State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

Chetco
Curry

Preliminary Report

TINCUP IRON GROUP

Owners: Ernest and Steve McTimmonds and Ron McCoy, Grants Pass.

Area: 11(?) lode claims held by location.

Location: The area of the claims lies mostly in the west ½ of Sec. 32, T. 37 S., R. 10 W. and extends into Secs. 29 and 31. It is 6½ miles by trail from the end of the road, ½ mile northeast of Pearsoll Peak at the Early Sunrise chrome mine; about 19 miles by Forest Service road from Selma; and 22 miles via U. S. Hwy. 199 to the railroad at Grants Pass. The total distance to Grants Pass is about 48 miles. The approximate total distance down the Chetco River to Brookings is 45 miles but about 28 miles of road are yet to be constructed along this route.

Topography: The deposit lies between 3600 and 4400 feet elevation.

Geology: The area is underlain by coarse-grained pyroxenite and hornblende diorite with occasional rocks of gabbroic composition. It lies in a broad complex belt of igneous rocks largely hornblende diorite, about 5 miles wide and 30 miles long, trending about N. 20° E. (see Prelim. Geologic Map of the Kerby Quadrangle by Wells and others, 1948). Other bodies of pyroxenite and gabbro are mapped in the area but have not been examined for magnetite content.

Magnetite occurs in the pyroxenite as medium to coarse grains and crystals up to ½ inch in diameter. The average grain size of magnetite is about 1/16 inch. Small streaks of nearly massive magnetite are present and small chunks of massive float are fairly abundant in the area.

The area examined and sampled (6/17/58) is about ¼ mile wide and ½ mile long. It lies north and west of the saddle, 3950 feet elevation,

in the south edge of the NW¼ of Sec. 32, T. 37 S., R. 10 W.

The deposit reportedly extends about ½ mile farther south but this part of the area was not examined.

Analyses: Massive float with some intergranular silicate minerals (SG-141, P-22954) assayed 53.60 percent Fe, 0.18 percent Cr_2O_3. 1.40 percent TiO_2, and trace Co.

Two chip samples taken at the time of the examination were crushed and concentrated magnetically. Sample SG-175 was taken across the deposit as chips at 25-foot intervals over a distance of 750 feet in a N. 70° W. direction from the saddle. It (SG-175, P-23088) contained 25.6 percent magnetite which assayed 60.95 percent Fe, Trace Ni, Trace P_2O_5, and 0.006 S. Sample SG-176 was chipped at 30-foot intervals over a distance of 2000 feet on a line extending north from the saddle. It (SG-176, P-23089) contained 18.9 percent magnetite which assayed 61.97 percent Fe, Trace Ni, Trace P_2O_5 and 0.004 S.

Dip-Needle: Several dip-needle readings were taken over the area but not plotted. The highest readings (±11°) were obtained over bare rock outcrops with visible disseminated magnetite. The average dip over the area was about ±5°, indicating no sizeable bodies of massive ore.

Visited: 6/17/58 with Ernest R. McTimmonds.

Report by: Len Ramp 8/20/58.

* * * * *

PRELIMINARY REPORT
TINCUP IRON PROSPECT
CURRY COUNTY, OREGON

LOCATION AND PHYSICAL SURROUNDINGS

The Tincup iron deposit is located on the divide between the Illinois River and Chetco River watersheds, at an elevation of between 3600 and 4160 feet. The bulk of the deposit is in Section 32, overlapping into Section 31, T 37S, R 10W, in Curry County, Oregon. It is in the Chetco Mining District, about 4 airline miles west of Pearsoll Peak which dominates the landscape in this area.

The property is 40 airline miles west of Grants Pass and 45 miles east of Brookings. A good trail 6½ miles long leads to the property from a dirt road that serviced several chrome mines in the vicinity of Pearsoll Peak. This road joins the Illinois River road at the McCaleb Ranch. Because of the recent storm the Pearsoll Peak road was impassable at the time of the writer's examination.

The property is readily accessible by helicopter.

