for such reimbursement, subject, however, to the right of the Lessor to purchase any of such equipment, materials and supplies at the then fair market value.

If, however, the Lessee shall have been previously so fully reimbursed, or shall be so fully reimbursed through the application of working capital as hereinabove provided, then the amount of any remaining working

capital shall be divided between the Lessor and Lessee in the same proportion that net profits are shared hereunder, and for that purpose the equipment, materials and supplies remaining on the property shall be sold or otherwise disposed of on the basis of the best terms available.

Nothing herein contained shall be construed to permit the removal from the property of mine timbers, mine rail, ties and pipe lines in place or permanent surface structures on the property the title to which is hereby vested in the Lessor.

Upon termination of this lease either by limitation or otherwise the Lessee shall deliver up the property to the Lessor in good order and condition with all mine workings currently used by the Lessee in its mining operations in condition suitable for continued operations, to the end that the Lessor may operate the property if it so elects; provided, however, that unless the Lessor shall notify the Lessee that it intends to operate the property, the Lessee shall surrender the property only in such condition as good mining practice requires upon abandonment of operations.

XXVII

NOTICES:

Any notice provided for herein shall be sufficiently given if posted by registered mail addressed to the party entitled to receive the same as follows:

To: Independence Lead Mines Company,
Paulsen Building,
Spokane, Washington.

To: Day Mines, Inc.,
Day Building,
Wallace, Idaho,

except as either party hereto shall otherwise instruct the other party by written notice to be appended to this lease.

XXVIII

COSTS OF LITIGATION:

All costs of litigation, including counsel fees incurred by the Lessee, in and about the conduct of its operations hereunder shall be deemed an operating expense and deductible in determining net profits hereunder, and all such costs in defending the Lessee's right to proceed under this lease, unless the Lessee shall be in default hereunder, shall be for the Lessor's account and shall be deducted from that portion of the first net profits which the Lessor shall be hereafter entitled to receive hereunder; provided, however, that this paragraph shall not apply to any litigation brought by the Lessee against the Lessor under this agreement unless and until a final judgment shall have been rendered against the Lessor by a court of competent jurisdiction and the time to appeal therefrom has expired.

XXIX

INUREMENT:

This lease and agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto, and the Lessee may assign this lease only with the written consent of the Lessor first had and obtained, which consent shall not be unreasonably withheld, Provided, however, that nothing herein contained shall be construed to require the consent of the Lessor to such participation as the Lessee may elect to grant to any other party, or parties, presently, or from time to time hereafter, but such participation shall not affect the obligations of the Lessee to the Lessor hereunder.

XXX

RATIFICATION BY SHAREHOLDERS OF LESSOR:

It is understood and agreed by the parties hereto that before such lease can become effective it must be ratified by stockholders owning two-thirds of the outstanding shares of the Lessor at a special meeting of the shareholders called for that purpose. The officers of the Lessor hereby agree to call such special meeting of the shareholders for the purpose of ratifying this lease, and in the event the lease is ratified by the requisite shares outstanding of the Lessor, certification to such effect executed by the officers of the Lessor shall be attached to this lease.

XXXI

CONSTRUCTION:

It is expressly understood and agreed that the titles to the paragraphs of this lease shall not be deemed a part thereof, having been used for convenience only.

IN WITNESS WHEREOF, the parties hereto have caused their corporate names to be hereunto subscribed, and their corporate seals to be hereunto affixed and attested by their duly authorized officers, in duplicate counterparts, as of the day and year first above written which shall be the effective date of this lease upon ratification by the shareholders.

ATTEST:

F. W. KIESLING
Secretary
(SEAL)

INDEPENDENCE LEAD MINES COMPANY

By W. E. CULLEN
President

LESSOR

ATTEST:

S. F. HEITFELD
Secretary
(SEAL)

DAY MINES, INC.

By HENRY L. DAY
President

LESSEE

STATE OF WASHINGTON)
) ss.
County of Spokane)

On this 31st day of January, 1951, before me, the undersigned,
a Notary Public in and for the State of Washington, personally appeared
W. E. CULLEN, personally known to me to be the President of the
INDEPENDENCE LEAD MINES COMPANY, and acknowledged to me that
such corporation executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my
notarial seal at my office in Spokane, Washington, the day and year in this
certificate first above written.

(SEAL)

ANN McGUIRE
Notary Public in and for the State of
Washington, residing at Spokane.

STATE OF IDAHO)
) ss.
County of Shoshone)

On this 31st day of January, 1951, before me, the undersigned,
a Notary Public in and for the State of Idaho, personally appeared HENRY L.
DAY, personally known to me to be the President of DAY MINES, INC., and
acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my
notarial seal at my office in Wallace, Idaho, the day and year in this
certificate first above written.

(SEAL)

KATHRYN A. EICHWALD
Notary Public in and for the State of
Idaho, residing at Wallace.

INSTRUCTIONS FOR USE

1. Identify Agency of Addressee
2. Void Previously Used Block
3. Write Clearly
4. Send Surplus to Mail Room for Reissue

U. S. Government Messenger Envelope

Standard Form No. 65 (Rev. 1957)
Promulgated by Bureau of the Budget Circular A-33 (Rev.)

NAME (OR TITLE) OF ADDRESSEE, AGENCY, ORGANIZATIONAL UNIT, ADDRESS, AND ROOM		NAME (OR TITLE) OF ADDRESSEE, AGENCY, ORGANIZATIONAL UNIT, ADDRESS, AND ROOM	
Mr. Hankover DMCA Room 4458	STOP		STOP
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Use other side

Use STOP only when messenger service between Government buildings in Washington, D. C., is required or wherever a STOP system is used.
Your mail room has STOP information.

NAME (OR TITLE) OF ADDRESSEE, AGENCY, ORGANIZATIONAL UNIT, ADDRESS, AND ROOM		NAME (OR TITLE) OF ADDRESSEE, AGENCY, ORGANIZATIONAL UNIT, ADDRESS, AND ROOM	
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Use other side first

NON-PRIVILEGED DOCUMENT
TO BE PHOTOCOPIED AND PRODUCED
DO NOT CODE

BATES NO. 0447

Date	Surname	Code

orm 7

6)

June 25, 1958

Memorandum for the Docket

From: Director, Division of Base Metals

Subject: Justification for denial of Application,
Docket No. DMEA-5003, Day Mines, Inc.,
Gold Hunter Mine, Shoshone County, Idaho,
Lead-Zinc-Copper.

The application covers an ambitious project, including a 3,000 ft. shaft, some 8,000 feet of crosscutting and drifting, 10,000 feet of diamond drilling, etc., with a cost of a million and a half dollars.

The mine apparently bottomed out about 2,500 feet below the surface (mine 1200 level). The Applicant proposes to sink a 3000-foot interior shaft to get 1,800 feet below the present 1200 level, hoping it will then be in a horizon more favorable for ore.

The proposal has been discussed at length in the Kiilsgaard memorandum of June 6, 1958. We feel that his conclusions are well founded and concur in the denial. Bishop also recommends denial, for reasons which appear logical.

W. R. Griswold
W. R. Griswold

WRG/er

Copy to: Docket
Admr R File
Chron.



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

OFFICIAL FILE COPY
DMEA
IN REPLY REFER TO:
RECEIVED JUN 9 1958

6/10/ J.E. 221-
6/10 W.R. 500

June 6, 1958

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

From: T. H. Kilsgaard, U. S. Geological Survey

Subject: Review of Field Team Reports, DMEA Docket 5003, Gold Hunter Mine, Shoshone County, Idaho

In a report dated May 16, 1958, and a supplemental report dated May 29, 1958, the Field Team recommends approval of a DMEA project at the Gold Hunter mine, the cost of which is estimated at \$1,438,506.90. Many reasons are given in support of the Field Team recommendations, chief of which are:

- 1) Gold Hunter veins have been productive in the Wallace formation--a formation generally considered unfavorable--and it is hoped the veins again will be productive in the underlying St. Regis or Revett formations.
- 2) The veins are in the Gold Hunter-Success mineralized zone, a zone containing such productive mines as the Success, Gem, Frisco, and Morning-Star.

All things considered, the proposed project appears to be based on a lot of hope but little supporting geologic evidence. The chances of the project failing outweigh its chances for success.

It is true that few deposits have been found in the Wallace formation. In the present instance, however, the Field Team calls attention to the fact that at the Gold Hunter the structure had been made more favorable by the introduction of quartz and siderite into the wall rock. A silicified zone of this type would have been similar to conditions that might have existed in the silicious St. Regis or Revett formations. Continuing with this thought, it is significant to note the examiners' comment, "Whatever the cause the favorable wall rock apparently has been bottomed." This supports what is shown on the various sections that have been submitted, which indicate that however the origin, the Gold Hunter ore shoots also have bottomed. In the Coeur d'Alene district there is no known instance of where a significant ore body has occurred in the same vein beneath another body that had bottomed at a higher level. Work done


by DMEA at the Highland-Surprise, Sidney, and Polaris mines * *H. K.*
support this observation.

The questionability of the 3,000 level being in the St. Regis formation is pointed out by the Field Team but more emphatically by the applicant's Exhibits D and E. The St. Regis-Wallace contact is projected 5,500 feet down-dip on Exhibit D, through a folded and faulted section. Its location on the 3,000 level is anyone's guess. On Exhibit E, it may be seen that if the contact steepened only a few degrees or if the displacement on the Independence fault was down in the hanging wall, the entire Gold Hunter vein on the 3,000 level would be in the Wallace formation. Even the American Commander vein could be completely in the Wallace.

While the Gold Hunter is in a zone that has contained productive mines to the northwest, it might be pointed out that east of the Gold Hunter this same zone contains the Vindicator, Butte and Couer d'Alene, and Silver Mountain, all of which have been much explored but without success. In fact, with the exception of the Lucky Friday and the Snowstorm, exploration north of the Osburn fault and east of the Morning mine has been unsuccessful. This area should not be entirely discounted as there still remains targets to explore, but any exploration there should be based on the merits of the property rather than by emphasizing its proximity to the district or to mines within the district. Comparison with the Lucky Friday mine is valid, but only when it is remembered that this mine is not in the Success-Gold Hunter zone, is nearer the Osburn fault and in a more broken area, and does not have any "bottomed" ore bodies overlying the rich ones found on the lower level.

It might be argued that some preliminary work, such as diamond drilling, might be done below the 1,200 level before commencing the deep shaft. The Vertical Longitudinal Projection attached to the supplemental report shows that 6 levels have been driven on the North Ore Body, below the 1,200 level, but apparently with discouraging results. This indicates that holes beneath the other ore shoots also might be discouraging.

I cannot concur with the Field Team recommendations. The proposed project is overly expensive and geologic evidence indicates its chances for success are slight. I therefore recommend denial of the application.


T. H. Killsgaard

100-5003 *aspl*

✓
Excerpt from Mr. Mittendorf's diary, 6/5/58:

Hank Day (Henry L.) phoned from Wallace, Idaho. He told me of his recent discussions with Al Weissenborn, which Al had already reported to us by letter. Day said he received negative reports, in the last two weeks, from the three companies he approached to join him in the Gold Hunter project. He is now dealing with three other companies. When he gets through with them he has four more prospects. He said he can pay half of the operator's share of the Gold Hunter, but he needs somebody to pick up the check for the other half.

He said he could not make a positive guarantee at this time that the project would go through to completion if approved by DMEA. He is quite sure that it will, but he cannot give a written guarantee. Furthermore, he considered that he should not be obliged to give such a guarantee, since no other companies have had to meet that requirement.

I told him I did not intend that he give such a guarantee. He said he must have misunderstood Al. I told him my only reason for mentioning that Al explore the company's seriousness in its application was because I had conflicting reports back here. One indicated that Wray Farmin, vice president, did not favor the project, and I wanted Al to determine whether the company was really serious.

He didn't ask me any questions about the likelihood of the application being approved.



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UNITED STATES
DEPARTMENT OF THE INTERIOR

RECEIVED JUN 4 1958 BUREAU OF MINES

WASHINGTON 25, D. C.

DATE	INITIALS	CODE
6/5	C	220
6/5	W.R.G.	500

Memorandum ✓

To: W. R. Griswold, DMEA

From: O. M. Bishop, USEM

Subject: Review of report of field examiners dated May 14, 1958
and accompanying recommendation of the Field Team

June 4, 1958

Re: DMEA 5003; Pb-Zn-Cu
\$1,503,696
Day Mines, Inc.
Gold Hunter Property, et al
Shoshone County, Idaho

In response to an application by Day Mines, Inc., a field examination has been made. The examiners recommend the project in essentially the same form as proposed by the applicant. The target area is an extension of "zone 5" between the Morning and Gold Hunter mines at intersections of the Independence, Paymaster, Commander, and Cincinnati veins with the St. Regis and Revett formations of the Belt series.

There is little additional information in the field examiners report that can be used to support the project. As in the original application, justification is based on general, area-wise, geologic favorability and historical productivity.

The project now appears to be based on structural projections that seem unwarranted by the complexity of the area. The anticipated position of the St. Regis within the boundaries of the property is based on assumed constancy of displacement, dip, and position of the Paymaster-Cincinnati faults.

I conclude the absence of less generalized information indicates specific supporting data is not to be had and, therefore, recommend the applicant be denied.

