

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon
Gold Hill area

TOLMAN IRON PROPERTY (iron)
see Carfield Iron and Lime Company

Owner: C. A. C. Tolman, Gold Hill, Oregon.

Lessee: Magnetite Reserve, a partnership consisting of Paul D. Donaldson, John P. Hatch, and Edgar C. Snyder, all of Seattle, Washington.

Location: SW $\frac{1}{4}$ sec. 3, T. 36 S., R. 3 W., on a ridge northwest of State Highway No. 234, and 2.1 miles north of the town of Gold Hill. The property is on the northwest side of the Rogue River.

Area: 3 patented claims.

History: Hodge (1938) stated that there had been no recent exploration, probably none since 1903, and that the mineralized zone was not completely exposed. In 1942, Magnetite Reserve leased the property. A road was built to the deposit and bulldozer cuts were made to expose the ore body. A few tons of ore were shipped to the pilot plant at Cascade Locks for a trial run to make sponge-iron. During the winter of 1942-43, the road was washed out. Early in 1943, plans were being made to re-open the property.

Development: Numerous bulldozer cuts have been made across the mineralized zone. A caved adit is reported to be 103 feet long with 72 feet of back. On the Hawks Nest claim, owned by Mr. Tolman and located west of the property under discussion, there are 3 adits, portals of which are caved. Information concerning the lengths of these adits is not available.

Geology: Hodge (1938) reported as follows:

"The ore exposures are covered by three mining claims end to end....with a combined length of about 4,300 feet. The iron-bearing zone forms the backbone of a steep and narrow ridge bearing N-S.

Geology (continued)

According to a report by H. V. Winchell and Fred T. Greene, in 1903, the zone was then traceable southwards (with an 800-foot gap covered by alluvium) to a distance of 1,400 feet beyond the south end of the claims and into the homestead; this southerly extension of the zone is not now visible.....

"The mineralized zone occupies a well defined and nearly vertical contact between limestone on the west and a basic igneous intrusion on the east. Near the contact, the limestone is strongly silicified, while the igneous rock has a dense, felsitic texture, grading into a coarser crystalline texture farther away. The iron mineral is chiefly magnetite, mixed with some hematite. It occurs in lenses and stringers separated by bands of ferruginous rock; some of the lenses are fairly solid magnetite to a width of about one foot, but most of them are narrower. Magnetite occurs also in smaller particles disseminated through the mineralized zone. The necessity for magnetic concentration is plainly indicated, but the separation could begin at coarse sizes.

"Even in 1903 the full width of the ore zone had not been exposed in any one place. Winchell and Green give it a range of from 20 to 60 feet, using an average of 30 feet for their tonnage estimate, which amounted to 760,000 tons to a depth of 50 feet and an assumed length of 4,600 feet. The average assay of their 7 samples was: Iron, 51.63 per cent, (Max. range, 42.60 per cent - 61.39 per cent); silica, 8.67; sulphur, 0.208 percent; phosphorus, 0.060 per cent; titanium, none. A 5½-pound sample from a pit at 2,000 feet elevation on the ridge crest analyzed for the Mineral Survey contained 3.19 per

cent silica, 96.82 per cent iron oxide and alumina, 0.10 per cent sulphur and 0.904 per cent phosphorus.

"In the present state of development, the most southerly exposure of ore in place is in a group of pits 700 feet north of the south end of the claim adjoining the homestead, and 240 feet in elevation above it. From here northward, ore is exposed in pits and short trenches, at intervals of 300 to 500 feet in distance and 100 to 180 feet in elevation. In the intervals between exposures, the presence of some material rich in iron is indicated by a strip of deep red soil, differing distinctly from that on either side. The most northerly exposure is 2,100 feet from the most southerly, and 620 feet higher....

"To supplement the inadequate evidence now disclosed by pits and trenching, a dip-needle survey has been conducted along a series of lines approximately at right angles to the mineral zone and of lengths believed great enough to include at least its most intensely mineralized portions. The position of these traverse lines is shown on the map; dip readings were taken at 25-foot intervals along each line.... Inspection of the magnetic profiles leads to the following observations.

"1. The most intense concentration of magnetite occurs within a distance of about 600 feet along the crest of the ridge between elevations 2,000 and 2,150.

"2. This magnetite does not occur in a massive continuous zone parallel with the general trend of the contact between formations, but in separated lenses apparently striking to the northeast or towards the intrusive body.

"3. Individual lenses probably do not exceed three or four

hundred feet in length. Their maximum width, as indicated by high magnetic intensity, is about 50 feet.

"4. Only one point of abnormal magnetic intensity was observed on the alluvial flats south of the mineral ridge; this was on homestead land 300 feet WSW. from the southeast corner of the lowest mining claim; no corresponding intensity was found 100 feet to the north.

"5. No evidence was observed to indicate a continuation of a magnetite body south of the "dry creek" mentioned by Winchell and Greene, even allowing for its having been faulted, as they suggested."

According to Wells (1940) the deposit is at the contact of meta-volcanic and metasedimentary rock with an associated small limestone lens and serpentine intrusive. As surface outcrops of rocks are badly weathered, field identification is difficult.

The country rock is sheared and the development of much secondary mica (sericite?) gives the rock a schistose character. A dense, fine-grained, silicified rock occurs locally. Specimens of a granular rock composed of interlacing crystals of hornblende and a striated white pyroxene (?) are found.

The original ore mineral was magnetite. It is partly altered at the surface to hematite and limonite. Some of the magnetite is in solid "veins"; some is disseminated.

The ore zone, as exposed, is some 50 feet wide. The stringers of ore have no definite walls and are separated from one another by bands of an intensely sheared and altered rock - now almost a mica schist. Narrow bands of limestone occur in the mineralized zone but no "body"

of limestone as mentioned by Hodge (1938) is exposed in the bulldozer cuts. The magnetite stringers appear to be discontinuous.

The mineralized zone trends N. 20° E. and is nearly vertical. The owner reported that magnetite was cut by the adit, which indicates a depth of at least 72 feet. The ore is reported to be more massive at that depth.

Presence of a serpentine band along the contact of the metavolcanics and metasediments, and the serpentinous appearance of the disseminated ore suggest that the magnetite may be genetically related to the serpentine intrusion.

