OREGON PERLITE DEPOSITS

Lady Frances Mine

Owned and operated by Dant and Russell, Perlite Division, Equitable Building, Portland, Oregon. Mine, mill and tile board plant located 14 miles south of Maupin in Wasco County. Produces crushed perlite, popped perlite, and perlite acoustical tile.

Idaho-Oregon Perlite Company

Don Cooke, 2914 N.E. 52nd Avenue, Portland, Oregon. Deposit near Jordan Valley, Malheur County. Plan to sell either crude or crushed perlite in the very near future.

Glassy Rock Associated Placer Claims

Ned Thomas, 1460 Second Street, Baker, Oregon. Deposit on Dooley Mountain, southern Baker County. Property undeveloped but large tonnage believed to exist.

Northwest Perlite Corporation

Arthur Goldsmith, president, 313 Pacific Building, Portland, Oregon. Deposit located 15 miles north of Jordan Valley and just east of Sheaville, Malheur County on Idaho-Oregon line. Expect to be producing expanded perlite in about six months. Deposit roughly 40 miles from nearest railroad.

Paisley Perlite (Eagle's Nest)

Large deposit, undeveloped, located about 30 miles north of Lakeview. Mr. Charles A. Coombs, Lakeview, controls deposit.

Axford-Hunt Deposit

Wasco County near Lady Frances Mine. J.M. Axford, 1701 N.E. Alberta, Portland 13, Oregon; and Clarence N. Hunt. Deposit undeveloped but located close to railroad.

Juniper Ridge Perlite

Deposit of undetermined extent but probably of very large size, located about 40 miles west of Burns in Harney County. Deposit lies about 4 miles from paved highway. No test data on expansion available.

PUBLISHED REFERENCES TO PERLITE

Alexite Engineering Company's Perlite Plant, Colorado Springs, Colorado: Rock Products, October 1947, p. 155.

Pumice and Perlite as Industrial Materials in California: by C.R. King; California Journal of Mines and Geology, Vol. 44, No. 3, page 293, July 1948.

Some Economic Aspects of Perlite, by C.R. King, Member AIME: Mining Engineering, Vol. 1, No. 8, pages 310-312, August 1949.

The Mining, Milling, and Processing of Perlite, by Fred D. Gustafson, Member AIME: Mining Engineering, Vol. 1, No. 8, pages 313-316, August 1949.

Perlite, Coming Nonmetallic: Mining World, Vol. 11, No. 13, pages 22-24, December 1949.

Comparative Furnace Designs for the Expansion of Perlite, by John B. Murdock and Herbert A. Stein: AIME Trans. Vol. 187, January 1950 (Mining Engineering, p. 111).

Perlite Popping: From a Shaky Start, a Solid New Industry: Chemical Engineering, p. 90, January 1950.

Perlite Deposits near the Deschutes River, Southern Wasco County, Oregon, 1946, by J.E. Allen: Oregon State Department of Geology and Mineral Industries Short Paper 16.

Another Perlite Deposit in Oregon: Oregon State Department of Geology and Mineral Industries ORE.-BIN, August 1947.

Perlite in Oregon, Washington, and Idaho: by K.E. Hamblen.

Perlite Resources of the United States: U.S. Geological Survey Bulletin 1027-I, 1956.

Processing Perlite - The Technologic Problems: New Mex. Bureau of Mines Circular 32, 1955.

Perlite Mining and Processing - A New Industry for the West: by Robert D. Wilfley and Clarion W. Taylor, Engineering & Mining Journal, June 1950. (Proposes theory of origin of perlite from altered pumice or tuff.)

Perlite, Source of Synthetic Pumice: U.S. Bureau of Mines Information Circular 7364.

Arizona Perlite: by Wilson and Roseveare, Indust. Min. Div. of AIME, paper presented at Los Angeles meeting, October 1945.

Perlite: Thermal Data and Energy Required for Expansion: U.S. Bureau of Mines R.I. 4394, November 1948.

Comparative Furnace Designs for the Expansion of Perlite: AIME paper at San Francisco meeting, February 1949.

UNIVERSITY OF MINNESOTA
COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS
MINNEAPOLIS 14

DEPARTMENT OF GEOLOGY AND MINERALOGY

October 24, 1946

Dr. F. W. Libby
State Department of Geology and
Mineral Industries
702 Woodlark Building
Portland 5, Oregon

Dear Dr. Libby:

Enclosed are the analyses on your three samples. Billing will be made under separate cover.

Yours very truly,

Lee C. Peck

Lee C. Peck, Chemist
Rock Analysis Laboratory

LCP:REF
Enclosure

Original analyses sent to Bonsall 10-28-46

ANALYSES OF SAMPLES
OF PERLITE DEPOSIT IN SOUTHERN WASCO COUNTY

No.: MM11 R 1082
Series: Rhyolite

SiO_2	75.88
Al_2O_3	12.63
Fe_2O_3	1.05
FeO	.27
MgO	.14
CaO	.60
Na_2O	2.80
K_2O	5.32
H_2O +	.54
H_2O -	.43
TiO_2	.09
P_2O_5	.03
MnO	.01
Total	99.79

No.: MM North Drift
R 1084

SiO_2	73.79
Al_2O_3	12.40
Fe_2O_3	.52
FeO	.62
MgO	.11
CaO	.80
Na_2O	3.16
K_2O	4.84
H_2O +	3.24
H_2O -	.25
TiO_2	.09
P_2O_5	.01
MnO	.02
Total	99.85

No.: MM No. 2 Bench
R 1083

SiO_2	73.28
Al_2O_3	12.55
Fe_2O_3	.58
FeO	.63
MgO	.08
CaO	.80
Na_2O	2.97
K_2O	5.00
H_2O +	3.60
H_2O -	.19
TiO_2	.09
P_2O_5	.01
MnO	.02
Total	99.80

James Kerr - Analyst
University of Minnesota
10/23/46

Sample of Perlite tested for tin. No tin.