In the area surrounding the claims gently rolling uplands have been deeply dissected by stream channels, some of which are several thousand feet deep. The steep walls of these channels show indications of landslides that have resulted in the formation of a series of narrow flat benches separated by unusually steep slopes.

The north slopes of the property are covered by a dense growth of spruce, fir, and some pine. The south slopes have only a sparse pine growth growing above a thin cover of manzanita.

The property is above the winter snow line but thick snow packs would not be expected. Perennial streams cut across the area, assuring adequate camp water but not, perhaps, a sufficient supply to service a large scale concentrating plant.

HISTORY

The Chetco Mining District has been the site of past unsuccessful gold placer operations, as well as several more profitable chrome mining ventures.

In 1958, Steve McTimmonds of Grants Pass discovered interesting concentrations of magnetite while on a gold prospecting trip. At that time he located eight unpatented lode claims to cover the deposit. In August 1962, McTimmonds located an additional four claims. The area is

now covered by a block of four claims long in a northeasterly direction and three claims wide.

The 1800 foot width of the area covered by claims is not sufficient to protect the indicated ore body. Claims should be extended at least 600 feet both east and west of the ore limits. At least two, and possibly four, additional claims should be staked to make the south part of the claim area 2400 to 3000 feet wide.

In 1958 the property was visited by Len Ramp of the Oregon Department of Geology and Mineral Industries. Based on a brief examination Mr. Ramp prepared a preliminary report that included the assay results of two groups of composite samples. This suggested that a concentrate of commercial grade could be easily prepared by magnetic separation of the magnetite.

In 1962 a Portland group, interested in promoting the property, sent their geologist, L. E. Frizzell, to make a further examination. Mr. Frizzell submitted a report which does not alter in any appreciable way the facts set forth by Mr. Ramp.

On October 19 and 20, 1962, the writer examined the property, accompanied on one day by Mr. Ramp and on the next by Steve McTimmonds. Some 300 pounds of samples were collected to allow for preliminary metallurgical test work. The locations of these samples are shown on the accompanying sketch map. Results of the metallurgical tests will be submitted upon completion.

GEOLOGY

The Tincup property is in the Oregon Coast Ranges in an area largely dominated by dioritic intrusions that represent the northern extension of the Sierra Nevada batholith. This diorite is in turn intruded by dikes and elongate lenses of basic and ultrabasic rocks ranging in composition from an extremely coarse grained, almost pegmatitic, diorite through olivine gabbro to coarse grained pyroxenite. The chrome deposits in the area are closely associated, genetically and spatially, with the ultrabasic rocks. The Tincup iron deposit appears to have the same close relationship with the ultrabasic series.

TINCUP MAGNETITE DEPOSIT

The Tincup deposit occurs largely in a northeast trending pyroxenite dike or lens. This is bordered to the east by medium grained diorite and to the west by a complex mixture of olivine gabbro and extremely coarse grained (pegmatitic) hornblende diorite, which in turn grades into the normal medium grained diorite. Some magnetite occurs as a normal fine-grained accessory mineral in all rock types, but this by itself is of no particular economic importance.

In a post-pyroxenite period of mineralization magnetite was introduced into the pyroxenite overlapping into the gabbro and pegmatitic diorite. The area affected by this later wave of mineralization is shown in red on the accompanying sketch map.

This mineralizing period has produced coarse magnetite crystals and masses interstitial to the earlier rock-forming crystals. Individual magnetite crystals and masses range in diameter from a fraction of an inch to several inches. This coarse magnetite is not distributed evenly throughout the ore zone but appears to be concentrated in relatively narrow seams separated by bands of leaner material. In some of these richer seams, nearly pure magnetite extends for widths of several feet.

Rock outcrops are exposed in about 20% of the ore area and sections between outcrops are covered by a thin veneer of soil or talus. With information now available it is impossible to determine whether the iron content of the outcrops and associated talus are representative of the entire ore mass or whether the hidden sections of the ore body may be different. In the outcrops the richer magnetite seams appear to be harder and so more resistant to erosion than the leaner sections. This would suggest that the now outcropping ore, being harder than the intervening material, is also of a higher iron content. Exploration of the buried sections will be necessary to provide an answer to this question.