O. M. Bishop
O. M. Bishop

cc: Division of Minerals
Mr. Kilsgaard
Mr. Lamb
Mr. Callaway
F I L E S



UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

May 29, 1958

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DMEA		
RECEIVED JUN 2 1958		
DATE	INITIALS	CODE
6/2	219	226
6/3	WPH	100
		500

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Dear Mitt:

This is in reference to your recent telephone conversation in which you expressed some doubts concerning how serious Day Mines is about the Gold Hunter application. I have had several discussions with Mr. Henry Day, the last being only a few minutes ago. Mr. Day has been very frank about the matter; he realizes DMEA's position and wishes to do nothing that would embarrass you. The situation, briefly, is as follows:

(1) Day Mines is very desirous of undertaking the project. They are committed to putting up half of their part of the cost but are not in a position to finance the entire 50 percent of the contract; consequently, they require a partner.

(2) They have a number of possibilities lined up. The first of these withdrew today. The second (AS & R) is also not now interested. (Mr. Day feels that this reflects AS & R's withdrawal from exploration all over the world and does not, in his opinion, reflect in any way on the merit of the project.) Discussions are now under way with a third firm and a firm answer is expected by the end of next week.

(3) Should this fail, there are at least 10 other possibilities still to be sounded out. This may, however, take a little time.

(4) Although he cannot give a firm guarantee, Mr. Day believes that it will be possible to find another company to come into the project with him and he requests that the application stand as it is and be judged on its merits.

With best regards,

ae
A. E. Weissenborn
Executive Officer, DMEA
Field Team Region I



UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

So. 157 Howard Street
Spokane 4, Washington

May 29, 1958

Mr. George C. Selfridge, Chairman
DMEA Operating Committee
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-5003 (lead-zinc-copper)
Day Mines, Inc.
Gold Hunter Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

This is in reply to your letter of May 15, 1958, concerning the application of Day Mines, Inc., for exploration of the Gold Hunter area. An analysis of the proposed program and of the costs, together with recommendations, was forwarded with the Field Team's letter of May 16 and crossed your letter in the mail.

As a result of this, many of the questions raised in your letter of May 15 and in the appended memoranda from Kiilsgaard and Bishop have already been answered, wholly or in part. However, specific answers to some of your questions are given in the ensuing discussion.

(a) Why not utilize the present shaft?

Exhibit "H", a longitudinal projection of the Gold Hunter mine, which was prepared by Day Mines, Inc., at our request, shows the stoping on the Gold Hunter vein. Actually, there are not one, but three Gold Hunter veins, the North, South and Middle veins.

A larger skip than that in present use will be required to effectively sink the shaft to the proposed 3000 level. This will require raising the sheave wheel and installing a new rope raise and hoist room. Ore and waste pockets will also be required. Stopping has been so intensive on the 1200 level in the vicinity of the shaft collar that there is either no room or the ground will not safely support such installations. These points have been discussed by Bardill but the longitudinal section brings them out graphically.

Because of leaser activity since the section was made, stoping below No. 6 tunnel level is more extensive than shown on the section and above the 400 level the shaft runs through heavily stoped ground. The shaft can be used with caution as a supply shaft to the 1200 level but cannot be used safely as a deep shaft.

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The question was raised in the previous memorandum as to the propriety of DMEA contributing to the crosscut from the proposed new shaft to the 1200-level working. Day Mines states that this connection would make it possible to move the ventilation base to the 1200, thus providing a more efficient installation. It would also permit the pump to be moved to the 1200. By pumping through the old shaft, facilities could be provided to settle the grit and thus permit pumping with a single lift above the 1200. It would greatly simplify pumping problems in the upper part of the shaft.

(b) What happened to the Gold Hunter vein below on the 1200 level?

The Gold Hunter vein is a strong vein on the 1200 level and was followed westerly to the point where it was cut off by a fault. To the east the vein gradually breaks up into several strands. A winze was sunk on the vein to the 1800 level but there is a cave 200 to 300 feet high over the winze so that it is no longer accessible. Old records indicate that the vein was found on every level off the winze and old notes speak of "commercial ore" on most of the levels.

In spite of these reports, although the vein continues strong on and below the 1200, the grade of the ore apparently has decreased and it is probable that the main Gold Hunter ore shoots have been nearly bottomed.

As was mentioned in our previous memorandum, the Wallace is generally regarded as an unfavorable host rock for ore deposits. Locally near the Gold Hunter shoot it has been made more favorable by the introduction of quartz and siderite into the wall rock. What guided the introduction of quartz and carbonates and formed, in effect, a more favorable wall rock is not known. Whatever the cause the favorable wall rock apparently has been bottomed. It is the hope that where the Gold Hunter vein enters the more competent St. Regis formation, the conditions will again be right for forming ore shoots. Because of uncertainties concerning extralateral rights, it was not expedient to consider deep exploration until the Gold Hunter, Independence and Clear Grit properties had been consolidated under one ownership.

It should be emphasized that the Gold Hunter veins are not the only targets of the proposed exploration; in fact, they are not even the main target. Other veins are equally promising. As shown on the surface map (Exhibit "C") of the application, there are numerous other veins in the project area such as the Independence, Panama, American Commander, and Cincinnati. None have been productive but all of them have sufficient showings so that they have been explored, some by quite extensive workings. Once again it is the hope that these veins represent merely leakage into the Wallace of ore bodies in more favorable rocks at depth.

The project area is at the intersection of north-south and northwest-trending structures. The resulting complex structural setting may be regarded as one favorable for ore deposits.

(c) Is long 1200 level proposed crosscut justified?


The 1200 level crosscut marked "Proposed Pilot Crosscut" on the cross section marked Exhibit "D" of the application is part of a project that Day Mines is considering to explore the Pilot vein. It is not proposed as part of the present project and the crosscut should have been removed from the cross section to avoid confusion.

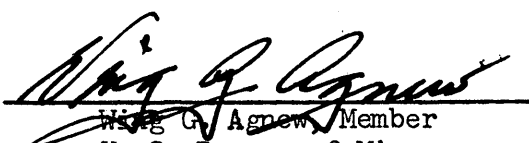
Questions (d), (e), and (f) deal wholly with costs and related matters. As you may have additional questions after studying Bardill's memorandum of May 14, it seems pointless to go into these matters at this time. If you have further questions we shall, of course, be glad to attempt to answer them.

In addition to two copies of the projection of the Gold Hunter vein, we are enclosing two copies of a claim map showing by name all of the claims in and adjacent to the project area. Also enclosed are two copies of a certification by Henry L. Day concerning the Clear Grit, Jap and American Fractions, and two copies of a letter dated May 22, 1958 by Rollin Farmin, Assistant Manager, transmitting the above enclosures to us.

Regarding Mr. Bishop's comments as to whether it would be possible to reach the target area by some cheaper method, Day Mines considered the possibility of reaching the target area by a crosscut from the Lucky Friday shaft. This would have required a long crosscut but would have avoided the cost of sinking a deep shaft. Day Mines reports that after extended negotiations it became evident that internal differences within the Lucky Friday Company would prevent the agreement being consummated.

By Field Team, Region I


A. E. Weissenborn, Exec. Officer
U. S. Geological Survey


W. G. Agnew, Member
U. S. Bureau of Mines

Enclosures

cc: USBM (2)
USGS (SRO)
Sample

DAY MINES, INC.

WALLACE, IDAHO

May 22, 1958

COPY

OFFICIAL FILE NO. 7

DMEA

RECEIVED JUN 2 1958

DATE FILED CODE

Mr. A. E. Weissenborn,
Executive Officer, DMEA,
Field Team Region I Northwest District,
S. 157 Howard,
Spokane 4, Washington.

DMEA 5003

Gold Hunter Shaft Project Application

Dear Sir:

Supplemental information for above captioned Application is submitted in quadruplicate herewith:

- (1) Certification that Clear Grit Fraction, Jap Fraction and American Fraction are included in the property.
- (2) A property map detailing the claims involved in the application, marked Exhibit "G".
- (3) A longitudinal vertical projection of the Gold Hunter stopes, with especial reference to those surrounding the present vertical shaft. It is to be remembered that a lessee stoped for several years after these company surveys and the shaft pillars now are smaller in places than shown. This projection is marked Exhibit "H".

Respectfully submitted,

Rollin Farmin

Rollin Farmin,
Assistant Manager.

RECEIVED

MAY 23 1958

RF:KAE
Encls.

U. S. G. S.
SPOKANE, WASH

SUPPLEMENT TO APPLICATION FOR AID IN AN EXPLORATION PROJECT

GOLD HUNTER SHAFT PROJECT - DAY MINES, DMEA RECEIVED JUN 2 1958

Docket No. DMEA 5003

DATE	INITIALS	CODE

1.

D. Day Mines, Inc. property:

- (a) CLEAR GRIT FRACTION unpatented lode mining claim, Hunter Mining District, Shoshone County, Idaho, in Section 27, T. 48 North, Range 5 E.B.M., recorded in Book 31 of Quartz Locations at page 301, in the Office of the Recorder of Shoshone County, Idaho.

JAP FRACTION unpatented lode mining claim, Hunter Mining District, Shoshone County, Idaho, in Section 27, T. 48 North, Range 5 E.B.M., recorded in Book 31 of Quartz Locations at page 156, in the Office of the Recorder of Shoshone County, Idaho.

AMERICAN FRACTION unpatented lode mining claim, Hunter Mining District, Shoshone County, Idaho, in Section 27, T. 48 North, Range 5 E.B.M., recorded in Book 31 of Quartz Locations at page 155, in the Office of the Recorder of Shoshone County, Idaho.

- (b) That this property are fractional claims and are known only by the name of the claim.
- (c) That DAY MINES, INC. is the owner of the foregoing claims.
- (d) That there are no liens, mortgages, or encumbrances against the foregoing property.

CERTIFICATION

The undersigned, President of DAY MINES, INC., in his own behalf and on behalf of DAY MINES, INC., certifies that the information set forth in this Supplemental form and accompanying papers, is correct and complete to the best of his knowledge and belief.

Dated this 21st day of May, 1958.

DAY MINES, INC.

By

Henry L. Day
President

RECEIVED
MAY 23 1958
U. S. G. S.
BOZEMAN, WASH



UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

May 16, 1958

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

D M E A		
RECEIVED MAY 19 1958		
DATE	INITIALS	CODE
5/19	C	220
5/21	243	130
5/21	WRY	220

ON-SITE
Report

Re: Docket No. DMEA-5003 (Lead-Zinc-Copper)
Day Mines, Inc.
Gold Hunter Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Enclosed are three copies each of memoranda by A. E. Weissenborn, Geologist, U. S. Geological Survey, and John D. Bardill, Mining Engineer, U. S. Bureau of Mines, on the referenced application. Weissenborn presents an evaluation of the application and Bardill presents a cost analysis.

The Gold Hunter mine has had a substantial production from the unfavorable Wallace formation. The applicant proposes to explore the favorable St. Regis and Revett formations that underlie the Wallace. Exploration will be towards the Morning Mine, one of the largest producers in the district. Weissenborn concludes that the chance of making a significant discovery is excellent and recommends that a program essentially similar to that proposed by the applicant be approved.

Bardill recommends a cost estimated to be about \$66,700 less than that proposed by the applicant.

The Field Team concurs with the conclusions and recommendations of Weissenborn and Bardill.

By Field Team, Region I

Wing G. Agnew
Wing G. Agnew, Acting Exec. Officer
U. S. Bureau of Mines

Donald R. MacLaren
Donald R. MacLaren, Acting Member
U. S. Geological Survey

Enclosures

cc: USBM (2)
USGS (SRO)
Sample

Reviewed by
DMEA OPERATING COMMITTEE

5-21-58
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
1201 N. Division St.
Spokane 2, Washington

May 14, 1958

MEMORANDUM

To: DMEA Field Team, Region I

From: John D. Bardill, Bureau of Mines

Subject: Cost analysis, Docket No. DMEA-5003 (lead-zinc-copper)
Day Mines, Inc., Gold Hunter Mine, Shoshone County, Idaho

Day Mines, Inc., submitted an application for DMEA assistance to explore the Gold Hunter mine by sinking a 3080-ft. shaft, including an 80-ft. sump and pocket, from the main No. 6 adit level underground, connecting the 1200-ft. level with the new shaft for ventilation and escapeway, exploring the 3000-ft. level with 7,300 feet of drifts and crosscuts, and 10,050 feet of diamond drilling at an estimated cost of \$1,505,261.10.

The cost estimates of the proposed exploratory work were discussed on May 5 and 6, 1958 with Messrs. Rollin Farmin, assistant manager, C. E. Sparks, general superintendent, and Ray Giles, chief engineer.

The old shaft to the 1200-ft. level will be used as an escapeway and ventilation from the 1200-ft. level to the main No. 6 adit level. The upper several hundred feet of the shaft is in heavily stoped ground so that it would probably be impractical and extremely difficult to provide headroom and support a head pocket, head sheave, hoist, compressor and fan room facilities required near the shaft.

The site of the proposed new shaft is approximately 500 feet from the old shaft and about 3,700 feet from the portal of the No. 6 adit portal. The No. 6 adit has been maintained in good condition. The surface facilities, although not modern, should suffice for the proposed program.

The new Wage Scale, Schedule A, and Job Classification contract becomes effective July 1, 1958 and expires June 30, 1959. The new wage scale is used in estimating labor costs in the application. No allowance has been made for future wage increases.

