Docket

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

August 30, 1957

MEMORANDUM

To: DMEA Field Team, Region I

From: R. D. Sample, Geologist, U. S. Geological Survey, and E. W. Parsons, Mining Engineer, U. S. Bureau of Mines

Subject: Field Examination Report, Docket No. DMEA-4698 (Lead-Zinc), Idaho Goldfields, Inc., Lost Cabin Mine, Kootenai County, Idaho

INTRODUCTION

The Idaho Goldfields, Inc., submitted an application, dated March 19, 1957, for Government aid to explore for lead, zinc, silver, and other minerals in the Lost Cabin mine adjacent to and west of the Fourth of July Canyon, Kootenai County, Idaho (pl. 1). The estimated cost amounted to $72,800. A former application (Docket No. DMA-1485), dated May 29, 1951, with a total estimated cost of $58,230.35 was denied in a letter, dated January 20, 1954, from the Administrator, Defense Minerals Exploration Administration, to the applicant. During the interim, January 20, 1954, to March 19, 1957, the applicant sunk a 100-foot incline shaft along a slightly mineralized quartz vein (fig. 1) and reported excellent showings of lead, zinc, and copper minerals. A re-examination of the property appeared justified.

E. W. Parsons, Bureau of Mines, and R. D. Sample, Geological Survey, visited the property June 13, 1957, but due to water fill within 30 feet of the top of the new winze a complete examination was not possible. On July 30, 1957, upon assurance by the applicant that water would be pumped out, the property was visited by R. D. Sample. Due to engine trouble, the incline still lacked about 15 or 20 feet of being free of water at the bottom, and much slime and mud covered the upper part of the incline. Doyle Crowder and Harley Archart, miners on the property, accompanied the examiners on both examinations.

SUMMARY

The property, upon which the Lost Cabin mine is located, consists of 80 acres of patented land leased to the Idaho Goldfields,

See Maps A - B - & C in folder

Inc. It was the subject of an application in 1931 which was denied in 1934 but upon which subsequent work has been done. Exploration and prospecting for gold and other precious minerals in the several exposed quartz veins on the property has continued for 60 or 70 years, but there is no record of actual production; however, the production from the Lost Cabin mine is believed to be relatively small. The most recent development is the 100-foot inclined winze which explores the downward extension of a massive, iron-stained vein of quartz with scattered flakes and blebs of iron, lead, and zinc sulfides. No commercial ore has been found in this incline.

The applicant proposed a program consisting of 500 feet of diamond drilling and 250 feet of drifting and crosscutting at a total estimated cost or $72,800. The Government's participation would be 50 percent of $36,400. The applicant proposes to meet its share of the cost from ore found as the project proceeds. The exploration program would extend over a 3-year period.

CONCLUSIONS

Although the Idaho Goldfield's property lies in the extreme northwestern fringe of what may be termed the Coeur d'Alene mining district, it is concluded that there is no geological or factual evidence to show that significant ore bodies lie this far from the main Coeur d'Alene district. There are no known commercially producing mines in the immediate area.

It is further concluded that recent work along the massive, iron-stained quartz vein and assays of this vein show that the vein is very irregular in strike, dip, and mineralization. It pinches and swells within short distances and mineralization is not only spotty but below commercial grade. Shears and small faults are common throughout the workings and, from surface indications, might be expected to be broken and shattered both laterally and vertically.

The applicant's proposal that its share of expenses be obtained from shipments of ore as exploration proceeds is entirely too optimistic. From the work already done, there is no ore in sight, nor are there any indications that further exploration will produce commercial ore. Assays and visual inspection of the vein do not show any enrichment of the vein at depth.

It is therefore also concluded that the chance of making a significant discovery of lead-zinc ore on this property is poor.

RECOMMENDATION

In view of the above conclusions the examiners concur in recommending that the application be denied.

LOCATION

The Lost Cabin mine is located in about the central portion of the E½NE¼, sec. 12, T. 49 N., R. 2 W. B.M., Kootenai County, Idaho (pl. 1). It lies about 15 miles southeast of Coeur d'Alene, Idaho, on the west side of Fourth of July Canyon and about half a mile from the tunnel at the summit. It may be reached by car from Coeur d'Alene by travelling easterly over paved Highway 10 about half a mile beyond the tunnel at the summit, thence westerly up the West Fork of Reserve Creek over a gravelled road for about three-quarters of a mile to the mine. The Kellogg smelters are about 20 miles to the southeast. Year around mining operations could be conducted.