POSSIBLE RESERVES

The outline of the indicated iron ore body was plotted by the writer on an enlarged copy of the U.S.G.S. topographic map. Individual points along the margin of the ore were located by compass and pacing from the nearest indentifiable topographic features. The ore outline on the accompanying map is as accurate as the underlying topographic coverage and gives at least an approximation of the actual size of the body. The ore body stops abruptly to the north and pinches to a narrow low grade "tail" to the south.

The ore body is about 3200 feet long and varies in width from 500 to nearly 2000 feet. Planimeter measurements indicate a horizontal area of 3,520,000 square feet. Assuming a factor of 10 cubic feet to the ton, this aerial measurement indicates 352,000 tons of ore per vertical foot.

The ore body is exposed over a maximum vertical range of 760 feet and over an average range of about 300 feet.

The dip of the ore is not known. Unless it proves to be a shallow blanket that conforms with the present land surface, it should have an average vertical extent of 300 feet down to the lowest point exposed on the surface. It therefore seems reasonably likely that it

may contain 100,000,000 tons down to this elevation. There is nothing to indicate how much deeper ore may continue.

GRADE OF ORE

Any discussion of ore grade must be restricted at this time to the outcropping portions of the ore.

In the course of his examination, Mr. Ramp took three samples. The first of these, a selected piece of high grade magnetite float, contained 53.60% Fe with 1.40% TiO_2 and 18% Cr_2O_3.

His second sample was a composite of chips or small pieces of float taken at 25 foot intervals across a width of 750 feet. This contained 25.6% magnetite and the magnetic concentrate from the sample ran 60.95% Fe, Tr Ni, Tr P_2O_5, and 0.006% S. This is the equivalent of 15.6% Fe in the crude ore. Titanium content was not determined.

For his third sample, Mr. Ramp collected chips and float at 30 foot intervals along a 2000 foot traverse parallel to the strike of the ore body. This traverse included the barren material from the 500 foot wide embayment shown on the accompanying map. This composite sample contained 18.9% magnetite which, when concentrated, assayed 61.97% Fe, Tr Ni, Tr P_2O_5, and 0.004% S. This sample contained 11.6% recoverable iron.

The average of Mr. Ramp's two composite samples shows a magnetically recoverable iron content of 13.6%.

Three selected ore specimens were submitted to Oregon Steel Mills by Mr. Frizzell. These are not believed to be representative. Their analyses are given below:

	Sample 1		Sample 2	Sample 3
	Unseparated	Separated 44.52% magnetic		
% Fe	23.3	50.9	26.2	25.3
% P	.007	.002	.003	.005
% S	.005	nil	.002	.002
% TiO_2	1.4	3.3	1.7	1.8

In the course of the present examination the writer collected seven samples, the locations of which are shown on the accompanying map as samples 140 through 146, inclusive. These samples have been analyzed for acid soluble iron content. Samples 140 and 146 were taken in low grade material north and south, respectively, of the richer ore. Sample 140 is a composite of chips taken along a 140 foot width in line with the northerly projection of the ore body. Sample 146 represents a composite of float

and outcrops across an 800 foot width, about 400 feet south of the southernmost substantial width of better ore.

Samples 141, 142, and 143, representing sample widths of 80 feet, 200 feet, and 200 feet, respectively, were taken from outcropping material in the northern half of the ore body. These sample widths were limited because overburden covered the extensions of the ore. There is no reason to believe that the sample values will not be representative of the full width of indicated ore.

Samples 144 and 145 are composites of 800 and 1400 foot widths, respectively, along the southern and wider part of the ore body. Where possible these samples were taken from outcrops. Where no outcrops occurred, chips were taken from large ore boulders.

Samples 140 through 145 should represent a conservative estimate of iron content of the indicated ore body. Since obvious pieces of waste float were included in these samples, the actual iron content of the sampled area should be higher than that indicated by assays. The assays of the seven samples are given below. Analyses are by Metallurgical Laboratories of San Francisco.