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Reviewed by
DMEA OPERATING COMMITTEE

5-21-58

(date)

Gypo contract labor rates for shaft sinking, raising, crosscutting and/or drifting are negotiated between the contractors and the company and are not dictated by the unions. However, union rates for minimum day's pay prevails when the minimum contract rate is not earned.

The following gypo contract labor rates have been established and are used for estimates in this application:

Shaft head-raise, 8'-8" x 17'-8" \$40/ft.

Shaft sinking, bottom crew,
8'-8" x 17'-8" \$65/ft.

Drifting and/or crosscutting, 8'x8'
working on No. 6 adit level, aver. \$10/ft.

Drifting and/or crosscutting, 8'x8'
working on levels below No. 6,
average \$11/ft.

Applicant estimates that the total cost per foot of gypo contract labor for shaft sinking, when in excess of the minimum contract footage, will be the contract rate plus 35 percent. For example, if the shaft sinking crew sinks a minimum of 7 feet in two shifts at \$65/ft., the total contract labor cost will be approximately \$65 x 1.35 or \$87.75/ft. The 35 percent differential is estimated to account for lost time due to water difficulties, heavy ground, timbering or rock bolting troubles, power failures, and any other delays. The applicant's estimate for this factor has been based upon actual experience for a number of their shaft sinking operations and has varied from a low of about 17 percent to about 87 percent over the base contract price. The total direct labor cost for sinking the winze from the 1600 to 1900 level at the Hercules mine recently was approximately 1.8 times the direct contract labor cost.

To illustrate, the Hecla Mining Co.'s Silver Mountain shaft sinking gypo contract for direct labor was \$55/ft. The final direct shaft labor cost, according to a DMEA audit, was \$70.61 per foot or 128 percent of the gypo contract rate. The reason for the additional 28 percent was because before the 2000-ft. shaft had been completed, it was necessary to retimber and reblock two sections of the shaft below the 1080-ft. level at an additional cost which was charged to direct shaft labor. Applicant has guesstimated that such difficulties may be encountered in sinking a 3000-ft. shaft to the extent of 35 percent above the basic contract rate.

The following wage scale and shift differentials, based on an 8-hour shift, were used for the estimates:

<u>Job</u>	<u>Day</u>	<u>Nite</u>
Level motorman	\$17.26	\$17.66
Cager	18.20	18.70
Timber framer	18.30	18.70
Main line motorman	18.76	19.36
Drift miner	19.34	19.94
Shaft and/or raise miner	20.26	20.86
Hoistman	20.26	20.86

Overtime for 6th day adds 1/12 or 8-1/3 percent to total labor cost for 6 days work.

Pusher's pay is difference between shifter's salary of \$24.75/day and cager's wage.

Non-wage labor cost averages 18 percent of the total payroll for direct and indirect labor and supervision, engineering and clerical to cover cost of social security taxes, hospitalization, compensation insurance, health and welfare, pensions and group insurance.

Warehouse and delivery cost, based on actual operating experience, is estimated at 8 cents per ton of rock excavated.

Power cost is 6.25 mills per KWH, and power costs are estimated on probable connected load and estimated time percent of operations of hoist, pumps, fans, etc.

The applicant will purchase, rent, or owns all equipment and has included a depreciation schedule on a monthly basis according to work usage which applicant terms "Equipment Rent." The schedule APPENDIX 6 (d), included with the application, seems fair and equitable. Major additional equipment items to be obtained other than those already available at the site or at other company mines are a new large hoist, two air-cooled air compressors, and a shaft mucker.

The cost estimate for diamond drilling has been reduced to \$5.25/ft. Applicant does not plan to do all of the diamond drilling concurrently with the crosscutting and drifting.

Applicant has estimated timbering cost at \$12/ft. which seems reasonable and is comparable to normal timbering costs in the district.

Applicant has observed the very heavy ground conditions at the Silver Mountain mine project and the rock bolting problems there, and consequently has anticipated similar conditions at the Gold Hunter mine by estimating a maximum average of 2 rock bolts per foot of drift and/or crosscut. I suggest that instead of averaging the number of bolts over the entire length of the workings, the bolts be averaged only in moderately or heavily bolted sections. In sparsely bolted sections the bolts should not be averaged.

Applicant's estimate of \$1.00 per cubic foot for station and other excavations other than shaft, drift and crosscuts is comparable to allowed costs in other contracts for the same type of work.

Fifteen hundred assays should be allowed for samples from the new drifts and diamond drill cores.

The following cost estimates in some cases approximate those of the applicant, but are in more detail for clarification.

Estimated Cost of Shaft Head-Raise

Progress at 5 feet per day on 2 shifts, 5 days per week

	Cost per <u>lin.ft.</u>	
1. Labor		
A. <u>Direct labor</u>		
Raise crew (2 shifts of 3 men/shift at day's pay wages of \$20.26 for day shift and \$20.86 for nite shift or contract rate of \$40/ft. at minimum of 5 ft. (contract rate includes extra for 6th day)	\$40.00	
Hoistman (1 man each for day and nite shifts @ \$20.26 and \$20.86, resp.)	<u>8.22</u>	48.22
B. <u>Indirect labor</u> (at 2/3 time because of other work on station laterals, etc. on No. 6 level.)		
Haulage (1 man each day and nite shift 2/3 time @ \$18.76 and \$19.36, resp.)	5.07	
Bulldozer service for waste dump (\$100/wk. @ 2/3 time)	2.67	
Timber framing (1 man @ \$18.30 @ 2/3 time)	2.43	
Mechanic-electrician (1/2 shift @ \$20.26)	<u>2.02</u>	12.19

1. Labor - continued

Cost per
lin. ft.

C. Supervision, engineering and clerical
(at 2/3 time because of laterals, etc.
on No. 6 adit level)

Mine foreman (1 @ \$650/mo. at 2/3 time)	\$3.47
Pusher pay (one 2/3 of \$1.41 x 5/7)	0.67
Engineering and geology, part-time @ \$250/mo.	2.00
Superintendent and assistant manager @ approx. \$500/mo., part-time	4.00
Master mechanic and chief electrician @ approx. \$90/mo., part-time	0.50
Clerical (timekeeping, bookkeeping, warehouse, etc.) @ \$250/mo.	<u>1.00</u>

\$11.65

D. Non-wage labor costs

Social security taxes (employer)
Hospital
Compensation insurance
Health and welfare
Pension
Group insurance
18% of direct, indirect labor and
supervision

12.97

Total labor

85.03

2. Supplies

Powder, 32.5# @ 23¢/lb./ft.	7.48
Detonators and blasting wire	3.08
Bits) (based on Hercules winze	7.54
Steel) 1600-1900 levels)	2.17
Drill repair (based on Hercules main shaft 1200-1600 levels)	2.71
Miscellaneous supplies and repairs (based on Hercules shaft)	2.30
Equipment depreciation (see schedule)	5.43
Warehouse and delivery charge (based on 8¢/ton of rock excavated) or 13.25 tons @ 8¢/ton	<u>1.06</u>

Total supplies

31.77

3. <u>Materials installed</u>		Cost per <u>lin. ft.</u>
Timber, 290 bd. ft./ft. @ \$57.50/M		\$19.88
Chute lining		3.66
Guides, 8 bd. ft. @ \$250/M		2.00
4" air pipe including hangers (\$2.00 less salvage at 25%)		1.50
2" water pipe including hangers (\$0.65 less salvage at 25%)		0.49
16" galv. 20 gauge ventilation duct (\$1.50 less salvage at 50%)		<u>0.75</u>
		28.28
4. Power		
208 KWH @ 5/8¢ per KWH for lighting, air compressors, miscellaneous electrical equipment		<u>1.20</u>
Total cost of shaft head-raise - per ft.		\$146.38

SUMMARY OF ESTIMATED COST OF SHAFT HEAD-RAISE

		Cost per <u>lin.ft.</u>
1. Labor		
Direct	\$48.22	
Indirect	12.19	
Supervision, engineering, clerical, etc.	11.65	
Non-wage labor costs	<u>12.97</u>	\$85.03
2. Supplies		31.77
3. Materials		28.28
4. Power		<u>1.30</u>
Total estimated cost per foot		\$146.38

Estimated Cost of Shaft Sinking

Progress at 7 feet per day on 3 shifts, 6 days per week

1. Labor	Cost per <u>lin.ft.</u>
<u>A. Direct labor</u>	
Shaft crew, 3 shifts of 4 men/shift @ \$20.26 day's wages, or contract rate of \$65/ft. x 1.35 at minimum of 7 ft./24-hr. day, includes extra for 6th day.	\$87.75
Hoistman (1 on each shift @ \$20.26, \$20.86 and \$21.06) x 1.35, includes extra for 6th day	12.00
Cager-supply man (1 on each shift @ \$18.30, \$18.70 and \$18.90) x 1.35, includes extra for 6th day	<u>10.76</u>
	\$110.51
<u>B. Indirect labor</u>	
Haulage-supplies, waste rock (2 men 1 shift per day @ \$18.76 x 1.083 for 6th day	5.76
Bulldozer service on dump @ \$100/wk.	2.38
Timber framing, 1 @ \$18.30, 5 days/wk.	2.61
Mechanic-electrician, 1 @ \$20.26, 5 days/wk.	<u>2.89</u>
	13.64
<u>C. Supervision, engineering, and clerical</u>	
Mine foreman, 1 @ \$650/mo., 25 days/mo. @ 7 ft./day	3.71
Pusher pay, \$1.41 x 5/7 (7 ft./day instead of 5 ft.) x 1.083 for 6th day	1.09
Engineering and geology, part-time, @ \$250/mo., 25 days/mo. @ 7 ft./day	1.42
Superintendent and assistant manager, part-time, approx. \$500/mo., 25 days/mo. @ 7 ft./day	2.86
Master mechanic and chief electrician @ approx. \$90/mo., part-time	0.40
Clerical, 1 @ \$250/mo.	<u>1.43</u>
	10.91
D. <u>Non-wage labor costs @ 18% of \$135.06</u>	<u>24.31</u>
Total labor	\$159.37

2. Supplies

	Cost per lin. ft.
Powder (same as shaft head-raise)	\$ 7.48
Detonator and blasting wire	3.08
Bits	7.54
Steel	2.17
Drill repair	2.71
Warehouse and delivery	1.06
Equipment depreciation	19.47
Misc. supplies and repairs, including shaft mucker, pumps, etc.	<u>6.76</u>
	\$50.27

3. Materials

Timber (same as shaft head-raise)	19.88
Guides	2.00
4" air pipe, including hangers (\$2.00 less salvage @ 25%)	1.50
2" water pipe, including hangers (\$0.65 less salvage @ 25%)	0.49
24" ventilation pipe, Taylor spiral weld, \$5.05 + 20¢ for hangers, less 50% salvage	2.63
6" pump column, including hangers, fittings, etc. (\$3.00 less salvage @ 50%)	1.50
Hanging rods	<u>1.25</u>
	29.25

4. Power

Approximately 772 KWH @ 5/8¢/KWH	4.82
(Approx. connected load of 1300 HP operating 60% of the time)	

Total cost of shaft sinking - per ft. \$243.71

SUMMARY OF ESTIMATED COST OF SHAFT SINKING

		Cost per <u>lin. ft.</u>
1. Labor		
Direct	\$110.51	
Indirect	13.64	
Supervision, engineering, clerical, etc.	10.91	
Non-wage labor costs	<u>24.31</u>	\$159.37
2. Supplies		50.27
3. Materials		29.25
4. Power		<u>4.82</u>
Total estimated cost per foot		\$243.71

Estimated Costs for Drifting and Crosscutting on No. 6 Adit Level

Progress at 10 ft./24-hr. day, 2 shifts/day, 2 headings,
6 days/week = 8'x8' drift or crosscut

		Cost per <u>lin. ft.</u>
1. Labor		
A. <u>Direct labor</u>		
2 heading crews, 2 men each, 2 shifts per day @ \$19.34 and \$19.94, or contract rate @ \$10/ft. x 1.083 (includes extra for 6th day)		\$10.83
B. <u>Indirect labor</u>		
2 motormen, 1 each on day and nite shift @ \$18.76 and \$19.36 x 1.083 for 6th day	2.07	
1 mechanic-electrician @ \$20.26 x 1.083 for 6th day	<u>1.10</u>	3.17
C. <u>Supervision, engineering and clerical</u>		
Mine foreman @ \$650/mo.	1.30	
Pusher pay (\$24.75-18.30) x 1.083	0.33	
20		
Engineering and geology, part-time @ \$250/mo.	0.50	
Superintendent and asst. manager @ approx. \$500/mo., part-time	1.00	
Master mechanic and chief electrician, part-time @ approx. \$90/mo.	0.18	
Clerical @ \$250/mo.	<u>0.50</u>	3.81
D. <u>Non-Wage Labor Costs</u>		
18% of \$17.81		<u>3.21</u>
Total labor		\$21.02

2. Supplies	Cost per <u>lin.ft.</u>	
Powder, 21.5#/ft. @ \$0.23/lb.	\$4.95	
Detonators and blasting wire	2.31	
Bits)		
Steel)	7.20	
Drill repair	1.30	
Misc. supplies and repairs (no pump, hoist cable or shaft maintenance)	1.37	
Equipment depreciation (see schedule)	5.09	
Warehouse and delivery @ \$0.08/ton rock excavated	<u>0.51</u>	
		\$22.73