PROPERTY RIGHTS

The Idaho Goldfields, Inc., controls the subject property by a Lease and Option, dated October 26, 1949, from Edgar Oehrling and wife of Rose Lake, Idaho. The lease was for 2 years with an option to renew for two consecutive 5-year periods. This lease was extended on February 29, 1952.

DESCRIPTION OF THE PROPERTY

Most of the property and all of the present workings lie within a gentle-sloped valley formed by the West Fork of Reserve Creek. A dense growth of trees and underbrush covers the slopes and bottom of the valley. A flat made by bulldozing on the valley floor accommodates all the mine buildings and equipment.

Both the northeast and southwest slopes of the valley in the vicinity of the present underground workings have been extensively prospected by bulldozer cuts, prospect pits, and short adits. The main adit on the northeast slope (fig.2) explores the upward extension of the massive, iron-stained quartz vein found along the inclined shaft. This adit extends into the hillside for about 100 feet and has been adequately mapped and the geologic interpretation clearly portrayed by Kilsgaard and Hosterman, geologists of the Geological Survey, in their examination report, dated December 18, 1953. A duplicate map of this adit by the above examiners is enclosed. Another adit on the northeast slope is about 100 feet southwest of the main adit and extends into the hillside for about 200 feet. It was so badly caved and water logged that no attempt was made to map it.

In addition to the main adit, incline, minor adits, and bulldozer cuts, the property has an assortment of buildings and equipment. A list of the present equipment with estimated value as presented by the applicant follows on the next page.

Item	Value
Compressor	$ 2,000.00
Light plant	600.00
Machinery shop and tools	1,000.00
Two Swedish drills	600.00
Blacksmith shop and tools including pipe tools and miscl.	1,500.00
Bunkhouse	1,500.00
Cabin cookhouse	3,000.00
Hoist	500.00
Ore cars	200.00
Rails	500.00
Timber	500.00
Miscl. tools	300.00
Total	$12,200.00

Other buildings and equipment include a shed which houses a small roller grinder and a patched-up Wilfley table. A well-built wooden 100-ton ore bin, odd assortments of jiggs and miscellaneous machinery.

It is the opinion of the examiners that much of the above equipment is unsuited for efficient mining operations and that its value is somewhat over estimated.

HISTORY AND PAST OPERATION

Very little factual information is available concerning the past operation of the mine. It is reported that the early workings on the exposed quartz veins were for gold and other precious metals and that significant amounts of gold were produced; however, recent assays indicate that the gold content of the quartz vein is very low. Probably the early gold production was from placer deposits along the stream beds.

During the summer of 1953, a diamond drilling program which included 5 diamond drill holes with an aggregate total footage of 768 feet was completed by the company. No significant ore bodies were found and apparently only slight mineralization was indicated in the intersected quartz veins.

THE APPLICANT

The applicant is the Idaho Goldfields, Inc., a stock holding corporation organized and existing under the laws of Idaho with the business office at West 1114 Indiana Avenue, Spokane,

Washington. L. A. Thompson, 737 Peyton Building, Spokane, Washington, is president and manager of mining operations. Ted Drury, a railroad brakeman, Spokane, is vice-president of the corporation. Frank Axtell and James Milne are directors in the corporation. None of the above officials seem to have much practical knowledge of mining and the problems involved in an exploration program. They propose to meet their share of the cost of exploration from the sale of ore found as the exploration progresses -- a very optimistic view.

GENERAL GEOLOGY

The rock immediately surrounding and underlying the Lost Cabin mine is the Prichard formation, the lowermost formation of the Precambrian Belt series. This formation is composed of thin-bedded argillites, slates, and shales with banded and irregular stringers of quartzite. It is commonly cut by dikes and sills of igneous bodies of various composition. In the main west drift an andesite dike cuts the country rock and quartz vein (fig. 2). Locally the rocks are all intensely folded and faulted with many bedding slips and fractures. Chemical alteration products and fault gouge are common features throughout the underground workings. The contorted and broken character of the rocks in the immediate area may be due to its close proximity to the Osburn fault which is reported to lie about half a mile to the north.

