3-9

REPORT ON THE

HOPKINS - SWEENEY MINING PROPERTY

located near

SUPERIOR, MINERAL COUNTY, MONTANA

By

John B. Hopkins April 30, 1949

See Maps Labeled 3-9 on Envelope

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INTRODUCTION

This examination was undertaken primarily for the purpose of investigating and analyzing the development possibilities of the mineral deposits and presenting the essential facts pertinent to these holdings.

The period of examination and study covers from July, 1943, when the property was purchased, until December, 1948, at the close of a surface trenching campaign to open the outcrops by bulldozing methods.

LOCATION

The Hopkins-Sweeney holdings are located in Sec. 35, T. 18 N., R. 26 W., and Sec. 1 & 2, T. 17 N., R. 26 W., Montana Principal Meridian.

The mine is located 9 miles from Superior, Montana, and is easily accessible by car over good roads. The route is 2½ miles west on U. S. Highway #10 from Superior, then northwest up Pardee Creek 6½ miles on a standard forest service road to the mine camp. (Index map - Fig. 1).

The nearest railroad shipping point is Superior, county seat of Mineral County, which is on the main line of the Chicago, Milwaukee & St. Paul railroad, and the Coeur d'Alene branch of the Northern Pacific Railroad.

OWNERSHIP

The holdings are composed of twenty one (21) patented claims totaling 339 acres, formerly known as the Little Anaconda Group; and four (4) recent mineral locations totaling 66 acres, under date of location November 20, 1948, for a grand total of 405 acres.

The present ownership is held by John B. Hopkins of Dixon, Montana, and Dr. P. J. Sweeney of Fort Benton, Montana, equal co-owners. (Reference is made to Ownership Map - Fig. 5, for claim names, patent numbers, and acreage).

PHYSICAL FEATURES

The relief throughout the area is moderately abrupt, with portions steep and rugged. The elevation of the claims varies between 4400 and 5700 feet above sea level, thus affording ample location for tunnel-site mining, with possible backs ranging from 500 to 1200 feet.

Notwithstanding the steepness of the mountain slopes, a major portion of the surface is covered by a soil mantel, and moderate to thick vegetation obscuring the underlying geologic formations. It is apparent that erosion has removed a considerable amount of the ore-bearing formations and enclosing country rock. Some proof of this is evident in the presence of sulphide ores existing at the surface, covered only by a thin soil mantel and appearing in a surprisingly unweathered state. Undoubtedly erosion has kept pace with the rate of oxidation. This condition has enhanced the possibility of discoveries of additional ore-bearing formations by the use of bulldozing methods of surface prospecting.

The property lies within the Lolo National Forest. An excellent growth of red fir and larch, suitable for mine

timbers, covers the claims and the adjacent lands. A first water right of 200 inches diverted from Pardee Creek is a part of the holdings. A good road suitable for truck haulage passes through the entire length of the property, making nearly all points easily accessible.

HISTORY

The first discovery on this property was made by Samuel J. Wilson in 1890, a few years after the discovery of the Nancy Lee and Iron Mountain Mines in the same district. Samuel J. Wilson, with his brother Fred W. Wilson, and others, located claims and became associated with John M. Keith, Thomas L. Greenough, C. H. McLeod of Missoula, Montana, and William H. Hammond of San Francisco. These men patented some of the claims in 1897, and later in 1907 incorporated the Mountain Gem Mining Company under the laws of the State of Washington.

From 1890 to 1908, 275 feet of shafts, 536 feet of crosscuts, and 1275 feet of drifting was completed to develop the Little Anaconda vein. At the discovery point where rich sulphides outcropped at the surface, a shaft, and later a connecting adit crosscut were driven to mine this known ore shoot, which yielded approximately 2300 tons of highgrade lead-silver ore which was sorted and sacked, hauled to Superior by pack train and shipped to the smelter.

The balance of the claims were surveyed for patent in 1908, but due to an adverse claim by the forest service, the patent was not issued until January, 1915.

It was the company's plan to develop the downward extension of the rich ore shoot mined at the site of the Little Anaconda discovery, by driving a tunnel from the lowest possible point on the vein (Fig. 3). The issue of the

patent on the additional claims was imperative to securing the mining rights and portal location of this development. Seven years elapsed between application and issue of the patent, which resulted in the ultimate abandonment of the enterprise. The inaccessibility of the property, and the death of Thomas L. Greenough, the major stockholder, disrupted the company. Mr. Greenough, who at one time associated with a Mr. Larson, sold the Morning Mine of Mullan, Idaho, to the Federal Smelting and Refining Company for a reputed three million dollars.

Mr. Fred W. Wilson, a director of the former Mountain Gem Mining Company, acquired the company holdings in 1937. In the next two years the forest service, with funds from the Civilian Conservation Corps built a first class forest service road up Pardee Creek and through the company holdings to the mountain summit.

In 1942 Boyd Smith leased the May Day Lode and produced two carload shipments of ore from the Greenough tunnel (exhibit A). In 1943 the property was sold to the present owners.