Original material
Harney Co. sample from Ike Kusisto

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

702 WOODLARK BUILDING
PORTLAND 5, OREGON

General Laboratory Number P 4918 Date received July 12 1946

Spectrographic Laboratory Number 1617 Sample received from J.E.Allen
Report for F.W.L.

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

1. Elements present in concentrations over 10%.

   Silicon, aluminum

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

   Iron, sodium

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

   Calcium

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

   Magnesium, manganese, titanium

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

   Zirconium, vanadium

6. Elements present in concentrations below .001%.

Probable petrologic composition: Rhyolite

Orginal

Dr. H. G. Harrison, Spectroscopist

. . . . . .

Light colored concentrates
Harney Co. sample from Ike Kusisto

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

702 WOODLARK BUILDING
PORTLAND 5, OREGON

General Laboratory Number P-4918b Date received July 12 1946

Spectrographic Laboratory Number 1619 Sample received from J.E.Allen
Report for F.W.L.

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

1. Elements present in concentrations over 10%.

   Silicon, aluminum

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

   Iron, sodium, titanium, zirconium

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

   Magnesium, manganese

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

   Calcium

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

   Vanadium

6. Elements present in concentrations below .001%.

Non-magnetic heavies

Dr. H. C. Harrison, Spectroscopist

. . . . . .

Magnetic concentrate
Harney Co. sample from Ike Kusisto

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

702 WOODLARK BUILDING
PORTLAND 5, OREGON

General Laboratory Number P 4918a Date received July 12 1946

Spectrographic Laboratory Number 1618 Sample received from J.E.Allen
Report for F.W,L.