Veins and tenor of ore

There appears to be three or four white, iron-stained, irregular quartz veins traversing the property although they may be pieces and fragments of the same general vein system which has been offset and repeated by faulting and bedding slips. In some places these veins carry noticeable flecks and bunches of iron, lead, and zinc sulfides; in other places, the veins are entirely barren. These veins also contain small amounts of gold and silver, probably the minerals sought by the early miners.

Four representative samples taken on the quartz vein along the main adit and incline (fig. 1 and Main Adit Map) shows the following:

Width (feet)	Au oz/T	Ag oz/T	Pb %	Zn %	Cu %
3.5	--	0.40	--	0.10	--
5.0	Tr	--	--	0.20	--
3.4	0.01	Tr	0.0	0.0	Tr
7.0	Tr	1.40	1.75	0.20	0.26

In most of the underground workings the quartz vein is underlain by a soft, reddish, iron-stained clay and gougy material which appears to have undergone much chemical alteration and has leached to a gossanlike material. This gougy material ranges in thickness from a few inches to 6 or 7 feet and pinches and swells within short distances the same as the vein. Within this zone are scattered fragments of iron and lead sulfides. These fragments are as much as 2 feet long by 3 or 4 inches in width and thickness. They appear to represent unaltered remnants of larger pieces which have broken loose from the overlying quartz vein and rolled around in an unaltered state in the fault gouge. Although individual chunks assay very high in iron and lead, they are not numerous enough to mine profitably alone. A representative sample of the red, gougy material (fig. 1) was assayed with the following results:

Width (feet)	Au oz/T	Ag oz/T	Pb %	Zn %	Cu %
4.0	0.01	2.15	0.7	0.1	0.11

Southwestward from the main adit portal about 130 feet and extending westward into the northwest slope of the hill is another prominent quartz vein along which there has been some drifting. It is now caved; however, John S. Vhay and Don Christman, Geological Survey, examined and assayed this vein in July 1951 with the following results and comments 1/:

"Width (feet)	Ag oz/T	Pb %	Cu %	Remarks
1.0	0.33	0.80	0.27	Gossan and quartz in footwall.
3.0	0.03	0.20	0.03	Country rock cut by many veinlets of quartz.
3.3	0.007	0.10	0.03	Hanging wall of vein with spots of limonite and sulfides.
4.0	Tr	--	--	--
1.0	Tr	0.65	--	--

1/ "These assay results make it somewhat doubtful if this deposit contains much lead, and it is recommended that someone re-examine the property, perhaps after requesting the operators to clean out the old adit and to expose the place where material reported to carry cerussite occurs."

APPLICANT'S PROPOSAL

The applicant proposes a program of 500 feet of diamond drilling and 250 feet of drifting on his property at an estimated total cost of $72,800. The breakdown of estimated costs are:

Bunkhouse	$ 1,000.00
Diamond drilling 500 ft. at $6/foot	3,000.00
Rental of equipment at $600/mo.	21,000.00
Tunnel 250 ft. (incl. labor and material)	17,000.00
Supervisor	14,400.00
Station in incline shaft	750.00
Turntable	250.00
Contingencies	2,000.00
Office expense	7,200.00
Engineer's fees	3,600.00
Winter bulldozing to keep road open at $100/mo.	1,200.00
Rental of storage bins for ore at $100/year	300.00
Total	$72,800.00

DISCUSSION OF APPLICANT'S PROPOSAL

The expenditure of $72,800 over a period of 3 years to complete 500 feet of diamond drilling and 250 feet of drifting appears to be entirely out of balance in both time and money spent.

It would appear that the corporation is in a precarious financial condition. Its proposal to meet its share of the cost of exploration by selling ore found during the exploration program is not realistic. The applicant will not be starting in ore nor is there any evidence that ore will ever be found.

The examiners conclude that the possibility of disclosing minable reserves of ore on the property is almost nil on present evidence and that Government aid is not justified.

Enclosure
Distribution:
DMEA(3)
USBM(5)
USGS(SRO)
Docket
Sample

EARL F. ELSTONE
ATTORNEY AND COUNSELLOR AT LAW
MINING ENGINEER
MISSOULA, MONTANA

428 EDITH STREET
PHONE 5611

October 3, 1950

GEOLOGICAL EXAMINATION AND REPORT
For The
IDAHO GOLD FIELDS, INC.

