

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon

DEEP GORGE MINE (chrome)

Josephine County
Illinois River Area

Owners: J. N. Grissom
Max Grissom
Joe Inman

P.O. Box 233, Selma, Oregon
(son)
1506 Fruitdale Drive, Grants Pass.

Location: N. edge, NE $\frac{1}{4}$ Sec. 32, T. 37 S., R. 9 W., directly across the Illinois River from Daily Creek. The mine is 12.6 miles from Selma; 11.9 on Illinois River road to Deep Gorge Mine road, then .7 mile on the mine road to the mine portal.

Area: One lode claim located September 7, 1939.

History: According to a report by Allen and Treasher in Bulletin 14-C, Vol. II, Sec. 1 (1952:127-128): "It is reported that the California Chrome Company formerly operated the property and produced \$14,000 worth of chromite from it and some pits across the river. The lower adit, now caved, is said to have produced ore valued at \$62 a ton, which returned \$1,400. Ownership of the claim changed hands several times and in 1941, the owners shipped 18 tons; to June, 1942, 28 tons were shipped. The ore averaged 46 percent Cr₂O₃" The chrome-iron ratio is only slightly above the 2 to 1 minimum requirements.

The mine has been a continually active shipper during the present stockpiling program. The actual tonnage shipped was not learned.

Development Work: The mine consists of a large open cut area about 250 x 400 feet in which there are 4 tunnels including the main tunnel (1133 ft. level) with more than 250 ft. of workings. The other adits are covered by slide debris (see sketch map of mine area). The tunnel shown near the North edge of the map area went in on an incline of about 6° near the portal and increased to about 33° near the face. It followed the main

Development (continued)

chromite layer, which had a maximum width of 4 feet at this point. The tunnel was nearly 50 feet in length. Another tunnel, about 130 feet south of the above described tunnel, went down on a steep incline then drifted north on the chromite. Information on the depth of the incline or the length of the drift were not obtained. Chromite was mined from open cuts at several places between the two tunnels. A tunnel at the 1045 level was reported to run east for about 100 feet. Information on ore mined from this tunnel was not obtained. However, it could have been slide-transported material from the main chromite layer above, or a continuation of the chromite stringer mapped in the small open cut at about 1100 feet elevation and 100 feet northwest of the main portal.

Geology: The country rock is a blocky serpentine altered from a peridotite apparently rich in olivine. A thin section of fresh appearing rock reveals a mesh of serpentine between and in the fractures of remnant olivine crystals. Occasional altered enstatite crystals and irregular grains of magnetite are present in small percentages. The hillside is very steep and there is evidence of landsliding as well as surface creep. The main chromite layer dips both east and south and apparently curves in strike from nearly E-W in the main tunnel to N-S where it was mined in the open cuts and smaller tunnels to the north. The chromite has been offset by numerous small faults or shears. The maximum width of chromite mined from the upper inclined tunnels and the four inclined underhand stops to the south from the main tunnel was about 4 feet. An average width is probably a little less than 2 feet. Chromite is exposed at several places along the walls and roof of the main tunnel. The inclined raise to the North off the main tunnel has an excellent exposure of the

Geology (continued)

chromite layer through its length. The orebody strikes from N. 25° - 43° E., dips 33° - 40° SE, and is from 1 to 2½ ft. thick.

The apparent curvature in trend of the chromite layer is possibly due to faulting and small shears resulting from gravity slippage. The main tunnel was not mapped in detail, so this cannot be determined accurately as yet.

Small amphibolite dikes and one reasonably large exposure of a coarse-grained hornblendite were noted in the area. The N-S fault near the top of the open cut apparently has the largest displacement, judging from the width of the shear zone. East of this fault the serpentine (float) has a different appearance. It is largely altered to talc and has a schistose structure.

The exposure of a chromite stringer in the open cut (1100 ft. level) strikes N. 30° E., is nearly vertical, and occurs in a sheared zone about 2 feet wide.

Reference: Oregon Dept. Geology & Mineral Industries Bull. 14-C,
Vol. II, Sec. 1, pp. 127-128.

Informants: Joe Inman, J. N. Grissom & M. N. Grissom.

Visited: 4-7-54 by D.J.W. & L.R.

Report by: L. R. 4-12-54.

* * * * *

DEEP GORGE MINE ILLINOIS

JOSEPHINE

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
ASSAY LABORATORIES

Baker

SAMPLE INFORMATION REQUESTED

Grants Pass

The law passed by the Legislature, governing the free assaying and analyzing of samples sent to the State Assay Laboratories, provides that certain information be furnished the Laboratory regarding samples sent for assay, etc. A copy of this law will be found on the back of this blank. Please read the law carefully. Will you please fill in the information called for on the following blank, as far as possible and return the same to the nearest State Assay Laboratory along with your sample? If you have made out a blank, this copy is for your future use. Keep a copy of the information on each sample for your own reference.