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

1. Elements present in concentrations over 10%.

   Iron

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

   Silicon, titanium

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

   Aluminum, magnesium, manganese, zirconium, zinc

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

   Sodium, chromium, vanadium

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

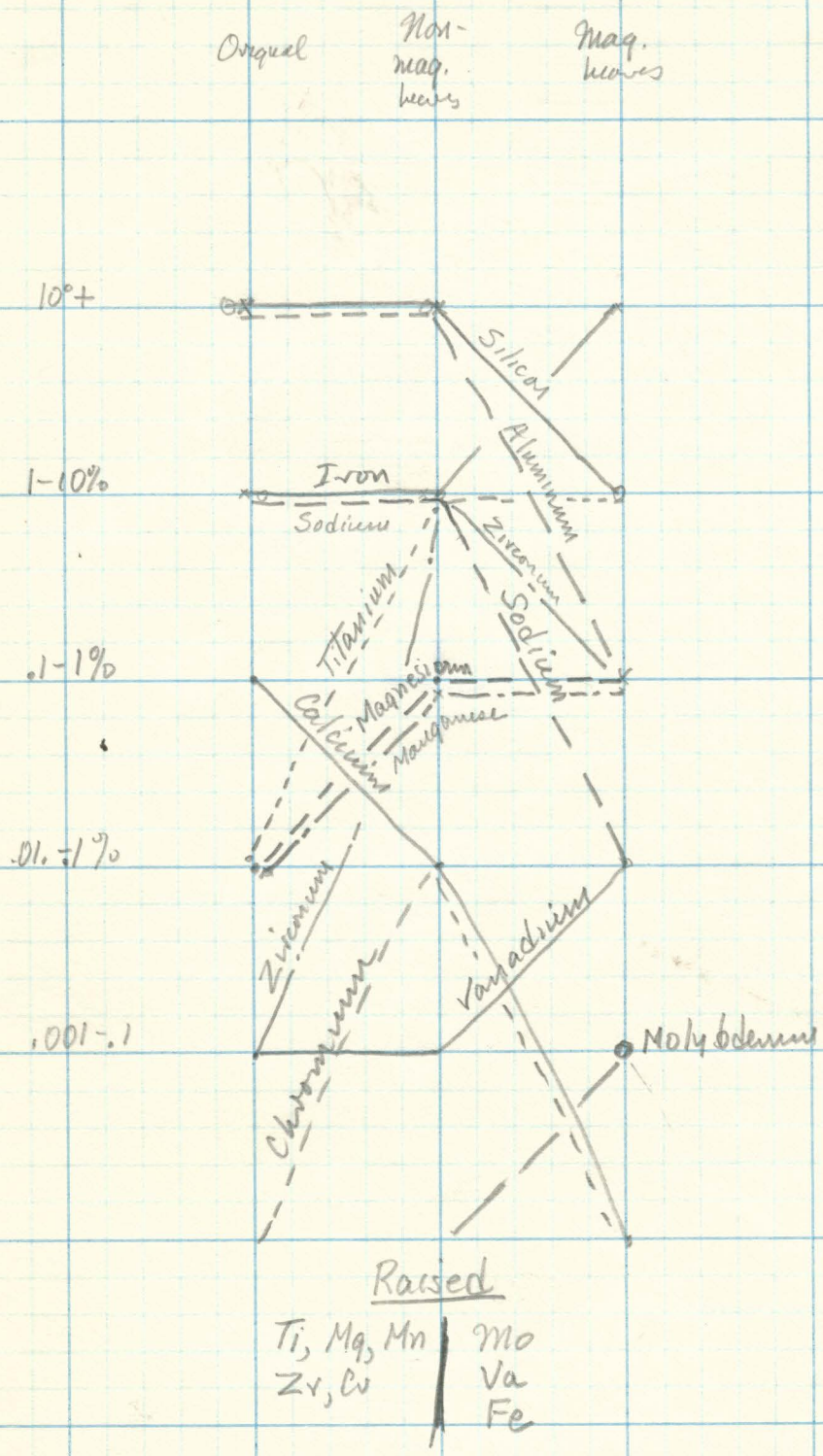
   Molybdenum

6. Elements present in concentrations below .001%.

Magnetite heavies

Dr. H. C. Harrison, Spectroscopist

. . . . . .


Original
Non-mag. heavies
Mag. heavies
10°+
1-10%
.1-1%
.01-.1%
.001-.1
Silicon
Aluminum
Iron
Sodium
Zirconium
Titanium
Sodium
Magnesium
Calcium
Manganese
Zirconium
Vanadium
Chromium
Molybdenum
Raised
Ti, Mg, Mn
Zr, Cr
Mo
Va
Fe

U.S. Bur. Mines Tucson Sta.
Nov 1948.
Samples by Ken Humbert

12-1-48

CONFIDENTIAL

Preliminary expansion tests were made on the samples of perlite which you recently submitted.

An examination of the samples under the binocular microscope revealed that the samples from the Upper Stratum and Talus of the Thomas deposit were quite similar in appearance. Both were a subglossy dark gray and contained many spherulites, "Onion skin" fragments, and fragments of acicular or columnar shape. The lower Stratum perlite was composed of similar material with an admixture of light gray and white fragments of more massive structure.

The samples were stage-crushed in rolls to pass 10 mesh and representative portions were expanded in the vibrator-actuated tube furnace. In addition to bulk weight determinations, the expanded portions were fractionated in water to determine the percentage of unexpanded gangue. Similar tests were also made on a 10 to 20 mesh portion of each sample to observe the relative degree of disintegration. The expanded products were sized on the 10 and 20 mesh sieves and the percentage undersize give a measure of the disintegration due to thermal shock.

The Upper Stratum and Talus samples of the Thomas deposit were substantially free of gangue. Expansion at 1045 $^{\circ}$ C.gave gray products with a bulk weight of about 14 pounds per cubic foot. The expanded particles were hard but friable. Microscope examination revealed an exfoliated appearance; the columnar sections of the particles were not firmly welded along the fractures. As a result, the expanded particles broke easily into columnar segments. Expansion of the Lower Stratum perlite gave a 13 pound product on the sized feed and an 18 pound product on the undersized feed. A large percentage of fine in the unsized feed was in part responsible for the high bulk weight of the expanded product. The Lower Stratum material showed a higher (but not excessive) gangue content than the Upper Stratum or Talus samples. The expanded product from the Lower Stratum sample was composed of a mixture of hard, gray, exfoliated material and a lesser amount of more highly expanded soft, white particles. The three samples of the Thomas deposit puffed in expansion with little breakdown to form fines. Moderate preheating at 400°C. inhibited expansion of the gray perlites, but did not adversely affect the white component of the Lower Stratum sample.

In summary, the Thomas perlite is a puffing variety which expands into a relatively hard but friable, gray product. The tests indicate that a feed in which fines are minimized should yield an expanded product having abulk weight of about 14 pounds per cubic foot. A higher expansion temperature might yield a lower weight and less friable product on the Thomas material.

A sillimanite tube furnace for expansion tests at high temperatures (1100-1250°C.) is being assembled. Additional high temperature tests will be made on the Thomas sample and reported to you later.

Expansion of Thomas Perlite Samples

Sample	Size of feed	Preheating Conditions: Temp.	Time	Moisture Content	Expansion Temp (°C.)	Bulk Weight (lb/cu ft.)	Expansion Ratio	Percent Sink in Expanded Product	Screen Analysis: Percent Oversize	Percent Undersize
Thomas Upper Stratum	-10	None	-	3.4	1045	14.0	5.7	1.3	-	-
	-10 +20	None	-	3.4	1045	10.0	7.7	1.0	76.0	5.5
	-10 +20	400°C.	5	1.8	1030	18.0	4.5	2.3	54.0	6.0
Lower Stratum	-10	None	-	3.9	1070	18.0	5.0	7.6	-	-
	-10 +20	None	-	3.9	1050	13.0	5.5	3.4	70.4	4.0
	-10 +20	400°C.	5	2.0	1030	16.6	4.6	25.4	59.0	3.0
Talus	-10	None	-	3.1	1045	13.8	6.0	0.6	-	-
	-10 +20	None	-	3.1	1045	13.0	6.5	1.0	65.6	4.9
	-10 +20	400°C.	5	1.2	1030	19.8	4.2	3.4	42.7	5.8

LABORATORY DATA
Lakeview Lot II
T-88A on -10 Mesh

From two 1-ton lots sent to Standard Perlite Co., Pasadena.