3. Materials		
2" air pipe @ \$0.57/ft. - less 50% salvage	0.29	
2" water " @ 0.57/ft. - " " "	0.29	
Track, ties, spikes, etc. @ \$1.91/ft. less 25% salvage	<u>1.43</u>	
		2.01
4. Power - 208 KWH @ 5/¢/KWH	<u>1.30</u>	

Total cost of drifting and crosscutting = per ft: \$47.06
on No. 6 Adit level

SUMMARY OF ESTIMATED COSTS FOR DRIFTING
AND CROSSCUTTING ON NO. 6 ADIT LEVEL

1. Labor		Cost per <u>lin. ft.</u>
Direct	\$10.83	
Indirect	3.17	
Supervision, engineering, clerical, etc.	3.81	
Non-wage labor costs	<u>3.21</u>	\$21.02
2. Supplies		22.73
3. Materials		2.01
4. Power		<u>1.30</u>
Total estimated cost per foot		\$47.06

Estimated Costs for Drifting and Crosscutting on Levels Below No. 6 Adit

Progress @ 10 ft./heading/day, 2 shifts/day/2 headings,
6 days/week, 25 days/month = 8'x8' drift or crosscut

1. Labor	Cost per lin. ft.
A. <u>Direct labor</u>	
2 heading crews, 2 men each, 2 shifts/ day @ \$19.34 and \$19.94 or contract average rate of \$11/ft. x 1.083 for 6 days	\$11.97
B. <u>Indirect labor</u>	
2 cagers @ \$18.30 and \$18.90 x 1.083 for 6th day	\$2.02
4 motormen for 3000 level @ \$17.26 and \$17.66 x 1.083 for 6th day	3.79
2 hoistmen @ \$20.26 and \$20.66 x 1.083 for 6th day	2.22
1 mechanic-electrician @ \$20.26 x 1.083 for 6th day	<u>1.09</u> 9.12
C. <u>Supervision</u>	
Mine foreman @ \$650/mo.	1.30
Pusher pay	0.33
Engineering and geology, part-time @ \$250/mo.	0.50
Superintendent and asst. general manager, part-time @ \$500/mo.	1.00
Master mechanic and chief electrician, part-time @ approx. \$100/mo.	0.20
Clerical (1) @ \$250/mo.	<u>0.00</u> 3.83
D. <u>Non-wage Labor Costs</u>	
18% of \$24.92	<u>4.49</u>
Total labor	\$29.41

	Cost per lin. ft.	
2. Supplies		
Powder, 22.5#/ft. @ \$0.22/lb.	<u>\$4.95</u>	
Detonators and blasting wire,		
42 detonators @ \$0.25 plus 10% for wire	2.31	
Bits, steel and drill repair (based on Rainbow-Sterling crosscut in 1953)	8.50	
Miscellaneous supplies and repair (same basis)	2.74	
Equipment depreciation	7.50	
Warehouse and delivery @ \$0.08/ton	<u>0.51</u>	
		\$26.51
3. Materials		
4" air pipe @ \$1.50/ft. less 50% salvage	0.75	
2" water pipe @ 0.57/ft. " " "	0.29	
20" vent duct @ 1.40/CWT + 3% tax - \$4.35		
Hangers	<u>.20</u>	
	4.55	
Less 50% salvage	2.38	
30# rail, ties, spikes, fishplates, etc. @ 25% salvage	<u>1.40</u>	4.83
4. Power		
Approx. 614 KWH @ 5/8¢/KWH		3.84
Approx. connected load of 1300 HP operating about 35% of the time		<u> </u>
Total cost of drifting and crosscutting on levels below No. 6 adit - cost per ft.		\$64.59

SUMMARY OF ESTIMATED COSTS FOR DRIFTING
AND CROSSCUTTING BELOW NO. 6 ADIT LEVEL

	Cost per lin. ft.
1. Labor	
Direct	\$11.97
Indirect	9.12
Supervision, etc.	3.83
Non-wage labor costs	<u>4.49</u>
	\$29.41
2. Supplies	26.51
3. Materials	4.83
4. Power	<u>3.85</u>
Total estimated cost per foot	\$64.59

If the application is favorably considered for a contract it is recommended that the work be done on an actual cost basis with maximum allowable costs.

Estimated cost of the project is \$1,438,506.90, with Government participation @ 50% or \$719,253.45.

The connection from the new shaft to the old mine workings on the 1200 level does provide another escapeway down to this level and would improve ventilation to some extent. However, the connection would have no effect on any work below the 1200 level and consequently there is some question as to whether DMEA should participate in the full cost of the 1200 level station and the connection to the old mine although a small pump station and sump would be required. If DMEA did not participate in this, the amount of the contract would be reduced by about \$10,000 for crosscutting plus about \$1800 for the level station, minus the cost of a pump sump and station.

Distribution:

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Docket
Bardill

Docket No. DMEA-5003

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DMF-11

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
80. 157 Howard Street
Spokane 4, Washington

May 14, 1958

MEMORANDUM ✓

To: DMEA Field Team, Region I

From: A. E. Weissenborn, U. S. Geological Survey

Subject: Application evaluation report, Docket No. DMEA-5003
(Lead-Zinc-Copper), Day Mines, Inc., Gold Hunter Mine,
Shoshone County, Idaho

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INTRODUCTION

Day Mines, Inc., Box 1010, Wallace, Idaho, has applied for aid for a long-range, deep exploration project for lead, zinc, and copper in the Gold Hunter or Mullan area near Mullan, Shoshone County, Idaho. As this area has been mapped by U. S. Geological Survey geologists as part of the Survey's Coeur d'Alene project, no geological field examination was made. The proposal was discussed thoroughly with S. W. Hobbs and V. C. Fryklund, Jr., of the Geological Survey, who are very familiar with the geology of the area of the proposed project. W. A. Prinz of the Geological Survey drafted a number of cross sections to check the map and cross section submitted by the applicant.

John D. Bardill, U. S. Bureau of Mines, spent most of 2 days at the office of Day Mines, Inc., discussing costs of the proposed work. His revised cost estimates are the subject of a separate memorandum.

SUMMARY ✓

The area to be explored lies between the Gold Hunter and the Morning mines and includes the Gold Hunter property. The Gold Hunter mine, one of the early mines in the district, has had a substantial production from the unfavorable Wallace formation. The Morning mine, together with the adjacent Star property, exploits one of the great ore shoots of the world. The combined Morning-Star ore body has a known strike length of 4,000 feet and a known rake length of 6,000 feet.

Reviewed by
DMEA OPERATING COMMITTEE
5-21-58
(date)

Day Mines, Inc., proposes to sink a 3,020-foot shaft from the Gold Hunter No. 6 adit and to explore from the bottom of the shaft by approximately 7,300 feet of drifts and crosscuts and 10,050 feet of diamond drilling. Exploration is expected to be in the favorable St. Regis and Revett formations. The company estimates that the total cost will be \$1,505,261.10.

RECOMMENDATIONS

Approval of a project essentially similar to that proposed by the applicant is recommended. Modification of the estimated cost brings the total cost of the project to \$1,438,506.90, to which the Government would contribute 50 percent, or \$719,253.45.

LOCATION, ACCESSIBILITY AND LOCAL FACILITIES

The property to be explored is comprised of three contiguous groups of claims, all in the Hunter district, near the town of Mullan, Shoshone County, Idaho. The Hunter district is in the eastern part of the area generally known as the Coeur d'Alene district.

The climate is typical of that of the Coeur d'Alene district with relatively severe winters and mild summers.

Access to the property is through the long Gold Hunter No. 6 adit. This adit portals at an altitude of 3,374 feet, about 500 feet north of both U. S. Highway 10 and a branch line of the Northern Pacific Railroad. The property is connected to lines of the Idaho Power Company.

HISTORY AND PRODUCTION

The Coeur d'Alene district is one of the leading domestic producers of lead, zinc, and silver, and is one of the relatively few districts in the world with a production of over one billion dollars.

All of the production from the land under consideration in this application has come from the Gold Hunter mine. The Gold Hunter mine is one of the oldest mines in the Coeur d'Alene district. It was discovered in 1884 and was in operation almost continuously from 1887 until 1950. Production records are incomplete, but from 1902 to 1947 production was in the neighborhood of 3 million tons of ore. The grade in the most productive years (1911-1930) averaged around 4.1 ounces silver per ton and 4.1 percent lead, with lesser amounts of zinc. In the first half of this period the grade was appreciably higher but declined as the ore reserves became exhausted. The Gold Hunter is one of the few productive mines in the district in which the Wallace formation forms

the walls of the vein. The Wallace formation is regarded as an unfavorable host rock for ore in the Coeur d'Alene district.

About 8,000 feet to the northwest of the Gold Hunter mine, along the trend of the area to be explored, is the Morning mine belonging to the American Smelting and Refining Company. This mine, together with the adjacent Star mine, exploits an ore shoot with a known strike length of over 4,000 feet and a known length down the rake of the ore shoot of over 6,000 feet. The Morning-Star ore shoot is thus one of the great ore shoots, not only of the Coeur d'Alene district, but of the world.

Approximately 3,800 feet directly to the south of the Gold Hunter is the Lucky Friday mine. This property has developed an ore shoot which, although only 75 feet long on the 300 level and but 175 feet long on the 1200 level, has opened up on the 2300 level to a strike length of 1,200 feet. Reserves are estimated at 768,000 tons averaging 17.9 ounces silver per ton, 8.9 percent lead, and 1.4 percent zinc. The mine, which is becoming one of the important producers of the Coeur d'Alene district, is described in the April 1958 number of MINING WORLD.

OWNERSHIP

The ground to be explored consists of three groups of claims: the Gold Hunter property, the Independence Lead property, and the Clear Grit group. Day Mines, Inc., through subsidiary companies or directly, owns or controls this ground. The location of the three groups is shown in Exhibit "C" accompanying the application and the ownership is detailed in the application and in the accompanying lease agreements. At our request, Day Mines, Inc., is preparing a map showing the individual claims by name.

The Gold Hunter No. 6 adit portals on the Gold Hunter ranch, which is part of but physically separated from the Gold Hunter group. Underground rights on Gold Hunter ranch are not included in the ground subjugated to the contract as they have been under lease for many years to the Lucky Friday mine.

The Gold Hunter No. 6 adit traverses ground which is not controlled, or is only partly controlled, by Day Mines, Inc. The company states that Idaho law, plus many years of usage, gives Day Mines right of access to the property through this adit. All exploration work will be well within ground subjugated to the contract.

DEVELOPMENT

The Gold Hunter mine has not produced since about 1950 and the extensive workings of the property are only partly accessible. The No. 5 and 6 adits and the Brennan shaft connecting the two adits have been rehabilitated and the Main shaft, which is collared on the No. 6 adit level 4,200 feet inward from the portal, has been enlarged and retimbered for 750 feet of its 1,200-foot length.

Production facilities on the property include a machine shop, timber-framing shop, change house and associated facilities, a trolley locomotive haulage system for the No. 6 adit, a 150-hp hoist installed at the Main shaft, surface transformers and a No. 2 power cable from No. 6 portal to the Main shaft hoist room, a compressed air-driven hoist for the Brennan shaft and air mains and receivers throughout the accessible parts of the mine. Also on the property are a 400-hp synchronous Ingersoll-Rand Class FE compressor (1904) and an obsolete 250-hp compressor.

GEOLOGY

Regional setting

The following discussion is in large part summarized and modified from various memoranda prepared by Hobbs or Fryklund of the Geological Survey for use in discussing other Coeur d'Alene district applications.

The Coeur d'Alene district is underlain by quartzites, argillites and phyllites of the Precambrian Belt series. The Belt rocks have been folded and faulted and intruded by stocks and dikes. Recognizable map units in the district are from bottom up, the Prichard, Burke, Revett, St. Regis, Wallace, and Striped Peak formations. The stratigraphic thickness of these formations totals 20,000 feet.

Ore deposits have been found in all the Belt formations except the Striped Peak. Of the others, the Wallace is the least favorable host rock and the St. Regis and Revett the most favorable.

The largest district structures are the Osburn fault, the Burke anticline, whose east flank is cut by the productive veins that lie north of the Osburn fault, and the Pine Creek anticline, whose east flank is cut by the westernmost of the productive veins that lie south of the Osburn fault. It has been postulated that the Pine Creek and Burke anticlines are parts of the same structures that have been separated by post-mineral movement along the Osburn fault.

Drag folds on the two major anticlines, cross-folding, together with northwesterly, easterly, and northerly striking faults complicate the geologic picture.

The great bulk of the production from the Coeur d'Alene district has come from two separate areas: (1) the Nine Mile-Congress Creek-Mullan area north of the Osburn fault, and (2) the Page-Bunker Hill-Sunshine, Silver Summit-Galena area south of the fault. Area (1) is centered approximately 16 miles east of the center of Area (2) and is separated by the Osburn fault (fig. 1). Whether the two centers represent a post-mineral offset of a district that was once a single center of metalization is a question which need not be argued here.

Hobbs and Fryklund have pointed out in previous DMEA memoranda that within the two productive areas the important ore deposits are localized along nearly parallel zones or belts that trend slightly more northerly than the Osburn fault and appear to be independent of the local structure. Six of those zones are recognized north of the Osburn fault and two south of the fault (fig. 1). Experience in the Coeur d'Alene district has shown that the best chance for finding an important ore body is to explore blank or untested spots along any of these zones.