GEOLOGY (General)

The property lies in the old Carter District, now renamed the Keystone, which is in the same metallogenetic province as that of the Coeur d'Alene district of Idaho, characterized as a lead-zinc and silver mineralization of early tertiary times. It is a continuation of the same highly folded and buckled Belt sedimentaries underlaid by the same mass of source rock of the gigantic Idaho Batholith. Furthermore, it is traversed by the continuity of the same great system of block faults and regional folding that has set the whole region on edge. This area is likewise traversed by further evidence of mineralogic similarity to the Coeur

d'Alene, in the corresponding wide zones of schistose and metamorphism that trend in a general NW-SE direction, and along which epigenetic replacement ore bodies of both districts have formed.

The Keystone district is much smaller and more- restricted than the great Coeur d'Alene section to the northwest. It comprises an area as treated in this report, of roughly four miles long and two miles wide, bounded on the south by the Missoula River, limited on the west by the Little Pittsburg and Nancy Lee mine holdings, and on the east by the Federal's Iron Mountain Mine.

Within the area igneous activity is conspicuous by its absence. Whatever evidence exists is in the form of a few highly altered dikes, the source of occasional float. In the southwest corner of the district are several prominent but small intrusive andesite stocks that serve as the only visual link with the underlying source rocks.

J. P. Rowe, who reported on this area in 1911 (exhibit B), correlated the argillites and quartzites as probable members of the Wallace and St. Regis formations. C. H. Clapp reported that measured sections of this great Belt series, of which the Wallace and St. Regis are only minor members, are in places twelve miles thick. The depth of the underlying quartz monzonite source rocks in this area is no doubt considerably less than this figure. This mineralized district probably owes its existence to the condition that it overlays a great swell or high, on the surface of the buried batholith that formed a favorable and localized exodus point for ascending mineralizing solution. These solutions invaded the region along great pre-mineral fault structures, easily recognized by their accompanying zones of schistose and metamorphism.

DEVELOPMENT

-Little Anaconda Vein-

The Little Anaconda Vein is the chief ore-bearing structure of the property. It is strong and continuous, traversing the full length of five claims and in excess of 7000 feet. It is well marked and can be readily traced by mine working and prospect pits on the surface for a distance of 4000 feet. It is 3 to 14 feet in width; dips steeply southeast, and lies in a zone of metamorphosed and highly schistose belt sedimentaries, considered as the St. Regis formation. In the mineralized sections that can be found near the surface, there is usually an accompanying hydrothermal zone recognized as bleaching and alteration in the immediate country rocks.

The ore bodies of this structure are typically epigenetic replacements of the Coeur d'Alene type, which owe their existence to ascending mineralizing solutions that gained access through highly sheeted and metamorphosed zones by repeated regional adjustment, synonymous with repeated periods of mineralization. The resulting ore bodies lie in one plane and conform to the general regional schistosity, that in turn conforms to the argillaceous bedding of the original strata. The resulting ore bodies in some places assume the form of sheeted mineralized bands, while in others they resemble lenslike and en echelon structures.

There are four known ore shoots along the strike of the little Anaconda Vein that have been developed in part by mine workings. In describing them in their order from east to west the May Day is first. This pay shoot lies astride the stream bed of the east bank of Pardee Creek, and across the common endline of the Surplus and May Day Claims. (Fig. 3). It measures 150 feet in its outcrop length, is lenslike in character, and varies from 1½ to 4 feet in width. It strikes

N 45°W, dips 85°S E, and apparently rakes to the south. It is composed of lead-zinc sulphides in a gangue of siderite and highly altered country rock. The outcrop of this pay shoot was discovered under a thin soil mantel exhibiting a surprising amount of unaltered and fresh sulphides, which proves that erosion had removed nearly the entire oxidized zone. The ore of this shoot is of good grade. Two carload shipments of 36 and 56 tons were mined from a shallow shaft. The returns showed values of 22.49% and 20.70% combined lead and zinc respectively. The ore carried 2½ ozs. in silver per ton.

The May Day lode provides a focal point. The elevation here is 4400 feet above sea level, and affords the most advantageous tunnel site, and by coincidence, the most favorable shaft-sinking site for the development in depth of the May Day lode. From this point development drifts can be driven both northwest and southeast on strike of the vein. The steep slopes on either side of this location make it such that mining ground can be developed relatively fast, affording mining backs above the tunnels of over 1000 feet in height. The advantage of shaft-sinking at this point lies in the fact that sinking can be carried on in the footwall close to good ore at the lowest exposed horizon on course of the vein.

The Mountain Gem Mining Company, under the direction of Thomas L. Greenough, had planned such a development. A drift northwest 470 feet, and another southeast 300 feet, were driven as a start of their plan to develop the property from this point. The northwest drift was to be run 4500 feet on vein strike to catch the downward extension of the Velvet, Little Anaconda and Snow Drift lodes in that order. Cross-cuts at intervals were to explore the known parallel veins on either side of this main adit tunnel.

The ore zone west of the May Day on strike of the Little Anaconda vein, is the Velvet Lode. This ore shoot outcrops and is exposed in a number of shallow pits. It is impressive in its surface width and strength, but contains few visual signs of mineralization in the outcrops. A crosscut 536 feet long, extending from the center line of the Victor claim, intersects the Velvet lode 350 feet below its outcrop. A drift 150 feet long follows the vein in both directions from the crosscut intersection. The ore body as exposed in this drift is 4 feet wide, strong, and exposed in both end faces of the drift. The strike is N 45°W, and stands nearly vertical. It is composed of lead-zinc sulphides, siderite, and a considerable amount of barite. This combination indicates a strong tendency towards high silver values. It appears to be of a different mineralization phase than any of the other known ore shoots. For lack of a weighted assay average, the following assay is offered as an approximate average: 2.4% Pb., 2.5% Zn., 8.6 oz. Ag. Continued drifting on this vein from the present faces offers an advantageous opportunity to develop an ore body at a comparatively low cost as the crosscut and drift are in excellent condition. The present values are indicative of good ore, and if found near this horizon would afford up to 350 feet of stoping ground.