Feed Rate (#/hr.)	Feed Fuel (#/cft.)	Density (#/cft.)	Screen Analysis by Wt. in %						Density of Screen Fractions					
			-8 +14	-14 +20	-20 +28	-28 +48	-48 +100	-100	-8 +14	-14 +20	-20 +28	-28 +48	-48 +100	-100
(1) 405	0.158	6.9	7.5	6.6	7.0	26.8	22.8	29.3	17.7	14.5	7.0	5.3	6.0	7.7
(2) 665	0.258	6.5	3.7	6.2	10.8	31.2	22.6	25.5	15.5	13.2	7.9	5.4	5.8	7.1
(3) 915	0.356	13.1	4.5	6.6	11.1	46.0	19.3	12.6	29.3	24.6	12.3	11.7	13.1	14.8
Raw feed			4.1	11.3	12.4	29.0	29.6	13.7						

Lakeview Lot I
T-87A on -10 Mesh

675	0.255	20.5	1.9	6.6	8.1	38.5	22.8	22.0	38.2	29.6	12.5	13.0	20.4	25.7
Raw feed			9.1	15.0	15.3	28.2	19.7	12.8						

Fuel consumption lbs. feed per 1000 B.t.u.

#1 - 0.175
#2 - 0.27
#3 - 0.36

About 6,000,000 B.t.u. per ton

Form E-68—8M—12-42

OREGON STATE HIGHWAY COMMISSION
Materials Department

LABORATORY REPORT

Project State Dept. of Geology & ~~Minerals~~ Mineral Industries
Highway
Contractor
Submitted by N. S. Wagner, Geologist

Prefix No. 1 Misc.
County
Contract No.
F. A. Project No.
Date reported Nov. 7, 1945

REPORT ON SAMPLE OF CONSTRUCTION BLOCKS

Source of Material
Sampled or inspected at
To be used
Sampled or inspected by N. S. Wagner

Date received Nov. 5, 1945
Quantity represented

TEST RESULTS

	Laboratory No. 182072 Data Sheet No. Black Cinders w/ sand bond	Laboratory No. 182073 Data Sheet No. Aggregate unknown, no tag
Length	11.60 in.	11.70 in.
Width	5.60 in.	5.75 in.
Depth	5.55 in.	5.40 in.
Weight	18.28 lbs.	14.90 lbs.
Total Load	62600 lbs.	24800 lbs.
Lbs. per sq. in., gross area	960 lbs.	370 lbs.

RECOMMENDATIONS

Material as represented by this sample ..... suitable for use.

TEST REPORT DISTRIBUTION:
Public Roads Administration
Construction Engineer
Maintenance Engineer
Bridge Engineer
Requisition Office
Division Engineer
Resident Engineer
Dist. Maint. Sup't
Foreman
xFiles
2x Baker Assay Lab.
x Dept. Geology & Min. Ind., Portland

STATE PRINTING DEPT.

Engineer of Materials

FORM E-68—8M—12-42

OREGON STATE HIGHWAY COMMISSION

Materials Department

LABORATORY REPORT

Project State Dept. of Geology & Mineral Industries
Highway State Assay Lab., Baker
Contractor
Submitted by N. S. Wagner, Geologist

Contract No.

Prefix No. 1 Misc.
County
F. A. Project No.
Date reported Nov. 7, 1945

REPORT ON SAMPLE OF CONSTRUCTION BLOCK

Source of Material
Sampled or inspected at
To be used
Sampled or inspected by

Date received Nov. 5, 1945
Quantity represented

TEST RESULTS

Laboratory No.	182064	182065	182066	182067
Data Sheet No.	Pumice, Block #2	Com'l. Red Cinder Block	Com'l. Diato #1	Red Cinders Straight
Length	11.55 in.	15.80 in.	15.85 in.	11.50 in.
Width	5.60 in.	8.0 in.	8.20 in.	5.60 in.
Depth	5.30 in.	7.6 in.	7.75 in.	5.45 in.
Weight	13.15 lbs.	33.64 lb.	26.80 lbs.	16.53 lb.
Total Load	54400 lbs.	67400 lbs.	55200 lbs.	50000 lbs
Lbs. per sq. in,, gross area	840 lbs.	535 lbs.	425 lbs.	775 lbs.

Lab. No.	182068 Red Cinders w/sand bond	182069 Tuff, straight	182070 Tuff w/ Diatomite bond	182071 Black Cind straight
Length	11.60 in.	11.55 in.	11.55 in.	11.55 in.
Width	5.70 in.	5.65 in.	5.55 in.	5.45 in.
Depth	5.40 in.	5.35 in.	5.30 in.	5.40 in.
Weight	17.62 lb.	12.77 lbs.	13.11 lbs.	17.55 lbs
Total Load	60400 lbs.	16600 lbs.	37800 lbs.	103000 lb
Lbs. per sq. in., gross area	910 lbs.	255 lbs.	590 lbs.	1630 lbs.

