State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon

ROUGH AND READY MOUNTAIN NICKEL DEPOSITS — Waldo Area, Josephine & Chetco Area, Curry Co.

Introduction: The purpose of this report is to record the results of a preliminary geological reconnaissance of Rough and Ready Mountain begun in April 1954. A total of 6 days have been spent in the field in this area as follows: April 14 Louis Chichester and John Reynolds of the U. S. Bureau of Mines and the author drove a jeep up McGrew trail to examine the Nickel Ridge claims in Sec. 31, and 32, T. 40 S., R. 9 W., at 3900 feet in elevation; April 21 the same men investigated the area along one branch of a road up Whiskey Creek (this road is not shown on the attached map) and then drove up Cooke road to Cedar Springs to check trail and road conditions on south end of Rough and Ready Mountain; May 12, 13, and 14 Len Ramp and the writer from a camp at Cedar Springs investigated the area southwest of Cedar Springs and from Cooke Road northeastward along Rough and Ready Mountain to the headwaters of Rock Creek; May 18 Louis Chichester helped reconnoiter the area from Rock Creek to Rough and Ready Creek on the northeast end of Rough and Ready Mountain.

Rough and Ready Mountain is in this report the name given to the ridge area between Rough and Ready Creek and its South Fork and the West Fork Illinois River and its tributary Whiskey Creek. This ridge has a maximum elevation of 4000 feet on Cooke road near Cedar Springs and slopes northeastward toward Rough and Ready Creek where it terminates about 2 miles northwest of O'Brien.

During this preliminary investigation areas of laterite, outcrops of quartz boxwork and fractured serpentine containing quartz boxwork veinlets or garnierite along fractures were noted and visual estimates were

made of the width of these along the traverse lines. No attempts were made to delineate these areas in detail as this information can only be obtained from a more lengthy geological study in conjunction with some exploration (trenching, drilling, and sampling). As the garnierite is usually weathered out of outcrops of quartz boxwork or fractured serpentine and as a few feet of depth must be obtained to accurately sample these outcrops, very few samples were taken.

General Geology: Rough and Ready Mountain is situated along the eastern side of the peridotite mass of Josephine and Curry counties for the most part in southwestern Josephine County. Wells and Walker (1953) call this mass the peridotite (ultramafic) sheet of Josephine Mountain. A body of granitic rocks which has intruded the peridotite begins at Buckskin Peak and extends four to five miles northward.

Numerous dark basic dikes cut the peridotite particularly in the vicinity of Cedar Springs, Hunters Camp and along Cooke road. These dikes are usually only a few feet wide and apparently are not very long, about 100 feet or less. These dikes usually occur along zones of shearing in peridotite or serpentine and generally trend north and south, parallel to the regional structure. Often quartz boxwork zones with garnierite veins or sheared serpentine containing garnierite occur in shear zones adjacent to these dikes.

The occurrence of laterite, quartz boxwork float and outcrops, small quartz boxwork veinlets in peridotite and serpentinized peridotite, and garnierite along fractures in various localities on Rough and Ready mountain indicate that laterization and subsequent supergene nickel silicate enrichment has taken place. The enrichment has been along shear

zones and fractures, and only isolated patches of the original laterite blanket remain.

Description of deposits: The localities of laterite, quartz boxwork float and outcrops, and other indications of nickel silicate enrichment are described below in numerical order as shown on the sketch map:

Locality 1:

Laterite containing quartz boxwork veins is exposed along McGrew trail on the flat area approximately 2 miles southwest of Cedar Springs. This flat area lies north and west of the north fork of Diamond Creek between 3200 and 3300 feet in elevation. A 2-foot channel sample P-16478 (OG-164) of reddish brown laterite with quartz boxwork veins exposed along the trail contained 0.54 percent nickel. A fine-grained basic dike striking N. 75° E. is exposed 100 feet west of the location from which this sample was taken. The area of laterite on this flat is not as large as is indicated by the topography and will have to be determined by more detailed exploration.

Locality 2:

At approximately 3750 feet in elevation between the 9 and 10 mile markers about 1 mile southwest of Cedar Springs along McGrew trail thin quartz boxwork veins with some veinlets of garnierite were observed. A grab sample, P-16479 (OG-165), from one of these veins contained 0.048 percent nickel. This sample was taken from a surface outcrop and probably contains less nickel than a sample below the surface would. This fracture zone apparently is between 100 to 200 feet wide.

Locality 3:

Several narrow quartz boxwork veins outcrop in the vicinity of the 9 mile marker on McGrew trail about ½ mile west of Cedar Springs between two basic dikes. These veins trend N. 15° E. No samples were taken.

Locality 4:

Quartz boxwork is exposed on the trail about 100 feet southwest of Cedar Springs and a heavy concentration of boxwork float lies on the surface for a distance of 300 feet west of Cedar Springs. Apparently a very thin blanket of laterite lies in small patches south and northeast of Cedar Springs toward Hunters camp.

U. S. Bureau of Mines sample R4-24, a piece of quartz boxwork almost entirely leached of its garnierite, contained .20 percent nickel. Some test pits or trenches will have to be dug to sample this area properly.

Locality 5:

West of the camp area at Hunters Camp some quartz boxwork float boulders and about 50 feet of peridotite containing widely spaced thin quartz boxwork veins were observed. This peridotite trends N. 25° E. Hunters camp is near the granodiorite-peridotite contact.

U. S. Bureau of Mines sample R4-25, 6 inches of red laterite from the road southwest of Hunters Camp contained .37 percent nickel.

Locality (No number):

Small patches of tan to red laterite were noted along McGrew trail approximately 1/2 to 3/4 mile east of its junction with Cooke road. This laterite occurs on a flat area about 3850 feet in elevation in the N½, Sec. 1, T. 41 S., R. 10 W. No samples were taken.

Locality 6:

Quartz boxwork float lies in McGrew trail for about 50 to 100 feet at 3750 feet in elevation approximately in the NE corner of Sec. 1, T. 41 S., R. 10 W. This locality is from 200 to 300 feet west of the 6 mile trail marker. (Note: Another 6 mile marker occurs to the east of

this one at 3825 feet in elevation).

Locality 7:

Some quartz boxwork float occurs along McGrew trail a short distance east of the second 6-mile marker (see note under locality 6) at 3875 feet in elevation. This locality is along the northeast side of a small rounded knob.

Locality 8:

Only a few scattered pieces of boxwork float are at this locality (see map).

Locality 9:

Weathered partially serpentinized peridotite containing garnierite along fractures is exposed in the location pit of Nickel Ridge Claim No. 1 in the E½ sec. 31, T. 40 S., R. 9 W. A selected sample (U.S. Bureau of Mines sample R4-2) contained 1.52 percent nickel and .31 chromium. This sample consisted mainly of limonite and garnierite. Samples P-16348 (OG-125) and P-16349 (OG-126) of soft green serpentine with garnierite from this pit and submitted by Bill Evitt assayed 1.96 and 1.97 percent nickel, respectively. The fractures in the peridotite strike N. 75° E. and dip 58° SE. The location pit was 10 feet deep exposing two feet of laterite overlying 8 feet of fractured serpentinized peridotite. U. S. Bureau of Mines sample R4-3 of the peridotite without any visible garnierite from the north side of the pit contained 0.65 percent nickel. Sample P-16480 (OG-166) of the laterite on the south side of the pit contained 0.75 percent nickel. Some quartz boxwork float lies in the trail about 100 feet southwest of the location pit.

Five claims have been located on this ridge by Bill J. Evitt and

John F. Evitt of O'Brien, Oregon. Nickel Ridge No. 2 claim is southwest of No. 1 and numbers 3, 4, 5 are northeast of No. 1. Location pit at claim No. 3 shows some garnierite along fractures in peridotite. The other location pits were not found or the walls were covered by soil washed into them.

Locality 10:

On McGrew trail and on Nickel Ridge No. 4 claim 4.3 miles from Wimer Road a quartz boxwork vein about 2 feet wide is exposed. Quartz boxwork float occurs on the ridge north of this exposure in the trail and further to the north in the saddle between Nickel Ridge and the ridge on which locality 11 is situated. A grab sample (U.S.B.M. R4-5) of leached quartz boxwork float from the ridge a short distance north of the outcrop in the road assayed .28 percent nickel.

Locality 11:

An uprooted tree on top of the ridge north of Nickel Ridge No. 4 claim exposed some red soil and a few chunks of peridotite with thin veinlets of garnierite. This ridge apparently has only a very thin laterite cover, most of it being very rocky.

Localities 12, 13, and 14:

The attached map shows the location of these three occurrences of scattered quartz boxwork float. The amount of float is too meager to warrant any further investigation of these localities.

Locality 15:

Quartz boxwork float occurs for about 100 feet at an approximate elevation of 3240 feet along the bulldozer road (shown as a trail on the map) that begins at Wimer Road and follows along the ridge northeast of

Rock Creek. This float was first picked up about 200 feet uphill beyond the last fork in the road from which a spur road extends. The bulldozer road was apparently built to work the Molly Group Chrome Claim No. 1 which is located at its termination.

Locality 16:

The flat area at approximately 3050 feet in elevation is covered by red laterite which contains a very large amount of quartz boxwork boulders. The laterite and float occur for approximately 500 feet along the ridge top to about 3000 feet in elevation. This laterite area supports a moderate growth of large pine trees.

Locality 17:

Red laterite covers the ridge top between 2720 and 2800 feet in elevation on the northeast end of Rough and Ready Mountain. On this laterite covered area large pine trees are growing. No boxwork float was observed at this locality.

Locality 18:

Laterite covers the 3000-foot terrace north of Whiskey Creek in Sec. 7, T. 41 S., R. 9 W. Sample P-16352 (OG-129), a 4-foot channel sample of red laterite on the north side of Whiskey Creek road (not shown on map) contained only .28 percent nickel. This laterite may be colluvium or alluvium and not in place.

Conclusions and Recommendations: Although Rough and Ready Mountain has several small areas of laterite and some quartz-garnierite boxwork zones are indicated, the development of a commercial deposit of nickel silicate ore is doubtful. Apparently most of the former laterite blanket and the median zones of quartz-garnierite boxwork in limonite has been

eroded or never existed in any areas of large dimensions, and only the root zone of garnierite filled fractures in peridotite remain.

Some drill holes and some trenching should be done in the laterite areas in localities 1, 16, 17 and in the boxwork zone indicated at locality 4 near Cedar Springs in order to explore this area more thoroughly and to obtain appropriate samples for analysis. More detailed geological reconnaissance and delineation of the laterite areas and enriched zones by tracing surface indications is necessary in order to carefully plan an exploration program.

Report by: D. J. W., May 24, 1954.

References: Wells, F. G., Hotz and Cater, 1949; Dept. Geol. and Min. Ind. Bull. 40, Preliminary description of the geology of the Kerby quadrangle, Oregon.