References: Hodge, 1938:60-66 (quoted in part)
Wells, 1940.

Report by: R.C.T., March 25, 1943.

TRACING & NEGATIVE OF MAP FILED IN ENVELOPE 20-15

State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

Second Supplemental Report

TOLMAN IRON PROPERTY

Gold Hill Area
Jackson County

Owner: Mrs. Vola Tolman, Gold Hill, Oregon.

North End Occurrence: The magnetite occurrence was re-visited and a section was measured across the best exposures in the large open cut just above COPCO's power poles (elevation 2,090 feet on ridge SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 36 S., R. 3 W.). In the 53-foot width of magnetite-bearing schist measured, narrow seams of magnetite up to 2 feet thick make a total of about 12 $\frac{1}{2}$ feet of ore-grade magnetite (see analyses with White's report). The seams of magnetite appear to pinch and swell rapidly.

From interpretation of spectrographic analyses of the Tolman iron ore Hollis Dole (letter 7/8/53) suggests a possible sedimentary origin. The field evidence also in part supports this interpretation. Much of the magnetite has a granular texture. It is interbedded with metasediments of the Applegate group including schist, argillite, quartzite, and limestone. The magmatic appearance of some of the more massive magnetite may be due to recrystallization during metamorphism. There is room for further work on the matter of genesis.

South End Occurrence: A portion of the Tolman iron deposits not previously described in the reports was examined briefly (6/8/60 A.M.). The southern occurrence is located in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T. 36 S., R. 3 W. at about 1,440 feet elevation on a wooded slope lying southwest of a grassy meadow. The south end workings are about 3,500 feet due south of the above described workings near the power lines on the sharp ridge in the SW $\frac{1}{4}$ of section 3.

The southern occurrence has been explored by 2 crosscut tunnels, various open cuts, and bulldozer excavations for nearly 150 yards along the strike.

The best exposure of magnetite is at the face of an old cut about 25 feet wide, 50 feet long, and up to 12 feet deep. At this point the main body of magnetite appears to be about 14 feet thick and at least 35 feet long. It may pinch out at the ends as a lens. A short (10-foot) partly-caved crosscut tunnel in the face of the cut exposes the west edge of the steeply-dipping magnetite body. The magnetite has been intruded by a small (18 inch) dike of andesitic(?) composition. Although no clear-cut faults are exposed, the iron-bearing zone appears to be offset slightly in a few places. About 100 feet north of the cut and short tunnel two seams of magnetite, 20 inches and 3 feet thick respectively, are partially exposed in the shallow bulldozer excavation. These strike about N. 20° E.

A second and longer (90-foot) tunnel lies near a dry gulch 100 yards south and up hill from the short tunnel and cut. A shallow bulldozer excavation connects the two workings. The longer "dry" tunnel trends west. It has two short drifts to the south on iron-stained shear zones in the argillite country rock. The first drift at 30 feet from the portal is 15 feet long and the second at 55 feet from the portal is 12 feet long. A 6-foot shaft was sunk 35 feet from the portal. A narrow (up to 18 inches wide) tapering seam of magnetite is exposed on the north wall of the shaft. No other magnetite was seen in the tunnel. It is possible that the tunnel was dug as a gold prospect.

TOLMAN IRON DEPOSIT (supplemental report continued)

Results of the analysis of six samples, including the two mentioned above, from locations shown on the attached map are listed below:

Sample No.	% Fe	Type of Sample
P-14418	46.69	4-foot channel of magnetite and iron-stained schist
P-14419	30.57	4-foot channel of limonite, magnetite and schist
P-14420	52.91	6-foot channel of magnetite and limonite stained schist
P-14421	16.23	15-foot chip of iron-stained schist with narrow stringers of magnetite.
P-14422	53.33	13-foot channel of magnetite and iron-stained schist
P-14423	52.58	2-foot channel of massive magnetite

Visited: 5/5 and 5/14/53 by DJW

Report by: DJW

Another reported magnetite occurrence (not found) reportedly lies in line between the north and south workings in a gully a short distance below the road at about 1,400 feet elevation in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10.

Visited: 6/6/60 (P.M.) and 6/8/60 (A.M.) with C. V. Neilson, Grants Pass.

Informant: Mrs. Vola Tolman.

Report by: Len Ramp 6/10/60.

* * * * *

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

TOLMAN IRON

mint
Gold Hill area

Mr. C. A. C. Tolman gave me considerable information about this property. It seems that Paul A. Donaldson, John F. Hatch (broker), Edgar C. Snyder (attorney), have formed a partnership known as Magnetite Reserve. They leased the property on the basis of a navy contract held by Hatch, for ship ballasts. Later a man named Montag took 3 tons to Cascade locks for sponge iron testing. Since that time an Archy Talbot of the Bellingham Shipping Company and Ivan Merrick, a Seattle Attorney of Columbia Basin land owners, have entered the picture. Tolman is very much interested in any information we can get about these people.

The lease that Tolman has provides for a \$100 monthly minimum royalty, but he is anxious that the property be worked.

Work on the deposit to date has consisted of bulldoze trenching, which was to me very unsatisfactory. The bulldozer covers and conceals as much or more than it exposes. Their road was built by a man who must have read about road construction in a newspaper somewhere. It goes straight up the hill with grades in excess of 20% and it was constructed during the heavy rains and developed symptoms of no bottom. Since that time, two goats have lost their lives by getting stuck in the road's mud.

Personally, I think that the holder of the lease needs some good smart mining advise. Incidentally, the flying ants were especially bad during the investigation, and one could not linger long in any one spot without placing himself in a serious position of being blown away. Between that and dodging bombers over head, I managed to spend two hours on the property.

Ray C. Treasher
Field Geologist
March 26, 1943

ore is ochreous to black limonite which crops out in an area about 50 by 100 feet on the summit of the hill. A shaft 8 feet deep and a T-shaped prospect trench 15 feet long were opened. The shaft shows only broken limonite and vein quartz; the pit shows schist dipping 20° southward cut by a 3-foot limonite-quartz zone dipping 60° south. The limonite is so obviously a product of oxidation of pyrite (gossan) that its value as iron ore is questionable, and its extension at depth is probably slight.