The Little Anaconda Lode was the first discovery of high grade lead-silver ore on this group of claims which bears its name. This ore body on the surface was short in length but persistent in depth. It was mined from its outcrop to a depth of 185 feet, where it still continues with equal strength as a highgrade ore shoot. A 355-foot crosscut was run from the surface to intersect the discovery shaft at the 185-foot level from which the ore of this lode was mined and shipped. Two winzes each 35 feet deep were

sunk on either extremity of the ore lense below the level of the adit crosscut. No mining was attempted in the winzes although the ore continued with no loss in width or value. Mr. Fred W. Wilson, who helped mine this ore shoot reported that the pay zone was 35 feet in length, and swelled to five feet in width at the middle. It had a N 45°W strike and stood almost vertical. The ore was sheeted in character, composed of highgrade galena carrying silver, and with very little zinc. One band in the lead was 18 inches wide composed of solid galena which assayed 40% Pb., and 200 oz. silver. Mr. J. P. Rowe who examined this same ore body in 1911 reported an assay of 34.29% Pb., and 32.2 oz. Ag. for a 4-foot width. (Exhibit B). Further mining below the winzes was abandoned in favor of continuing the Greenough tunnel to pick up the downward extension of this ore body at 1000 feet below its outcrop.

The Snow Drift lode is the furthest known mineralized zone to the west, and is located on the crest of the mountain at an elevation of 5700 feet. It is identified as the western section of the Little Anaconda lode, and is marked by a 200-foot discovery shaft that is now caved. It is approximately 1200 feet from the Little Anaconda shaft and 500 feet above it. The vein outcrops in a number of pits and open cuts that all show strong evidence of a lead-zinc mineralization. The outcrop gossan consists of massive siderite, together with limonite and manganese.

- The Hook Vein Extension -

This structure was recently discovered while prospecting with a bulldozer on the least known eastern end of the property (Fig. 4 & 6).

The structure as uncovered, has all the appearances of a large fault-vein of exceptional magnitude and strength. It has considerably more evidence of fault displacement than the Little Anaconda vein, and in itself is many times over a

greater pre-mineral structure, capable of gigantic ore bodies. It occupies the center of an exceptionally wide hydrothermal zone of leached and altered country rock which is in excess of 230 feet wide. The vein outcrop itself is more than 50 feet wide, composed of fault clay and talc, abundant serpentine and sericite, together with limonite indicative of heavy pyritization.

This vein has been opened up in shallow surface bull-dozer trenches for over 500 feet, but can be traced for over 1000 feet of strike length. Additional claims were necessary to confine it. Oxidation has been so complete that no sulphides were present, but scattered pockets, seams and lenses of oxides and carbonates of lead and zinc are found in nearly all trenches. This is taken as positive evidence of sulphide ore bodies existing at comparatively shallow depths.

Although it is not proven as yet, it is nevertheless highly possible that this structure could be the continuation of the vein structure of the adjoining Iron Mountain property, so productive of great quantities of highgrade ore, and now being reopened by the Federal Mining and Smelting Company of Wallace, Idaho.

THE ORE

The ore shoots at the surface, along the outcrops of the Little Anaconda vein, and in a lesser degree along the Hook Vein extension, are readily recognizable by the oxides and carbonates of lead, zinc and iron. They constitute a mixture of abundant hematite derived from heavy pyritization of the wall rocks, together with considerable siderite weathered to a deep red-brown soil. In a number of places the sulphide zone, or remnants of it, outcrop immediately under the soil mantel. The early production of ore from the adjoining Iron Mountain Mine was all composed of similar rich

[illegible] near the surface.

A gradual zonal alteration of the ore minerals is indicated along the Little Anaconda vein. At the lowest exposed point--elevation 4400 feet above sea level, Greenough tunnel, (Fig. 3) the ore is a mixture of medium grain-sized galena and sphalerite crystals, massive to thin-bedded in character. At this point zinc values are predominate, having a ratio of approximately one part lead to one and one-half parts zinc, carrying 2 to 4 ozs. silver and apparently free of antimony, in contrast to similar ores high in antimony of the adjoining Iron Mountain Mine. The Velvet Lode--elevation 4800 to 5000 feet, indicates an equal lead-zinc ratio together with a higher silver ratio. The Little Anaconda lode--elevation 5000 to 5700 ft., shows a marked decrease in zinc, and an accompanying increased ratio of both lead and silver free of antimony. The appearance of siderite does not seem to be affected within the range mentioned. The occurrence of barite and quartz as vein filling in the Velvet Lode indicates a separate mineralization phase indicative of a later age, and a type richer in silver than either the May Day or Little Anaconda pay zones.

METALLURGY

The ore types of this property and those of the other mines of the district are so similar that they cannot be distinguished apart in hand specimens. Likewise, they correspond in character so closely with the general ores of the Coeur d'Alene district, that there is no doubt that they will readily respond to the same metallurgical treatment that has already been worked out to a high degree of perfection.