Wells, F. G. and Walker, G. C., 1953; U. S. Geol. Survey, Geology of Galice quadrangle, Oregon.

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STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH & READY CO #1
Project

Hole No. 1 Location

E ½ of sec. 9 T. 40 R. 9W County JOSEPHINE

Coord. N. E.

Elev. collar 3000'±

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 4'

Elev. water table

Bottomed in Rock

****

Drill used 2" AUGER

Number men 3

Engr. in charge MASON

Mtrl. classfd. by WOLFE

Sampler TURVILLE

Date hole began 6/22/49

Date hole finished 6/22/49

Shifts actually drilled 2 HRS

From	To	Thickness of sample	Sample No.	Description (KEY 3 USED)
0	1'	1'	1	BC, 1, 15, 7
1	2'	1'	2	BC, 1, 15, 7, ROCK CHIPS
2'	3'	1'	3	BC, 1, 16, 7, ROCK CHIPS
3	4	1'	4	BC, 1, 16, 7 " "
				BOTTOM OF HOLE

Remarks HOLE ABANDONED AFTER STRIKING FIRM ROCK. 3 OTHER HOLES COLLARED NEARBY BUT ALL HIT ROCK AT ABOUT 3' DEPTH.

WL-24b

Hole No. 1

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH & READY CR #1
Project

Hole No. 2 Location 63' DUE S. OF HOLE 1 SAME ELEV.

of sec. T. R. County JOSEPHINE

Coord. N. E.

Elev. collar

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 5

Elev. water table

Bottomed in ROCK

****

Drill used 3" AUGER

Number men 2

Engr. in charge MASON

Mtrl. classfd. by "

Sampler TURVILLE

Date hole began 6/23/49

Date hole finished 6/23/49

Shifts actually drilled 1/4

From	To	Thickness of sample	Sample No.	Description
0	1	1'	5	DC, 1, 15
1	2	1'	6	DC, 1, 27-13, 16,
2	3	1'	7	C, 27-13
3	4	1'	8	OP 27-13
4	5	1'	9	OP 27-13

Remarks HOLE ABANDONED AT 5 AFTER STRIKING SOLID ROCK. 4 OTHER HOLES STARTED IN VICINITY, ALL ABANDONED DUE TO ROCK

WL-24b

Hole No. 2

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

Rough & Ready Co No 1
Project

Hole No. 3 Location 140' Due E. of Hole 2

of sec. T. R. County Josephine

Coord. N. E.

Elev. collar

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 3'

Elev. water table

Bottomed in Rock

****

Drill used 3" Auger

Number men 2

Engr. in charge Olson

Mtrl. classfd. by "

Sampler Fowler

Date hole began 6/2/40

Date hole finished 6/2/40

Shifts actually drilled 1/2 HR

From	To	Thickness of sample	Sample No.	Description
0	1	1'	Not Taken	DB. 1, 15 26-10
1	2	1'	"	0-00 27-13 26-10
2	3	1'	"	0-00 27-13 26-10
3				

Remarks Hole Abandoned Under Standing Rock No Material Fines Less No Samples Taken

WL-24b

Hole No. 3

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH & READY CR No 1
Project

Hole No. 4 Location 150± FT DUE S. OF HOLE 3

_____ of sec. _____ T. _____ R. _____ County _____

Coord. _____ N. _____ E.

Elev. collar _____

Depth to top of bed _____

Elev. of top of bed _____

Thickness of bed _____

Elev. bottom bed _____

Depth of hole 2'-6"

Elev. water table _____

Bottomed in ROCK

****

Drill used 3" AUGER

Number men 2

Engr. in charge MASON

Mtrl. classfd. by "

Sampler TURVILLE

Date hole began 6/22/49

Date hole finished 6/23/49

Shifts actually drilled 1/2 Hr

From	To	Thickness of sample	Sample No.	Description
0	1	1'	10	DC, 1, 16,
1	2	2'	11	DC, 1, 16
2	2'-6"	6"	12	C, 1, 16 27-13

Remarks HOLE ABANDONED AT 2'-6" WHEN ROCK STRUCK. 1 OTHER HOLE STARTED & SOME ARTH REMOVED BUT ABANDONED. LINE OF HOLES 1-4 RUNS ACROSS FLAT ON NEARLY A LEVEL LINE.

WL-24b

Hole No. 4

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH AND READY CREEK # 1
Project

Hole No. 1 Location

E½ of sec. 9 T. 40 R. 9 W County Josephine

Coord. N. E.

Elev. collar 3000' +

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 4'

Elev. water table

Bottomed in Rock

****

Drill used 2" auger

Number men 3

Engr. in charge Mason

Mtrl. classfd. by Wolfe

Sampler Turrille

Date hole began 6/22/49

Date hole finished 6/22/49

Shifts actually drilled 2 hrs.

From	To	Thickness of sample	Sample No.	Description
0	1'	1'	1	Light yellow brown, earthy, dry, soft.
1	2'	1'	2	Light yellow brown, earthy, dry, soft, rock chips.
2	3'	1'	3	Light yellow brown, earthy, slightly damp, soft, rock chips.
3	4'	1'	4	Light yellow brown, earthy, damp, soft, rock chips.
				Bottom of hole.

Remarks Hole abandoned after striking fresh rock. Three other holes collared nearby but all hit rock at about 3' depth.

WL-24b

Hole No. 1

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH AND READY CREEK #1
Project

Hole No. 2 Location 63' due S. of Hole 1 - Same elevation.

of sec. T. R. County Josephine

Coord. N. E.

Elev. collar

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 5

Elev. water table

Bottomed in Rock

****

Drill used 3" auger

Number men 2

Engr. in charge Mason

Mtrl. classfd. by Mason

Sampler Turville

Date hole began 6/23/49

Date hole finished 6/23/49

Shifts actually drilled 1/4

From	To	Thickness of sample	Sample No.	Description
0	1	1'	5	Dark red brown, earthy, dry.
1	2	1'	6	Red brown, earthy, serpentine lumps, slightly damp.
2	3	1'	7	Brown, many serpentine lumps.
3	4	1'	8	Grey blue, many serpentine lumps.
4	5	1'	9	Grey blue, many serpentine lumps.

Remarks Hole abandoned at 5' after striking solid rock. Four other holes started in vicinity, but abandoned due to rock.

WL-24b

Hole No. 2

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH AND READY CREEK #1
Project

Hole No. 3 Location 140' due S. of Hole 2

of sec. T. R. County Josephine

Coord. N. E.

Elev. collar

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 3'

Elev. water table

Bottomed in Rock

****

Drill used 3" auger

Number men 2

Engr. in charge Mason

Mtrl. classfd. by Mason

Sampler Turville

Date hole began 6/23/49

Date hole finished 6/23/49

Shifts actually drilled 1/2 hr.

From	To	Thickness of sample	Sample No.	Description
0	1	1'	not taken	Red yellow, earthy, few non-magnetic shots.
1	2	1'	"	Grey-grey green, serpentine lumps, few non-magnetic shots.
2	3	1'	"	Grey-grey green, serpentine lumps, few non-magnetic shots.

Remarks Hole abandoned after striking rock. No laterite found and no samples taken.

WL-24b

Hole No. 3

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH AND READY CREEK #1
Project

Hole No. 4 Location 150 + feet due S. of Hole 3.

of sec. T. R. County

Coord. N. E.

Elev. collar

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 2'-6"

Elev. water table

Bottomed in Rock

****

Drill used 3" auger

Number men 2

Engr. in charge Mason

Mtrl. classfd. by Mason

Sampler Turville

Date hole began 6/23/49

Date hole finished 6/23/49

Shifts actually drilled ½ hr.

From	To	Thickness of sample	Sample No.	Description
0	1	1'	10	Red brown, earthy, slightly damp.
1	2	2'	11	Dark red brown, earthy, damp.
2	2'-6"	6'	12	Dark brown, earthy, very damp, few serpentine lumps.

Remarks Hole abandoned at 2'-6" when rock struck. One other hold started in same area but abandoned. Line of Holes 1-4 runs across flat on nearly a level line.

WL-24b

Hole No. 4

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH AND READY CREEK # 1
Project

Hole No. 1 Location

E½ of sec. 9 T. 40 R. 9 W County Josephine

Coord. N. E.

Elev. collar 3000' ±

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 4'

Elev. water table

Bottomed in Rock

****

Drill used 2" auger

Number men 3

Engr. in charge Mason

Mtrl. classfd. by Wolfe

Sampler Turville

Date hole began 6/22/49

Date hole finished 6/22/49

Shifts actually drilled 2 hrs.

From	To	Thickness of sample	Sample No.	Description
0	1'	1'	1	Light yellow brown, earthy, dry, soft.
1	2'	1'	2	Light yellow brown, earthy, dry, soft, rock chips.
2	3'	1'	3	Light yellow brown, earthy, slightly damp, soft, rock chips.
3	4'	1'	4	Light yellow brown, earthy, damp, soft, rock chips.
				Bottom of hole.

Remarks Hole abandoned after striking fresh rock. Three other holes collared nearby but all hit rock at about 3' depth.

WL-24b

Hole No. 1

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH AND READY CREEK #1
Project

Hole No. 2 Location 63' due S. of Hole 1 - Same elevation.

of sec. T. R. County Josephine

Coord. N. E.

Elev. collar

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 5

Elev. water table

Bottomed in Rock

****

Drill used 3" auger

Number men 2

Engr. in charge Mason

Mtrl. classfd. by Mason

Sampler Turville

Date hole began 6/23/49

Date hole finished 6/23/49

Shifts actually drilled 1/4

From	To	Thickness of sample	Sample No.	Description
0	1	1'	5	Dark red brown, earthy, dry.
1	2	1'	6	Red brown, earthy, serpentine lumps, slightly damp.
2	3	1'	7	Brown, many serpentine lumps.
3	4	1'	8	Grey blue, many serpentine lumps.
4	5	1'	9	Grey blue, many serpentine lumps.

Remarks Hole abandoned at 5' after striking solid rock. Four other holes started in vicinity, but abandoned due to rock.

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH AND READY CREEK #1
Project

Hole No. 3 Location 140' due S. of Hole 2

of sec. T. R. County Josephine

Coord. N. E.

Elev. collar

Depth to top of bed

Elev. of top of bed

Thickness of bed

Elev. bottom bed

Depth of hole 3'

Elev. water table

Bottomed in Rock

****

Drill used 3" auger

Number men 2

Engr. in charge Mason

Mtrl. classfd. by Mason

Sampler Turville

Date hole began 6/23/49

Date hole finished 6/23/49

Shifts actually drilled 1/2 hr.

From	To	Thickness of sample	Sample No.	Description
0	1	1'	not taken	Red yellow, earthy, few non-magnetic shots.
1	2	1'	"	Grey-grey green, serpentine lumps, few non-magnetic shots.
2	3	1'	"	Grey-grey green, serpentine lumps, few non-magnetic shots.