The area of the proposed exploration lies wholly within what has been termed the Gold Hunter-Success zone (Zone 5 of fig. 1). Included within this zone are such mines as the Success, Gem, Frisco, Black Bear Fraction, and Morning-Star -- some of the most productive properties within the Coeur d'Alene district. Figure 2 shows the mines in Zone 5 and their positions with respect to the area of the proposed exploration. Figure 3, a longitudinal section along the zone prepared by Day Mines, Inc., at our request, shows the stoping along Zone 5. Only the more important mines are shown, but the great productivity of the mines in Zone 5 is at once apparent.

Reference is made to geologic maps of the Pottsville and Vicinity quadrangle and the Mullan and Vicinity quadrangle, Shoshone County, Idaho, U. S. Geological Survey Open File series, for surface geologic relations in and around the area of the proposed project. These maps are not included with this memorandum report, but they were included in a complete set of Geological Survey open file maps of the Coeur d'Alene district sent to DMEA some time ago. They should also be available through the Washington, D. C. office of the Geological Survey.

Local geology

The proposed project is designed to test an unexplored stretch of Zone 5 between the Morning and the Gold Hunter mines and to test the Gold Hunter vein itself in the favorable St. Regis formation.

The project area lies between the Paymaster fault on the south and the Cincinnati and Independence faults on the north.

Examination of the surface maps referred to above shows that the Star and other faults associated with the productive mineralization west of the project area strike toward the area to be explored. The map of the proposed Gold Hunter 3000 level (Exhibit "F" of the application) shows the principal faults that will be explored; others are known from surface mapping.

None, except the Gold Hunter, have been mined in the project area, but any of them could have ore associated with them, particularly within the St. Regis or Revett formations.

The surface is underlain by beds of the Wallace formation. Even though the Gold Hunter mine over the years has been a substantial producer, the Wallace formation is not regarded as a favorable host rock for ore deposits. The exploration is planned to be in the St. Regis or Revett formations, which are two of the more favorable host rocks in the district.

APPLICANT'S PROPOSAL

Day Mines, Inc., proposes to sink a new vertical shaft to a depth of 3,080 feet below the No. 6 adit. The collar of the shaft will be approximately 3,700 feet inby from the portal of the No. 6 adit. The shaft will connect with the existing "Main" shaft at the 1200 level. The 3,000-foot level will be explored by 7,300 feet of crosscutting and drifting and 10,050 feet of diamond drilling, which will test the ground between the Paymaster fault on the south and the Cincinnati and Independence faults on the north. A length of approximately 4,000 feet northwesterly along the so-called Gold Hunter-Success zone previously described will be tested. Figure 4 shows the proposed exploration and its position with respect to the boundaries of the subjugated area.

Cross sections through the project area made by Prinz of the Geological Survey check essentially the plan and cross section submitted with the application and show that on the proposed 3000 level the St. Regis formation is expected to lie a short distance to the north of the shaft. This is subject to some uncertainty because of the long projection of the St. Regis-Wallace contact from surface exposures and because the amount of displacement along

the Independence fault is not known. This displacement, however, is believed to be minor. It is believed that the Gold Hunter vein will be in St. Regis at the exploration level directly north of the shaft, but there is a possibility that it may still be in Wallace. However, even if this should be the case, as the exploration proceeds to the north and west it should enter into St. Regis or Revett within a short distance.

Day Mines, Inc., retimbered the Gold Hunter Main shaft with the expectation of using it in this and other exploration. However, because of its proximity to the Gold Hunter vein, the shaft is in heavy ground, and as shown in the section through the Gold Hunter No. 6 adit (Exhibit "D" of the application), the shaft, if deepened, would intersect the Independence fault at a low angle and additional heavy ground could be expected. The Main shaft was sunk in the vein and is in an area which has been stoped on all sides as well as above and below the No. 6 adit level. It would be difficult to support the necessary facilities for a project of this magnitude in this stoped ore and therefore it is considered impractical to use this old shaft. Furthermore, the shaft is needed for ventilation and as a second escapeway. For these reasons the company does not believe it practicable to deepen the Main shaft and proposes an entirely new shaft about 500 feet to the west.

RECOMMENDED PROPOSAL

The plan proposed by the applicant seems well thought out and no changes are recommended.

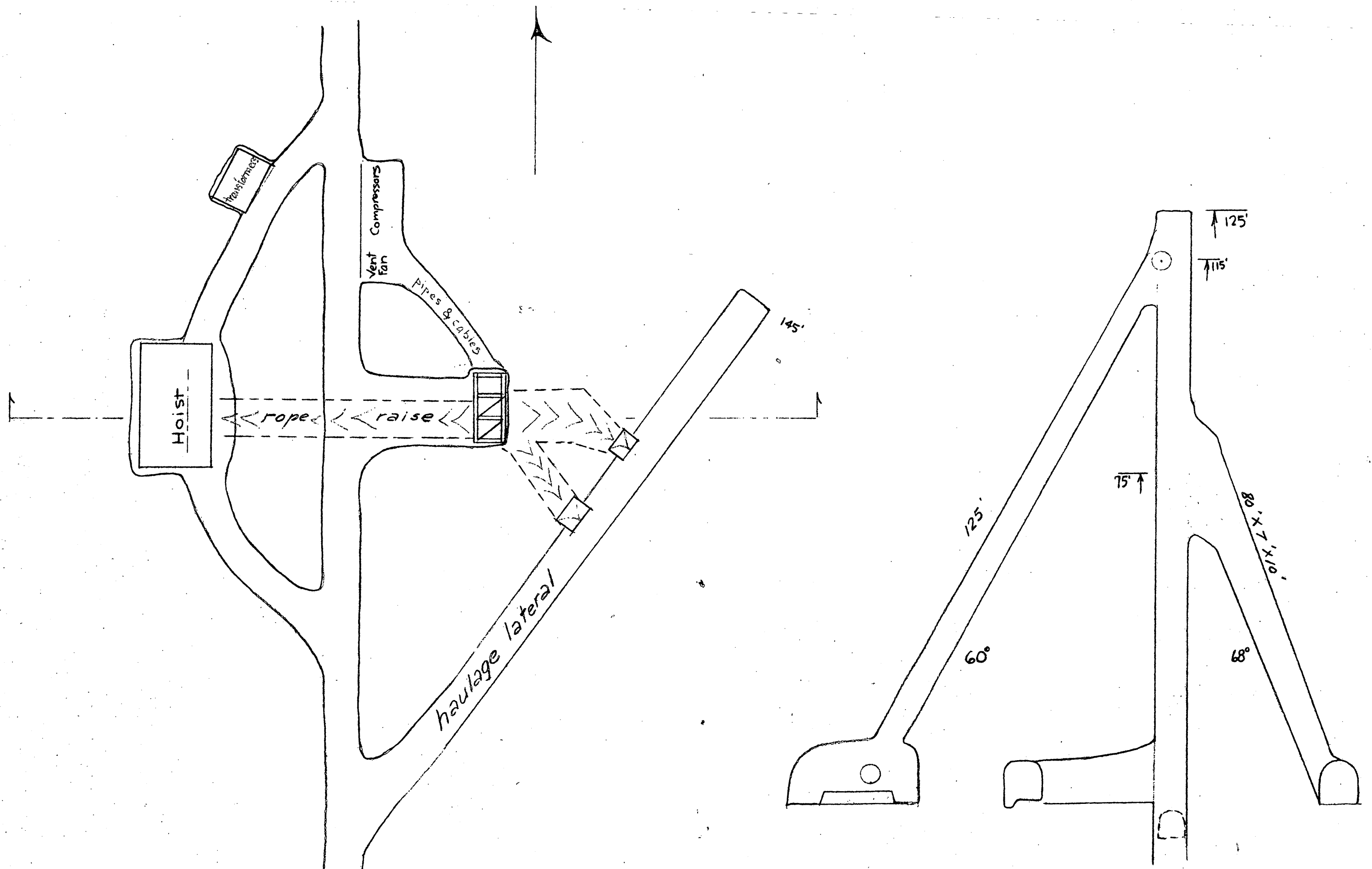
At a later date Day Mines plans exploration of adjoining properties to the north (the so-called Abot consolidation). This exploration is not included in the present application but will use facilities to be created by the proposed project. If DMEA participates in the proposed project, the contract should contain a provision similar to that of the East Page contract (Docket No. DMEA-4712) to assure the Government its due share of royalty on any ore passing through any workings to which it has contributed.

Enclosures

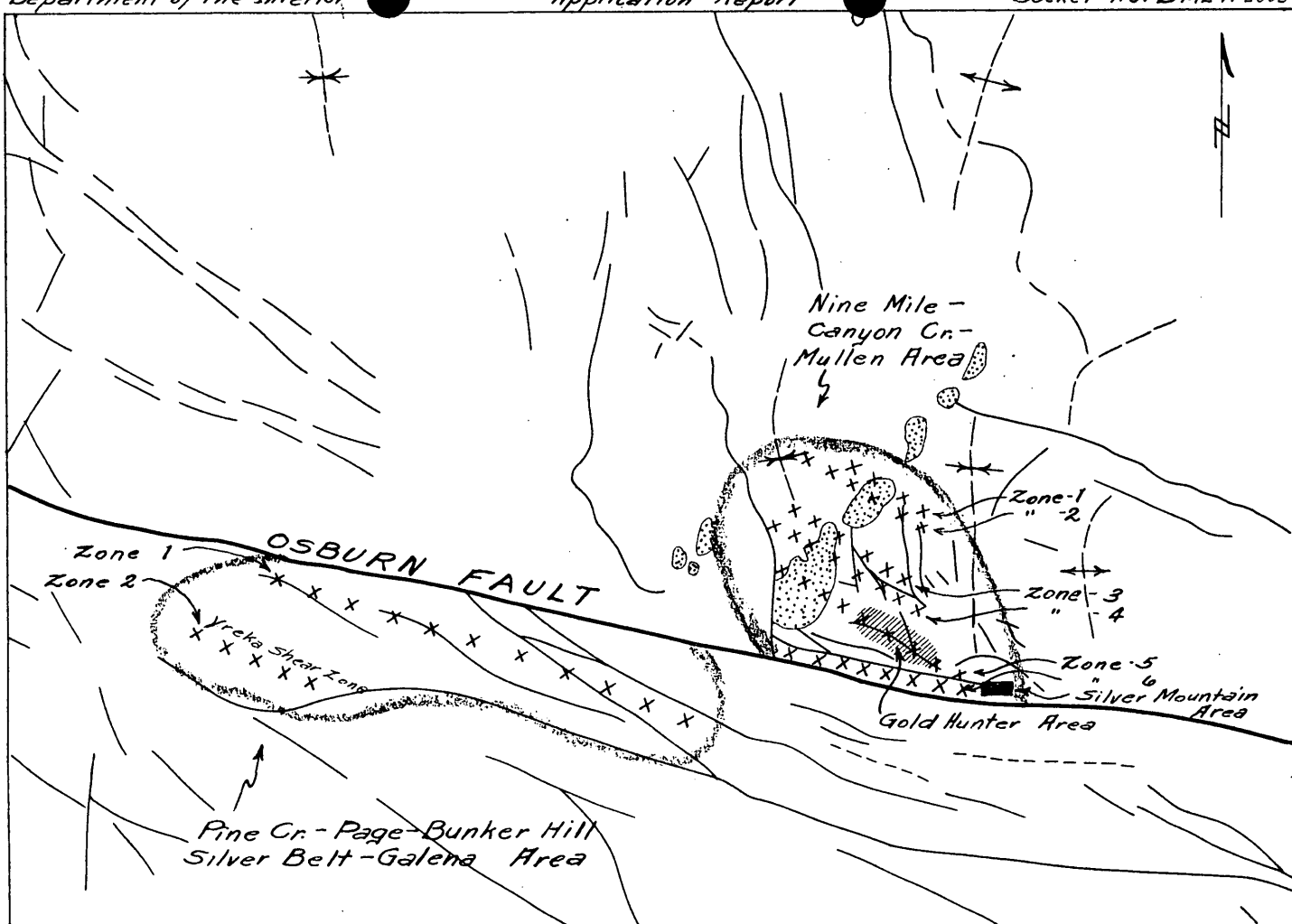
Distribution:

DMEA(3)
USEM(2)
USGS(SRO)
Docket
Sample

LEVEL _____ MINE Gold Hunter DATE Nov. 57 BY RF
SCALE _____ OPERATION No. 2 Shaft (proposed)



[illegible]



SKETCH MAP OF THE COEUR D'ALENE DISTRICT
Scale: 1"=6 Miles

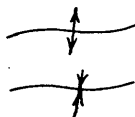
Showing the two areas of mineralization
and the mineral zones in each.