RECOMMENDATIONS

Material as represented by this sample ..... suitable for use.

TEST REPORT DISTRIBUTION:
Public Roads Administration
Construction Engineer
Maintenance Engineer
Bridge Engineer
Requisition Office
Division Engineer
Resident Engineer
Dist. Maint. Sup't
Foreman
x Files
2x Baker Assay Lab.
x Dept. Geology & Min. Ind., Portland

W. M. Linkletter
Engineer of Materials

STATE PRINTING DEPT.

Form E-68—8M—12-42

OREGON STATE HIGHWAY COMMISSION
Materials Department

LABORATORY REPORT

Project State Dept. of Geology & Mineral Industries
Highway State Assay Lab., Baker
Contractor
Submitted by N. S. Wagner, Geologist

Contract No.

Prefix No. 1 Misc.
County
F. A. Project No.
Date reported Nov. 7, 1945

REPORT ON SAMPLE OF CONSTRUCTION BLOCK

Source of Material
Sampled or inspected at
To be used
Sampled or inspected by N. S. Wagner

Date received Nov. 5, 1945
Quantity represented

TEST RESULTS

Laboratory No. 182063
Data Sheet No. Pumice Block, No. 1

Length	11.55 in.
Width	5.55 in.
Depth	5.40 in.
Weight	13.43 lbs.
Total Load	47400 lbs.
Lbs. per sq. in., gross area	735 lb.

RECOMMENDATIONS

Material as represented by this sample ..... suitable for use.

TEST REPORT DISTRIBUTION:
Public Roads Administration
Construction Engineer
Maintenance Engineer
Bridge Engineer
Requisition Office
Division Engineer
Resident Engineer
Dist. Maint. Sup't
Foreman
xFiles
2x Baker Assay Lab.
x Dept. Geology & Min. Ind., Portland

STATE PRINTING DEPT.

Engineer of Materials

F.M. Bodycomb
7323 So. Quince Ct.
Englewood,
Colo. 80112
(303)779-1093

Mr. Jerry Gray
Oregon Dep't. of Geology & Mineral Industries
910 State Office Bld'g.
1400 S.W. Fifth Ave.
Portland,
Ore. 97201

Oct. 7, 1988

Dear Jerry,

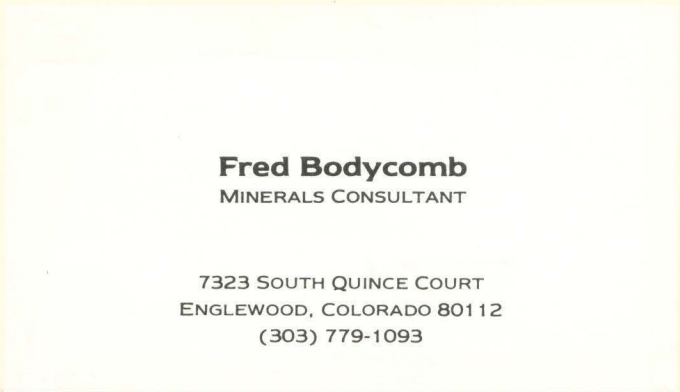
Thank you for your time on the 'phone Oct. Fourth, and also for sending me the articles on Pyrofoam; Perlite in Klamath and Lake Counties; and Pumice, Pumicite, and Volcanic Cinders.

If my client has further interest in obsidian in Oregon, I'm sure I will be back in touch with you.

Best regards,

Fred

F.M. Bodycomb



Klamath Falls, OR
(Klamath Co.)
Herald & News
(Cir. D. 19,325)
(Cir. S. 19,743)

JUN 4 1986

Allen's P.G.B Est. 1888

New firm will make use of obsidian ore

5018

By PATI O'CONNOR
H&N Business Editor

A new processing firm, Pyrofoam International Inc., announced plans today to begin operations by late September or early October in Klamath Falls.

Duane Peterson, Fargo, N.D., president of the firm, said the plant will be involved in processing obsidian ore mined at a site near Quartz Mountain and will begin initially with production of fire retardant coating. The company has a purchase agreement with Greater Klamath Development Corp. for its 14.5 acres in Scholtes-Smith Industrial Park at 1927 Mallard Lane. It will employ four people in administration and 14 in production by June 1987.

"As processes and products are added, people will be added," he said, but projections are for a total of 33 employees by 1991 "just for the paint coating only," which will be used in commercial and residential construction.

Down the line, the company plans to produce fire retardant roof coating, rigid insulation panels for use initially in the mobile home industry to provide a two-hour fire rating — "a first" — he said. "The potential is unlimited" as new processes and products are developed.

Pyrofoam International will market its coating product under the trade name Pyrocoat.

Harold J. Manning, the firm's chairman of the board, has been developing the product for six years, Peterson said, but the "original inventor of the process" involved is Bill Johnson, Kennewick, Wash., manager of Pyrofoam, an independent research and development arm.

The process involves expanding the obsidian ore under "very high heat" on a rotary all-electric hearth that Peterson called the "hottest lazy susan in town."