Remarks Hole abandoned after striking rock. No laterite found and no samples taken.

WL-24b

Hole No. 3

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

ROUGH AND READY CREEK #1
Project

Hole No. 4 Location 150 + feet due S. of Hole 3.

_____ of sec. _____ T. _____ R. _____ County _____

Coord. _____ N. _____ E.

Elev. collar _____

Depth to top of bed _____

Elev. of top of bed _____

Thickness of bed _____

Elev. bottom bed _____

Depth of hole 2'-6"

Elev. water table _____

Bottomed in Rock

****

Drill used 3" auger

Number men 2

Engr. in charge Mason

Mtrl. classfd. by Mason

Sampler Turville

Date hole began 6/23/49

Date hole finished 6/23/49

Shifts actually drilled ½ hr.

From	To	Thickness of sample	Sample No.	Description
0	1	1'	10	Red brown, earthy, slightly damp.
1	2	2'	11	Dark red brown, earthy, damp.
2	2'-6"	6'	12	Dark brown, earthy, very damp, few serpentine lumps.

Remarks Hole abandoned at 2'-6" when rock struck. One other hole started in same area but abandoned. Line of Holes 1-4 runs across flat on nearly a level line.

OG-129
Ni

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

copy

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 J. 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 4-23-54

Name (or names) of owners of the property U.S. Government

Are you hiring labor? No

Name of claim sample obtained from None

Are you milling or shipping ore? No

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

County Josephine Mining district Waldo

Township 41 S Range 9 W Section 7 Quarter section approx. center

How far from passable road and name of road On Whiskey Creek Road near chromite workings at end of road.

	Channel (length)	Grab	Assay for	Description
Sample no. 1	4'		Ni	
Sample no. 2				

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

(Signed) David J. White

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

Description 4-foot channel sample of red laterite on north side of Whiskey Creek road at an approximate elevation 3000'.

Sample number	GOLD		SILVER		NICKEL			
	oz./T.	Value	oz./T.	Value	Ni			
P-16352 OG-129	- - -	- -	- - -	- -	0.28%	- - -	- - -	- - -

Report issued _____ Card filed _____ Report mailed 5-10-54 Called for _____

SIR-5

OG-68
Ni

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

copy

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 J. 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 Mar. 18, 1954

Name (or names) of owners of the property

Are you hiring labor? No

Name of claim sample obtained from Unknown

Are you milling or shipping ore? No

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

County Josephine Mining district Waldo

Township 39 S Range 8 W. Section 30 Quarter section NW¼

How far from passable road and name of road On road that extends N. from Woodcock Mtn. road at a switchback.

	Channel (length)	Grab	Assay for	Description
Sample no. 1		x	Ni	
Sample no. 2				

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

(Signed) David J. White

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

Description 2-foot channel sample of clayey tan laterite from road cut about 300-400 ft. below summit of Woodcock Mountain.

Sample number	GOLD		SILVER		NICKEL			
	oz./T.	Value	oz./T.	Value	Ni			
P-16185 OG-68	- - -	- -	- - -	- -	0.20%	- - -	- - -	- - -

Report issued Card filed Report mailed 3-30-54 Called for

SIR-5

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

P-16343+16344
Ni, Ident — Ident.

copy

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 G. C. Royer

Post office address O'Brien, Oregon

Are you a citizen of Oregon Yes Date on which sample is sent May 1954

Name (or names) of owners of the property

Are you hiring labor? No

Name of claim sample obtained from Chrome Dome #1

Are you milling or shipping ore? No

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

County Josephine Mining district Waldo

Township 41 S Range 9 W Section 4-9 Quarter section

How far from passable road and name of road 200 ft. off main road

	Channel (length)	Grab	Assay for	Description
Sample no. 1			Ni, Ident.	
Sample no. 2			Ident	

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

(Signed) G. C. Royer

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

Description Peridotite and serpentine, some of which has altered to talc. Some encrustations of garnierite.

Sample number	GOLD		SILVER		NICKEL			
	oz./T.	Value	oz./T.	Value	Ni			
#1 P-16343	- - -	- -	- - -	- -	0.16%	- - -	- - -	- - -
#2 P-16344	- - -	- -	- - -	- -	0.35%	- - -	- - -	- - -

Report issued Card filed Report mailed 5-10-54 Called for

SIR-5

corrected copy

OG-125+126
Ni

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 Bill Jess Evitt

Post office address O'Brien, Oregon

Are you a citizen of Oregon Yes Date on which sample is sent 4-22-54

Name (or names) of owners of the property Bill Jess Evitt

Are you hiring labor? No

Name of claim sample obtained from Nickel Ridge #1

Are you milling or shipping ore? No

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

County Josephine Mining district Waldo

Township 40 S Range 9 W Section 31 Quarter section E½

How far from passable road and name of road 5 miles from Wymer Road

	Channel (length)	Grab	Assay for	Description
Sample no. 1		x	Ni	East (No. 1)
Sample no. 2		x	Ni	West (No. 2)

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

(Signed) Bill J. Evitt
By: Jay C. D. Evitt

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

Description #1 - Soft green serpentine gangue with garnierite. #2 - Same as #1.

Sample number	GOLD oz./T.	GOLD Value	SILVER oz./T.	SILVER Value	NICKEL Ni			
P-16348 OG-125	- - -	- -	- - -	- -	1.96%	- - -	- - -	- - -
P-16349 OG-126	- - -	- -	- - -	- -	1.97%	- - -	- - -	- - -

Report issued _____ Card filed _____ Report mailed 5-10-54 Called for _____

SIR-5

~~Emergency Rescue & Transfer Bob~~

R & R Group Ni Inspiration

24" = .6 % Ni

5.6"

Confidential

Boies Hall 1974 Progress Rept.

Table I

Grids	3	4	5	6
av. Depth seismic	9.3'	7.9	8.5	8.1
" " backhoe	8.8'	5.9	6.3	none
weighted av. Ni	.63	.93	.73	none

as size of boulders in soil got larger average grade got lower due to weathered zone or skin around boulders being inriched in ni Then used cut-off size of 6"

Table 2 % rock

Grid –	weight 1	weight 2	weight 3	weight 4	volume 1	volume 2	volume 3	volume 4
weighted av.	30%	26%	21%	24%	19%	16%	13%	15%
High value	70%	55%	53%	45%	56%	40%	38%	31%
Low Value	5%	0%	8%	10%	3%	0%	6%	6%

formula for weighted av.

$$\text{average value} = \frac{8x + y_1 + y_2 + \dots y_n}{8 + n}$$

x = center data point

y = adjacent data point

Rough + Ready

Metallurgical rept

Moa Bay is autoclave acid leach of laterite followed by precip of ni as sulfide.

Nicaro process is amonia leach followed by reductive roast where nickel values are reduced to metallic ni. Ni is then recovered from soln. as ni-carbonate powder and subsequently processed into a salable product

Nicaro recovery = ± 85 % Ni (Ni) & 50 % Co (Co).

Moa Bay process = 95 & 90 % recovery respectively

" Ipsonitic ore "

serpentinic ore

Rough + Ready

1975

Grid 7 NE¼ & E½ 15 & N@ ½ Sec 14

N. part grid 7 av depth = 7.75'
av. nickel = .54 14.5 % by wt
rock ½ mil tons

S. part Grid 7. av 9.74'
" .46 % Ni.
rock wt % = 18.4
200,000 T.

Grid 5 shallow
5' deep at deepest av. depth 4.32'
mean grade .83 not weighted
35% rock by wt.

N. end Sec 22 31 % rock
(1975 work new blocked out reserves)
gross 859,000 Tons
net ore — 560,000 Tons

Drilled 22 rotary 6" dia holes in 1971
over 2,000 total depth drilled bedrock
encountered

back hoe pit assays are always higher.
Than drill assays

.43 & 80
9.3

Rough + Ready

confidential private co data

Variables used in Engineering study

Boulder density — 12.0 cu ft./T
Soil " 22.0 " "
cutoff grade < 0.4 % Ni
cutoff depth < 3.0 ft.

Table 3.

Seismic results

Grid #	Ore	waste	Ni in ore
# 1	2,729,498 -	1,195,760 -	28,529
2	520,595 -	181,795 -	5,500
3	2,807,641 -	780,227 -	19,570
4	512,642 -	165 854 -	4,943
5.	2,797,583 -	1050.498 -	20,376
6	982 317 -	244,447	5,621
Total	10,350,276	3,618,581	84,539

backhoe results

Grid	Ore	waste	Ni in Ore	% Ni
1	1,256,112 -	540,180 -	13,108	.7293
2	253,765 -	88,616	2,670	.78
3	1,314,329 -	360,055	8,980	.54
4	310,380 -	100,417	2,867	.6979
5	1,120,031 -	420,573	8,096	.52551
Total	4,254,617 -	1,509,841	35,709	

$1.85/lb — av. value of ore · $30/T - $31/T @ 100% recovery
$27-$28/Ton 90% "
$24-$25/" 80% "

(no backhoe data for grid 6)

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon

NICKEL EXPLORATION

Josephine County
Waldo Area

Field work was done by Max Schafer, August 16, with Louie Chichester and Ernest Kinney, U.S.B.M. An area in sections 21, 22, 27 and 28, T. 40 S., R. 9 W. was sampled for nickel.

The location was made with the aid of an aneroid barometer. The two readings were made at 5 and 6 P.M. and should be pretty close.

The prospect is reached by turning right at O'Brien, going about 2 miles along Whiskey Creek road and then right up a very poor mining road which goes for about 3 miles to the top of the ridge. The condition of the road necessitated using the winch on a Willys Station-Wagon several times.

The area prospected is a ridge running NE-SW, and is south of Rough and Ready Creek. The ridge is underlain by peridotite and weathering has laterized the rock near and on top of the ridge. The laterite area is circular or ovate, following the direction of the ridge, in shape.

The laterite grades from dark red to light rust to "limonite" tan. The width of the laterite is variable along the ridge and often narrows to around 50 feet. The maximum is probably around 300-500 feet. About 12-15 feet seems to be the maximum depth of the laterite. In places "roots" will probably extend to a greater depth. Hole #2 bottomed at 12 feet in serpentine. The appearance of the ground as it neared this depth changed from lateritic soil to brown to blue-green. Near the bottom relict structure in the serpentine got stronger down to the depth of 12 feet. There the serpentine was solid. This appeared to be bedrock and not a boulder.

Very little boxwork float was seen. No good garnierite was identified.

Three samples were taken -- two cores near the N or NW extremity of the deposit and a grab soil sample about a mile to the SE.