Sample	% Fe, acid soluble	Remarks
140	7.39	North of ore
141	13.22	Narrow section
142	14.48	" "
143	10.62	" "
144	14.89	Wide section on saddle
145	11.87	Widest section
146	9.27	South of ore

The arithmetic average of Samples 141 through 145 is 13.01% Fe. Samples 141 through 143, taken in the narrower northern portion of the ore body, average 12.77% Fe. Samples 144 and 145, representing the southern portion of maximum width, have an average iron content of 13.38%.

These samples, and the resulting assays, should be conservative and are helpful principally in establishing a minimum value to the ore body.

Metallurgical tests are now being made on these samples. For preliminary results, Samples 141 through 143 have been combined for one test, and Samples 144 and 145 are combined for the other. These results will be forthcoming in the near future.

PETER JORALEMON

November 2, 1962

11/15/62

PRELIMINARY ECONOMICS TIN CUP PROPERTY

The economics are based on the following data and in some cases assumptions:

1. That 30,000,000 tons of ore can be mined by open pit without mining any waste.

2. That the ore will average about 17.0% total iron from which 11.5 units of iron are recoverable magnetically in a 63% iron concentrate by grinding to 100 mesh. Results from Utah Lab. tests.

3. The concentrate must be hauled via truck 45 miles westward to the coast or 45 miles eastward to the railroad at Grants Pass. Rail haul to Portland is estimated at 275 miles.

4. Costs quoted are based on a rate of mining and milling to produce 500,000 long tons per year of concentrates.

5. That 5.5 tons of ore must be mined and concentrated to produce one long ton of concentrate.

6. Assumed direct costs for mining-milling:

Mining and delivery to crusher	$0.37 long ton
Crushing, grinding, concentration	$0.87 long ton

7. No royalty is included in these calculations.

Estimated Costs of Producing and Delivering 1 Ton Concentrate		Per Ton Conc.
Mining and delivering to crusher	5.5 x 0.37	$ 2.04
Crushing, grinding, concentration	5.5 x 0.87	4.67
Oregon property and franchise tax	5.5 x 0.03	0.17
Administration and insurance	5.5 x 0.04	0.22
Cost of concentrate at mill site		$ 7.10
Cost truck haul 45 mi. @ $0.04 = $1.80		
Rail haul 275 mi. @ 0.012 = 3.30		5.10
Concentrate cost f.o.b. Portland		$12.20

While this $12.20 cost per long ton of 63% iron concentrate may be cut to $11.50 per ton by using barge transportation up the Detroit River, instead of rail, it would appear this would be the minimum cost to be expected.

Conclusion

The cost of $11.50 to $12.20 per long ton of 63% iron concentrate contaminated by 1.5 to 2.6% TiO_2 would appear to be very high and probably non-competitive for a long time into the future.

Comment

If, upon exploration by drilling, the deposit proved to average 22.0% instead of 17.0% total iron which would allow for a recovery of 15.7 units of iron per ton of crude ore, then the delivered cost of a ton of concentrate would range from $9.50 to $10.20.

It appears that 22.0% iron average for the deposit would be a maximum expectation, and the odds are that it will probably not exceed 20% total iron content.

R. J. McR.

R.McR:ET

TIN CUP TEST WORK (DAVIS TUBE)

Results by phone from Utah Lab. 11/14/62

Composite No. 1 Assay 18.4% Fe, 0.94% TiO_2 Samples Nos. 144-145

Mesh	% Wt. Conc.	% Fe Conc.	Fe Units Conc.	% Fe Recovery	TiO_2% Conc.	TiO_2 Rec.
10	34.25	37.2	12.85	69.8	1.77	64.47
28	25.05	47.2	11.80	64.2	2.65	70.64
100	19.18	62.0	11.85	64.3	2.65	54.04*

Ratio concentration = $\frac{62.0}{11.85}$ = 5.23/1

Composite No. 2 Assay 17.6% Fe, 0.77% TiO_2 Samples Nos. 141-142-143

Mesh	% Wt. Conc.	% Fe Conc.	Fe Units Conc.	% Fe Recovery	TiO_2% Conc.	TiO_2 % Rec.
10	29.17	41.2	11.90	67.6	2.12	80.26
28	21.60	54.4	11.75	66.8	3.01	84.42
100	17.73	64.0	11.35	64.5	1.53	35.19*

Ratio concentration = $\frac{64}{11.35}$ = 5.68/1

* Note how TiO_2 recovery drops off with finer grind, indicating a dropout of ilmenite as freed from magnetite.