Johnson, who filed claim on the 200-acre mine located seven miles north of Glass Mountain nearly 20 years ago, said open-pit mining at the site should yield 1,000 yards a day, which will be trucked to the Klamath Falls site for processing.

While he has been developing the site since filing his original claim, Johnson said only now have those involved "found a way to expand the ore commercially."

Obsidian ore can be expanded 18 to 20 times, according to Peterson. Because it does not burn and will not absorb water, it is considered "unique" for a variety of uses in the paint, marine and aircraft industries, he said.

Other principals of Pyrofoam International present for today's announcement included Joe Brady, Pasco, a retired millwright and the firm's secretary-treasurer, and Maury Olson, Bismark, N.D., vice president. They and Peterson will be involved in development and marketing of products.

Also present were Doug Peterson, Fargo, a certified public accountant and member of the board; Al Martenson,

See TENANTS, page 2

TENANTS

From page 1

Kennewick, president of Pyrofoam; Bob Sutton, Pasco, another board member of Pyrofoam International.

Firm officials credited Bryant Williams, treasurer of Klamath County Economic Development Association, and Charlie DiPietro, executive vice president, for helping put together the local project over only a three-month period.

They also cited the "friendly and cooperative" attitude of local firms, the excellent labor force available, transportation facilities (including a rail spur at the site), availability of adequate electricity, which is preferred as an energy source because it allows control of all dust created, and Oregon Institute of Technology.

Manning said QIT "turns out thinkers and workers," and his firm sees the college not only as a source of "free help" particularly through its computer program but also as a source of excellent employees.

GKDC officials have been attempting for several years to secure a tenant for the property, which was purchased in 1983 from Walter Heller Co. and includes a total of 25,000 square feet under roof.

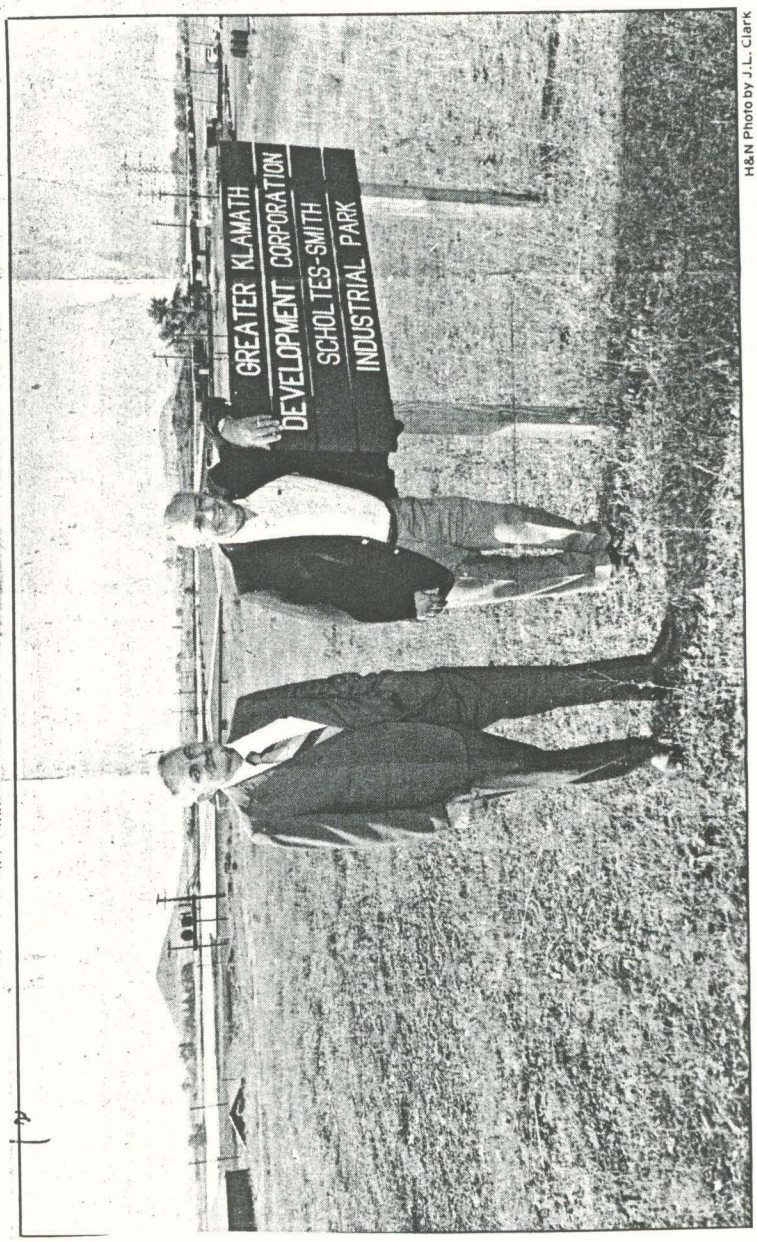
GKDC was incorporated in December 1967, "divorced" from the Klamath County Chamber af Commerce in 1980, began sale of stock in February 1981 and two years later had sufficient income to purchase the property. The area subsequently was named Scholtes-Smith Industrial Park in memory of two long-time economic development promoters locally, the late Bill Scholtes and the late Joe Smith.