The samples were taken by U.S.B.M. and the results are as follows:

DOGAMI No.	U.S.B.M. No.	Type	% Ni
1 a	C-11-19	0-3' core	0.49
1 b	C-11-20	3-6' "	0.43
1 c	C-12-21	6-7.5' "	0.36
2 a	C-11-25	0-3' core	0.41
2 b	C-12- 1	3-6' "	0.66
2 c	C-12- 2	6-9' "	0.86
2 d	C-12- 3	9-12' "	0.88
3	C-12- 4	Grab soil sample	0.43

The whole first hole was in red then lighter red soil. It is suspected that this hole hit a boulder.

The second hole was drilled about 500 feet to the S. The first 3 feet was in granular hematitic soil. The 3-6 foot portion changed to a clayey soil which became blue-green near the 6 foot point. This blue-green stain could be ferrous iron. At 7.5 feet rotten serpentine was entered where serpentine structure became evident. The serpentine got more solid down to 12 feet where bedrock (?) was encountered.

All drilling was done with a hand auger.

Conclusions & Recommendations:

The low nickel content of the laterite, the relatively small size of the deposit, and the difficulty of access would seem to preclude this deposit from any further consideration at this time. If, at any time,

the price of nickel becomes more favorable, this deposit should be fully explored. The examination done at this time was incomplete as to grade and tonnage.

Report by: Max Schafer, 1954.

* * * * * *

See — Rough & Ready Mt. Nickel Deposits, Dave White
May 1954. Localities 13, 14, 15, 16.

MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO..... M015588
RECORD TYPE..... XIM
COUNTRY/ORGANIZATION. USGS
MAP CODE NO. OF REC..

REPORTER
NAME..... BRADLEY, ROBIN; WALKER, GEORGE W.
DATE..... 79 03
UPDATED..... 81 04
BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

E AND LOCATION
EPOSIT NAME..... PARKER RIDGE
YNONYM NAME..... ROUGH AND READY NO. 1

INING DISTRICT/AREA/SUBDIST. WALDO

OUNTRY CODE..... US
OUNTRY NAME: UNITED STATES

TATE CODE..... OR
TATE NAME: OREGON

OUNTY..... JOSEPHINE
RAINAGE AREA..... 17100311 PACIFIC NORTHWEST
HYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
AND CLASSIFICATION..... 41 01

UAD SCALE — QUAD NO OR NAME
1: 62500 — CAVE JUNCTION (1954)

ATITUDE — LONGITUDE
42-05-47N — 123-43-36W

TM NORTHING — UTM EASTING — UTM ZONE NO
4660525. — 439910. — +10

WP..... 040S
ANGE.... 009W
ECTION.. 11 14
ERIDIAN. WILLAMETTE

OSITION FROM NEAREST PROMINENT LOCALITY: ON RIDGE SW OF PARKER CREEK

MINOR COMMOD.... CR CO

ANALYTICAL DATA(GENERAL)
AVERAGE GRADE ABOUT 1.00 % NI, 0.1 % CO, 2.0 % CR.

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2

WORK DONE BY OTHER ORGANIZATIONS

	YEAR	WORK TYPE	ORGANIZATION AND RESULTS
1)	1968	DIREXPL	COMINCO-AMERICAN, INC. TRENCHING, AUGERING; MAPPING BY AREAL PHOTOGRAPHY.
2)	1973	DIREXPL	INSPIRATION DEVELOPMENT COMPANY EXTENSIVE EXPLORATION
3)	1977	DIREXPL	USBM BACKHOE SAMPLING

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
LATERITES
FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL
MAX THICKNESS..... 16 FT
COMMENTS(DESCRIPTION OF DEPOSIT):
ESTIMATED QUANTITY OF UNWEATHERED ROCK IN SOIL BY VOLUME IS 45 %

PRODUCTION
UNDETERMINED

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... JUR

LOCAL GEOLOGY
NAMES/AGE OF FORMATIONS,UNITS,OR ROCK TYPES
1) NAME: JOSEPHINE PERIDOTITE
AGE: JUR

COMMENTS (GEOLOGY AND MINERALOGY):
RESIDUAL LATERITE ON ULTRAMAFICS

GENERAL REFERENCES
1) RAMP, LEN, 1978 , INVESTIGATIONS OF NICKEL IN OREGON: ODGMI MISC. PAPER NO. 20 , P. 35 - 37

ANALYTICAL DATA(GENERAL)
CALCULATED AVERAGE GRADE OF SOIL AND SAPROLITE IS 0.70 % NI, 1.4 % CR, 0.08 % CO.

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
LATERITES
FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL
MAX THICKNESS..... 35 FT
COMMENTS(DESCRIPTION OF DEPOSIT):
ESTIMATED VOLUME OF UNWEATHERED ROCK IN SOIL IS 40 %.

PRODUCTION
UNDETERMINED

GEOLOGY AND MINERALOGY
HOST ROCK TYPES..... LATERITES
IGNEOUS ROCK TYPES..... DIABASIC DIKES OF INTERMEDIATE TO BASIC COMPOSITION

LOCAL GEOLOGY
NAMES/AGE OF FORMATIONS,UNITS,OR ROCK TYPES
1) NAME: JOSEPHINE PERIDOTITE
AGE: JUR

SIGNIFICANT LOCAL STRUCTURES:
SHEAR ZONE - FAULT CONTACT

SIGNIFICANT ALTERATION:
SERPENTINIZATION

COMMENTS (GEOLOGY AND MINERALOGY):
AREA UNDERLAIN BY SERPENTINIZED HARZBURGITE OF JOSEPHINE ULTRAMAFIC SHEET, IN FAULT CONTACT WITH UPPER JURASSIC GALICE FORMATION. FAULT IS VERTICAL AND STRIKES ABOUT N. 20 E. LATERITE IS REMNANT OF OLD UPLAND WEATHERED SURFACE.

GENERAL REFERENCES
1) RAMP, LEN, 1978 , INVESTIGATIONS OF NICKEL IN OREGON: ODGMI MISC. PAPER NO. 20 , P. 35 - 38
2) RAMP, L., AND PETERSON, N.V., 1978, GEOLOGY AND MINERAL RESOURCES OF JOSEPHINE COUNTY, OREGON: ODGMI BULL. 10

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO..... M015592
RECORD TYPE..... X1M
COUNTRY/ORGANIZATION. USGS
DEPOSIT NO..... ODGMI 100-390
MAP CODE NO. OF REC..

REPORTER
NAME..... BRADLEY, ROBIN; WALKER, GEORGE W.
DATE..... 79 03
UPDATED..... 81 04
BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
DEPOSIT NAME..... ROUGH AND READY BENCH
SYNONYM NAME..... PART OF THE ROUGH AND READY GROUP

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

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

COUNTY..... CURRY
DRAINAGE AREA..... 17100311 PACIFIC NORTHWEST
PHYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
LAND CLASSIFICATION..... 41

QUAD SCALE	QUAD NO OR NAME
1: 62500	CHETCO PEAK (1954)

LATITUDE	LONGITUDE
42-06-60N	123-49-05W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4662830.	432370.	+10

TWP.....	040S	040S
RANGE....	010W	009W
SECTION..	01	06
MERIDIAN.	WILLAMETTE	

LOCATION COMMENTS: WEST EDGE OF SEC. 6 , MAINLY IN SEC. 1

COMMODITY INFORMATION
COMMODITIES PRESENT..... NI CR CO

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
- RECORD NO..... NO15593
- RECORD TYPE..... X1M
- COUNTRY/ORGANIZATION. USGS
- DEPOSIT NO..... DDGMI 100-392
- MAP CODE NO. OF REC..

REPORTER
- NAME..... BRADLEY, ROBIN; WALKER, GEORGE W.
- DATE..... 79 03
- UPDATED..... 81 04
- BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
- DEPOSIT NAME..... ROUGH AND READY CREEK
- SYNONYM NAME..... PART OF THE ROUGH AND READY GROUP

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

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

- COUNTY..... JOSEPHINE
- DRAINAGE AREA..... 17100311 PACIFIC NORTHWEST
- PHYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
- LAND CLASSIFICATION..... 41

QUAD SCALE	QUAD NO OR NAME
1: 62500	CHETCO PEAK (1954)

LATITUDE	LONGITUDE
42-05-07N	123-45-37W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4659300.	437125.	+10

- TWP..... 040S
- RANGE.... 009W
- SECTION.. 15
- MERIDIAN. WILLAMETTE

- LOCATION COMMENTS: SW 1/4

COMMODITY INFORMATION

ANALYTICAL DATA(GENERAL)
CALCULATED AVERAGE GRADE SOIL AND SAPROLITE IS 0.80 % NI AND 1.06 % CR.

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2

WORK DONE BY OTHER ORGANIZATIONS

	YEAR	WORK TYPE	ORGANIZATION AND RESULTS
1)	1968	DIREXPL	COMINCO-AMERICAN, INC. TRENCHING, AUGERING; MAPPING BY AREAL PHOTOGRAPHY.
2)	1973	DIREXPL	INSPIRATION DEVELOPMENT COMPANY EXTENSIVE EXPLORATION
3)	1977	DIREXPL	USBM BACKHOE SAMPLING

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
LATERITES
FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL
MAX THICKNESS..... 20 FT
COMMENTS(DESCRIPTION OF DEPOSIT):
ESTIMATED QUANTITY OF ROCK IN SOIL IS 35 % BY VOLUME

PRODUCTION
UNDETERMINED

GEOLOGY AND MINERALOGY
HOST ROCK TYPES..... LATERITES
IGNEOUS ROCK TYPES..... DIABASIC DIKES OF INTERMEDIATE TO BASIC COMPOSITION

LOCAL GEOLOGY
NAMES/AGE OF FORMATIONS,UNITS,OR ROCK TYPES
1) NAME: JOSEPHINE PERIDOTITE
AGE: JUR

SIGNIFICANT LOCAL STRUCTURES:
SHEAR ZONE - FAULT CONTACT

SIGNIFICANT ALTERATION:
SERPENTINIZATION

COMMENTS (GEOLOGY AND MINERALOGY):
AREA UNDERLAIN BY SERPENTINIZED HARZBURGITE OF JOSEPHINE ULTRAMAFIC SHEET, IN FAULT CONTACT WITH UPPER JURASSIC GALICE FORMATION. FAULT IS VERTICAL AND STRIKES ABOUT N. 20 E. LATERITE IS REMNANT OF OLD UPLAND WEATHERED SURFACE.

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO..... M013211
RECORD TYPE..... XIM
COUNTRY/ORGANIZATION. USGS
FILE LINK ID..... CONSV
MAP CODE NO. OF REC..

REPORTER
NAME..... LEE, W
DATE..... 74 01

NAME AND LOCATION
DEPOSIT NAME..... NICKEL RIDGE GROUP

MINING DISTRICT/AREA/SUBDIST. WALDO

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

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

COUNTY..... JOSEPHINE

QUAD SCALE	QUAD NO OR NAME
1:	CHETCO PEAK

LATITUDE	LONGITUDE
42-02-30N	123-47-51W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4654500.	434000.	+10

TWP..... 40S
RANGE.... 09W
SECTION.. 31
MERIDIAN. W.M.