Conclusions

1. Tin Cup ore must be ground to 100 mesh to make a 62-64% iron concentrate with a 64.5% recovery.

2. Approximately 5.5 tons of crude ore must be mined and concentrated to produce one ton of 62-64% Fe concentrate.

P.S. These are preliminary results based on figures over phone. Testing records were not yet available but recovery here was calculated by ... Head assay and Content of concentrate. These results are exact as far as iron units recovered in the concentrate or per ton of feed.

R. J. McR. - 11/14/62

RJMcR:ET

ENGINEERS CONTRACTORS

UTAH CONSTRUCTION & MINING CO.

[redacted] CALIFORNIA STREET, SAN FRANCISCO 4, CALIFORNIA

CABLE ADDRESS: UTAHCONCO

[redacted]

ORE DRESSING LABORATORY
[redacted]
PALO ALTO, CALIFORNIA
1033 East Meadow Circle
November 21, 1962

Mr. R. J. Mc Rae
The Bunker Hill Company
620 Market Street
San Francisco 4, California

Dear Bob,

The results of the Davis tube test work performed on the samples submitted to the Laboratory were as follows:

Composite Number 1
Head Analysis
% Fe 18.4 % TiO_2 0.94

Size	Product	% Wt.	ASSAY % Fe	ASSAY % TiO_2	% DISTRIBUTION Fe	% DISTRIBUTION TiO_2
-10 mesh	Magnetics	34.25	37.2	1.77	74.03	64.47
	Non-Magnetics	65.75	6.8	0.51	25.97	35.53
	Calc. Feed	100.00	17.21	0.94	100.00	100.00
-28 mesh	Magnetics	25.05	47.2	2.05	70.48	70.64
	Non-Magnetics	74.95	6.6	0.37	29.52	29.36
	Calc. Feed	100.00	16.77	0.94	100.00	100.00
-100 mesh	Magnetics	19.18	62.0	2.65	68.37	54.04
	Non-Magnetics	80.82	6.8	0.53	31.63	45.96
	Calc. Feed	100.00	17.39	0.94	100.00	100.00

Note: The TiO_2 content of the Non Magnetics was calculated by difference
Composite number 1 was made up of equal weights of samples number 144 and 145.

Composite Number 2
Head Analysis
% Fe 17.6 TiO_2 0.77

Size	Product	% Wt.	ASSAY % Fe	ASSAY $\%TiO_2$	% DISTRIBUTION Fe	% DISTRIBUTION TiO_2
-10 mesh	Magnetics	29.17	41.2	2.12		
	Non Magnetics	70.83	6.4	0.21		
	Calc. Feed	100.00	16.55	0.77	100.00	100.00
-28 mesh	Magnetics	21.60	54.4	3.01	70.07	84.42
	Non Magnetics	78.40	6.4	0.15	29.93	15.58
	Calc. Feed	100.00	16.77	0.77	100.00	100.00
-100 mesh	Magnetics	17.73	64.0	2.18	67.64	50.26
	Non Magnetics	82.27	6.6	0.47	32.36	49.74
	Calc. Feed	100.00	16.78	0.77	100.00	100.00

Note: The TiO_2 content of the Non Magnetics was calculated by difference
Composite number 2 was made up of equal weights of samples number 141, 142 and 143.

Very truly yours,

UTAH CONSTRUCTION & MINING CO.

Eric Burchert

E. W. Burchert

EWB:ms

THE BUNKER HILL COMPANY

BOX 29 KELLOGG IDAHO

ADDRESS REPLY TO
620 MARKET STREET
ROOM 620
SAN FRANCISCO 4

November 28, 1962

Mr. Walter E. Jameson, Vice President
Oregon Steel Mills
5200 N. W. Front Avenue
Portland 10, Oregon

Dear Mr. Jameson:

I am enclosing the Utah Laboratory results of Davis Tube magnetic concentration tests on Tin Cup ore. These tests were run on two composites made up by Peter Joralemon from his samples of the Tin Cup Deposit.