Dick Sexton, GKDC president, praised Scholtes and Smith for making today's announcement possible.

Prior to leaving for Southern California, Sexton noted the two men's "long-cherished dream of expanding the economic base of Klamath County."

They were directly involved in the formation and development of both GKDC and KCEDA, Sexton noted.

He said the company's officials were first brought to Klamath Falls by representatives of the Oregon Economic Development Association.



H&N Photo by J.L. Clark

Harold Manning (left), Pasco, Wash., chairman of the board of Pyrofoam International Inc., and Duane Peterson, Fargo, N.D., president, stand at site of a new processing company that will begin operations soon in Klamath Falls using obsidian ore for fire retardant coating.

VICTOR ATIYEH
GOVERNOR

Department of Geology and Mineral Industries
ADMINISTRATIVE OFFICE
1005 STATE OFFICE BLDG., PORTLAND, OREGON 97201 PHONE (503) 229-5580

August 15, 1984

Mr. John A. Chapman
Vice-President Operations
Aurun Mines Ltd.
Pacific Perlite Division
1089 Lefeuvre Road
P.O. Box 602
Aldergrove, B.C. V0X 1A0
CANADA

Dear Mr. Chapman:

Please find enclosed the material you requested about perlite. Oregon has property and income taxes, but no non-metallic mineral tax. Royalties would be a matter of negotiations between your firm and the property owner. The cost should be somewhere between $.25 and $1 per ton of mine output.

The State does have a Mined Land Reclamation Law that requires fees, bonding, and reclamation.

Sincerely,

Jerry J. Gray
Economic Geologist

JJG:bj
Encl.

November 9, 1987

TO: File

FROM: Don H.

SUBJECT: Grefco Perlite Plants - Colorado and New Mexico

On November 2, 1987 I visited the Grefco loading and expanding facility at Antonito, Colorado. The bulk of the Grefco product is shipped in unexpanded form to a variety of markets primarily in the eastern states. The perlite ore comes from a quarry approximately 30 miles to the south near Tres Piedras, New Mexico. At the Antonito plant expanded material is sized for so called "filter" grade material which is used in the processing of beer, wine, and pharmaceutical products. The Grefco staff indicates that diatomite is a superior product for filter applications for beverages as it does not float, whereas a portion of the perlite will float on the surface of the beverage or other liquid product.

Grefco indicates that they are seeing serious market inroads in the eastern states by producers in Greece including barge material traveling up the Mississippi system. Grefco's largest customer at the present time is Armstrong, a maker of floor coverings and other building products. Grefco is currently exploring a perlite deposit in Oregon and plans to undertake core drilling in the near future. Contacts regarding Oregon exploration may include Craig Smith and Dave Jenkins in the Grefco Exploration Department based in Lompoc, California.

I was unable to walk through the processing plants at the mine in New Mexico and shipping facility in Antonito, Colorado. The manager at the Antonito facility is Norm Richardson.

On November 2, 1987 I visited the northern New Mexico perlite operations of Grefco located in Taos County approximately one mile east of US Highway 285 at a point approximately six miles north of Tres Piedras. The property is located on private land in the vicinity of No Agua Peaks. The Grefco plant is located in the north half of section 22, T. 29 N, R 9 E. The mine manager at the time of the visit was G.E. (Joe) Martinez.

The geology on the Grefco deposit is described in New Mexico Bureau of Mines and Geology Circular 182. The deposit occupies the south flank of a low hill is being mined by open pit. The tan to gray colored rhyolitic perlite is flow banded with the banding dipping steeply.

The deposit at the time of the visit was being mined with one push cat (D8L) and two belly dump scrapers. Drilling and blasting are not necessary. Haulage is by a short road from the mine site to the plant. The plant processes the perlite ore by crushing, screening, and drying in rotary kiln. The raw and unexpanded product is hauled to a rail head at Antonito, Colorado, a distance of approximately 30 miles from the mine-mill. It is marketed under the trade name of Dicalite.

At the time of the visit, the plant including mining was being operated by a total of approximately eight individuals.

The Grefco perlite product is marketed primarily in the eastern states. The company indicates that the market is being penetrated by production from Greece, especially in Florida where Armstrong is located.

DAH:ab

xm:gref11-9

Perlite

June 10, 1965

Mr. P. W. Bakarian
President and General Manager
R-N Corporation
111 Broadway
New York 6, N.Y.

Dear Mr. Bakarian:

Thank you for your letter which has been forwarded to us from the State Capitol Building, Salem.

Here is an article on the perlite deposits of southeastern Oregon which we hope will be of interest to you.

At the present time there is very limited production of perlite in the State, and we would like to suggest that you write to Mr. A. M. Matlock, 1321 W. 11th Street, Eugene, Oregon. Mr. Matlock is currently building a plant for processing perlite in Lake County.

A number of years ago there was considerable production of perlite from a deposit on the Deschutes River in northern Oregon. The mine is now closed and the plant has been dismantled. It is rather doubtful that anything will be done at this property in the near future. There are numerous other scattered deposits of perlite in the State but very little work has been done to determine their quality and size. One exception to this is the deposit near Sheaville on the Idaho border, where a fair amount of test drilling and sampling has been done. Unfortunately this deposit is unfavorably located with respect to transportation and markets and we know of no immediate plans for its exploitation.