POSITION FROM NEAREST PROMINENT LOCALITY: SE1/4

COMMODITY INFORMATION
COMMODITIES PRESENT..... CR

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

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
- RECORD NO..... M015587
- RECORD TYPE..... XIM
- COUNTRY/ORGANIZATION. USGS
- DEPOSIT NO..... ODGMI 100-392A
- MAP CODE NO. OF REC..

REPORTER
- NAME..... BRADLEY, ROBIN; WALKER, GEORGE W.
- DATE..... 79 03
- UPDATED..... 81 04
- BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
- DEPOSIT NAME..... ROUGH AND READY OUTWASH
- SYNONYM NAME..... PART OF THE ROUGH AND READY GROUP

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

Waldo

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

- COUNTY..... JOSEPHINE
- DRAINAGE AREA..... 17100311 PACIFIC NORTHWEST
- PHYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
- LAND CLASSIFICATION..... 01 41

QUAD SCALE	QUAD NO OR NAME
1: 62500	CAVE JUNCTION (1954)

LATITUDE	LONGITUDE
42-05-13N	123-42-11W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4659450.	441850.	+10

TWP.....	040S	040S
RANGE....	009W	008W
SECTION..	13 14 23 18 19	
MERIDIAN.	WILLAMETTE	

COMMODITY INFORMATION
- COMMODITIES PRESENT..... NI CR CO

OCCURRENCE(S) OR POTENTIAL PRODUCT(S):
- POTENTIAL..... NI

PLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2

SCRIPTION OF DEPOSIT

DEPOSIT TYPES:
  LATERITE - OUTWASH
FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA
  SIZE OF DEPOSIT..... SMALL
  MAX THICKNESS..... 25 FT
COMMENTS(DESCRIPTION OF DEPOSIT):
  ALLUVIAL OUTWASH DEPOSIT OF PERIDOTITE BOULDERS, SAND, GRAVEL, AND SOIL; ESTIMATED VOLUME OF UNWEATHERED ROCK IS 90 %.

ODUCTION
    UNDETERMINED

OLOGY AND MINERALOGY
HOST ROCK TYPES..... LATERITES

LOCAL GEOLOGY
  NAMES/AGE OF FORMATIONS,UNITS,OR ROCK TYPES
   1) NAME: JOSEPHINE PERIDOTITE
      AGE: JUR

  SIGNIFICANT LOCAL STRUCTURES:
    SHEAR ZONE - FAULT CONTACT

  SIGNIFICANT ALTERATION:
    SERPENTINIZATION

OMMENTS (GEOLOGY AND MINERALOGY):
 AREA UNDERLAIN BY SERPENTINIZED HARZBURGITE OF JOSEPHINE ULTRAMAFIC SHEET, IN FAULT CONTACT WITH UPPER JURASSIC GALICE FORMATION. FAULT IS VERTICAL AND STRIKES ABOUT N. 20 E. LATERITE IS REMNANT OF OLD UPLAND WEATHERED SURFACE.

NERAL REFERENCES
1) RAMP, LEN, 1978 , INVESTIGATIONS OF NICKEL IN OREGON: ODGMI MISC. PAPER NO. 20 , P. 35 - 36
2) RAMP, L. AND PETERSON, N.V., 1979, GEOLOGY AND MINERAL RESOURCES OF JOSEPHINE COUNTY, OREGON; ODGMI BULL. 100, P.37

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO..... M060590
RECORD TYPE..... X1M
COUNTRY/ORGANIZATION. USGS
MAP CODE NO. OF REC..

REPORTER
NAME..... SMITH, ROSCOE M.
DATE..... 78 08
UPDATED..... 81 03
BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
DEPOSIT NAME..... NICKEL RIDGE LATERITE

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

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

COUNTY..... JOSEPHINE
DRAINAGE AREA..... 17100311 PACIFIC NORTHWEST
PHYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
LAND CLASSIFICATION..... 41

QUAD SCALE	QUAD NO OR NAME
1: 62500	CHETCO PEAK

LATITUDE	LONGITUDE
42-02-46N	123-47-51W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4655000.	434000.	+10

TWP..... 40S
RANGE.... 09W
SECTION.. 31
MERIDIAN. WB & M

LOCATION COMMENTS: E 1/2

COMMODITY INFORMATION
COMMODITIES PRESENT..... NI

OCCURRENCE(S) OR POTENTIAL PRODUCT(S):
POTENTIAL.....

ANALYTICAL DATA(GENERAL)
SAMPLES SUBMITTED TO ODGMI ASSAYED 0.65 - 1.97 % NI

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2

DESCRIPTION OF DEPOSIT
FORM/SHAPE OF DEPOSIT:

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

PRODUCTION
UNDETERMINED
23 0.65-1.97 NI,

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... JUR
HOST ROCK TYPES..... SERPENTINITE, PERIDOTITE

PERTINENT MINERALOGY..... SILICA BOXWORK

LOCAL GEOLOGY
NAMES/AGE OF FORMATIONS,UNITS,OR ROCK TYPES
1) NAME: JOSEPHINE PERIDOTITE
AGE: JUR

GENERAL COMMENTS
LOCATION ONLY. NO INFORMATION AVAILABLE ON GEOLOGY OR DEVELOPMENT.

GENERAL REFERENCES
1) RAMP, L., 1978, INVESTIGATIONS OF NICKEL IN OREGON; ODGMI MISC. PAPER 20, P. 62

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO..... M015590
RECORD TYPE..... X1M
COUNTRY/ORGANIZATION. USGS
MAP CODE NO. OF REC..

REPORTER
NAME..... BRADLEY, ROBIN; WALKER, GEORGE W.
DATE..... 79 03

NAME AND LOCATION
DEPOSIT NAME..... ROUGH AND READY CREEK

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

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

COUNTY..... JOSEPHINE

QUAD SCALE	QUAD NO OR NAME
1: 62500	CAVE JUNCTION (1954)

UTM NORTHING	UTM EASTING	UTM ZONE NO
4659760.	437850.	

TWP..... 040S
RANGE.... 009W
SECTION.. 14 15 16
MERIDIAN. WILLAMETTE

COMMODITY INFORMATION
COMMODITIES PRESENT..... NI

ANALYTICAL DATA(GENERAL)
APPROXIMATE GRADE OF SOIL AND SAPROLITE HAS NOT BEEN DETERMINED.

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
LATERITES

SIZE OF DEPOSIT..... SMALL
MAX THICKNESS..... 25 FT
COMMENTS(DESCRIPTION OF DEPOSIT):
ESTIMATED VOLUME OF UNWEATHERED ROCK IS FROM 60 TO 80 %

PRODUCTION
UNDETERMINED

GEOLOGY AND MINERALOGY
HOST ROCK TYPES..... LATERITES
IGNEOUS ROCK TYPES..... DIABASIC DIKES OF INTERMEDIATE TO BASIC COMPOSITION

LOCAL GEOLOGY

SIGNIFICANT LOCAL STRUCTURES:
SHEAR ZONE - FAULT CONTACT

SIGNIFICANT ALTERATION:
SERPENTINIZATION

COMMENTS (GEOLOGY AND MINERALOGY):
AREA UNDERLAIN BY SERPENTINIZED HARZBURGITE OF JOSEPHINE ULTRAMAFIC SHEET, IN FAULT CONTACT WITH UPPER JURASSIC GALICE FORMATION. FAULT IS VERTICAL AND STRIKES ABOUT N. 20 E. LATERITE IS REMNANT OF OLD UPLAND WEATHERED SURFACE.

GENERAL REFERENCES
1) RAMP, LEN, 1978 , INVESTIGATIONS OF NICKEL IN OREGON: ODGMI MISC. PAPER NO. 20 , P. 35 - 38 .

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO..... MO15594
RECORD TYPE..... XIM
COUNTRY/ORGANIZATION. USGS
MAP CODE NO. OF REC..

REPORTER
NAME..... BRADLEY, ROBIN; WALKER, GEORGE W.
DATE..... 79 03
UPDATED..... 81 04
BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
DEPOSIT NAME..... ROUGH AND READY RIDGE
SYNONYM NAME..... PART OF THE ROUGH AND READY GROUP

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

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

COUNTY..... JOSEPHINE
DRAINAGE AREA..... 17100311 PACIFIC NORTHWEST
PHYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
LAND CLASSIFICATION..... 41

QUAD SCALE	QUAD NO OR NAME
1: 62500	CHETCO PEAK (1954)

LATITUDE	LONGITUDE
42-04-29N	123-45-56W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4658150.	436680.	+10

TWP..... 040S
RANGE.... 009W
SECTION.. 22 15 21 27 28
MERIDIAN. WILLAMETTE

COMMODITY INFORMATION
COMMODITIES PRESENT..... NI CO CR

OCCURRENCE(S) OR POTENTIAL PRODUCT(S):
POTENTIAL..... NI

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2

WORK DONE BY OTHER ORGANIZATIONS

	YEAR	WORK TYPE	ORGANIZATION AND RESULTS
1)	1968	DIREXPL	COMINCO-AMERICAN, INC. TRENCHING, AUGERING; MAPPING BY AREAL PHOTOGRAPHY.
2)	1973	DIREXPL	INSPIRATION DEVELOPMENT COMPANY EXTENSIVE EXPLORATION
3)	1977	DIREXPL	USBM BACKHOE SAMPLING

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
LATERITES
FORM/SHAPE OF DEPOSIT:

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL
MAX THICKNESS..... 25 FT
COMMENTS(DESCRIPTION OF DEPOSIT):
ESTIMATED VOLUME OF UNWEATHERED ROCK IN SOIL ZONE IS 45 %

PRODUCTION
UNDETERMINED

GEOLOGY AND MINERALOGY
HOST ROCK TYPES..... LATERITES
IGNEOUS ROCK TYPES..... DIABASIC DIKES OF INTERMEDIATE TO BASIC COMPOSITION

LOCAL GEOLOGY
NAMES/AGE OF FORMATIONS,UNITS,OR ROCK TYPES
1) NAME: JOSEPHINE PERIDOTITE
AGE: JUR

SIGNIFICANT LOCAL STRUCTURES:
SHEAR ZONE - FAULT CONTACT

SIGNIFICANT ALTERATION:
SERPENTINIZATION

COMMENTS (GEOLOGY AND MINERALOGY):
AREA UNDERLAIN BY SERPENTINIZED HARZBURGITE OF JOSEPHINE ULTRAMAFIC SHEET, IN FAULT CONTACT WITH UPPER JURASSIC GALICE FORMATION. FAULT IS VERTICAL AND STRIKES ABOUT N. 20 E. LATERITE IS REMNANT OF OLD UPLAND WEATHERED SURFACE.