Mr. E. G. Smith, lessor of the neighboring Nancy Lee property, has a 150-ton mill in current operation. This plant is located 8 miles by road from these holdings. Milling on a custom basis can be arranged at this plant.

CONCLUSIONS

Summarizing the data contained in this report, we have

First: A property consisting of 21 patented mining claims plus 4 locations for a total of over 400 acres. An excellent camp site with two good cabins and the first recorded water right of 200 inches on Pardee Creek.

Second: Good title, confirmed by an up-to-date abstract, which shows there are no adverse claims, interest, or contingencies to prevent quiet enjoyment, or to obstruct a sale of the premises.

Third: The environment of the property is excellent as to geology and location. The geology is comparable with, and the host rock (pre Cambrian Belt Series) the same as the Coeur d'Alene District.

Located two miles west, the King and Queen strike is undoubtedly the most important mineral discovery in Western Montana since the day of the Iron Mountain Mine. The last mentioned mine adjoins our property on the east and has been developed to a depth of 2200 feet, and at the present time is in the process of rehabilitation by the Federal Mining and Smelting Co.

Fourth: Located eight miles from the mine camp, available for custom milling, a new 150-ton mill and concentrator, while our shipping point, Superior, is approximately the same distance, and both reached by excellent roads.

Fifth: A newly uncovered "bleached zone" over 200 feet wide, together with the known and partially developed vein system of the Little Anaconda group deserves thorough investigation and undoubtedly will make this property a very attractive and reasonable mining venture.

It is the ambition of the owners to interest a progressive mining company, preferably one with experience and know-how, to assume control of the property by either a lease, or lease with option to purchase on a production royalty basis, or a mutual operating agreement whereby both parties retain their identity.

Respectfully submitted,

John B. Hopkins
Geologist

COMBINED METALS REDUCTION COMPANY

Stockton, Utah April 9, 1942

Pay Boyd Smith

Ore Wilson Lease Our Lot No. 7385 Shipper 's Lot No. 1 Class Mill

Sampled CMRCo. 3/29/42 M&MJ Quotations: Gold Silver Lead 6.50 Zinc 8.25

Assays	Ozs. Au.	Ozs. Ag.	% Pb.	% Zn.	% Fe.	% Insol.	NaPb %	NaZn %	%	%	%
C.M.R.Co.	.005	3.30	8.70	13.40			.2	1.5			
Shipper	T	3.50	8.70	13.70			.26	1.14			
Umpire											
Settlement	.0025	3.4	8.47	12.23			.23	1.32			

Values Per Ton				Treatment
Gold	@			Base
Silver 80%	@	.70625	1 921	
Copper	@			
Lead 100%	@	.675	5 717	
Zinc 100%	@	.625	7 644	
Gross Metal Payment			15 282	
Less Treatment			3 000	
Net Value Per Ton			12 282	Net Treatment

Initial	Car Number	Weight
NP	50076	119400

Total Freight Weight
Moisture 5.30 119400

Dry Weight 113072

	Per Ton	
56.536 Dry Tons @	12.282	694.38
Haulage-T.S.Swint	2.00	119.40
Control		5 00
Watching		3 00
Royalty 10% F.W.Wilson		16 52
Freight @ 6.73 Per Ton (RR Value)		401 78
Shipped by Boyd Smith Mine Lot 1 Smelter Lot 7385	Total	545.70
	Net Proceeds	148 68

Approved by LJJ Checked by FAW

Exhibit A

COMBINED METALS REDUCTION COMPANY

Stockton, Utah July 7, 1942

Pay Boyd Smith - Wilson Lease

Ore Superior Our Lot No. 7708 Shipper's Lot No. 2 Class Mill

Sampled C.M.R.Co.6/28/42 E&MJ Quotations: Gold Silver Lead 6.50
Zinc 8.25

Assays	Ozs. Au.	Ozs. Ag.	% Pb.	% Zn.	% Fe.	% Insol.	NaPb. %	NaZn %	%	%	%
C.M.R.Co.	.005	3.00	6.50	17.7			.45	1.40			
Shipper	.010	3.20	6.3	17.8			.10	1.35			
Umpire	.005										
Settlement	.005	3.10	6.125	16.375			.275	1.375			

Values Per Ton				Treatment
Gold	@			Base
Silver 80%	@	.70625	1.752	
Copper	@			
Lead 100	@	.675	4 134	
Zinc 100	@	.625	10 234	
Gross Metal Payment			16 120	
Less Treatment			3 000	
Net Value Per Ton			13 120	Net Treatment

Initial	Car Number	Weight		Per Ton
			36.987 Dry Tons @ 13.120	485.27
NP	50246	74720		

Umpire	3 00
Wm. Schneider @ 1.63	60 90
Control	6 00
Watching	3 00
Royalty: 10% Fred W. Wilson	16 09
Freight @ 6.73 per ton (R.R.Value)	251 43
Total	340 42
Net Proceeds	144 85

Total Freight Weight
Moisture 1.00 74720

Shipped by Boyd Smith
Mine Lot 2
Smelter Lot 7708

Dry Weight 73974

Approved by FAW Checked by LJJ W

Exhibit A

GEOLOGY AND ORES OF THE CARTER DISTRICT, MONTANA

MINING AND ENGINEERING WORLD

By J. P. Rowe September 23, 1911

MOUNTAIN GEM COMPANY

This property is located in Missoula County, north and west of Iron Mountain, and between the Iron Mountain Tunnel Co.'s lead-silver mine and the town of Carter. It consists of 21 full claims and fractions, and has a total distance on the strike of the main vein of between 7000 and 8000 feet. The main vein passing through this property is an extension of the Iron Mountain Tunnel Co.'s vein and it is similar in every way.