Board of Directors
Idaho Gold Fields, Inc.
1214 N. Indiana Ave
Spokane Washington.

Gentlemen:

I have examined the Bunkhouse Lease Property in the Fourth of July Canyon of Kootenai County Idaho in accordance with my agreement with Mr. A. Schuling, Superintendent, and hereby submit my report, together with an accompanying map of the surface and underground workings.

The examination of the property was made on September 27 and 28, 1950, with the assistance of Mr. Schuling. Surveying was done by Brunton Compass and measurements were by cloth tape. I have not checked any of the leases, property lines, titles or ownership, or taken any samples for assaying. Where assay reports are mentioned, such values were reported to me by Mr. Schuling.

PROPERTY
The Idaho Gold Fields, Inc. property is located in the western extension of the Coeur D Alene Mining District, about 1/4 of a mile north of the Tunnel through the summit of the Fourth of July Canyon, in Section 12, Township 48 North, Range 2 West Boise Meridian, in Kootenai County, Idaho. The workings are reached by a decent road turning off U. S. Highway 10 about one mile east of the tunnel on the summit, and proceeding up Reserve Gulch about 1/2 mile.

General Geology
The rocks disclosed on the property are of the Prichard Formation, the lower member of the Belt Series of sedimentary rocks which make up the rock formations found in the Coeur D Alene District. This formation where observed here consists of thin bedded slates and shales, with impure sandy quartzites, and are highly folded and faulted. This is partly due to the proximity of the Osburn Fault, which traverses the entire district east to west, and though not highly mineralized, it is believed to be the parent fault which is mainly responsible for the suitable structure for ore occurrence in the Coeur D Alene District. The Osburn Fault is believed to be about 1/4 mile north of the workings.

Workings
The various workings, outcrops and vein structures of the property will be discussed and analyzed in detail, and to expedite their reference to the map, have been numbered from (1) to (7) and will be discussed in that order, though the system of numbering has no reference to their considered degree of importance.

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(1) This is a tunnel on the north side of the creek following a quartz vein about 12 to 18 inches in width. Its strike is N 35 E and it dips to the West at about an average of 42 degrees. It is opened for about 50' in length and by a winze about 6' deep, which was filled with water. The vein appears to be a fault fissure filling and is irregularly mineralized with seams and bunches of pyrite, iron sulfides. While the quartz carries little values, picked samples from the iron sulfides is said to carry several ounces of gold per ton, according to Mr. Schelling.

This vein does not seem to have any connection with those found on the other side of the creek, as it is likely that a fault occurs which the course of the stream follows down the gulch. It does not have nearly the significance of the other workings, but inasmuch as it is an ore showing, mention will be made of this in my recommendations for a development program.

(2) This is an old tunnel run by former operators, which is now caved. About 25 feet of the top of the old tunnel timbering is now exposed where the bulldozer removed the overburden. From an examination of the scattered portions of the dump which were spread around by the dozer, a small amount of quartz was found, but it is believed that this tunnel was not on any important vein structure. As will be pointed out later in the discussion of (3) and (4), the extension of the A fault would cut through this tunnel about 30' in from the portal.

(3) This tunnel was started by the old timers on a strong vein. There observed it is a quartz vein about 3' thick, striking S 50 W and dipping northwesterly at 37 degrees in the top of the drift. Immediately under the hard quartz capping the quartz is filled with vug holes, iron oxides and remnants of the lead sulfides in the form of cerussite, lead carbonates. This band of oxidized material is approximately 16" in width at the top. Extending downward the vein seems to steepen, and about 16" of fault gouge separates the hard quartz from the oxidized part of the vein. This vein is dark colored, stained by iron oxides and mineralized solutions and it is believed that it is a later period of mineralization than the white, milky "hull quartz" veins. According to Mr. Schelling, picked samples of the oxides and carbonates assayed from 41.8 to 69.46 in lead and 3.7 to 6.1 ounces of silver per ton.

The upward extension of this vein is believed to be the source of the large mineralized quartz boulders lying in the overburden which the bulldozer rooted out. The under sides of many of these boulders still contain lead carbonates which they have protected from erosion.