GENERAL REFERENCES

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon

LATERITE INVESTIGATION Waldo District Josephine County

As a continuation of the Department's nickeliferous laterite investigation, a total of six localities were visited in the Rough and Ready Creek area of southern Josephine County and sampled during the latter part of June, 1949. The work was aimed at clearing up any likely looking areas not previously inspected. Results of the work were not very encouraging, since at every locality visited the preponderance of surface and subsurface boulders coupled with the paucity of lateritic soil was judged to be unfavorable for the existence of a deposit of either economic size or tenor. The presence of numerous boulders made it extremely difficult to drill the various localities and every hole attempted had to be abandoned far short of a suitable depth when rocks were encountered. In many cases, even if there had been a considerable thickness of laterite undiluted by the presence of boulders, the areal extent was so small that it would have been difficult to obtain a tonnage sufficiently large to justify its exploitation. Topography in the area is extremely rugged, and access to the flats developed on ridge tops is difficult. All of the areas visited lie within the boundaries of the U.S. National Forest (see map).

Results of analyzing all of the samples recovered are shown on the accompanying table. In several holes it will be noted that the highest nickel assays were obtained in the bottom of the hole, and the question is immediately raised as to whether the amount of nickel increases with greater depth. Drilling was done with an "Iwan" soil auger supplemented by a

chopping bit and coal twist auger. This equipment was used since it was readily portable and had proved satisfactory in the past where only a few subsurface boulders were found.

Ralph S. Mason

March 15, 1949

Lab. No.	Description	Assays	
	Rough and Ready Creek	Ni	Cr_2O_3
P-8805	Hole 1 0' - 1'	1.06	3.29
P-8806	" 1' - 2'	1.18	2.59
P-8807	" 2' - 3'	1.18	2.20
P-8808	" 3' - 4'	1.29	2.62
P-8809	Hole 2 0' - 1'	0.92	3.56
P-8810	" 1' - 2'	1.20	2.94
P-8811	" 2' - 3'	0.96	1.71
P-8812	" 3' - 4'	0.61	1.27
P-8813	" 4' - 5'	0.52	0.84
P-8814	Hole 4 0' - 1'	0.95	2.64
P-8815	" 1' - 2'	1.07	2.58
P-8816	" 2' - 3' 6"	1.11	2.35
P-8817	**Chetco Trail - Baldface Trail Junction** Shovel pit depth 1'	0.59	2.68
P-8818	" " " 1' - 2'	0.47	1.84
P-8819	" " " 2' - 3'	0.44	1.53
P-8820	" " " 3' - 4'	0.40	1.51
P-8821	Mud Springs Trail 1' - 2'	0.31	2.50
P-8822	" " " 2' - 2' 6"	0.40	2.33
P-8827-B	Alberg Mine Flat 0' - 1'	0.68	3.14
P-8828	" " " 1' - 2'	0.74	3.22

Comparison of Oregon Dept. of Geology and Mineral Industries (DOGAMI) Data and I.D. Co. Data (1974 totals)
(All values in metric notation)

1. "Parker Ridge" (Sec. 11, 14) "Grid 4"

A. Tonnage

1. Net est. tonnage, soil & saprolite, DOGAMI = 240,300 m.tons
2. Net Calc. " " " IDC backhoe = 281,515 m.tons *
3. Net Calc. tonnage, " " IDC seismic = 464,966 m.tons *

24% by wt

B. Grade

1. Est. avg. grade, DOGAMI = 1.00% Ni.
2. Weighted avg. grade, IDC backhoe = 0.93% Ni.

C. Depth

1. Est. avg. depth, soil & saprolite, DOGAMI = 1.5 m
2. Calc. avg. depth, " " IDC backhoe = 1.8 m
3. Calc. avg. depth, " " IDC seismic = 2.41 m

2. Rough Mountain
Patch C (East ½ Sec. 9, W¼ Sec. 10) "Grid 2".

A. Tonnage

1. Est. net tonnage, soil & saprolite, DOGAMI = 313,992 m.tons
2. Calc. net tonnage, " " IDC backhoe = 230,165 m.tons
3. Calc. " " " " IDC seismic = 472,180 m.tons

B. Grade

1. Est. avg. grade DOGAMI = 1.18% Ni.
2. Weighted avg. grade, IDC backhoe = 0.78%

C. Depth

1. Est. avg. depth, soil & saprolite, DOGAMI = 4 m.
2. Calc. avg. depth, " " IDC backhoe = Not available.
3. Calc. Avg. depth, " " IDC seismic = Not available.

Grid 1 (Sec. 8 & W½ Sec. 9)
DOGAMI results obtained by subtracted values for "Grid 2" from total given for Rough Mt.)

A. Tonnage

1. Est. net tonnage, soil & saprolite, DOGAMI = 1,715,742 m.tons
2. Calc. " " " " IDC backhoe = 1,139,294 m.tons
3. Calc. " " " " IDC seismic = 2,475,654 m.tons

B. Grade

1. Est. avg. grade, soil & saprolite, DOGAMI = 1.16% Ni.
2. Calc. weighted avg. grade, soil & saprolite, IDC backhoe = 0.73% Ni.

* CAN BE EXPANDED SLIGHTLY FROM 1975 WORK (SCREENING) & EXPANSION OF GRID NORTH INTO SEC. 2

C. Depth
1. Est. avg. depth soil & saprolite, DOGAMI = 4 m.
2. Est. avg. depth soil & saprolite, IDC.backhoe = not available
3. " " " " IDC.seismic = not available

3. Rough & Ready Creek Area - SW¼ Sec. 16 (Grid 3)

A. Tonnage
1. Est. net tonnage, soil & saprolite, DOGAMI =166,608 m.tons
2. Calc. net tonnage, " " IDC. backhoe=1,192,096 m.tons **
3. Calc. net tonnage, " " IDC.seismic =2,546,530 m.tons **

B. Grade
1. Est. avg. grade soil & saprolite, DOGAMI = 0.81% Ni.
2. Calc. weighted avg.grade, soil & saprolite
IDC.backhoe = 0.54% Ni.**

C. Depth
1. Est. avg. depth soil & saprolite, DOGAMI = 2 meters
2. Calc. avg. depth " " IDC. backhoe = 2.68 m.
3. Calc. avg. depth " " IDC. seismic = 2.84 m.

4. Rough & Ready Ridge - (Sec. 22) - Grid 5

A. Tonnage
1. Est. net tonnage, soil & saprolite, DOGAMI = 1,521,900 m.tons
2. Calc. net tonnage, " " IDC backhoe = 1,015,868 m.tons *
3. Calc. net tonnage " " IDC seismic = 2,537,407 m.tons *

B. Grade
1. Est. avg.grade, soil & saprolite, DOGAMI = 0.95% Ni
2. Calc. weighted avg.grade, soil & saprolite,
IDC backhoe = 0.53% Ni *

C. Depth
1. Est. avg. depth, soil & saprolite, DOGAMI = 2.5 m.
2. Calc. avg. depth, " " IDC backhoe = 1.92 m.*
3. Calc. avg. depth " " IDC seismic = 2.59 m.*

* TO BE EXPANDED FROM 1975 FIELD WORK WHEN DATA IS ANALYZED BY COMPUTER

** INCLUDES SLIDE AREAS & CREEK BENCHES IN SEC 15; SHOULD BE EXPANDED BY 1975 SCREENING & EXPANSION OF 1974 GRIDS

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION
RECORD NO..... M061645
RECORD TYPE..... XIM
COUNTRY/ORGANIZATION. USGS
MAP CODE NO. OF REC..

REPORTER
UPDATED..... 81 03
BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION
DEPOSIT NAME..... NICKEL RIDGE GROUP

MINING DISTRICT/AREA/SUBDIST. WALDO

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

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

COUNTY..... JOSEPHINE
DRAINAGE AREA..... 17100311 PACIFIC NORTHWEST
PHYSIOGRAPHIC PROV..... 13 KLAMATH MOUNTAINS
LAND CLASSIFICATION..... 41

QUAD SCALE	QUAD NO OR NAME
1: 62500	CHETCO PEAK

LATITUDE	LONGITUDE
42-02-21N	123-47-48W

UTM NORTHING	UTM EASTING	UTM ZONE NO
4654225.	434050.	+10

TWP..... 40S
RANGE.... 09W
SECTION.. 31
MERIDIAN. W.M.

ALTITUDE.. 3760

COMMODITY INFORMATION
COMMODITIES PRESENT..... CR

PRODUCER(PAST OR PRESENT):

ANALYTICAL DATA(GENERAL)
FROM NO. 3 CLAIM -50.01% CR2O3, 12.72% FE, 4.70% SIO2

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 2

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
MASSIVE CHROMITE
FORM/SHAPE OF DEPOSIT: NARROW BAND

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL
STRIKE OF OREBODY.... NORTH
DIP OF OREBODY..... WEST

DESCRIPTION OF WORKINGS
SURFACE

PRODUCTION
YES
SMALL PRODUCTION

ANNUAL PRODUCTION (ORE,COMMOD.,CONC.,OVERBURD.)

ITEM		ACC	AMOUNT	THOUS.UNITS	YEAR	GRADE,REMARKS
1	ORE	EST	.012	TONS	1955	44% CR2O3
21	TOTAL		.012	TONS		44.00 % CR2O3 (WEIGHTED AVERAGE GRADE)

PRODUCTION COMMENTS.... SAMPLE OF ORE SHIPPED ASSAYED 52% CR2O3 WITH A 2.4 CR:FE RATIO

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... JUR

LOCAL GEOLOGY
NAMES/AGE OF FORMATIONS,UNITS,OR ROCK TYPES
1) NAME: JOSEPHINE PERIDOTITE
AGE: JUR

GENERAL COMMENTS
RECORD NUMBER (MO13211) HAS BEEN MERGED WITH THIS RECORD AND DELETED FROM THE OREGON FILE.

GENERAL REFERENCES
1) RAMP, LEN, 1961, CHROMITE IN SOUTHWESTERN OREGON: OREGON DEPT. GEOLOGY AND MINERAL IND., BULL. 52, 169 P.

Waldo

ROUGH AND READY GROUP

OWNERSHIP Inspiration Development Co., 1000 Bible Way, Suite 60, Reno, Nevada 89502; W. B. Freeman, Cave Junction; Andy Johnson Estate, Cave Junction; and small parcels of private (patented) land of John Blake, M. Smith, Rod Cooley, M. Cooley, Chas. Edwards, and Blanch Freeman, all in the O'Brien area; other private land owners and a small patch of County land.

LOCATION: The group lies mainly in T. 40 S., R. 9 W., with outwash deposits extending into secs. 18 and 19, T. 40 S., R. 8 W., and laterite patches in secs. 1 and 12, T. 40 S., R. 10 W.