The rocks in which the veins are found are slates and siliceous shales, and undoubtedly belong to the St. Regis formation. The topography is quite rugged and a length of about 1000 ft. vertical can be reached by tunnel. Several nearly parallel veins cross the property, but the principal one passes through the central portion or through the Snowdrift, Key and Snipe fractions, Little Anaconda, Triumph, Velvet, Surplus, May Day and probably the Sommerville claims. This vein has been developed most in the Little Anaconda, and here the vein is 4 ft. wide, containing eight seams of galena. The vein would undoubtedly average one-quarter pure galena, samples taken here across the vein assaying 32.2 ozs. silver and 34.29% lead. This vein has been developed sufficiently to determine its approximate worth, through the entire length of the property or the claims mentioned. The same strong vein is shown in the Snowdrift shaft. In the Victor tunnel that cuts the Velvet lode, a sample across the 4-ft. vein assayed 8.1 ozs. silver, and 2.4% lead. Splendid outcrops at the portal of the May Day tunnel are shown, and samples from here

assayed 3.6 ozs. silver and 5.1% lead. This main vein alone makes the Mountain Gem property a good one, and being a continuation of the Iron Mountain vein, rich ore shoots, similar to the one so long worked in the Iron Mountain mine, may be expected.

The vein to the north of the main vein has not been developed sufficiently to determine its real worth. It passes through, from west to east, the Bon Ton, Century, Royal Coin and June. At several places fairly good outcrops are shown, warranting further development. The vein south of the main vein shows one or two strong outcrops, and probably passes through the Sandwich, Greenough, Keith and Sommerville claims.

This property is about 5 miles from the main line of the Chicago, Milwaukee & Puget Sound railroad. A good wagon road, all down grade, could be built to the railroad for about $1000 per mile. The mines have been worked off and on for several years, and considerable ore was shipped away from the Little Anaconda. However, nothing in a mining way has been done within the last 3 or 4 years.

The improvements upon the property consist of several well-built cabins; a shaft 185 ft. deep and a tunnel 400 ft. long on the Little Anaconda; a shaft about 200 ft. deep on the Snowdrift; a tunnel 200 ft. long in the May Day; a tunnel 200 ft. long on the Surplus; a tunnel 500 ft. long on the Victor, crosscutting the Velvet lode; tunnels and drifts amounting to over 400 ft. on the Triumph; together with numerous open cuts, shafts, etc., running from 10 to 60 ft.

ITEM 3 - (a)

A tunnel driven on the Silver Lode # 2 claim opened a small pocket of galena ore that was removed and shipped. Records of this work are not available. Three samples taken by Rob't. L. Redman, Reno, Nevada in 1962 from material remaining returned:-

No.1. 140 Oz Silver, 20% Lead
No.2. 20 Oz Silver, 30% Lead
No.3. 30 Oz Silver

The vein is reported as eighteen (18) inches wide and at the present time is inaccessable.

On the Prosperity Lode Claim a tunnel driven easterly 325 feet intersected a quartz vein mineralized with galena. The area of the intersect has been slashed out and completely timbered and a 20 foot winze put down. Two (2) samples taken by Redman in 1962 returned 27.0 and 3.1 ounces silver over a reported width of six (6) feet. Underneath the timber a sample taken from the wall by Stronach in 1964 returned 11 ounces silver and 9% lead over one and one half (1½) feet. Seventy-five (75) feet in from the portal a sixty (60) foot crosscut to the north ends at what appears to be a raise that has caved and filled with muck. A grab sample of the material assayed 14.6 ounces silver and 19.5% lead. A sample of vein material taken from the dump at the tunnel mouth assayed 14.0 ounces silver and 12.1% lead.

A tunnel was started on the north-east corner of the Copper Lode Claim and driven N 70° E to intersect the westward extension of the above vein. After being driven 370 feet the tunnel was stopped just as it was approaching the shearing on the hanging wall side of the vein. It passed through argillites and quartzites all the way and did encounter several minor shears that strike S 70° E and a very little amount of barren quartz, up to two (2) inches wide. It is projected if this tunnel were advanced about 40 feet it would pass through the vein that was its objective.

ITEM 3 - (a) - cont'd.

A tunnel was driven approximatly 325 feet north from the center of the Copper Lode Claim to cut the structure 800 feet west of the above tunnel. Nothing was intersected. It appears that this tunnel still needed some 75 feet to reach the target area as shown on John C. Stentz's map.

On the south claim line of the Around-the corner claim, 250 feet west from the south-east claim corner, a 90 foot cut in the hillside opened a very strong shear striking S 70° E and Dip 70° south that contains a mineralized quartz vein that has returned exceptional silver values (up to 3770 ounces). A prospect shaft has been sunk 70 feet on this showing and 104 feet of drifting on the vein has been completed at that elevation. Maps showing the extent of this work and assays are attached.