An ore bin was built and there was talk of building a smelter at Tekoa, but there is no evidence that any ore was shipped. The present owner of the property is a Mr. McLary of Tensed.

OREGON

Satterfield Homestead, or Tolman Iron Deposit
at Gold Hill -- Jackson County

This property, at one time also known as that of the Garfield Iron and Lime Company, is now (1936) owned by Mr. C. A. C. Tolman, of Gold Hill. It lies on a spur of the mountains on the northwest side of the Rogue River, 2 miles northeast of Gold Hill. The Southern Pacific Railroad (Siskiyou Division) crosses one corner of Mr. Tolman's land, but on the opposite side of the river from the ore deposit. A paved county road, parallel with the west bank of the river, also crosses the property. Plate 9.

The ore exposures are covered by three mining claims end to end (among the earliest located in the Gold Hill district) with a combined length of about 4,300 feet. The iron-bearing zone forms the backbone of a steep and narrow ridge bearing N-S. According to a report by H. V. Winchell and Fred T. Greene, in 1903, the zone was then traceable southwards (with an 800-foot gap covered by alluvium) to a distance of 1,400 feet beyond the south end of the claims and into the homestead; this southerly extension of the zone is not now visible. There has been no recent exploration even on the visible portions of the zone, in fact, probably none since 1903, and the full width of the mineralization is nowhere exposed.

The mineralized zone occupies a well defined and nearly vertical contact between limestone on the west and a basic igneous intrusion on the east. Near the contact, the limestone is strongly silicified, while the igneous rock has a dense, felsitic texture, grading into a coarser crystalline texture farther away. The iron mineral is chiefly magnetite, mixed with some hematite. It occurs in lenses and stringers separated by bands of ferruginous rock; some of the lenses are fairly solid magnetite to a width of about one foot, but most of them are narrower. Magnetite occurs also in smaller particles disseminated through the mineralized zone. The necessity for magnetic concentration is plainly indicated, but the separation could begin at coarse sizes.

Even in 1903 the full width of the ore zone had not been exposed in any one place. Winchell and Green give it a range of

from 20 to 60 feet, using an average of 30 feet for their tonnage estimate, which amounted to 760,000 tons to a depth of 50 feet and an assumed length of 4,600 feet. The average assay of their 7 samples was: Iron, 51.63 per cent, (max. range, 42.60 per cent - 61.39 per cent); silica, 8.67 per cent; sulphur, 0.208 per cent; phosphorus, 0.060 per cent; titanium, none. A 5 1/2-pound sample from a pit at 2,000 feet elevation on the ridge crest analyzed for the Mineral Survey contained 3.19 per cent silica, 96.82 per cent iron oxide and alumina, 0.10 per cent sulphur and 0.004 per cent phosphorus.

In the present state of development, the most southerly exposure of ore in place is in a group of pits 700 feet north of the south end of the claim adjoining the homestead, and 240 feet in elevation above it. From here northward, ore is exposed in pits and short trenches, at intervals of 300 to 500 feet in distance and 100 to 180 feet in elevation. In the intervals between exposures, the presence of some material rich in iron is indicated by a strip of deep-red soil, differing distinctly from that on either side. The most northerly exposure is 2,100 feet from the most southerly, and 620 feet higher. Plate 10.

To supplement the inadequate evidence now disclosed by pits and trenching, a dip-needle survey has been conducted along a series of lines approximately at right angles to the mineral zone and of lengths believed great enough to include at least its most intensely mineralized portions. The position of these traverse lines is shown on the map; dip readings were taken at 25-foot intervals along each line. Plate 11. Inspection of the magnetic profiles leads to the following observations.

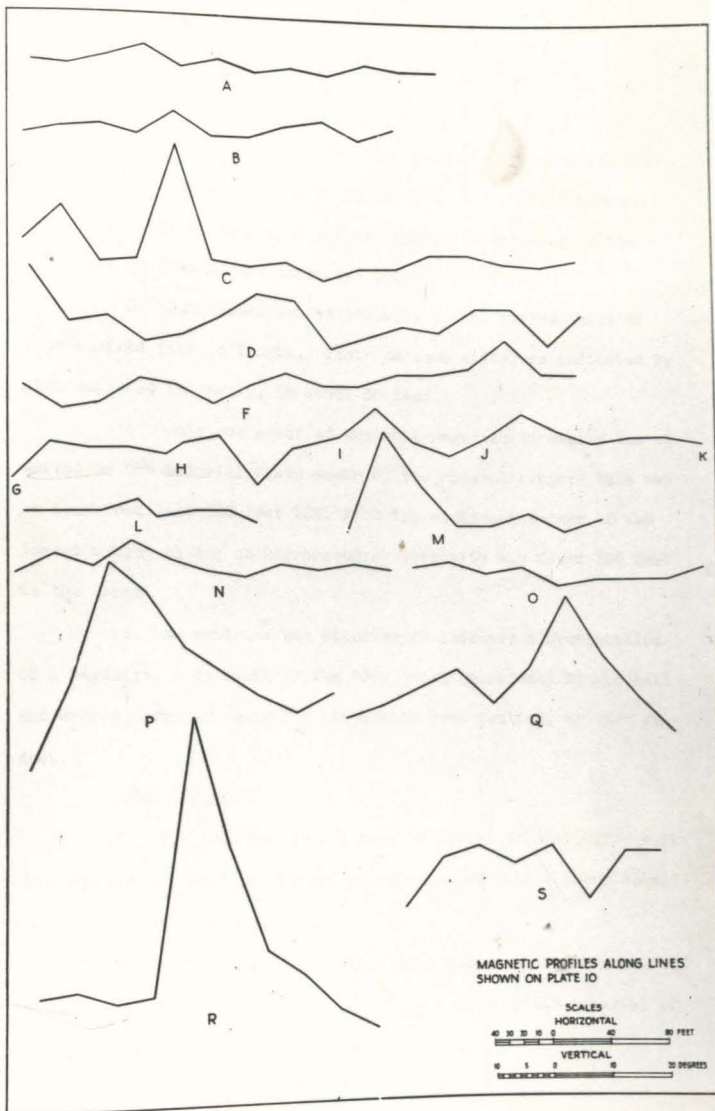


PLATE II- TOLMAN IRON PROPERTY, GOLD HILL, JACKSON CO, OREGON

1. The most intense concentration of magnetite occurs within a distance of about 600 feet along the crest of the ridge between elevations 2,000 and 2,150 feet.