This vein is considered to be the most important ore showing on the property and it merits considerable further exploration and development. This will be discussed further in the summary below.

(4) This working is a crosscut tunnel driven 284' to tap the downward extension of the quartz vein exposed in the shallow shaft above, numbered (7) on the map. This crosscut did not pick up the quartz vein expected. From the 65 to the 150' from the crosscut passed through a highly silicified zone which was irregularly impregnated with quartz stringers, mostly unmineralized, though in one place

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425 EDITH STREET
PHONE 8-1

some pyrite mineralization was seen. At the 175' point a fault of considerable size was cut through. This fault contained about 2' of ground up quartzite breccia and gouge and about 4' of highly altered reddish colored slates on the hanging wall side. When this fault was cut a spring on the hill just below the dump of (7) shaft was drained of water. This indicates that the fault at least cut the downward extension from (7) above the drift, which is probably the explanation why the quartz vein did not come down to the drift level. From the evidence seen, the fault is probably a thrust fault, with the outer or hanging wall side having been thrust upward, and with likely some horizontal movement also, though its direction is not indicated.

The above noted fault undoubtedly will have a good deal of influence in the extension of the important No (3) vein and the solving of the movement and displacement of this fault will likely be necessary to successfully open the No. (3) ore vein.

(5) The exposure here of a number of large quartz boulders containing lead-silver ore, only partially oxidized, and the presence of quartz showings in the bottom of the bulldozer cut are of major importance. This showing appears to be the same type of vein material as the No. (3) and may possibly be a displaced segment of it, or vice versa. Both the A and B faults traverse through the area where they are observed on the surface and may have displaced them to their present positions. Trenching should be done here to follow the exposure of the vein and observe its character carefully.

(6) The large bulldozed area here shows a number of quartz boulders and smaller chunks of oxidized iron and lead carbonates. The under sides of the large quartz boulders show the vugs and the lead carbonates where it was once in the vein. These I believe are without doubt the eroded upper portions of the No. (3) vein where they were left in the overburden. They add considerably to the evidence of the importance of No. (3) for further exploration and development.

(7) The 2' quartz vein exposed here in the shallow shaft is of white milky quartz with a small amount of iron sulfides. I do not consider this as an important showing on which to do development, except that its strike being perpendicular to that of No. (3) would cause and result in an intersection on its downward extension. Such intersections frequently result in much greater concentrations of ore and could be quite important. Although the A fault would displace the intersection as well as the segments, it will be found if the veins are followed intelligently in a thorough program of exploration and development.

Summary

It follows from the above analysis of the various showings that the best places to do development and exploration are on the most potent ore showings, namely Numbers (3) and (5). The ore vein on (3) should be followed both into the hill and on its downward extension, either by sinking on the vein, or trying to locate its extension further down the hill. There was noticed several large pieces of float below the dump of No. (3) right back of the shop-office, which might be the outcrop of this vein. While the overburden would be quite deep here, it would make possible gaining depth of 32' from rail level to the level of the dump.

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MISSOULA MONTANA

The important point is to get on this ore vein and follow it wherever it goes. It follows also, that in following it, commercial, shippable ore should be recovered, if it continues in the same size and grade as where presently opened. Since in its source it came up from below, it must go down, to a certain extent, though it cant be foreseen just how, or in what size or grade.

No (5) with its large boulders of quartz and lead silver ore, represents a good sizeable vein, though its location are origin are not now exactly known. I believe that it has a connection and may be a displaced part of the No (3) or vice versa. The surface outcrop in the bulldozer cut should be trenched to determine whether the quartz showing there is actually the vein in place. If it is found to be the vein in place, then it too should be followed wherever it goes, in the hill, or down in a small exploratory winze. Further development in these two recommended places then will be guided by a careful study of the disclosures as the veins are opened.

CONCLUSION

In conclusion I would say that wherever ore is found exploration and development work should be done to determine whether there will be found and opened a commercial profitable mine. The showings here are sufficient to warrant a development and exploration program here to determine their extension, size and grade.