ITEM 3 - (b)

The shaft and underground workings on the Around-the-corner Claim were driven by The Silver Keyster Mine Inc. starting in September 1964 and work is still contuining to advance the dirfts.

ITEM 3 - (c)

A small amount of ore was shipped from the Silver Lode # 2 Claim that renoved a small pocket of galena ore. Records are not available for this shipping. Other than the above there has been no production that is known.

ITEM 3 - (d)

Not applicable.

ITEM 3 - (e)

The region is underlain by 50,000 feet of meta-sedimentary rocks of the Precambrian Belt Series. The rocks of the series are typically quartzite and argillite, or mixtures of these, which have been folded, faulted and subjected to very low grade regional metamorphism. The term " meta-sedimentary " was used by Campbell (1954, P 550) to emphasize their intermediate porition between their true sedimentary and metamorphic prototypes.

ITEM 3 - (e) - cont'd.

The main faults in the area are major persistant steeply dipping faults that trend northwestward and have large displacements. The Osborne Fault is one od these and has been traced from Coeur d'Alene on the west for over 100 miles to Missoula on the east. The fault zone is sometimes 250 feet wide and displacements have been inferred that suggest a strike slip of sixteen (16) miles. There are many faults that appear to be high angle faults associated with the Osborne Fault and are generally in an echelon pattern. There is much minor faulting that is very local.

Tight complex folding, both minor and major, is characteristic of the region with many of the folds being overturned. Sometimes the fold axes are offset by the faults with the folds being overturned on one side of the fault only.

The Keyster claim group is underlaid by the lower unit of the Wallace formation of dark grey argillite with a few interbedded quartzite beds, both bedding and cleavage strike N 50 - 60 W and dip steeply to the south.

The Osborne Fault lies two (2) miles southwest of the property and the Gladus Fault lies one (1) mile to the southwest.

The Keystone syncline, the major fold in this vicinity has been cut by a northwest trending fault about one-half (½) mile west of the property and offset tothe east of the property. This fault traverses the length of the property and the ore deposition is associated with it.

The ore occurrances are veins in shears that strike N 50 - 70 W and dip steeply (-70 to -75) to the southwest and parallel the bedding and cleavage.

The veins are composed of argentite, tetrahedrite and galena and sphalerite with minor amounts of chalcopyrite and pyrite in a gangue of quartz.

ITEM 3 - (f)

Mr. John C. Stentz, Geologist, US Forestry Bureau, Missoula, Montana spent some days on the property in 1959 when he was able to get into all workings and sampled all the showings. Copies of his map are attached. While he is unable to divulge his assays he verbally stated that his results lead him to believe that the showings on the property average about 40 ounces silver in widths from 1 - 6 feet.

ITEM 3 - (f) - cont'd.

The break that the ore values have been found in to date isstrong as it has been traced from the west side of the Silver Keyster property to the Iron Mountain property 3½ miles to the east. The values found on the Silver Keyster Mine property have been set forth on the attached maps of the surface, shaft and underground workings. To the east the reported finsings on the Snowdrop, Little Annaconda, Velvet Lode and May Day are set forth in the attached report and maps by John B. Hopkins, April 30, 1949. Values from 2½ to 200 ounces silver and 2½ to 40% lead are reported over widths of 4 to 6 feet.

The shaft and underground workings on the Around-the-corner claim were sampled by channel sampling on the vein. The sample from the tunnel on the Prosperity claim was a chip and all dump samples are grab samples.

The length and strength of the structure that has been traced for approximatly 4 miles and which has returned commercial silver values where opened coupled with the recent excellent results returned by the work on the Around-the-corner claim give every indication that the expectation of finding silver ore are excellent by the proposed exploration program.

ITEM 3 - (g)

Report on Hopkins-Sweeney Property, John B.Hopkins,Apr 30,1949.
USGS Bulletin No. 1082 I.
Planes quadrangle Montana - N 4715 - W 11445/15 1959.
All maps and reports attached may be retained by the OME.

ITEM 4 - (a)