2. This magnetite does not occur in a massive continuous zone parallel with the general trend of the contact between formations, but in separated lenses apparently striking to the northeast or towards the intrusive body.

3. Individual lenses probably do not exceed three or four hundred feet in length. Their maximum width, as indicated by high magnetic intensity, is about 50 feet.

4. Only one point of abnormal magnetic intensity was observed on the alluvial flats south of the mineral ridge; this was on homestead land 300 feet WGW. from the southeast corner of the lowest mining claim; no corresponding intensity was found 100 feet to the north.

5. No evidence was observed to indicate a continuation of a magnetite body south of the "dry creek" mentioned by Winchell and Greene, even allowing for its having been faulted, as they suggest.

CONCLUSIONS

1. The occurrence of a body or bodies of profitably workable ore has not been proved and is not now provable without considerable additional exploration.

2. Some evidence indicates that the mineralized zone, if mined to a width of 30 feet in open stopes, might yield material of

which 2 tons would be required to produce 1 ton of marketable concentrate. On that supposition, the cost of concentrate delivered in the Portland district would be about:

Mining 2 tons @ \$1.75.....	\$ 3.50
Coarse magnetic concentration	
@ \$0.40.....	0.80
Tramming & loading concentrate.....	0.25
Freight, Gold Hill to Portland.....	<u>1.70</u>
	\$ 6.25

Lake Superior iron ores of 51.5 per cent grade are now (April, 1937) selling for \$5.00 to \$5.25 per long ton delivered to furnaces at lower Lake ports. A furnace operator in the Portland district would necessarily have to pay a higher price for his ores from the Gold Hill deposits than the current Lake price and this difference would have to be considered.

3. Additional exploration, beginning with a more complete and more closely detailed magnetic survey, followed by trenching and pitting wherever abnormal magnetic intensities are observed, is recommended. This might disclose larger bodies of higher-grade ore than are now indicated, the cost of production from which might be sufficiently reduced to make them profitable.

Assuming the deposit should prove to be of sufficient size, it would be necessary to construct a 1000-ton ore bin integral with upper tram terminal -- the tram to be wholly located upon Tolman property and extending to a siding from the Southern Pacific Railroad. The tram should handle 300 tons of shipping product in 24 hours from

600 tons mined. The tram will be 2,700 feet long, with 200 feet difference in elevation between terminals, and is estimated to cost \$35,307.

A railroad spur from Gold Hill is not feasible because of conflict with the State Highway, difficulty of getting right of way, the presence of ditches, and plans for development of power and other riparian rights and the consequent lost time in solving these difficulties. The spur would be 1,300 feet long, hold 25 cars, and cost (estimated) \$4,782. A power line, one mile to transformer and one-half mile to mine, and one-half mile to railroad siding would cost (estimated) \$2,500. Water supply development would cost an estimated \$500, and installation of a telephone line \$300. The total estimated cost of such a plant is \$44,000.

Other Occurrences

Most of the reported occurrences of iron ore listed below by counties were not examined by members of the Mineral Survey.

JACKSON COUNTY

A reported iron ore body in Sec. 13, T. 36 S., R. 3 W., on the south side of the Rogue River east of Gold Hill, upon examination by the Engineer party proved to be coarsely crystalline pyroxenite. Two claims on the croppings are held by George Klinger and Frank Saunders of Medford.

Ore from the Buck Ridge mine, on the divide between Gall's and Falls Creeks, 7 miles northwest of Jacksonville, is said to contain columbite. Specimens of ore examined were granitic gneiss con-

taining much specularite, but no magnetic material which might be columbite. There is not enough hematite in the rock to constitute iron ore.

JOSEPHINE COUNTY

Mr. C. D. Cameron of Grants Pass, Supervisor of Construction in the U. S. Forest Service, mentioned an occurrence of iron ore in the southeast corner of Sec. 13, T. 36 S., R. 8 W.; or about 2 1/2 miles southeast of Bally lookout on Onion Mountain.

A large and rather indefinite area was indicated on the map, and this area was traversed. The vicinity is very steep and rough, and the nearest road is about 3 miles away. Onion Mountain is 15 miles due west of Grants Pass, but the distance by road, some of it steep, is 31 miles.

The rocks in this area are basic igneous types and greenstones. A large area of a black metallic looking igneous rock was observed, but it was not iron ore, since its streak was white.

A specimen submitted by Mr. E. H. Messenger, storekeeper at Takilma, looks like good ore. There is said to be a deposit of iron ore on Iron Mountain, T. 33 S., R. 12 W., Sec. 33, on the boundary line between Curry and Coos Counties.

Another iron deposit occurs near the intersection of the west line of Range 5 west with the California State Boundary.

An iron ore deposit is reported on the Oregon-California line, near the head of Dunn Creek, or one mile west of the Happy Camp road; T. 41 S., R. 7 W., SE. corner Sec. 18.

Mr. J. R. Harvey, Secretary, Grants Pass Chamber of Commerce, stated large outcrops of hematite have been found on the south side of Powell Creek, T. 38 S., R. 5 W., Sec. 16, west of the Oregon Bonanza mine.

Mr. J. E. Allen; Grants Pass, Oregon, said there are two deposits, close together, on the trail through Wakeup ^{Riley} ~~Wakeup~~, 2 miles northeast of Wildhorse Lookout. These are now accessible (roads and season permitting) by two routes: (1) by new road from Powers to Agness and thence by 6 miles of trail passing Pine Grove; or (2) by new road up north side of Pistol River, via Gardner, Pyramid Rock, Sugarloaf Mountain, and Alder Springs, to Wildhorse Prairie Ranger Station; thence by 3 miles of trail passing Wildhorse lookout midway. (Curry County)

Mr. R. A. LeRoy, P.O. Box 421, Grants Pass, Oregon, has indications of an iron ore deposit on the Oregon-California line, about one mile west from the Redwood Highway; T. 41 S., R. 9 W., SW. corner Sec. 14. Showings are said to be one-half to three-fourths mile long and 100 to 125 feet wide, striking N-S. Further directions can be obtained from a Mr. Well, who lives about one mile north of the high point on the road, or from the Elk Creek gas station, 1 1/2 miles north of the California line. This may be gossan on a copper-gold-silver sulfide deposit and of doubtful value as an iron ore.