I have previously forwarded to you a preliminary report on these results, as given to me before the assays of the tailings were available. These final figures have raised the percentage recovery from 3% to 5%. This, however, did not change the tons of crude ore to be mined to produce a ton of finished concentrate. I am listing the conclusions from the results:

Composite No. 1

1. This must be ground to 100 mesh to obtain a 62% iron concentrate.

2. Calculated total iron in composite = 17.3%.

3. Recovery at 100 mesh = 66.37%.

4. Tons crude ore per ton 62% iron concentrate = 5.21 to 1.

Composite No. 2

1. This also must be ground to 100 mesh to obtain a 64% iron concentrate.

2. Calculated total iron in composite = 18.75%.

3. Recovery at 100 mesh = 67.64%.

4. Tons crude ore per ton 64% iron concentrate = 5.64 to 1.

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO.,..... M061816
RECORD TYPE..... X1M
COUNTRY/ORGANIZATION. USGS
DEPOSIT NO..... ODGMI 93-1
MAP CODE NO. OF REC..

REPORTER
NAME..... SMITH, ROSCOE M.
DATE..... 78 08
UPDATED..... 81 04
BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
DEPOSIT NAME..... TINCUP GROUP

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

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

COUNTY..... CURRY
DRAINAGE AREA..... 17100312 PACIFIC NORTHWEST
PHYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
LAND CLASSIFICATION..... 43

QUAD SCALE	QUAD NO OR NAME
1: 62500	PEARSOLL PEAK

LATITUDE	LONGITUDE
42-18-40N	123-54-45W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4684500.	424800.	+10

TWP..... 37S
RANGE.... 10W
SECTION.. 32
MERIDIAN. WB & M

LOCATION COMMENTS: NW 1/4

COMMODITY INFORMATION
COMMODITIES PRESENT..... FE TI NI CR

MAIN COMMOD..... FE

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

COMMODITY COMMENTS:
15 TO 25 % MAGNETITE BY WEIGHT

ANALYTICAL DATA(GENERAL)
MAGNETIC CONCENTRATES ASSAYED ABOUT 60 % FE; 1.4 % TIO2, 0.18 % CR2O3 AND TRACE NI

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 1

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
DISSEMINATED
FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL

PRODUCTION
NO PRODUCTION

23	SAMPLES	PRE - 1975	15-25 MAGNETITE (CONC 60 FE, 1.4 TIO2)

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... JUR
HOST ROCK TYPES..... PYROXENITE, GABBRO

LOCAL GEOLOGY

COMMENTS (GEOLOGY AND MINERALOGY):
COARSE-GRAINED AND GRANULAR AGGREGATES OF MAGNETITE UP TO 0.75 INCHES IN DIAMETER ARE DISSEMINATED IN PYROXENITE AND SOME GABBRO.

GENERAL REFERENCES
1) RAMP, L. AND OTHERS, 1977, GEOLOGY, MINERAL RESOURCES AND ROCK MATERIAL OF CURRY COUNTY, OREGON; ODGMI BULL. 9
P.43

Cleveland-Cliffs Steel Company

Research Laboratory
September 25, 1963

Subject: Tincup Mountain Samples - L.O. 3859

Reference: Memorandum No. 1190

Memorandum to Mr. E. B. Johnson, Chief Metallurgist:

On August 16, 1963, two (2) samples from Tincup Mt., Curry Co., Oregon, were submitted to the Research Laboratory for testing. These samples are numbered MX2629 and MX2630 and they represent specimens #17,948 and #17,949, respectively.