Explanation:



Monzonite

Major fault



Major anticline

Major syncline

x x x x x

Zones in which major mines
occur

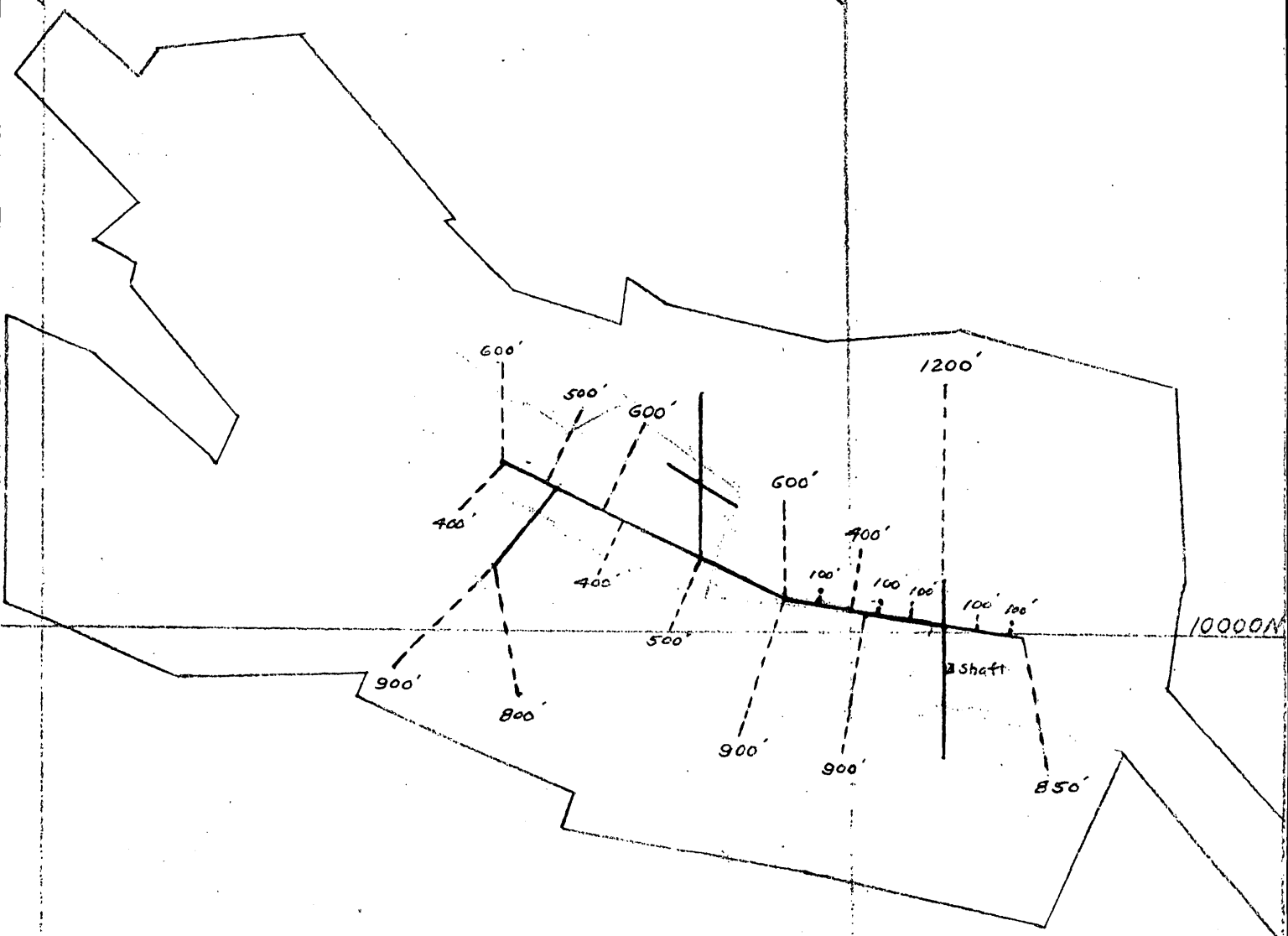
135000 E

U.S. Dept of
the
Interior

Prepared for
Defense Minerals Exploration
Administration
Application report

135000 E

Docket No DMEA 5003



Day Mines Inc

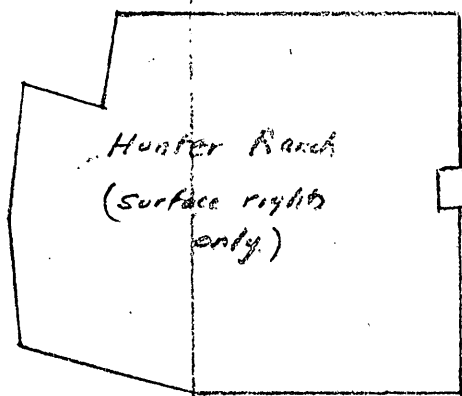
Plan of proposed exploration
on

Gold Hunter 3000 level

Compiled from company maps by AEW
May 12, 1958

Scale 1" = 1000'

— Drift or crosscut
 --- Diamond drill hole



OFFICIAL FILE COPY
D M E A
RECEIVED 19 1958
DATE

Maps for
On-site Reports
by Fld Team -
DMEA-5003
Day Mine -

Date	Surname	Code
5/14	James	500
5/14	W.C.	130
1.	Johnson	110
4	W.C.	100
		220
		500

MAY 15 1958 500

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-5003 (Lead-Zinc-
Copper)
Day Mines, Inc.
Gold Hunter Mine
Shoshone County, Idaho

Dear Mr. Weissenborn:

The cited application is being referred to your office for consideration, a field examination of the property if warranted, and recommendations. Copies of memoranda, dated May 9 and 12, 1958, by T. H. Killsgaard, Geological Survey, and C. M. Bishop, Bureau of Mines, respectively, relating to the project are enclosed for your information.

We are in full accord with the various points stressed by the reviewers, such as:

- (a) Why not utilize present shaft?
- (b) What happened to the Gold Hunter vein below on the 1200 level?
- (c) Is long 1200 level proposed crosscut justified?
- (d) Drifting costs not comparable to other similar projects.
- (e) Shaft cost out of line with recent results at Silver Mountain project.
- (f) Apparently overly elaborate installations, etc.

Actually, in making this field referral, at a time when we know you must already be awash with your existing work load, we have no desire to create a roadblock. From a practical viewpoint we cannot see how a project as complex as this could possibly clear all the necessary processing in the time interval presently available. Hence, while we are making the referral, it is not with the intent of forcing you to neglect other matters which should properly have precedence.

Also, we are enclosing an extra copy of the application for the Field Team use.

Sincerely yours,

Chairman, Operating Committee (JB)

Enclosures

APPROVED:

Member, Bureau of Mines (JB)

Member, Geological Survey (JB)

WRGriswold/er

Copy to: Docket

Admr R File

Cp. Committee

Mr. Bishop, USBM

Mr. Killsgaard, USGS

Chron.



OFFICIAL FILE COPY
DMEA
RECEIVED MAY 13 1958
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

WASHINGTON 25, D. C.

DATE	INITIALS	CODE
5/13	C	220
5/13	WRS	500

Memorandum

May 12, 1958

Re: DMEA 5003; Lead-Zinc-Copper
\$1 503,696
Day Mines, Inc.
Gold Hunter property, et al
Shoshone County, Idaho

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Review of application dated May 1 and received Washington
May 5, 1958

Day Mines, Inc. requests DMEA assistance in an extensive project to explore and develop the lower levels of the Gold Hunter and contiguous vein systems. The proposed project includes sinking a 3,080-foot underground shaft from the No. 6 adit, driving 7,300 feet of drifts and cross-cuts, and drilling 10,050 feet of AX core. Objectives are exploration of the Gold Hunter, American Commander, Independence, Paymaster, Commander and Cincinnati veins on the 3,000-foot level. In justification, the applicant states:

(1) Recent discoveries on the Lucky Friday (immediately south of the project area) show high quality ore intersections at depths much greater than the deepest exploration on the project area.

(2) The underlying Saint Regis formation is believed to be a more productive host than the Wallace formation from which other ore shoots have been mined, and hence worthy of exploration.

(3) Exploration of the main ore shoot below the 1,200-level is now practical, because the question of extralateral rights has been resolved.

We recommend that the application be referred to the field team for examination and review. A project of such size necessarily needs detailed study prior to conclusions. However, a few preliminary observations would appear to deserve expression.

(1) Many items listed under Exploration Project are components of development and equipment not of exploration although they may be used in the exploration. Examples are haulage laterals, skip pockets and transformer rooms.

(2) Cost of reaching the target is high relative to the amount of exploration to be achieved.

Such costs can only be warranted by a high degree of probability of discovery or of extremely high grade ore.

Is there no possibility for exploratory work that permits progressive evaluation or a less costly approach?

O. M. Bishop
O. M. Bishop

cc: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Callaway
F I L E S



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

May 9, 1958

OFFICIAL FILE COPY		
D M E A		
RECEIVED MAY 12 1958		
DATE	INITIALS	CODE
5/12	C	220
5/12	WRS	500

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

From: T. H. Killsgaard, U. S. Geological Survey

Subject: Review of application, DMEA Docket 5003, (Pb-Zn-Cu), The Gold Hunter Mine, Day Mines, Inc., Shoshone County, Idaho

In a very extensive exploration project, Day Mines proposes to sink a new shaft from the Gold Hunter No. 6 adit level to a depth of 3,080 feet below that level. They propose to crosscut and drift on a 1,200 level and to do an extensive amount of crosscutting, drifting, and diamond drilling on the 3,000 level. Estimated cost of this project is \$1,503,696.70.

From data on hand we are in no position to evaluate this exploration proposal. An evaluation can be made only in the field and this will involve considerable critical and comprehensive thinking. There are many points that need to be checked. For instance, we need to know why the present shaft from the Gold Hunter No. 6 level to the the 1,200 level cannot be used. We also need to know why mining has not continued on the Gold Hunter vein to below the 1,200 level. Was this because the ore bodies pinched out downdip or had mining progressed to where deeper workings were needed?

Another point to be questioned concerns the long crosscut on the 1,200 level. Is such a crosscut warranted? It might be pointed out that within this immediate part of the Coeur d'Alene area, DMEA has participated in other long, northeast-trending crosscuts, namely the National and Missoula projects with Day Mines, the Vindicator, and the currently active Silver Mountain project. None of these crosscuts have thus far been successful.

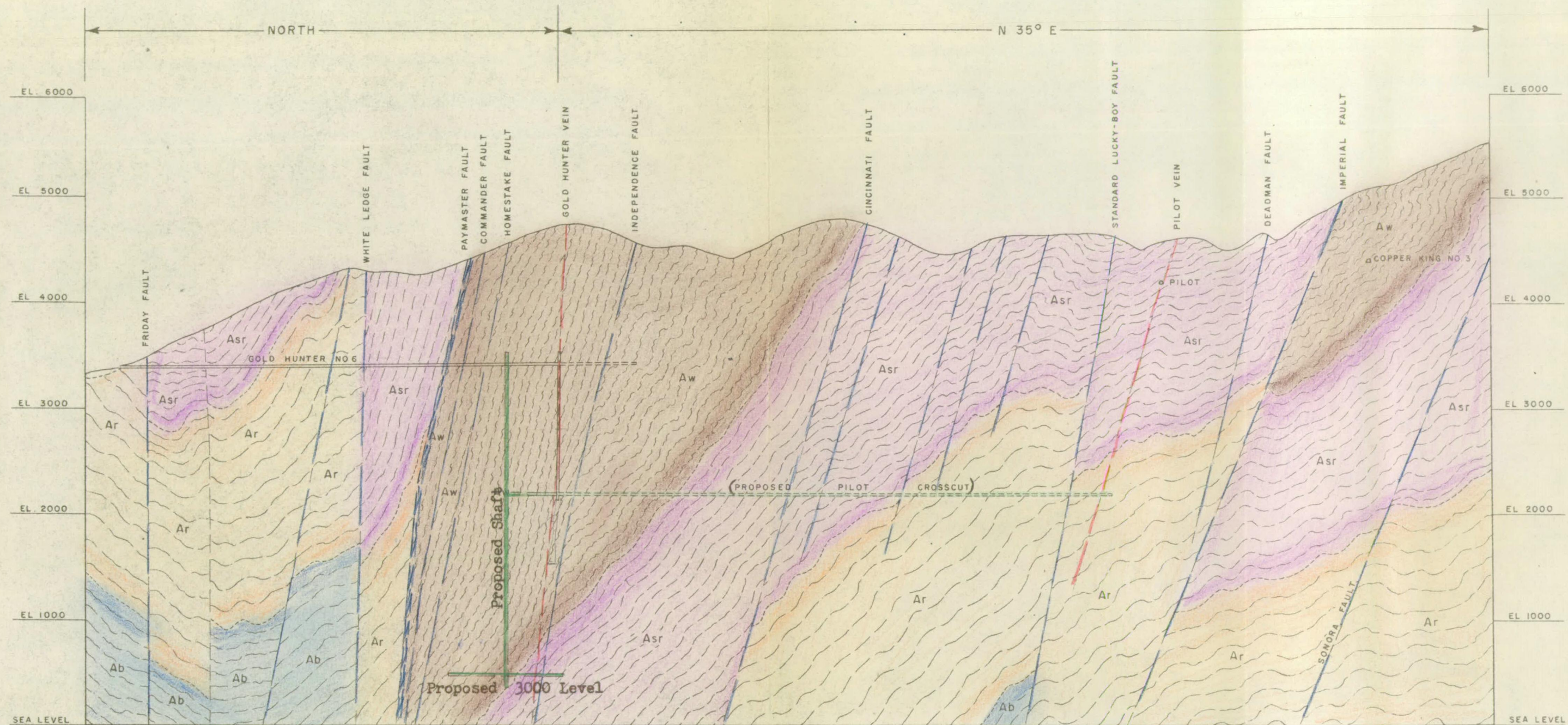
Another point concerns the American Commander vein. It is noted this vein is in the Pay Master fault. This fault was so slight where intersected in the Silver Mountain diggings that it was difficult to recognize. At one time there was considerable question as to where it was located in the crosscut. If this is the case, do we have adequate reason to believe the fault will be mineralized any stronger at the so-called American Commander vein?