Your name in full . . . James N. Grissom

Postoffice address . . . Box 233, Selma, Oregon

Are you a citizen of Oregon? Yes . . . Date on which sample is sent 5/13/47

Name (or names) of owners of the property . . . Same

Name of particular claim and date of location . . . Deep Gorge

Location of property or source of sample (describe as accurately as possible below):

(1) County . . . Josephine (2) Mining district Illinois

(3) Township 37 S (4) Range 9 W (5) Section 32 (6) Quarter Section

How far from passable road? . . . One mile

For what minerals or elements do you wish the sample analyzed? Cr₂O₃, Fe, SiO₂

(Unless other minerals or elements are specifically named this sample will be assayed for gold and silver only.)

Type of sampling: Channel (length) Grab. . . . Pipe

Report mailed Called for

IMPORTANT: A sample, to be of value, should be taken in an even channel across the vein from wall to wall. Its position in the workings should be marked and the width measured. Assays of unlocated samples, without widths, are of little value; they create little interest in the minds of experienced investors and engineers.

(signed) . . . G. N. Grissom

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

Description _____

Sample Number	GOLD		SILVER		Chrome (Cr ₂ O ₃)	Iron (Fe)	(SiO ₂)
	oz./ T	Value	oz./ T	Value	MERCURY %	Percent	Silica %
P-5947					46.67%	15.73	4.78

Report issued() Card filed()

State Department of Geology and Mineral Industries

April 1952

702 Woodlark Building
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DEEP GORGE CHROME MINE
Josephine County, Oregon
CHROMITE

by
John R. McWilliams

Introduction

This property was examined as a part of the program to examine and evaluate the mineral resources of the Illinois River valley and southwestern Oregon.

At the time of the examination sluffing and minor damages caused by unusually heavy snows was being corrected. The pit in the lowest trench acted as sump for the entire cut and consequently the most promising ore occurrence was not accessible.

Location and Access

The property is on the east bank of the Illinois River, opposite the mouth of Dailey Creek, in the NE¹/₄ of section 32, T. 37 S., R. 9 W. It is 30 miles southwest of Grants Pass, Oregon, the nearest rail head and site of the government chrome purchasing depot. It is reached by travelling south on U.S. Highway 199 seventeen miles to Selma, thence 12 miles west on maintained Forest Service road to Packers Camp, and one mile of semi-private road to the mine.

History and Production

The property, one standard lode claim, was discovered and worked during World War I by Casey and Dailey, and is said to have produced \$10,000 in chrome. Information as to the activity and ownership between 1919 and 1941 is sketchy and contradictory.

J. N. Grissom, of Selma, acquired the property in 1941, and during World War II produced 800 tons. In 1950 he continued exploration and

History and Production, continued

development on the wartime workings and in 1951 produced 50 tons.

During World War I the property was mined by numerous small pits and adits. Most of these were destroyed by the introduction of open cut methods in 1941. The general mode of operation now is a combination of prospecting by bulldozer and extracting the ore by hand methods. At this time development consists of one large open cut, about 120' x 60' with a maximum face of 80 feet, a cave-like opening in the face of the cut, a bulldozer trench in the floor of the cut, and a pit 20 feet long in the floor of the trench.

Description of the Deposit

The mine is near the eastern edge of the Josephine peridotite sheet, and is 1000 feet south-west of a contact with an isolated island of Galice meta-volcanics.^{1/}

The country rock, originally dunite, has been partially or wholly altered to blocky serpentine. Along the several minor faults, the less altered serpentine has been broken into small angular boulders. One flat lying fault, near the ore occurrences, contains a finely ground serpentine gouge.

The ore has been generally found in slender lenses in or near the minor shear zones. The ore at the south-east end of the workings are of this type. It is also found as scattered fragments in the broken and crushed material of the so-called ore zones, which usually follow the

^{1/} Wells, Francis G., "Preliminary Description of the Geology of the Kerby Quadrangle, Oregon", State of Oregon Department of Geology and Mineral Industries, Bull. No. 40, 1949, and included geologic map.

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parting planes of the country rock. The ore zones are important as leads in discovering new lenses as well as being a source of ore in themselves.

The ore body in the lowest pit, partly from information by the owner, is a seam about 25 feet long, 6 inches to occasionally 2 feet wide, and up to 6 feet deep. It lies on a solid wall of slickensided serpentine, the hanging wall is fractured serpentine. The strike is 8.25° east, and dips 68° south. The chrome left in the upper workings is not accessible for examination. The ore zone in the trench, strike northeast, is badly fractured and intermixed with country rock.

The ore is heavy, black, crystalline, good grade chromite, with some interstitial magnesium silicate. Handcobbing eliminates most of the serpentine gangue.

Ore shipped to Metals Reserve Company in 1943-45 ranged from 41% to 45% chromic oxide, at 2.1 through 2.5 chrome:iron ratio.