The group may be divided into ~~eight~~ Ten areas as follows:

1. Parker Ridge, containing about 15 hectares is located in secs. 11 and 14 between about 686 and 777 meters elevation on the ridge southwest of Parker Creek.
2. South Flanks of Rough Mountain including 4 patches in sections 8, 9, and 10, with about 54 hectares in sec. 8; 26 hectares in sec. 9, (parts of 3 patches); and 4 hectares in sec. 10; nearly all the deposits in this group are between about 853 and 1,036 meters elevation.
3. Rough and Ready Creek deposit includes about 13 hectares in the SW¼ sec. 16 between about 541 and 686 meters elevation.
4. Rough and Ready Ridge, the main area includes about 96 hectares largely in sec. 22; but overlapping into secs. 15, 21, and 27, and lying mainly between 792 and 945 meters elevation. A few other thin patches of soil lie on up the ridge to the southwest in secs. 28, 29, 32, and 33 but appear from preliminary reconnaissance to be too thin and rocky to be included at this time.
5. Rough and Ready Outwash, a large (336 hectare) alluvial outwash of peridotite boulders and soil mainly in secs. 13, 14, 23, and 24; a smaller patch about 90 hectares extends into secs. 18 and 19 of Range 8 W., and a 33-hectare patch in the N½ sec. 13.

This outwash area lies on the valley floor and is partially developed as residential. Only a part of the area may ever be available for mining. The elevation is from about 427 to 488 meters.

6. Rough and Ready bench lies partially in the western portion of sec. 6 of T. 40 S., R. 9 W., and mainly in sec. 1, T. 40 S., R. 10 W. It is an erosionally disected bench with small residual patches of lateritic soil aggregating about 48 hectares, between about 732 and 910 meters elevation.

7. Buckskin Ridge includes two small patches of soil, about 8 hectares, in the SE¼ sec. 12, T. 40 S., R. 10 W. These patches lie about 1.2 kilometers north of Mud Springs between about 975 and 1,067 meters elevation.

8. Rough and Ready Creek mixed slope debris and bench gravel deposits: including 5 patches in secs. 14, 15, and 16, between about 488 and 805 meters elevation. These rocky areas contain some soil and have been sampled by Inspiration Development Co. Cumulative size of the 5 areas mapped is about 75 hectares. The mapping here is very approximate and incomplete.

9. West Fork mixed slope debris deposit in secs 27 and 34 of about 60 acres between 1520 and 1840 feet elevation

10. Others CLIMATE, VEGETATION AND LAND USE: The annual precipitation is about 95 cm, most of which occurs between October and June. Summer temperatures will average about 19° C. and winter about 5° C. Between November and March some snow usually accumulates above 1,000 meters. Vegetation is generally sparce and includes a few pine (knob cone, Jeffry, sugar, white and ponderosa), fir and cedar with underbrush including azalea, ceanothus, live oak, tan oak, myrtle, cascara, etc. There is a lack of commercial-grade timber and the land has little or no established use other than some residential development in the outwash area near O'Brien.

HISTORY, EXPLORATION AND DEVELOPMENT: Part of the outwash area and that along the Creek have been held by placer claims for many years by Andy Johnson and Walt Freeman and some minor work was done in attempts to recover gold and platinum metals, probably during the 1930's. Nickel exploration probably began in the early 1950's (Appling, 1955). The first systematic exploration activity in the area was by Cominco during 1968-1970. Mapping, trenching, color aerial photography was used as well as augering and churn drilling.. The more recent exploration activity has been by Inspiration Development Company mainly during the period from 1973 to present. Their work has included all of the above procedures and in addition back-hoe sampling, the use of a 6-inch screening and weighing device to determine weight percent of the intermixed rock, extensive seismic surveys to determine the depth of soil and saprolite development, and metallurgical testing of bulk samples. Inspiration Development Co. continues to show an interest in the area.

GENERAL GEOLOGY AND DESCRIPTION OF THE DEPOSITS: The area is underlain by partly serpentinized harzburgite of the Josephine Ultramafic Sheet. The ultramafic rocks are in fault contact with the Upper Jurassic Galice Formation which underlies the outwash area and low lands to the east.

The fault strikes about N. 20° E. and appears to be nearly vertical in this area. The peridotite has zones of nearly complete serpentinization that are more or less sheared. A few small dikes intruding the ultramafics are mainly of diabasic texture and intermediate to basic composition.

Soil areas occur as residual patches of an old upland weathered surface and in lower slumps and benches as well as outwash deposits on the valley floor mixed with sand and gravel.

Some surface accumulations of iron shot occur in the upper deposits on ridge tops and benches. Silica box work float also occurs in a few of the more deeply weathered areas. Deposits on the steeper slopes are generally more rocky and of lower grade. The better developed ridge-top and bench deposits generally increase in grade with depth up to a point but the transported and outwash gravel deposits do not.

TONNAGE AND GRADE: (This material should be treated as confidential)

Tonnage and grade estimations are based on the following:

1. Parker Ridge - area 15 hectares

   (a) estimated maximum soil & saprolite depth = 5 meters

   (b) estimated average soil & saprolite depth = 2 meters

   (c) estimated quantity of unweathered rock in soil by weight = 50 %

   (d) gross quantity of soil, saprolite and rock to 2 meters depth using a factor of 1.8 mt/m^3 equals 540,000 metric tons.

   (e) net tonnage (excluding rock) using 1.6 mt/m^3 = 240,000 tonnes

   (f) grade of net tonnage DOGAMI assays = 1.00 % Ni

   weighted Inspiration assays = .93 % Ni

   (g) Calculated grade of gross tonnage (rock included) = .58 % Ni; 1.02% Cr; 0.05% Co; 19% Fe.
   (Co in net tonnage is reported to be about 0.1% and Cr about 2 %)
   (assay AJG-54 = 2.56% Cr and 36.1% Fe)

2. South flanks of Rough Mountain including 4 patches from ~~E~~ W to ~~W~~ E.
   Patch A (largest) mainly in sec. 8; area = 56 hectares.

   (a) estimated maximum depth = 12 meters

   (b) estimated average depth over the 56 hectares = 3 meters.

   (c) estimated quantity of rock = 45% by weight

   (d) estimated gross amount of soil and rock (using 1.8 mt/m^3)
   gross tonnage = 3,024,000 mt.

   (e) net amount of soil and saprolite excluding rock (1.6 mt/m^3)
   net tonnage = 1,478,400 mt.

   (f) grade of net tonnage soil and saprolite averages about 0.97 % Ni; 0.14 % Co; 2.00 % Cr and 35 % Fe.

   (g) Calculated grade of gross tonnage is about 0.60% Ni; 0.07 Co; 1.06 % Cr. and 18 % Fe.

AREA B (two small patches) W½ sec. 9, area = 17 hectares.

(a) estimated maximum depth = 5 meters

(b) estimated average depth = 1.5 meters

(c) estimated quantity of rock = 60 %

(d) estimated gross tonnage (soil & rock) (1.86 mt/m^3) = 474,300 mt.

(e) estimated net tonnage soil & saprolite (1.6 mt/m^3) = 163,200 mt.

(f) calculated grade of gross tonnage = 0.47 % Ni.

(g) calculated grade of net tonnage = 0.90 % Ni.

PATCH C east ¼ sec. 9 and west edge sec. 10; about 14 hectares.

(a) estimated maximum depth = 10 meters.

(b) estimated average depth = 3 meters.

(c) estimated amount rock in soil = 45 %.

(d) estimated gross tonnage (soil and rock) (1.86 mt/m^3) = 781,200 mt.

(e) estimated net tonnage (soil & saprolite) (1.6 mt/m^3) = 369,600 mt.

(f) calculated grade gross tonnage = 0.60 % Ni.

(g) calculated grade net tonnage = 1.00 % Ni; 0.08 % Co; 2.24 % Cr and 30 % Fe.

Aggregate tonnage and grade - 3 areas on the southern flank of Rough Mountain are:

(a) aggregate area = 87 hectares

(b) Total aggregate gross tonnage soil & rock mixed = 4,279,500 mt.

(c) Total aggregate net tonnage soil & saprolite = 2,011,200 mt.

(d) calculated average grade of the gross tonnage = 0.59 % Ni; 0.07 % Co; 1.00 % Cr_2O_3; and 18 % Fe.

(e) Calculated average grade of the net tonnage = .97 % Ni; 0.08 % Co; 2.00 % Cr, and about 28 % Fe.

Rough and Ready Group

3. Rough and Ready Creek area of 13 hectares in the SW¼ sec. 16.

   (a) estimated maximum depth = 5 meters.

   (b) estimated average depth = 2 meters.

   (c) estimated gross tonnage soil and rock (1.86 mt/m^3) = 483,600 mt

   (d) estimated % of rock in soil = 40 %.

   (e) estimated net tonnage soil and saprolite, excluding rock (1.6 mt/m^3) = 249,600 mt.

   (f) grade of soil and saprolite = 0.80 % Ni; 1.06 % Cr; 23 % Fe

   (g) calculated grade of gross tonnage = 0.53 % Ni; .66% Cr; 15 % Fe and trace Co.

4. Rough and Ready Ridge area of about 96 hectares in secs 21, 22, 27.

   (a) estimated maximum depth of soil and saprolite = 8 meters.

   (b) estimated average depth = 2 meters.

   (c) estimated gross tonnage of mixed soil and rock (1.86 mt/m^3) = 3,571,200 mt.

   (d) estimated amount of rock to this depth = 55 % by weight

   (e) calculated net tonnage of soil and saprolite, excluding rock (1.60 mt/m^3) = 1,382,400 mt.

   (f) approximate grade of net tonnage = 0.85 % Ni; 2.0 % Cr; 35 % Fe (no Co assays, but probably equals about 0.1 %).

   (g) Calculated grade of gross tonnage = 0.48 % Ni; 0.93 % Cr; 17 % Fe, and about 0.04 % Co.

7 (5.) Rough and Ready outwash about 300 hectares (a significant portion; but not the entire area)

   (a) estimated maximum depth = 20 meters

   (b) estimated average depth = 8 meters.

   (c) estimated percentage of rock and unweathered coarse material = 90 %.

   (d) estimated gross quantity of rock, sand, and soil (1.9 mt/m^3) = 45,600,000 mt.

   (e) estimated net quantity of soil weathered rock and fines (1.6 mt/m^3) = 3,840,000 mt.

   (f) grade of soil and fines (net tonnage) are estimated at about 0.45 % Ni; 16 % Fe; 1 % Cr; 0.03 % Co

(g) approximate grade of the coarse fraction (gross tonnage) are 0.3 % Ni; 7 % Fe; 0.3 % Cr; and 0.02 % Co.

It should be noted that significantly greater tonnage of this outwash material may be available in this area.

5 (6.) ROUGH AND READY BENCH AREA of 48 hectares; mostly in sec 1, T. 40 S., R. 10 W.

(a) estimated maximum depth = 8 meters.

(b) estimated average depth of soil and saprolite = 2.5 meters.

(c) estimated percentage of unweathered rock in soil zone = 50 %.