A portion of the samples was split out and hand pulverized to -200 mesh. A standard Davis Magnetic Tube separation was then run on the pulverized material, the results of which are listed below:

Sample No.	Head % Fe	Concentrate % Wt.	% Fe	% SiO_2	% TiO_2	% Fe Rec.	Tail % Fe
MX2629	26.3	36.07	66.0	1.46	3.07	90.52	3.90
MX2630	16.8	22.26	66.4	1.58	2.32	87.98	2.60

The remainder of the samples are being stored in 5-lb. boxes at the Laboratory core building.

Respectfully submitted,

Robert H Peterson

Robert H. Peterson

RHP:bb

Checked by:

cc: BHBoyum (5 for distribution)

TIN CUP TEST WORK (DAVIS TUBE)

Results by phone from Utah Lab. 11/14/62

Composite No. 1 Assay 18.4% Fe, 0.94% TiO_2 Samples Nos. 144-145

Mesh	% Wt. Conc.	% Fe Conc.	Fe Units Conc.	% Fe Recovery	TiO_2% Conc.	TiO_2 Rec.
10	34.25	37.2	12.85	69.8	1.77	64.47
28	25.05	47.2	11.80	64.2	2.65	70.64
100	19.18	62.0	11.85	64.3	2.65	54.04*

Ratio concentration = $\frac{62.0}{11.85}$ = 5.23/1

TiO_2 average 2.09 Concentrate

Composite No. 2 Assay 17.6% Fe, 0.77% TiO_2 Samples Nos. 141-142-143

Mesh	% Wt. Conc.	% Fe Conc.	Fe Units Conc.	% Fe Recovery	TiO_2% Conc.	TiO_2 % Rec.
10	29.17	41.2	11.90	67.6	2.12	80.26
28	21.60	54.4	11.75	66.8	3.01	84.42
100	17.73	64.0	11.35	64.5	1.53	35.19*

Ratio concentration = $\frac{64}{11.35}$ = 5.68/1

* Note how TiO_2 recovery drops off with finer grind, indicating a dropout of ilmenite as freed from magnetite.

Conclusions

1. Tin Cup ore must be ground to 100 mesh to make a 62-64% iron concentrate with a 64.5% recovery.

2. Approximately 5.5 tons of crude ore must be mined and concentrated to produce one ton of 62-64% Fe concentrate.

P.S. These are preliminary results based on figures via phone. Tailing assays were not yet available but recovery here was calculated based on Head assays and Content of concentrate. These results are exact as far as iron units recovered in the concentrate or per ton of feed.

R. J. McR. - 11/14/62

RJMcR:ET

ASSOCIATED GEOLOGISTS
~~111 N. W. A ST.~~ 130 N. W. "B" St.
GRANTS PASS, OREGON - 97526
479-4116

Data Tin Cup Prospect

(1) Josephine & Curry County - O. E. D. areas Plant Development can receive 65% government financing at low interest rates. Head of O. E. D. is a member of Associated Technical Consultants.

(2) Curry County Electric - Low power block rate for industrial power. If a large electrical power output is required, the power company will build a dam on the Illinois River at Buzzard Rock.

(3) From the Tin Cup property to the Harbor at Brookings, Oregon, preliminary studies indicate that a near gravity pipeline carrying an iron ore slurry is feasible.

(4) Brookings Harbor - Studies completed by Corps of Engineers to make harbor into a deep sea port.

COPY

XG - 172

Co,Cu,Fe,Magnetite,Ti

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 R. Steve McTimmonds

Street or P.O. Box 1345 Priscilla Lane City & State Grants Pass, Oregon

Are you a citizen of Oregon? Yes Date on which sample is sent 7/17/63

Name (or names) of owners of the property same & Ron McCoy & E. R. McTimmonds

Are you hiring labor? No Are you milling or shipping ore? No

Name of claim sample obtained from Tincup #2

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

County Curry Mining District Chetco

Township 37 S Range 10 W Section 29 Quarter section SE

How far from passable road? 6½ miles Name of road Pearsoll Peak Rd.

	Channel (length)	Grab	Assay for	Description
Sample no. 1		x	Co,Cu,Fe,Magnetite, Ti	
Sample no. 2				

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

(Signed) R. Steve McTimmonds

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

Sample Description Coarse-grained gabbro with disseminated magnetite, minor chalcopyrite.