One general sample, #170-16, was taken of ore assembled at the ore bin. This represents the general tenor of the ore. Sample #170-17 represents ore in place in the lowest cut and is cobbled to the same degree as shipping material.

Owners Plans

The owner intends to extend the covered trench into the face of the cut. At the present strike, the seam will intercept the plane of the chrome left in the upper workings, and possibly produce a lens. The exposures on the north side of the cut will be traced by bulldozer.

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Conclusions

The cost of open pit prospecting will soon be prohibitive because of the increasing amount of material that must be moved to develop the high face. Under these conditions it would be well to consider the use of diamond drills for exploration, and exploitation by the usual underground methods.

CONFIDENTIAL

CRIB MINERAL RESOURCES FILE 12

RECORD IDENTIFICATION

RECORD NO..... M060536
 RECORD TYPE..... XIM
 COUNTRY/ORGANIZATION. USGS
 DEPOSIT NO..... DDGMI 100-271
 MAP CODE NO. OF REC..

REPORTER

NAME..... JOHNSON, MAUREEN G.
 DATE..... 76 05
 UPDATED..... 81 02
 BY..... FERNS, MARK L. (BROOKS, HOWARD C.)

NAME AND LOCATION

DEPOSIT NAME..... DEEP GORGE CHROMITE

MINING DISTRICT/AREA/SUBDIST. ILLINOIS RIVER

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

1: 62500

QUAD NO OR NAME

PEARSOLL PEAK

LATITUDE

42-18-45N

LONGITUDE

123-46-51W

UTM NORTHING

4684563.9

UTM EASTING

435638.9

UTM ZONE NO

+10

TWP..... 37S

RANGE..... 09W

SECTION.. 32

MERIDIAN. W.M.

ALTITUDE.. 1200 FT

POSITION FROM NEAREST PROMINENT LOCALITY: 3 MILES EAST OF PEARSOLL PEAK

PRODUCER (PAST OR PRESENT):
MAJOR PRODUCTS.. CR

OCCURRENCE(S) OR POTENTIAL PRODUCT(S):
POTENTIAL.....
OCCURRENCE..... PT PD RH

COMMODITY SPECIALIST INFORMATION:
PGM OCCUR

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

ANALYTICAL DATA (GENERAL)
PD 0.015 PPM; PT 0.041 PPM; RH 0.021 PPM

EXPLORATION AND DEVELOPMENT
STATUS OF EXPLOR. OR DEV. 6
YEAR OF DISCOVERY..... PROPERTY IS INACTIVE
CIRCA WORLD WAR I

DESCRIPTION OF DEPOSIT

DEPOSIT TYPES:
MASSIVE CHROMITE
FORM/SHAPE OF DEPOSIT: LENS, CURVED TABULAR

SIZE/DIRECTIONAL DATA
SIZE OF DEPOSIT..... SMALL
MAX WIDTH..... 4 FT
STRIKE OF OREBODY.... N25-43E
DIP OF OREBODY..... 33-40SE

DESCRIPTION OF WORKINGS
SURFACE AND UNDERGROUND
LENGTH OF WORKINGS..... GT 250 FT
OVERALL LENGTH OF MINED AREA.... 250 FT
OVERALL WIDTH OF MINED AREA..... 400 FT

COMMENTS (DESCRIP. OF WORKINGS):
MANY TUNNELS NOW CAVED-DRIVEN IN FROM LARGE OPEN CUT

PRODUCTION
YES
MEDIUM PRODUCTION

CUMULATIVE PRODUCTION (ORE, COMMOD., CONC., OVERBUR.)

21 TOTAL 1,500 TONS 45.11 % CR2O3 (WEIGHTED AVERAGE GRADE)

GEOLOGY AND MINERALOGY

AGE OF HOST ROCKS..... JUR
HOST ROCK TYPES..... OLIVINE RICH PERIDOTITE (SERPENTINIZED)
PERTINENT MINERALOGY..... CHROME CHLDRITE, TALC, CALCITE

LOCAL GEOLOGY

NAMES/AGE OF FORMATIONS, UNITS, OR ROCK TYPES

- 1) NAME: JOSEPHINE PERIDOTITE
AGE: JUR

GENERAL COMMENTS

RECORD NUMBER (M013646) 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.
- 2) THAYER, T. P., 1974, UNPUBL. DATA
- 3) PAGE, N. J., JOHNSON, M. G., HAFFTY, JOSEPH, AND RAMP, LEN, 1975, OCCURRENCE OF PLATINUM GROUP METALS IN ULTRAMAFIC ROCKS OF THE MEDFORD-CODS BAY 2 DEGREE QUADRANGLE, SOUTHWESTERN OREGON: U.S. GEOL. SURVEY MISC. FIELD STUDIES MAP MF-694
- 4) RAMP, L. AND PETERSON, N. V., 1979, GEOLOGY AND MINERAL RESOURCES OF JOSEPHINE COUNTY, OREGON; ODGMI BULL. 100, 45P