



United States Department of the Interior

BUREAU OF MINES

P. O. BOX 70
ALBANY, OREGON 97321

November 10, 1986

Memorandum

To: Nick Wetzel, Western Field Operations Center

From: Geologist, Minerals Engineering, Albany Research Center

Subject: Mineralogical and beneficiation characterization of Youngs Daily Dozen, serpentinized peridotites (Oregon)

The Youngs Daily Dozen property is located in the SE 1/4 of the Pearsol Peak quadrangle (NW1/4 of see p. 138-921 GPO sec. 6, T. 38S, R9W.), Curry and Josephine Counties, southwestern Oregon. The samples were collected by Oregon State Department of Geology and Mineral Industries and Albany Research Center personnel and given numbers ME 1574, ME 1575, and ME 1576.

Mineralogical Characterization

The samples are all mineralogically similar and are serpentinized peridotites which have been further altered. They consist essentially of serpentine and chromite with some chlorite (in part kaemmererite) and small to trace amounts of remnant olivine. The chromite occurs as highly fractured, large to small sized subhedral to anhedral crystals which vary from close clotted to widely disseminated in a very light green (bleached) to dark gray serpentine. Considerable slickensides are "filled" and coated with a mixture of fine grained serpentine and chlorite.

Liberation of the chromite is fairly good at 65 mesh and relatively complete at 100 mesh. The character of the serpentine causes thin films of serpentine to hold to and smear on chromite grains. Very high purity, laboratory produced, chromite concentrates were chemically analyzed with the following results, in percent:

Concentrate	Cr ₂ O ₃	FeO	MgO	Al ₂ O ₃	SiO ₂	Cr:Fe
ME 1574	53.7	23.1	11.3	7.8	1.6	2.0
ME 1575	53.5	23.2	11.3	7.5	1.8	2.0
ME 1576	53.4	22.2	12.0	8.0	2.0	2.1

The samples represent a chromite with a somewhat elevated magnesium content not sufficient to make it a magnesiochromite. Mineralogical compositions with weight percentage estimates of head sample splits are shown in the attached tables.

Beneficiation Characterization

Representative hand specimens were selected from each sample for petrographic studies, and the remainder of each sample was crushed to minus 1/4 in. Head samples were split from each sample, and the head analyses are shown in table 1. Sample (ME 1574) was taken from a dump below the outcrop contained 11.4 pct Cr_2O_3 . The third sample (ME 1575) was a high-grade boulder that contained 11.9 pct Cr_2O_3 . Sample (ME 1576) was taken from an outcrop about 40 ft above the road and it contained 14.6 pct Cr_2O_3 . No Pt or Pd was detected in the samples.

A 10-kg split of each sample was stage-ground in a rod mill to pass 28 mesh and screened on 65 mesh. Stage-grinding was done to minimize production of fines. The 28- by 65-mesh fraction was tabled on a sand deck to produce a clean concentrate and tailings. The tailings were stage-ground to minus 65 mesh to improve liberation and combined with the original minus 65-mesh fraction for tabling on a slime deck. A clean concentrate, middlings, coarse tailings (those that settled and banded on the table), and fine tailings (those that washed off the table before they could settle) were produced. The middlings were retabled in a scavenger step to improve chromite recovery.

The results of the beneficiation tests are shown in tables 2-4. The calculated composite concentrates were all high-chromium chromite concentrates. The composite concentrate from the dump sample (ME 1574) had a grade of 51.8 pct Cr_2O_3 and a Cr:Fe ratio of 2.0:1; that from the boulder (ME 1575) sample had a grade of 53.3 pct Cr_2O_3 and Cr:Fe ratio of 2.1:1; and that from the outcrop sample (ME 1576) had a grade of 51.5 pct Cr_2O_3 and a Cr:Fe ratio of 2.1:1. The Cr_2O_3 recoveries were 78, 84, and 89 pct, respectively.

Mineralogical composition with weight percentage estimates of the minus 65 mesh table concentrates are listed below.