The Frank Moore iron ore claims in the Selma district, Josephine County, have tentatively been placed by Mr. C. D. Cameron, Supervisor of Construction, U. S. Forest Service, Grants Pass, at

the intersection of the west line of Range 6 west (which is also a part of the Siskiyou Forest boundary) with Yenger Creek, a tributary of Sucker Creek, in Township 40 south. Surveyors running lines there encountered strong magnetic disturbances. Frank Moore, now living at Chetko, Oregon, once had 21 claims on the deposit, said to be hematite, occurring in three ledges on Cave Creek, within 10 miles of Selma.

DOUGLAS COUNTY

Mr. C. C. Fristoe submitted a sample, mainly magnetite, carrying traces of dark green films suggestive of chromic oxide, which he said came from near the junction of Packard Creek with the South Umpqua River, or about 4 miles upstream from Canyonville; near the middle of the east side of T. 30 S., R. 5 W. It was said to occur in abundance, and to be exposed in many places.

Iron ore is reported in Sec. 9, 10, T. 31 S., R. 2 W., 1 1/2 miles from the Tiller-Trail Highway, above Tiller. The deposit is on the same side of the South Umpqua River as the highway and about 300 to 400 feet higher on the crest of the slope.

The exposed length is about 100 feet but may be much more; the width is from a few feet to 15 feet but may be much wider. The ore is reported to be very magnetic.

The owners are Joe and Elser Rainville, of Drew.

CLACKAMAS COUNTY

Three prospect pits in limonite between lava flows have been opened up by Mr. Ernest Hodge in the SW 1/4 NE 1/4 Sec. 9, T.

3 S., R. 1 E., about 2 1/2 miles southwest of the town of Willamet. The prospects are on the gentle southwesterly slope of Pete's Mountain at an elevation of about 700 feet.

Limonite float appears at many places on the hillside, and there are several basalt exposures. Limonite was exposed in two pits, 7 and 10 feet deep, respectively. In the 10-foot pit two limonitic horizons are present: 1 1/2 feet of altered basalt and limonitic clay was found under 3 1/2 feet of soil and rock overburden, and in the bottom 4 feet of the pit bog limonite underlay 8 inches of brown clay and 15 inches of oxidized red glassy lava; the bottom of this limonite bed was not reached because of seepage. In the 7-foot pit 4 feet of limonite was found under 2 feet of soil and rock overburden and lying on the deeply weathered surface of a basalt flow. The general dip of the lavas appears to be about 12° to the southeast.

The ores appear to be bog limonite deposited in marshy areas on the surface of a lava flow, which was subsequently buried under a later flow. An 8-pound sample of the best limonite, across the upper 2 feet of ore in the 10-foot pit immediately underlying the reddened glass horizon indicates that it is barely of commercial grade, as shown by the analysis.

Tolman

May 5, 1953

92.75

89.45 at gate

1.50 mile

1880' (9) at bend in rd. near old shack

2040' (9) at large open cut

- to 1 - S27° E toward tree in side str. to pit
- N25° E one rd
- S35° W main *

Main Magnetite lens in big pit

N - 25-30° E

Dip 75° SE

Main Magnetite - 32' wide?

to possible 60' including some weathered schist.

15' — 5 Magnetite lenses in wea. schist biggest lens is 2' wide

Then 15' to 1' magnetite lens

Then 20' to 15' zone containing 3 lens about 1' wide each

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION

RECORD NO..... M061438
RECORD TYPE..... XIM
COUNTRY/ORGANIZATION. USGS
MAP CODE NO. OF REC..

REPORTER

NAME..... JOHNSON, MAUREEN G.
UPDATED..... 81 01
BY..... FERNS, MARK L.; (BROOKS, HOWARD C.)

f
TOLMAN IRON

NAME AND LOCATION

DEPOSIT NAME..... TOLMAN IRON

MINING DISTRICT/AREA/SUBDIST. GOLD HILL

COUNTRY CODE..... US
COUNTRY NAME: UNITED STATES

STATE CODE..... OR
STATE NAME: OREGON

COUNTY..... JACKSON
DRAINAGE AREA..... 17 ROGUE RIVER
PHYSIOGRAPHIC PRDV..... 13 KLAMATH MOUNTAINS
LAND CLASSIFICATION..... 01

QUAD SCALE QUAD NO OR NAME
1: 62500 GOLD HILL

LATITUDE LONGITUDE
42-27-56N 123-02-40W

UTM NORTHING UTM EASTING UTM ZONE NO
4701250.0 496850.0 +10

TWP..... 36S
RANGE..... 03W
SECTION.. 03
MERIDIAN. WILLAMETTE

LOCATION COMMENTS: SW 1/4

SPECIAL FIELD 3 LENSES/CONTACT

ORE MATERIALS (MINERALS, ROCKS, ETC.):
MAGNETITE

ANALYTICAL DATA (GENERAL)
SAMPLES ASSAYED 51.63% FE; 8.67% SiO₂, 0.208% S; 0.060% P, NIL TI

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2
PROPERTY IS INACTIVE

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
REPLACEMENT

FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA

SIZE OF DEPOSIT..... SMALL
MAX LENGTH..... 4600 FT
MAX WIDTH..... 60 FT

DESCRIPTION OF WORKINGS

COMMENTS (DESCRIP. OF WORKINGS):
FOUR ADITS, PITS

PRODUCTION

UNDETERMINED
23 FE, OCCUR SAMPLES 52 FE, 0.2S, 0.06P, 9SiO₂

RESERVES ONLY

ITEM	ACC	AMOUNT	THOUS. UNITS	YEAR	GRADE OR USE
1		760.000	TONS	1903	EST

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... PERM-TRI
HOST ROCK TYPES..... SCHIST, ARGILLITE, LIMESTONE, QUARTZITE

LOCAL GEOLOGY

NAMES/AGE OF FORMATIONS, UNITS, OR ROCK TYPES
1) NAME: APPLGATE GROUP
AGE: PERM-TRI

TOLMAN IRON DEPOSIT

Gold Hill area.