The proposed costs seem excessively high. Drifting and crosscutting costs at \$70.12 a foot for work below the adit level

is far more than is commonly allowed by DMEA. By the same token, sinking costs of \$245.01 a foot seem more than should be expected.

I recommend this application be referred to the Field for a careful and comprehensive review.

T. H. Kilsgaard
Thor H. Kilsgaard



VERTICAL SECTION
Looking West Through
GOLD HUNTER No. 6 TUNNEL

Showing Proposed Shaft and
3000 Exploration Level

Scale: 1"=1000'

April, 1958

G. M. Crosby

Exhibit "D"

[illegible]



UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

So. 157 Howard Street
Spokane 4, Washington

May 1, 1958

DATE	CODE

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: New application (Pb-Zn-Cu)
Day Mines, Inc.
Gold Hunter Mine
Shoshone County, Idaho

Dear Mr. Selfridge:

Enclosed are the original and two copies of an application received from Day Mines, Inc., of Wallace, Idaho. We have retained one copy for our files.

This application covers an extensive program of exploration in the Gold Hunter area. Our comments will follow later.

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team Region I

Enclosure as above

cc: USBM (2)
Sample

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

Idm-E NO. _____

DMEA NO. 5003

Application

- ☒ Denied
☐ Withdrawn

Contract

- ☐ Terminated - Not Certified
☐ Terminated - Certified

- ☐ Cancelled
☐ Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- ☐ Royalty Audits
☐ Certification of Discovery
☐ Closing Letter
☐ Cost Audits
☐ Termination Notice or Agreement
☐ Recision Notice
☐ Assignment of Contract
☐ Contract Amendments
☐ Contract with all exhibits and annexes
☐ Owner's Consent to Lien and Subordination Agreement
☒ Application and attachments

Right Side

- ☐ Project summary (final)
☐ Work Completed analysis
All other material filed in chronological order following reports:
☐ Field Team Semi-Annual Certified Project
☐ Final Field Team Report (Tab)
☐ Operator's Final Report (Tab)
☐ Interim Field Team Reports
☐ Operator's monthly reports and all attachments
☒ On-site Exam Report (Tab)
☐ Settlement Sheets
☐ Drill Logs

FROM
LEFT-HAND
SIDE

Additional Folders:

Left Side

- Folders No. _____: Reports
☐ Analysis of Semi-Annual Inspection Reports
☐ Project Summary (Interim) by DMEA Engineers

Right Side

- ☐ Field Team Semi-Annual Report for Certified Project
☐ Field Team Interim Reports
☐ Operator's Monthly Reports with transmittal, narrative and maps.

Folders No. _____: Maps (Use pocket folder or envelope)

Folders No. _____: Settlement Sheets

Folders No. _____: Drill Logs

Folders No. _____: Royalty material

Date	Surname	Code
6/25	Grismel	500
6/27	Selfridge	130
6/27	Thom	130
6/27	Kilgusard	130
"	Thom	110
"	Wittendorf	100
		225

June 30.
APR 14 1958

Mr. Wray D. Farmin
Vice President
Day Mines, Inc.
Post Office Box 1010
Wallace, Idaho

Re: Docket No. DMA-5003 (Lead-Zinc-Copper)
Day Mines, Inc.
Gold Hunter Mine
Shoshone County, Idaho

Dear Mr. Farmin:

Your application for aid for an exploration and other data available to us in Washington collection have been reviewed.

FROM
RIGHT-HAND
SIDE

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program.

Careful study of all our information, indicates to us that the probability of disclosing significant ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Mineral Program and for bringing your property to our attention.

Sincerely yours,

C. O. Mittendorf

Administrator

WRGriswold/er 6/25/58
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kilgusard, USGS
Region I (2)
Chron.

WJH

Excerpt from Mr. Mittendorf's diary, 6/26/58:

Henry Day phoned from Idaho ...

He asked about Gold Hunter (DMEA-5003, Day Mines - Mullen Mine). I told him it had gone through the Committee today and that all the reviewers here had recommended denial.

He talked for some time trying to prove how wrong the reviewers were. He said he felt that the field team was in favor of the project. He thought we in Washington were influenced unduly by the disappointing results of the Silver Mountain project. He thought we should compare the Gold Hunter with the Good Friday. He had a lot of arguments for approval of the contract.

Date	Surname	Code
5/14	Swanwick	500
5/14	Selfridge	130
5/14	Smith	130
5/14	Williams	130
5/14	Johnson	110
5/14	McIntyre	100
5/15	CO	220
		500

MAY 15 1958

Mr. Wray D. Farmin
Vice President
Day Mines, Inc.
Post Office Box 1010
Wallace, Idaho

Re: Docket No. DMEA-5003 (Lead-Zinc-
Copper)
Day Mines, Inc.
Gold Hunter Mine
Shoshone County, Idaho

Dear Mr. Farmin:

Your application for Government assistance to explore
the cited property has been reviewed by the Division of Base
Metals of the Defense Minerals Exploration Administration and
is being referred to:

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
South 157 Howard Street
Spokane 4, Washington

If additional information concerning your application
is needed, the Field Team will get in touch with you at an early
date.

Sincerely yours,

C. O. Mittendorf (LW)

Administrator

WRGriswold/er 5/13/58
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region I (2)
Chron.



UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

May 5, 1958

Day Mines, Inc.
P. O. Box 1010
Wallace, Idaho

Subject: DMEA-5003

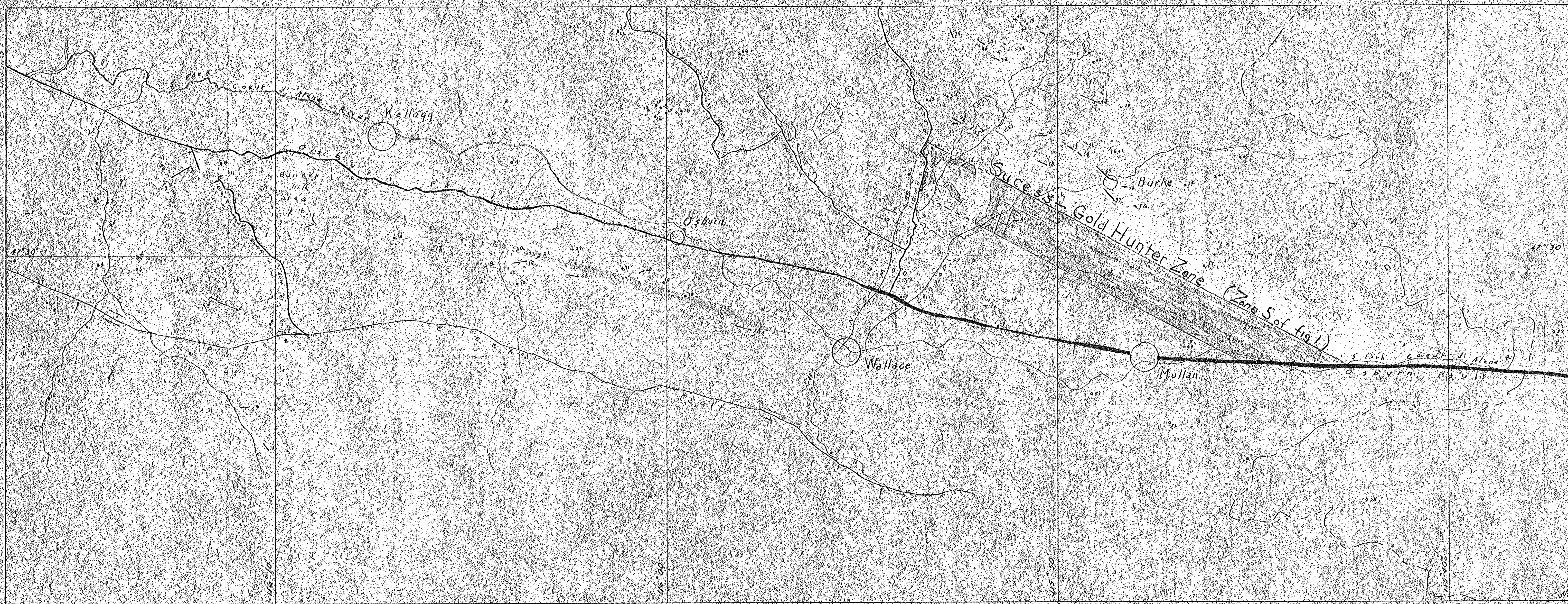
Gentlemen:

Your application for exploration assistance, dated
May 1, 1958 submitted to our office at Spokane, Washington
has been assigned Docket Number DMEA-5003 and referred to the
Base Metals Division in the Washington office.
Kindly identify all future correspondence relating to your
application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Director
Operations Control and
Statistics Division

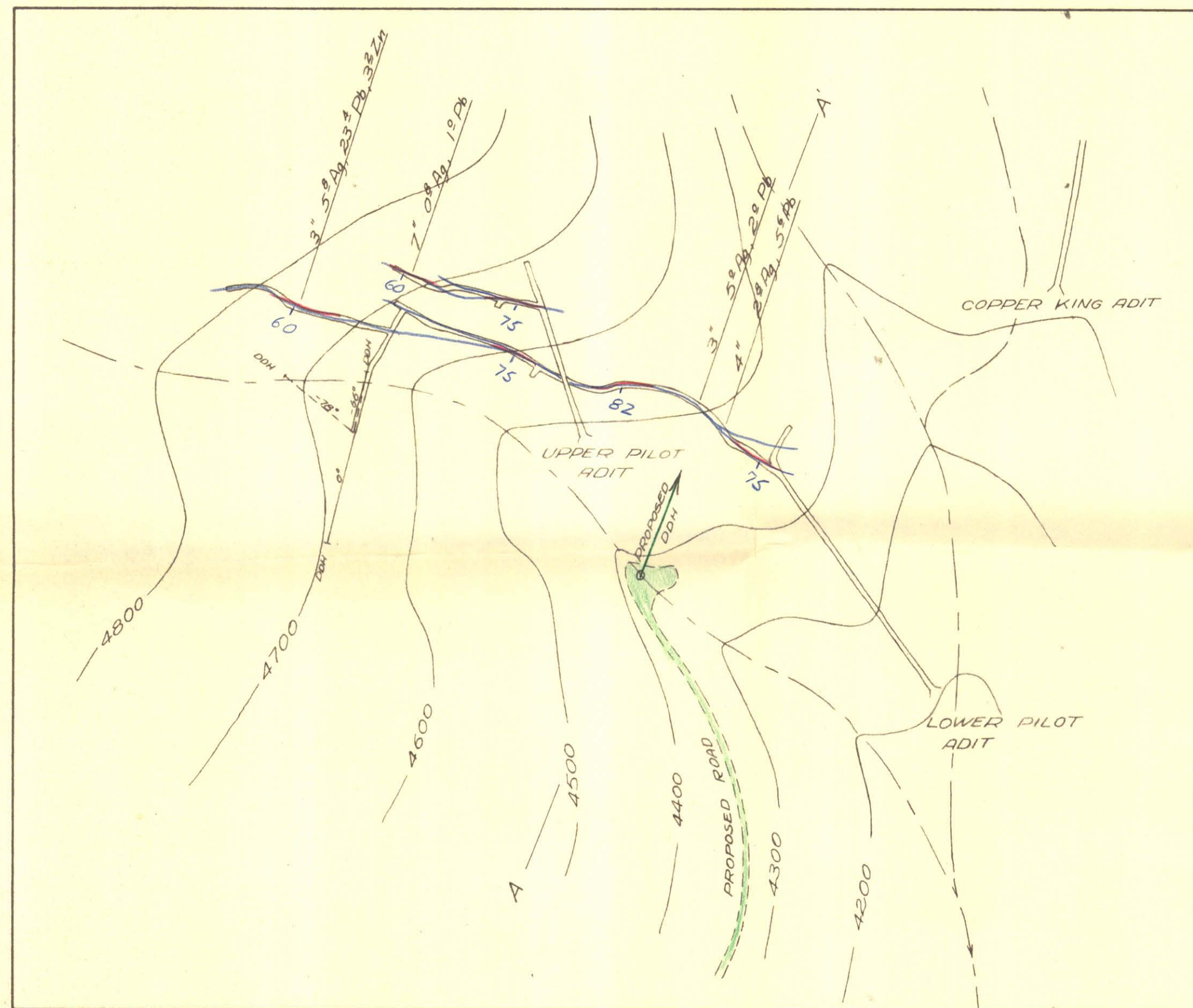
Copy to: Region I.