Sample	Chromite	Serpentine	Olivine	Magnetics	Chlorite
Dump (ME 1574)	73	15	Tr	11	Tr
Boulder (ME 1575)	87	9	Tr	4	Tr
Outcrop (ME 1576)	78	14	Tr	6	1

LAWRENCE L. BROWN

Lawrence L. Brown

April 12, 1985

Glenn C. Young
Kerby Street
Kerby, OR 97531

Dear Glenn:

Thought you would be interested in a copy of this letter-report on some bulk samples taken at your chromite deposit last summer. We assisted the Bureau of Mines in obtaining the samples. I think yours is one of the larger deposits of low-grade chromite in the state. Perhaps some day it may be of economic importance.

I have in my possession a green folder of yours with type-written copies from 1902-03 Oregon Observer on the Cleopatra and on a tellurium discovery on Canyon Creek. There is also a report, mining in war time, a commentary on subsidies, acid rain, miners and the forest reserve, and erosion; as well as a report on the Eight Dollar Mtn meeting held last April. Let me know if you want any of this material returned.

Best regards.

Sincerely,

Len Ramp
Resident Geologist

LR:rep
Encl: 7 pages on Daily Dozen claim



United States Department of the Interior

BUREAU OF MINES

P. O. BOX 70

ALBANY, OREGON 97321

March 13, 1985

Mr. Len Ramp
Geologist
Oregon Dept of Geology & Mineral Industries
312 SE "H" Street
Grants Pass, OR 97526

chromite

Dear Len,

We have completed gravity concentration tests on 3 bulk samples from the Young's Daily Dozen claim (DOGAMI sample location number 81PR006 on the map of the southeast quarter of the Pearsall Peak Quadrangle, Curry and Josephine Counties, Oregon.) The samples were collected by Cheryl Mardock, Donald Kirby, and David Dahlin of the Albany Research Center and Norm Peterson from Grants Pass on October 2, 1984.

Representative hand specimens were selected from each sample for petrographic studies, and the remainder of each sample was crushed to minus 1/4-in. Head samples were split from each sample, and the head analyses are shown in table 1. A sample taken from an outcrop about 40 ft above the road contained 14.6 pct Cr₂O₃. A sample taken from a dump below the outcrop contained 11.4 pct Cr₂O₃. The third sample was a high-grade boulder that contained 11.9 pct Cr₂O₃. No Pt or Pd was detected in the samples.

The samples were beneficiated by the procedure shown in figure 1. A 10-kg split of each sample was stage-ground in rod mills to pass 28 mesh and screened on 65 mesh. Stage-grinding was done to minimize production of fines. The 28- by 65-mesh fraction was tabled on a sand deck to produce a clean concentrate and tailings. The tailings were stage-ground to minus 65 mesh to improve liberation and combined with the original minus 65-mesh fraction for tabling on a slime deck. A clean concentrate, middlings, coarse tailings (those that settled and banded on the table), and fine tailings (those that washed off the table before they could settle) were produced. The middlings were retabled in a scavenger step to improve chromite recovery.

The results of the beneficiation tests are shown in tables 2-4. The calculated composite concentrates were all high-chromium chromite concentrates. The composite concentrate from the dump sample had a grade of 51.8 pct Cr₂O₃ and a Cr:Fe ratio of 2.0:1; that from the boulder sample had a grade of 53.3 pct Cr₂O₃ and Cr:Fe ratio of 2.1:1; and that from the outcrop sample had a grade of 51.5 pct Cr₂O₃ and a Cr:Fe ratio of 2.1:1. Cr₂O₃ recoveries were 78, 84, and 89 pct, respectively.

Petrographic studies are in progress. A report on the mineralogical composition of the samples and the analysis of high-purity chromite concentrates produced from the table concentrates will be sent to you later.

Ltr to Len Ramp; Subj: Gravity concentration tests on bulk samples

We appreciate your help in arranging for us to collect these samples. We believe cooperative efforts such as this are important, and we look forward to working with you again.

Sincerely,

A handwritten signature in cursive script, appearing to read "Larry", written in dark ink.

Lawrence L. Brown
Group Supervisor/Geologist
Albany Research Center