Magnetite, 7.70%; iron (Fe) in magnetite, 59.45%

Sample number	GOLD		SILVER		COBALT	COPPER	IRON	TITANIUM
	oz./T.	Value	oz./T.	Value	Co	Cu	Fe	TiO_2
P-28576 XG-172	- - -	- -	- - -	- -	Trace	0.10%	8.44%	0.50%

Report issued Card filed Report mailed 7/24/63 Called for

SIR-5

COPY

SG - 175 & 176
Fe,Ni,P,S

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

Walt Foster
Steve McT
Ernest "

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 Len Ramp (DOGAMI)

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

Are you a citizen of Oregon? Yes Date on which sample is sent 6/19/58

Name (or names) of owners of the property Ernest & Steve McTimmonds & Ron McCoy

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

Name of claim sample obtained from Tincup Iron Group

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

County Curry Mining District Chetco

Township 37 S Range 10 W Section 32 Quarter section NW¼

How far from passable road? 6½ miles Name of road Pearsoll Peak

	Channel (length)	Grab	Assay for	Description
Sample no. 1	750 feet		Fe,Ni,P,S	chip @ 25-ft. intervals
Sample no. 2	2000 feet		Fe,Ni,P,S	chip @ 30-ft. intervals

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

(Signed) Len Ramp

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

Sample Description Both samples are coarse-grained pyroxenite gradational to amphibole diorite with medium to coarse grained disseminated magnetite. SG-175 25.6% magnetite SG-176 18.9% magnetite

Analysis of magnetite reported below.

Sample number	GOLD oz./T.	GOLD Value	SILVER oz./T.	SILVER Value	IRON Fe	NICKEL Ni	PHOSPHORUS P_2O_5	SULPHUR S
P-23088 SG-175	- - -	- - -	- - -	- -	60.95%	Trace	Trace	0.006%
P-23089 SG-176	- - -	- - -	- - -	- -	61.97%	Trace	Trace	0.004%

Report issued _____ Card filed _____ Report mailed 8/12/58 Called for _____

~~Assay of Total Sample~~ Calculated
~~SG-175 - 15.60% Fe SG-176 - 11.71% Fe~~

SIR-5

Total samples therefore contain about 15.6 and 11.7 percent F

SG - 175 & 176
Fe,Ni,P,S

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 **Len Ramp (DOGAMI)**

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

Are you a citizen of Oregon? **Yes** Date on which sample is sent **6/19/58**

Name (or names) of owners of the property **Ernest & Steve McTimmonds & Ron McCoy**

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

Name of claim sample obtained from **Tincup Iron Group**

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

County **Curry** Mining District **Chetco**

Township **37 S** Range **10 W** Section **32** Quarter section **NW¼**

How far from passable road? **6½ miles** Name of road **Pearsoll Peak**

	Channel (length)	Grab	Assay for	Description
Sample no. 1	**750 feet**		**Fe,Ni,P,S**	**chip @ 25-ft. intervals**
Sample no. 2	**2000 feet**		**Fe,Ni,P,S**	**chip @ 30-ft. intervals**

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

(Signed) **Len Ramp**

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

Sample Description **Both samples are coarse-grained pyroxenite gradational to amphibole diorite with medium to coarse grained disseminated magnetite.**

SG-175 - 25.6% magnetite
SG-176 - 18.9% magnetite

Analysis of magnetite reported below.

Sample number	GOLD oz./T.	GOLD Value	SILVER oz./T.	SILVER Value	IRON Fe	NICKEL Ni	PHOSPHORUS P_2O_5	SULPHUR S
P-23088 SG-175	- - -	- -	- - -	- -	60.95%	Trace	Trace	0.006%
P-23089 SG-176	- - -	- -	- - -	- -	61.97%	Trace	Trace	0.004%

Report issued _____ Card filed _____ Report mailed **8-12-58** Called for _____

SIR-5

(Assay of Fe/sample)

60.95
25.6
36570
30475
12190
15.60320 % Fe = SG-175

61.97
.189
55773
49576
6197
11.71233 % Fe = SG176