(d) estimated gross tonnage of rock and soil mixed (1.86 mt/m^3) = 2,232,000 mt.

(e) estimated net tonnage of soil and saprolite (1.6 mt/m^3) = 960,000 mt.

(f) approximate grade of net tonnage = 0.70 % Ni; 1.4 % Cr; 30 % Fe; and 0.1 % Co.

(g) Calculated grade of gross tonnage = 0.45 % Ni; 0.75 % Cr; 16 % Fe; and 0.05 Co.

6 (7.) BUCKSKIN RIDGE AREA in SE¼ sec. 12 T. 40 S., R. 10 W. containing about 8 hectares in two patches.

(a) estimated maximum depth = 4 meters.

(b) estimated average depth = 1.5 meters

(c) estimated unweathered rock in soil = 60 %.

(d) estimated gross soil and rock (1.9 mt/m^3) = 228,000 mt.

(e) estimated net soil and saprolite (1.6 mt/m^3) = 76,800 mt.

(f) approximate grade of net tonnage (soil & saprolite) = 0.99 % Ni. (no other elements obtained)

(g) calculated grade of gross tonnage = 0.50 % Ni.

8. ROUGH AND READY CREEK (mixed slope and stream bench deposits)

Aggregate of 5 patches include approximately 75 hectares

(a) estimated maximum depth = 7 meters.

(b) estimated average depth = 2 meters.

(c) estimated unweathered rock included = 70 %.

(d) estimated gross tonnage (1.9 mt/m^3) = 2,850,000 mt.

(e) estimated net tonnage (1.6 mt/m^3) excluding rock = 720,000 mt.

(f) approximate grade of net tonnage = 0.70 % Ni.

(g) Approximate grade of gross tonnage = 0.36 % Ni.

9. West Fork Illinois
10. Various scattered thin

Total calculated net and gross tonnage for the group are shown below:

		Net metric tons soil and saprolite	% Ni	Gross metric tons soil, saprolite & rock	% Ni
1.	Parker Ridge	240,000	1.00	540,000	0.58
2.	Rough Mountain	2,011,200	0.97	4,279,500	0.59
3.	Rough & Ready Creek	249,600	0.80	483,600	0.53
4.	Rough & Ready Ridge	1,382,400	0.85	3,571,200	0.48
5.	Rough & Ready Outwash	3,840,000	0.45	45,600,000	0.30
6.	Rough & Ready Bench	960,000	0.70	2,232,000	0.45
7.	Buckskin Ridge	76,800	0.99	228,000	0.50
8.	R & R Creek slope slump & bench	720,000	0.70	2,850,000	0.36
	Totals & weighted average % Ni.	9,480,000	0.69	59,784,300	0.35

By excluding the outwash deposits and the rocky slope slump and bench areas near the creek, the total net tonnage would be 4,920,000 tonnes with an average grade of about 0.88 % Ni; 1.8 % Cr; 0.11 % Co; and 34 % Fe.

The gross tonnage excluding these same areas would be 11,334,300 tonnes with calculated grade of 0.48 % Ni; 0.89 % Cr; 0.06 % Co; and 21 % Fe.

REFERENCES AND COMMENTS

Appling, R. N., Jr. 1955, A reconnaissance of nickel deposits of southwest Oregon and northwest California, U. S. BuMines open-file report, unpublished.

Data for this report and map were gathered by the writer using U. S. Forest Service color infrared aerial photos to outline the areas, on the ground reconnaissance sampling and mapping and later comparison of preliminary estimated depth, area, tonnage, and grade figures with private company confidential data of Inspiration Development Co. obtained from personal communication with Boies Hall in Reno, Nevada on November 13 and 14, 1975. The figures used in this report are not their figures; but are influenced by their data; so we are obliged to treat the data as confidential.

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256
125

5. Rough and Ready Outwash about 300 hectares (This is a significant portion of the but not whole area)
   (a) estimated maximum depth = 20 meters
   (b) estimated average depth = 10 meters
   (c) estimated quantity of rock = 90%
   (d) estimated quantity of rock & soil = 48,060,000 metric tons
   (e) estimated quantity soil & saprolite - 4,806,000 metric tons
   (f) estimated average grade soil & saprolite = .5 % Ni (?)(one sample only, more to come)
   (g) estimated average grade rock & soil = .275 % Ni (?)

   In my judgement there could easily be 50,000,000 metric tons of .3 percent Nickel in this deposit.

6. Rough and Ready Bench about ~~50~~ 18 hectares (mostly in sec 1, T.40 S., R.10W.
   (a) estimated maximum depth = 10 meters (far-out guess)
   (b) estimated average depth = 3 meters (far-out guess)
   (c) estimated percentage of rock in soil = 30% (this estimate could be way off) (50 %?
   (d) estimated quantity of rock and soil = 2,403,000 metric tons
   (e) estimated ~~average grade~~ quantity soil and saprolite = 1,682,100 metric tons
   (f) estimated average grade soil and saprolite = 0.70% Ni.
   (g) estimated average grade rock & soil = .56 % Ni.

Other areas of soil are present in the area and represent a future potential. eg. The E½ of the NW¼ sec 16, The N½ sec 15 both bench gravel area and slump from hill slopes to the north; and unchecked patches plotted from color infra-red aerial photos ~~in~~ the south and west portion of the Township.

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Waldo Wash

ROUGH AND READY NICKEL GROUP

LOCATION: The group includes six areas which lie mostly in T. 40 S., R. 9 W., as follows:

1. Parker Ridge, containing about 15 hectares is located in secs. 11 and 14 between ~~2,250~~ and ~~2,550 feet~~ elevation on the ridge southwest of Parker Creek. 1686 about 777 meters

2. South flanks of Rough Mountain including 4 patches in sections 8, 9, and 10, with about 54 hectares in sec. 8; ~~26~~ 26 hectares in sec. 9, (parts of 3 patches); and ~~4~~ hectares in sec. 10; nearly all the deposits in this group are between about ~~2,800~~ and ~~3,400 feet~~ elevation. 853 1,036 meters

3. Rough and Ready Creek deposit includes about 13 hectares in the SW¼ sec. 16 between ~~1,770~~ and ~~2,240 feet~~ elevation. about 1741 686 meters

4. Rough and Ready Ridge, the main area ~~of which~~ includes about 96 hectares largely in sec. 22; but overlapping into secs. 15, 21, and 27, and lying mainly between ~~2,600~~ and ~~3,100 feet~~ elevation. A few other thin patches of soil lie on up the ridge to the southwest in secs. 28, 29, 32, and 33 but appear from preliminary reconnaissance to be too thin and rocky to be included at this time. 792 945 meters

5. Rough and Ready Outwash, a large (336 hectare) aluvial outwash of peridotite boulders and soil mainly in secs. 13, 14, 23, and 24 ~~but~~ and a 33 hectare patch in the W½ Sec 13. a smaller patch about 90 hectares extends into secs. 18 and 19 of Range 8 W. This outwash area lies on the valley floor and is partially developed as residential. Only a part of the area may ever be available for mining. The elevation is from about 427 to 488 meters.

6. Rough and Ready bench lies partially in the western portion of Sec. 6 of T. 40 S., R. 9 W., and mainly in sec. 1, T. 40 S., R. 10 W. It is an erosionally disected bench with small residual patches of lateritic soil aggregating about ~~48~~ hectares, between ~~2,400~~ and ~~3,150 feet~~ elevation. about 732 960 meters

Tonnage and grade estimations of these ~~are~~ areas are calculated as follows:

1. Parker Ridge
   - (a) estimated maximum soil depth = ~~4~~ 1 meters
   - (b) average depth of soil & saprolite is estimated to be ~~1.5~~ 2 meters
   - (c) estimated quantity of rock at this depth = ~~50~~ 30% (by volume)
   - (d) gross estimated quantity rock and soil to ~~1.5~~ 3 meters = ~~1,201,500~~ 240,000 metric tons
   - (e) net estimated quantity soil & saprolite excluding rock = 240,000 metric tons
   - (f) estimated average grade of net tonnage = 1.00% Ni

2. Southern flanks of Rough Mountain including 4 patches from W to E
   Patch A (largest) mainly in sec. 8 = area of 55 hectares
   - (a) estimated maximum depth = ~~15~~ 12 meters
   - (b) estimated average depth = ~~4~~ 3 meters
   - (c) estimated quantity of rock = 55%

2. Rough Mountain group continued; Patch A:

(d) estimated gross amount soil & rock = 3,524,400 metric tons
(e) net amount of soil & saprolite excluding rock = 1,585,980 metric tons
(f) estimated average grade of soil & saprolite = 1.16% Ni; 0.14% Co grade Too high

Patch B Two small patches in W½ sec. 9 which total about ~~18~~ 17 hectares.
(a) estimated maximum depth = 5 meters
(b) estimated average depth = 1.5 meters
(c) estimated quantity of rock = ~~70%~~ 60
(d) estimated gross tonnage = 432,540 metric tons
(e) estimated net tonnage = 129,762 metric tons
(f) estimated average grade = .90% Ni.

Patch C Contains about 14 hectares on both sides sec line between secs 9 & 10.
(a) estimated maximum depth = 15 meters
(b) estimated average depth = 4 meters
(c) estimated amount rock with soil = 65%
(d) estimated gross tonnage rock & soil = 897,120 metric tons
(e) estimated net tonnage soil & saprolite = 313,992 metric tons
(f) estimated average grade soil & saprolite = 1.18% Ni ; 0.20% Co Too high. .78 % Ni.

Aggregate tonnage and grade of three areas on the southern flanks of Rough Mountain are as follows:

(a) aggregate area = 87 hectares
(b) estimated total gross tonnage soil and rock = 4,854,060 metric tons
(c) estimated total net tonnage = 2,029,734 metric tons
(d) estimated average grade gross tonnage = 0.597% Ni
(e) estimated average grade net tonnage = 1.08% Ni; 0.17% Co

3. Rough & Ready Creek area of 8 hectares sw ¼ sec 16
(a) estimated maximum depth = 5 meters
(b) estimated average depth = 2 meters 2.68 m Insuf.
(c) estimated average amount of rock = 35% includes slide
(d) estimated gross tonnage soil & rock = 256,320 metric tons on s. side ck
(e) estimated net tonnage soil & saprolite = 166,608 metric tons 8 to 9 feet
(f) estimated average grade soil & saprolite = .81 % Ni

4. Rough & Ready Ridge about ~~96~~ hectares mostly in sec 22.
(a) estimated maximum depth soil & saprolite = 8 meters
(b) estimated average depth soil & saprolite = 2.5 meters ā m = 1.32 m
(c) estimated average quantity rock in soil = 60%
(d) estimated gross amount of rock & soil = 3,804,750
(e) estimated net amount of soil & saprolite = 1,521,900
(f) estimated average grade soil & saprolite = .95% Ni .53 ~ .83
(g) estimated average grade gross tonnage = 0.53% Ni