Location: SW $\frac{1}{4}$ sec. 3 and NW $\frac{1}{4}$ sec. 10, T. 36 S., R. 3 W.

History: Hodge (37) Iron ores pp. 58 - 69 reports:

"This property, at one time also known as that of the Garfield Iron and Lime Company, is now (1936) owned by Mr. C. A. C. Tolman, of Gold Hill. It lies on a spur of the mountains on the northwest side of the Rogue River, 2 miles northeast of Gold Hill. The Southern Pacific Railroad (Siskiyou Division) crosses one corner of Mr. Tolman's land, but on the opposite side of the river from the ore deposit. A paved county road, parallel with the west bank of the river, also crosses the property. Plate 9.

The ore exposures are covered by three mining claims end to end (among the earliest located in the Gold Hill district) with a combined length of about 4,300 feet. The iron-bearing zone forms the backbone of a steep and narrow ridge bearing N-S. According to a report by H. V. Winchell and Fred T. Greene, in 1903, the zone was then traceable southwards (with an 800-foot gap covered by alluvium) to a distance of 1,400 feet beyond the south end of the claims and into the homestead; this southerly extension of the zone is not now visible. There has been no recent exploration even on the visible portions of the zone, in fact, probably none since 1903, and the full width of the mineralization is nowhere exposed.

The mineralized zone occupies a well defined and nearly vertical contact between limestone on the west and a basic igneous intrusion on the east. Near the contact, the limestone is strongly silicified, while the igneous rock has a dense, folsitic texture, grading into a coarser crystalline texture farther away. The iron mineral is chiefly magnetite, mixed with some hematite. It occurs in lenses and stringers separated by bands of ferruginous rock; some of the lenses are fairly solid magnetite to a width of about one foot, but most of them are narrower. Magnetite occurs also in smaller particles disseminated through the mineralized zone. The necessity for magnetic concentration is plainly indicated, but the separation could begin at coarse sizes.

Even in 1903 the full width of the ore zone had not been exposed in any one place. Winchell and Green give it a range of from 20 to 60 feet, using an average of 30 feet for their tonnage estimate, which amounted to 760,000 tons to a depth of 50 feet and an assumed length of 4,600 feet. The average assay of their 7 samples was: Iron, 51.63 per cent, (Max. range, 42.60 per cent - 61.39 per cent); silica, 8.67; sulphur, 0.208 per cent; phosphorus, 0.060 per cent; titanium, none. A 5 $\frac{1}{2}$ -pound sample from a pit at 2,000 feet elevation on the ridge crest analyzed for the Mineral Survey contained 3.19 per cent silica, 96.82 per cent iron oxide and alumina, 0.10 per cent

sulphur and 0.004 per cent phosphorus.

In the present state of development, the most southerly exposure of ore in place is in a group of pits 700 feet north of the south end of the claim adjoining the homestead, and 240 feet in elevation above it. From here northward, ore is exposed in pits and short trenches, at intervals of 300 to 500 feet in distance and 100 to 180 feet in elevation. In the intervals between exposures, the presence of some material rich in iron is indicated by a strip of deep-red soil, differing distinctly from that on either side. The most northerly exposure is 2,100 feet from the most southerly, and 620 feet higher. Plate 10.

To supplement the inadequate evidence now disclosed by pits and trenching, a dip-needle survey has been conducted along a series of lines approximately at right angles to the mineral zone and of lengths believed great enough to include at least its most intensely mineralized portions. The position of these traverse lines is shown on the map; dip readings were taken at 25-foot intervals along each line. Plate 11. Inspection of the magnetic profiles leads to the following observations.

1. The most intense concentration of magnetite occurs within a distance of about 600 feet along the crest of the ridge between elevations 2,000 and 2,150.

2. This magnetite does not occur in a massive continuous zone parallel with the general trend of the contact between formations, but in separated lenses apparently striking to the north-east or towards the intrusive body.

3. Individual lenses probably do not exceed three or four hundred feet in length. Their maximum width, as indicated by high magnetic intensity, is about 50 feet.

4. Only one point of abnormal magnetic intensity was observed on the alluvial flats south of the mineral ridge; this was on homestead land 300 feet WSW. from the southeast corner of the lowest mining claim; no corresponding intensity was found 100 feet to the north.

5. No evidence was observed to indicate a continuation of a magnetite body south of the "dry creek" mentioned by Winchell and Greene, even allowing for its having been faulted, as they suggested.

CONCLUSIONS

1. The occurrence of a body or bodies of profitably workable ore has not been proved and is now provable without considerable additional exploration.

2. Some evidence indicates that the mineralized zone, if mined to a width of 30 feet in open stopes, might yield material of which 2 tons would be required to produce 1 ton of marketable concentrate. On that supposition, the cost of concentrate delivered in the Portland district would be about:

Mining 2 tons @ \$1.75.....	\$ 3.50
Coarse magnetic concentration	
@ \$0.40.....	0.80
Tramming & loading concentrate.....	0.25
Freight, Gold Hill to Portland.....	1.70
	<u>\$ 6.25</u>

Lake Superior iron ores of 51.5 per cent grade are now (April, 1937) selling for \$5.00 to \$5.25 per long ton delivered to furnaces at lower Lake ports. A furnace operator in the Portland district would necessarily have to pay a higher price for his ores from the Gold Hill deposits than the current Lake price and this difference would have to be considered.

3. Additional exploration, beginning with a more complete and more closely detailed magnetic survey, followed by trenching and pitting wherever abnormal magnetic intensities are observed, is recommended. This might disclose larger bodies of higher-grade ore than are now indicated, the cost of production from which might be sufficiently reduced to make them profitable.

Assuming the deposit should prove to be of sufficient size, it would be necessary to construct a 1000-ton ore bin integral with upper tram terminal -- the tram to be wholly located upon Tolman property and extending to a siding from the Southern Pacific Railroad. The tram should handle 300 tons of shipping product in 24 hours from 600 tons mined. The tram will be 2,700 feet long, with 200 feet difference in elevation between terminals, and is estimated to cost \$35,307.