Mines	Prospects	Explanation
1. Hypotheek	1. Northern Light	[Symbol] Intensive
2. Coeur d'Alene	2. Golden	[Symbol] Fault showing dip and direction of relative movement
3. Pine Creek Anthony	3. Golden	[Symbol] Ore shoot portion of vein in Barker Hill and Osburn mines, only selected veins and zones
4. Page	4. Golden	[Symbol] Prospect
5. Sunset	5. Northern Light	
6. Nubia	6. Golden	
7. Sidney	7. Golden	
8. Highland Surprise	8. Golden	
9. Little Pelican	9. Golden	
10. Great Diamond	10. Golden	
11. Blue Bird	11. Golden	
12. Big 11	12. Golden	
13. Star Anthony	13. Golden	
14. Douglas	14. Golden	
15. Crown Point	15. Golden	
16. Barker Hill	16. Golden	
17. Crescent	17. Golden	
18. Sunshine mine	18. Golden	
19. Sunshine mine (shaded)	19. Golden	
20. Sunshine mine (3100 feet)	20. Golden	
21. Sunshine mine (2100 feet)	21. Golden	
22. Sunshine mine (2100 feet)	22. Golden	
23. Sunshine mine (2100 feet)	23. Golden	
24. Sunshine mine (2100 feet)	24. Golden	
25. Sunshine mine (2100 feet)	25. Golden	
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100. Sunshine mine (2100 feet)	100. Golden	

Mineral Distribution, Coeur d'Alene District, Idaho

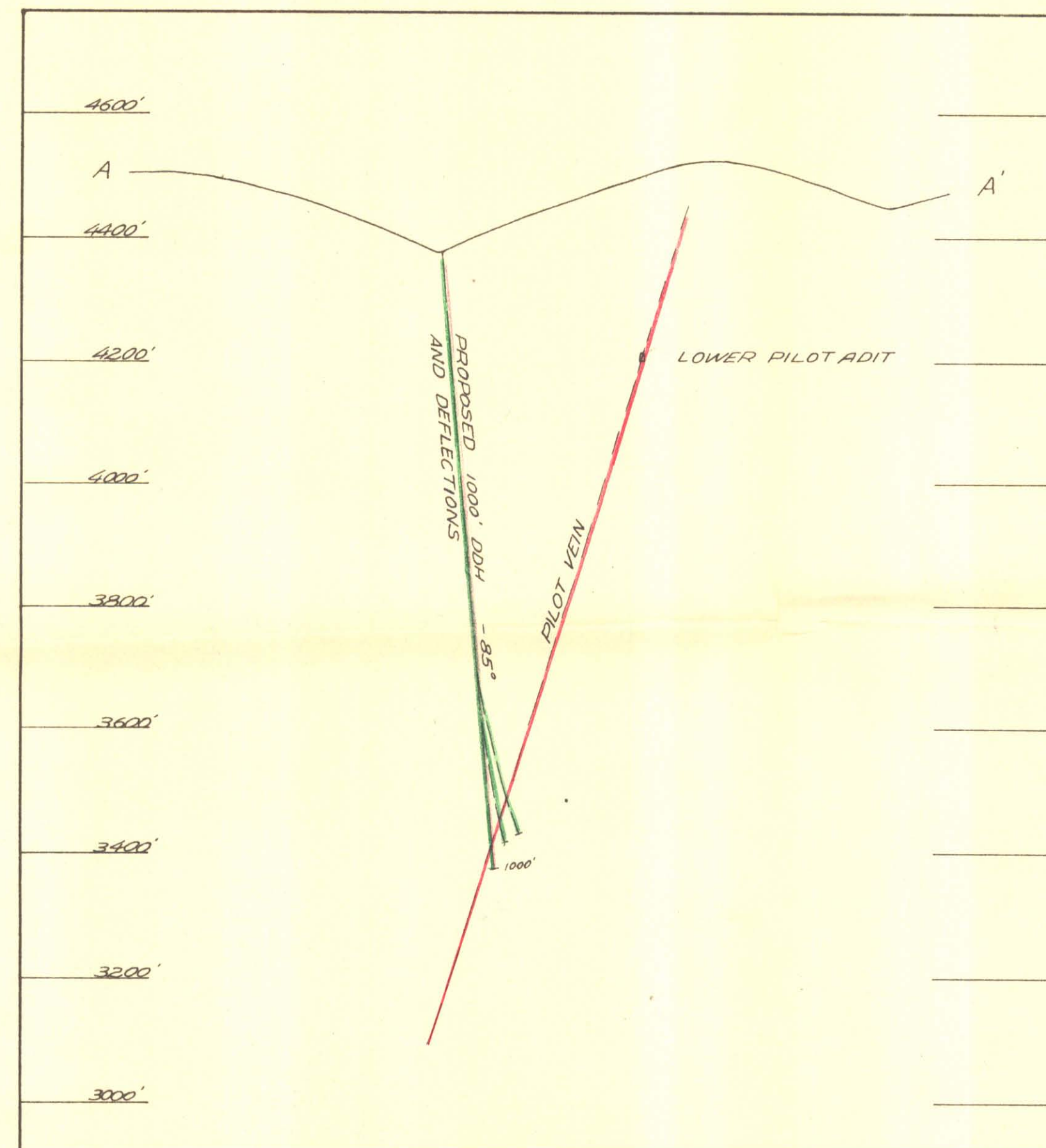
DAY MINES, INC.
GOLD HUNTER MINE
SHASHANE, CO., IDAHO



PILOT WORKINGS

1 INCH = 200 FEET

MAY 1958 G M CROSBY



5000

5000

4000

4000

3000

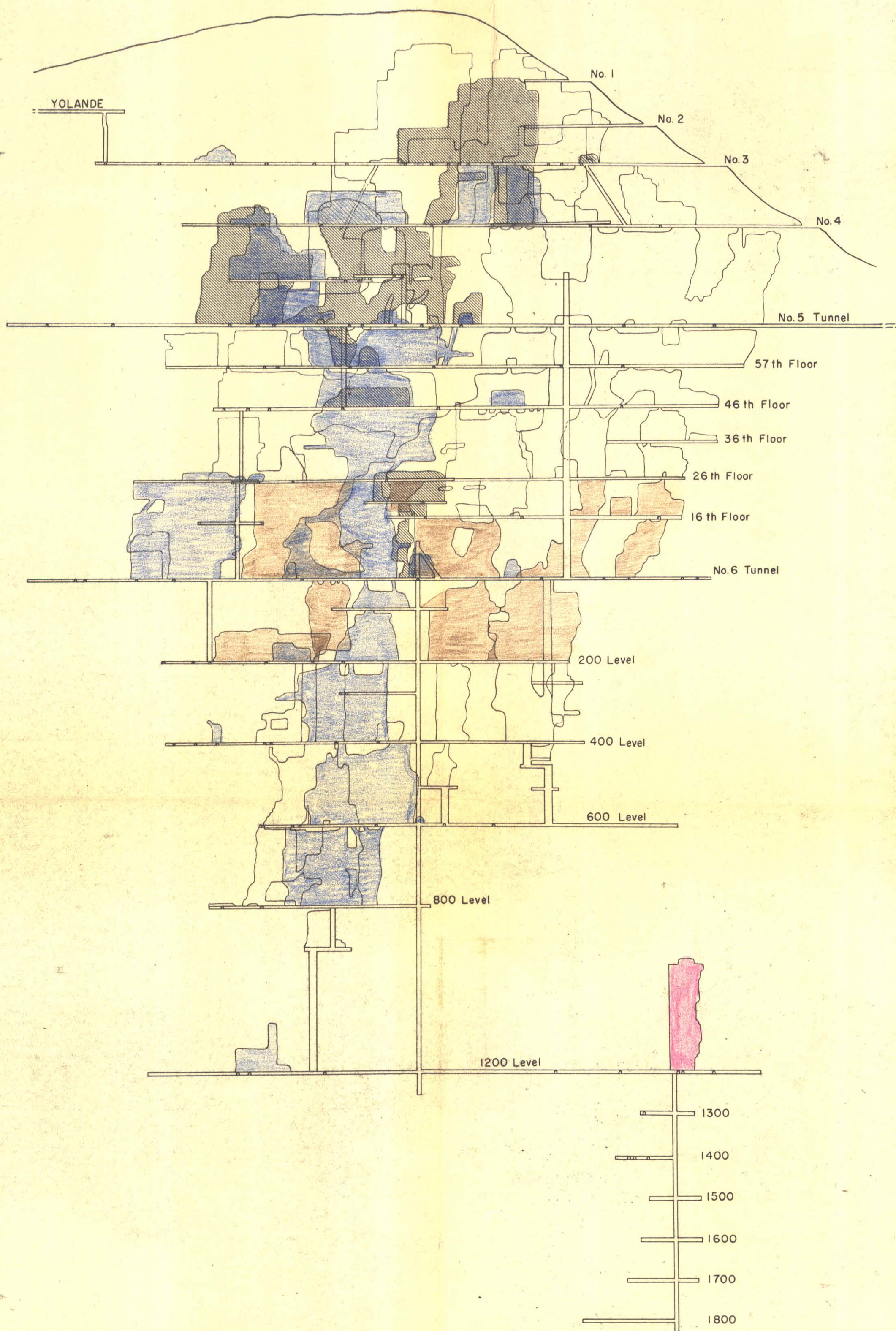
3000

2000

2000

1000

1000



GOLD HUNTER MINE VERTICAL LONGITUDINAL PROJECTION

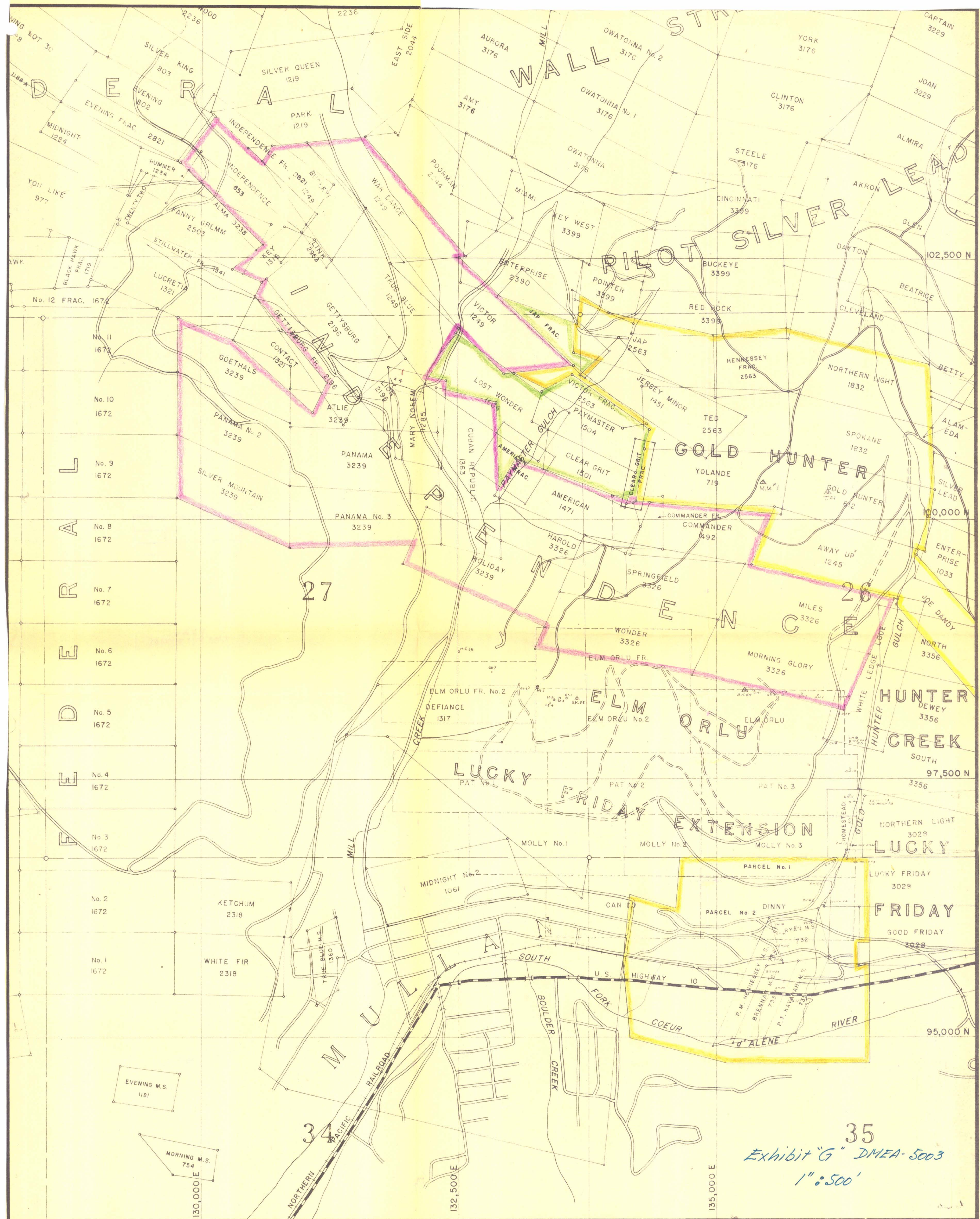
EAST - WEST
LOOKING NORTH

1" = 200'

Below 200 Level & Above 26th Floor
26th Floor to 200 Level

EXHIBIT 14

- NORTH STOPES SOUTH OF FAULT
- MIDDLE STOPES SOUTH OF FAULT
- SOUTH STOPES SOUTH OF FAULT
- STOPES NORTH OF FAULT



35
Exhibit "G" DMEA-5003
1"=500'