Respectfully submitted,

/s/

Earl F. Elstone

No. _____

Name _____

Order _____

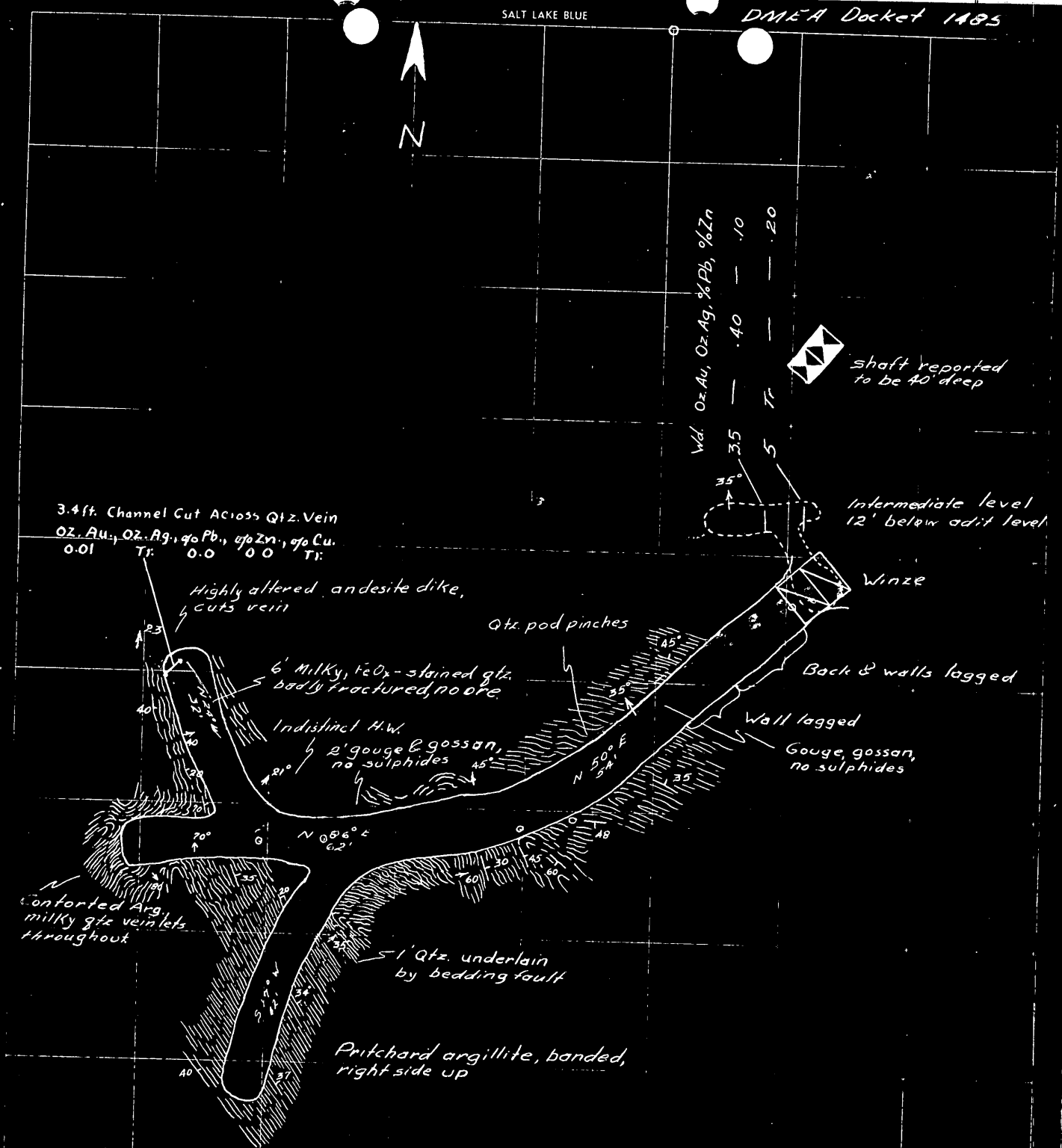
Remarks _____

Retouched _____

Order Finished _____

Reorder _____

Reorder _____



Note: Old adit, now badly caved and water logged, was not remapped by examiners in June 1957. No new work has been done since examination in Nov. 1953. A channel sample taken in the Northwest face. R.D.S. Aug. 1957.