A railroad spur from Gold Hill is not feasible because of conflict with the State Highway, difficulty of getting right of way, the presence of ditches, and plans for development of power and other riparian rights and the consequent lost time in solving these difficulties. The spur would be 1,300 feet long, hold 25 cars, and cost (estimated) \$4,762. A power line, one mile to transformer and one-half mile to mine, and one-half mile to railroad siding would cost (estimated) \$2,500. Water supply development would cost an estimated \$500, and installation of a telephone line \$300. The total estimated cost of such a plant is \$44,000.

NG-147-15
Fe

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

2033 First Street
Baker, Oregon

1069 State Office Building
Portland 1, Oregon

239 S.E. "H" Street
Grants Pass, Oregon

REQUEST FOR SAMPLE INFORMATION

The State law governing analysis of samples by the State assay laboratory is given on the back of this blank. Please supply the information requested herein as fully as possible and submit this blank filled out along with the sample.

Your name in full David White (DOGAMI)

Post office address P.O. Box 417 Grants Pass, Oregon

Are you a citizen of Oregon Yes Date on which sample is sent 5-15-53

Name (or names) of owners of the property Mrs. Vola Tolman Blue--Leased to W. C. Mattson

Are you hiring labor? _____

Name of claim sample obtained from _____

Are you milling or shipping ore? _____

Location of property or source of sample (If legal description is not known, give location with reference to known geographical point.)

County Jackson Mining district Gold Hill

Township 36 S Range 3 W Section 3 Quarter section SW 1/4

How far from passable road and name of road 1.5 mi. of road to mine from State Hwy. 234

	Channel (length)	Grab	Assay for	Description
Sample no. 1	<u>4'</u>		<u>Fe</u>	<u>Magnetite & iron-stained schist</u>
" " 2	<u>4'</u>		<u>Fe</u>	<u>limonite & magnetite</u>
Sample no. 2	<u>6'</u>		<u>Fe</u>	<u>magnetite & limonite-stained schist</u>
(Samples for assay should be at least 1 pound in weight.)				
" " 4	<u>15' chip</u>		<u>Fe</u>	<u>iron-stained schist w/stringers of mag</u>
" " 5	<u>13' chip</u>	<u>Fe</u>	<u>(Signed)</u>	<u>magnetite & iron-stained schist</u>
" " 6	<u>2'</u>		<u>Fe</u>	<u>massive magnetite</u>

DO NOT WRITE BELOW THIS LINE - FOR OFFICE USE ONLY - USE OTHER SIDE IF DESIRED

Description _____ (Signed) David White

Sample number	GOLD		SILVER		NG-151	NG-152		
	Oz./T.	Value	Oz./T.	Value				
	NG-147	NG-148	NG-149	NG-150	NG-151	NG-152		
	P-14418	P-14419	P-14420	P-14421	P-14422	P-14423		
Iron (Fe)	46.69%	30.57%	52.91%	16.23%	53.33%	52.58%		

Report issued _____ Card filed _____ Report mailed 5-27-53 Called for _____

Jan

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
2033 First Street Baker, Oregon 1069 State Office Building Portland 1, Oregon 239 S.E. "H" Street Grants Pass, Oregon

REQUEST FOR SAMPLE INFORMATION

The State law governing analysis of samples by the State assay laboratory is given on the back of this blank. Please supply the information requested herein fully and submit this blank filled out along with the sample.

Your name in full Len Ramp (DOGAMI)

Street or P.O. Box P.O. Box 417 City & State Grants Pass, Oregon

Are you a citizen of Oregon? Yes Date on which sample is sent 6/7/60

Name (or names) of owners of the property Mrs. Tolman

Are you hiring labor? _____ Are you milling or shipping ore? _____

Name of claim sample obtained from Tolman iron

Location of property or source of sample (If legal description is not known, give location with reference to known geographical point.)

County Jackson Mining District Gold Hill

Township 36 S Range 3 W Section 3 Quarter section SW

How far from passable road? 100 yds. Name of road end of Mine road

	Channel (length)	Grab	Assay for	Description
Sample no. 1	<u>5'</u>		<u>Au, Ag</u>	<u>from second cut below powerline crossing on ridge</u>
Sample no. 2				

(Samples for assay should be at least 1 pound in weight)

(Signed) L.R.

DO NOT WRITE BELOW THIS LINE - FOR OFFICE USE ONLY - USE OTHER SIDE IF DESIRED

Sample Description Bleached silicified metasediment with disseminated pyrite--5 foot zone strikes N. 30° E.

Sample number	GOLD		SILVER					
	oz./T.	Value	oz./T.	Value				
P-25269 UG-125	0.02	\$0.70	Nil	--	---	---	---	---

Report issued _____ Card filed _____ Report mailed 6-16-60 Called for _____

Pen copy

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
 2033 First Street Baker, Oregon 1069 State Office Building Portland 1, Oregon 239 S.E. "H" Street Grants Pass, Oregon

REQUEST FOR SAMPLE INFORMATION

The State law governing analysis of samples by the State assay laboratory is given on the back of this blank. Please supply the information requested herein fully and submit this blank filled out along with the sample.

Your name in full Len Ramp (DOGAMI)

Street or P.O. Box P.O. Box 417 City & State Grants Pass, Oregon

Are you a citizen of Oregon? Yes Date on which sample is sent 7/26/60

Name (or names) of owners of the property Vola Tolman

Are you hiring labor? _____ Are you milling or shipping ore? _____

Name of claim sample obtained from Tolman South end (Pat)

Location of property or source of sample (If legal description is not known, give location with reference to known geographical point.)

County Jackson Mining District Gold Hill

Township 36 S Range 3 W Section 10 Quarter section _____

How far from passable road? 1/3 mile Name of road Tolman Fe Mine Rd.

	Channel (length)	Grab	Assay for	Description
Sample no. 1	<u>12' chip</u>	_____	<u>Fe (only)</u>	<u>from face of cut main lens S. end occurrence excluding "horses"</u>
Sample no. 2	_____	_____	_____	_____

(Samples for assay should be at least 1 pound in weight)

(Signed) L. R.

DO NOT WRITE BELOW THIS LINE - FOR OFFICE USE ONLY - USE OTHER SIDE IF DESIRED

Sample Description Largely magnetite, in part oxidized, with minor amount of weathered metasedimentary rock mixed.