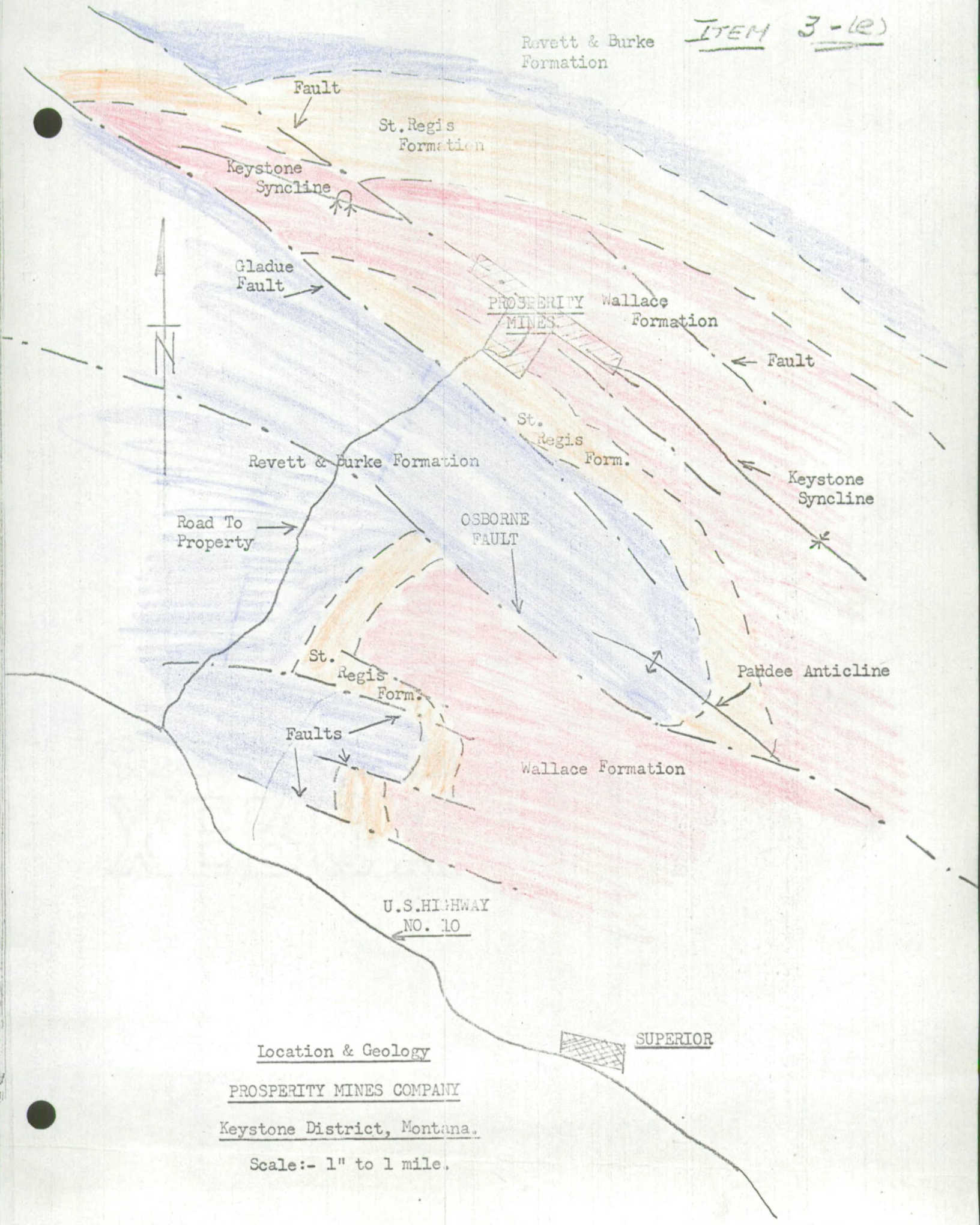
R.S.Stronach, 909 Santa Rita Street, Silver City, New Mexico. Telephone: Area code 505, 538-3066 will meet and guide the OME representative to the property.

The property is reached by taking the Nancy Lee - Keystone turnoff from highway No US 10 4.8 miles west of Superior, Montana. A 5.6 mile gravel and dirt road leads through the old village of Keystone directly to the property. The tunnels on the Prosperity and Around-the corner claims are the only ones open and accessable.

ITEM 4 - (b)

The closest supply point is Superior, Montana which lies 4.8 miles east on US highway No 10 from the turnoff to the mine. The main lines of the Northern Pacific Railroad and the Chicago, Milwaukee, St Paul and Pacific Railroad pass through Superior. Superior has only limited facilities for the supply of any reasonable operation. The main source of supply would be Wallace, Idaho 59 miles west on US highway No 10 and Missoula, Montana 65 miles east on US highway No 10.

ITEM 3-(e)