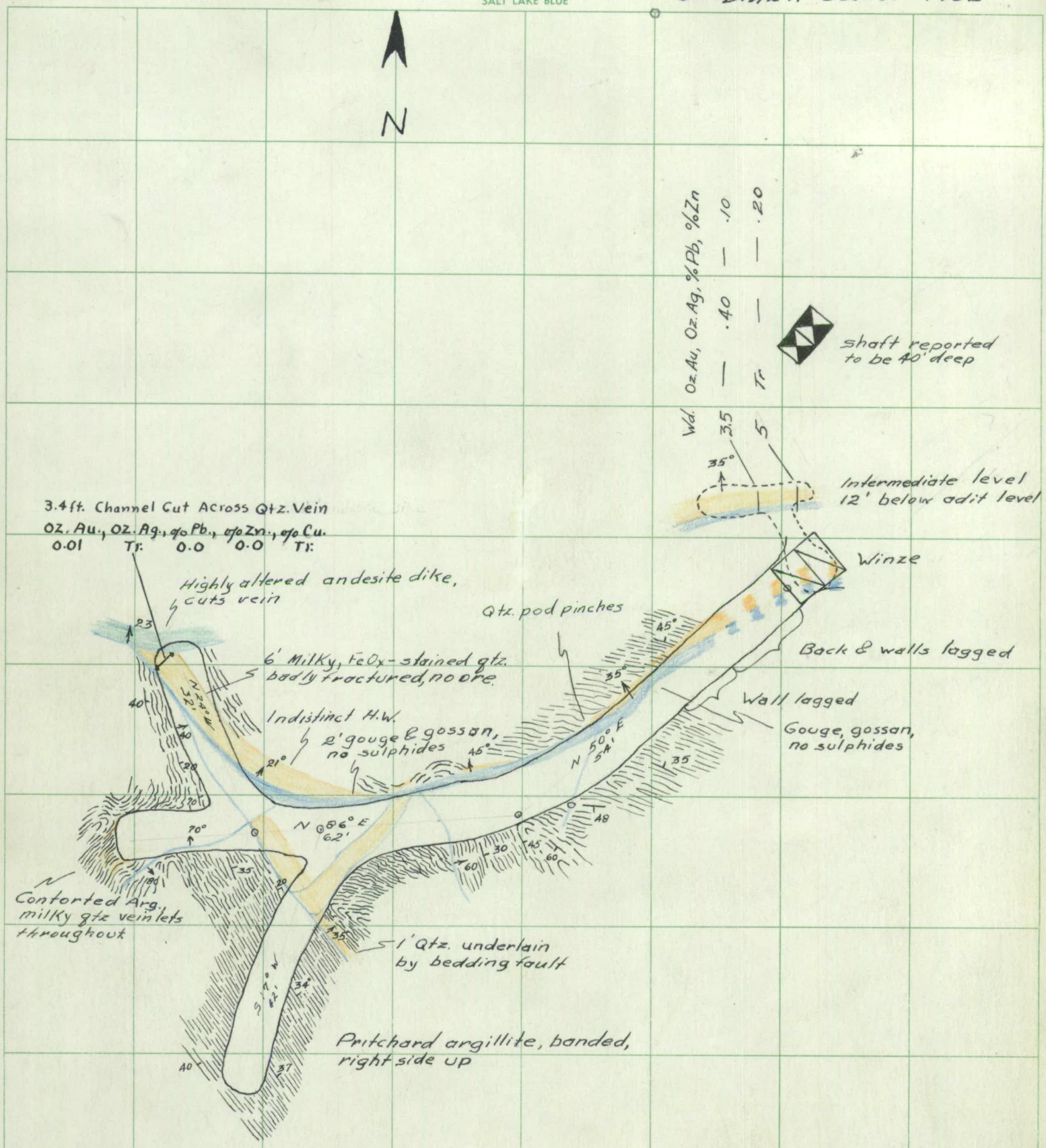
Geologic Map of Main Adit
Idaho Goldfields, Inc.
Kootenai Co., Idaho

0 10 20 Feet

Figure 2

Geology by T. Kidsyoard & J. Hosterman, 12/11/53

DMEA Docket 1485



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Geologic Map of Main Adit
Idaho Goldfields, Inc.
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0 10 20 Feet

Figure 2

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