Sample number	GOLD		SILVER		IRON			
	oz./T.	Value	oz./T.	Value	Fe			
P-25471 UG-183	---	--	---	--	64.12%	---	---	---

Report issued _____ Card filed _____ Report mailed 8-11-60 Called for _____

copy sent to Vola Tolman 9/26/60

*was a copy of this sent to Mrs Tolman? SIR-5
If not do so and file this one Len*

GOVERNING BOARD
MASON L. BINGHAM, CHAIRMAN, PORTLAND
[REDACTED]
LES R. CHILD, GRANTS PASS
NADIE STRAYER, BAKER



FIELD OFFICES:
2033 FIRST STREET
BAKER
239 SOUTHEAST "H" STREET
GRANTS PASS

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1069 STATE OFFICE BUILDING
PORTLAND 1

Date June 24, 1953

Field Laboratory Number _____

Name H. Dole

General Laboratory Number P-14422

Address _____

Spectrographic Laboratory Number _____

City _____

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

1. Elements present in concentrations over 10%

Si, Fe

2. Elements present in concentrations 10% to 1%

Al, Mg

3. Elements present in concentrations 1% to 0.1%

K, Mn

4. Elements present in concentrations 0.1% to .01%

Ca, Na, Cu

5. Elements present in concentrations .01% to .001%

Ti, Cr, V, Sr

6. Elements present in concentrations below .001%

Ba, Ni

STATE DEPT. OF GEOLOGY & MINERAL INDUSTRIES
FIELD OFFICE
939 S. E. "H" Street
Grants Pass, Oregon
P. O. Box 417

Radioactivity _____

Mercury _____

Thomas C. Matthews, Spectroscopist



STATE DEPARTMENT OF GEOLOGY
AND MINERAL INDUSTRIES

1069 STATE OFFICE BUILDING
PORTLAND 1, OREGON

June 24, 1953

General Laboratory Number P-14420

Date received _____

Spectrographic Laboratory Number _____

Sample received from H. Dole

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

1. Elements present in concentrations over 10%.

Si, Fe

2. Elements present in concentrations 10% - 1%.

Al

3. Elements present in concentrations 1% - 0.1%.

Mg, K, Mn

4. Elements present in concentrations 0.1% - .01%.

Ca, Na, Cu. As (very faint line)

5. Elements present in concentrations .01% - .001%.

Ti, V, Co

6. Elements present in concentrations below .001%.

Cr, Ba, Sr, Ni

Thomas C. Matthews, Spectroscopist



STATE DEPARTMENT OF GEOLOGY
AND MINERAL INDUSTRIES

1069 STATE OFFICE BUILDING
PORTLAND 1, OREGON

June 24, 1953

General Laboratory Number P-14421

Date received _____

Spectrographic Laboratory Number _____

Sample received from H. Dole

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

1. Elements present in concentrations over 10%.

Si

2. Elements present in concentrations 10% - 1%.

Fe, Mg. Al (may be over 10%)
 Ca (may be over 10%)

3. Elements present in concentrations 1% - 0.1%.

Na, K, Mn, Ti

4. Elements present in concentrations 0.1% - .01%.

V, Cu, Sr

5. Elements present in concentrations .01% - .001%.

Cr, Ba, Ni

6. Elements present in concentrations below .001%.

Thomas C. Matthews, Spectroscopist

June 24, 1953

General Laboratory Number P-14422

Date received _____

Spectrographic Laboratory Number _____

Sample received from H. Dole

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

1. Elements present in concentrations over 10%.

Si, Fe

2. Elements present in concentrations 10% - 1%.

Al, Mg

3. Elements present in concentrations 1% - 0.1%.

K, Mn

4. Elements present in concentrations 0.1% - .01%.

Ca, Na, Cu

5. Elements present in concentrations .01% - .001%.

Ti, Cr, V, Sr

6. Elements present in concentrations below .001%.

Ba, Ni

Thomas C. Matthews, Spectroscopist

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon

TOLMAN IRON DEPOSIT
(Supplemental to report by R.C.T., 1943)

Gold Hill Area
Jackson Co.

Owner: Mr. & Mrs. (Vola Tolman) Ward Blue, Gold Hill, Oregon.

History and Development: W. C. Mattson, Ashland, Oregon, leased the property in April 1953 and did some trenching with bulldozers. If enough iron ore of suitable grade could be proven, Mattson planned to sell it in Portland to be exported to Japan. Hugh C. Ingle, 118 N. Riverside Street, Medford, Oregon, was the engineer in charge of the exploration. By the first week in May the two bulldozers had been removed from the property and according to rumor the lease would be terminated.

Geology: A Brunton and chain sketch showing most of the pits, trenches, and exposed magnetite bearing zones was prepared in May 1953 and a copy is attached to this report.

Magnetite occurs as massive lenses and stringers varying from a few inches to two feet in width separated by altered schistose rock which near the lenses often ~~contains~~ contains disseminated magnetite grains. A 50-foot wide zone of schistose rocks exposed in the large pit at approximately 2025 feet in elevation contains 8 separate lenses of magnetite, five of which occur in the most western 15 feet of the zone. A chip sample (P-14422) along 13 feet of the western edge of this zone contained 53.33 percent iron. A channel sample (P-14423) of a 2-foot magnetite lens, the largest of the 5 lenses within this 15-foot zone, contained 52.58 percent iron. The ore zone in this upper pit strikes N. 20° E. and dips from 75°-80° SE.

TOLMAN IRON DEPOSIT (supplemental report continued)

Results of the analysis of six samples, including the two mentioned above, from locations shown on the attached map are listed below:

<u>Sample</u> Sample No.	% Fe	Type of Sample
P-14418	46.69	4-foot channel of magnetite and iron-stained schist
P-14419	30.57	4-foot channel of limonite, magnetite and schist
P-14420	52.91	6-foot channel of magnetite and limonite stained schist
P-14421	16.23	15-foot chip of iron-stained schist with narrow stringers of magnetite.
P-14422	53.33	13-foot channel of magnetite and iron-stained schist
P-14423	52.58	2-foot channel of massive magnetite

Visited: 5/5 and 5/14/53 by DJW

Report by: DJW