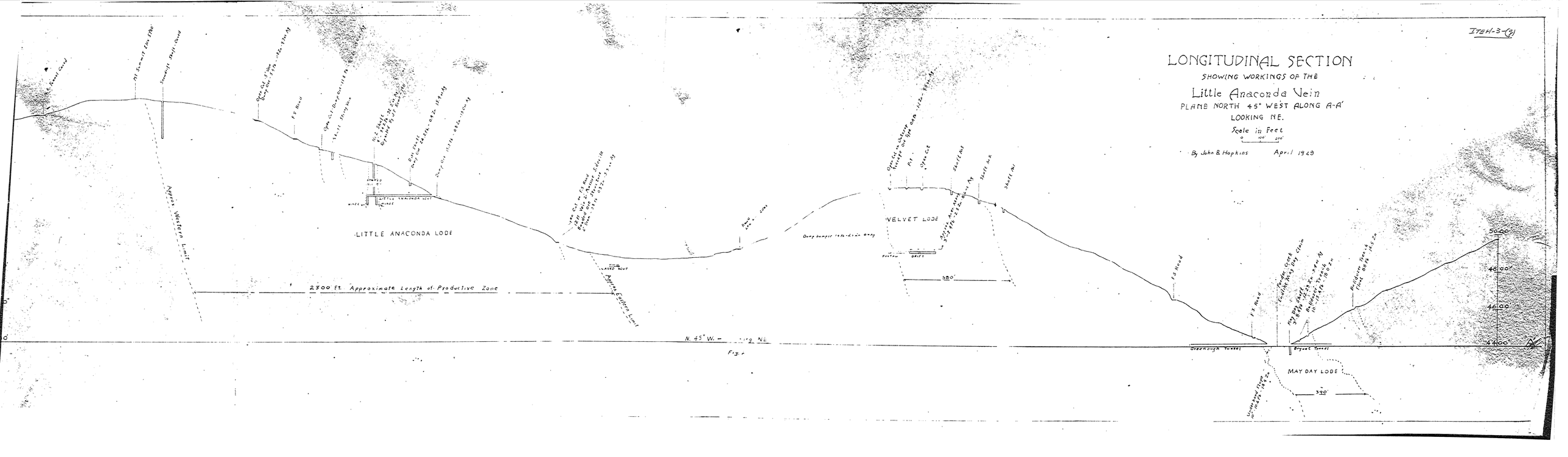


Location & Geology

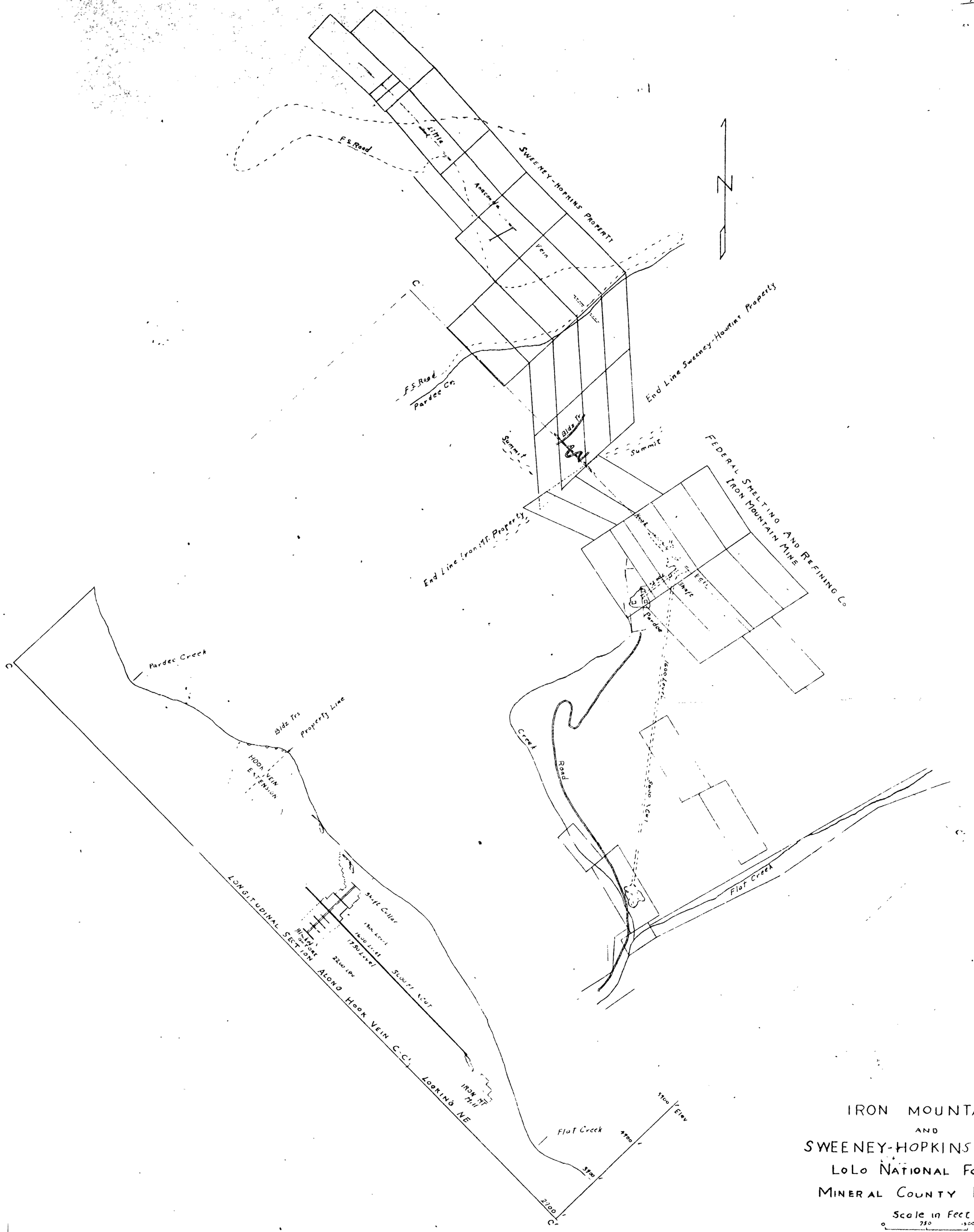
PROSPERITY MINES COMPANY

Keystone District, Montana.

Scale:- 1" to 1 mile.


ITEM-3-(8)
LONGITUDINAL SECTION
SHOWING WORKINGS OF THE
Little Anaconda Vein
PLANE NORTH 45° WEST ALONG A-A'
LOOKING NE.
Scale in Feet
0 100 200
By John B. Hopkins April 1949
LITTLE ANACONDA LODE
VELVET LODE
MAY DAY LODE
Approx. Western Limit
Approx. Eastern Limit
2500 Ft. Approximate Length of Productive Zone
N. 45° W. – 119 NE
Fig. 1
Greenough Tunnel
Bryant Tunnel
F.S. Road
Deep Sample 14th-Level Drift
Drift
350'
50,00
40,00
30,00
20,00

ITEM-3-(g)



IRON MOUNTAIN
AND
SWEENEY-HOPKINS PROPERTY
LoLo National Forest
Mineral County Montana

Scale in Feet
0 750 1500

Fig 6