There are two perlite popping plants in Portland. These plants import crushed perlite from either Nevada or Arizona and distribute the expanded material to local consumers.

Sincerely yours,

Ralph S. Mason
Mining Engineer

RSM:lk
Encl.

R-N CORPORATION
111 BROADWAY, NEW YORK 6, N.Y.

P. W. BAKARIAN
PRESIDENT AND GENERAL MANAGER

RECTOR 2-9400

May 28 1965

Oregon Geological and Minerals Office
State House
Salem, Oregon

Dear Sirs:

I am making a study of the economics of production of lightweight non-metallic minerals manufactured from crude perlite. This lightweight material is produced by heat-bloating in various types of furnaces and is used more and more in the construction and building industries as an addition in the production of concrete, cinder block, wall board, plaster and as insulation, etc.

I am interested in receiving your bulletins of recent years concerning the reserves of perlite raw mineral, in the category mentioned above, which could be used for the production of lightweight building products. Also any economic and production details you have available.

I would also appreciate any information you have as to the quantities of these lightweight perlite base materials mined and converted and distributed in your state and the U.S.A. generally and the names and the addresses of the companies who produce these lightweight materials.

Thank you for your cooperation.

Very truly yours,

PW Bakarian

PWB:ldm

7-61 G-BIN

A. M. MATLOCK
1321 W 11 Eug.

PERLITE OCCURRENCES IN LAKE/KLAMATH COUNTIES

Map No.	Name	Location	Remarks	Lab. Tests
1	Eagle's Nest (Paisley Perlite)	Sec. 26, 27, 34, 35 T. 34 S., R. 19 E.	Complete report being sent from Portland office.	(See Remarks)
2	No name	Sec. 28 T. 37 S., R. 18 E.	Perlite occurs on both sides of NE trending rhyolite dike. Perlite is from light gray to dark gray opened by several cuts.	3 samples submitted. No results.
3	Glass Slipper	Sec. 14 T. 37 S., R. 18 E.	Light gray perlite occurs on north flank of large rhyolite dome. Where exposed by dozer cuts the perlite breaks down into translucent sand. Obsidian common as Apache tears.	2 samples submitted.
4.	Lucky Day 00	Sec. 26, 35 T. 37 S., R. 18 E.	Light gray perlite along northwest edge of small pluglike mass of flow banded glassy rhyolite.	Results from 1 sample. Expansibility 50.0%.
5.	Drews Valley Ranch	Sec. 16, 17 T. 38 S., R. 17 E.	Large mass of light gray perlite and glassy dacite occurs in low rounded hills just north of State Highway 66. Obsidian is common to abundant in some zones. If most of this material is usable, this would be an inexhaustable supply.	See separate sheet for results of 4 samples.
6.	Roselite	Sec. 5 T. 38 S., R. 17 E.	Mainly glassy rhyolite-dacite, light gray to green, perlitic structure.	No samples submitted.
7.	No name	Sec. 25 T. 37 S., R. 16 E.	Not visited. Perlite reported to be here in large quantities.	No samples submitted.
8.	No name	Sec. 30 T. 37 S., R. 16 E.	Pinkish-gray glassy dacite, (?), perlitic structure. Occurs in prominent rounded outcrops just north of State Highway 66.	1 sample submitted. No results.
9.	No name	Sec. 24 T. 37 S., R. 15 E.	Medium gray dacite perlite-sugary texture contains common to abundant crystals of feldspar and biotite. Outcrops weather low and rounded and occur over a wide area indicating a large amount.	1 sample submitted. No results.

Discussion of the Term Perlite

The recent rapid expansion of the "perlite" industry has created confusion in the use of the term perlite. Perlite is not a new term. It has long been used by the petrographer as both a rock name and as a textural term to describe a condition in certain glassy rocks whereby numerous concentric cracks combine to form shell-like or onion-like fragments resembling pearls. The trade, however, has employed the word perlite loosely to refer to the raw material and expanded product which may be prepared from it regardless of whether raw material is actually the rock perlite in a strictly petrographic sense, or other volcanic glass with a perlitic texture and a capacity to pop. Since the term perlite already enjoys universal usage in the latter sense, the authors suggest that it be accepted for use when referring to any volcanic glass which can be "popped" and to the expanded material produced from such rocks.

November 16, 1949

Petrographic Report

Paisley Perlite

P-9310 - "Regular"

This sample was divided into four parts - based on megascopic appearance: platy, banded, mottled, and massive.

P-9310 - A (15% of sample)

Megascopic description

Platy; banded with small, flat, almond-shaped vesicles.
Color = grey

Microscopic description

Glass - 80-85%

Incipient crystallization abundant.
Bubble holes common.

Monopaques - 15-20%

Very minute (no large fragments).
Some kaolinization.

P-9310 - B (33% of sample)

This fraction has been further divided into 3 parts.

P-9310 - B-1 (12% of sample)

Megascopic description

Black and grey banded; banding coarser than in other parts of this sample.

Microscopic description

Glass - 85%.

Incipient alteration and bubble holes numerous.

P-9310 - B-1 (cont.)

Nonopaques - 15%

Mostly feldspars in small angular particles.
Some kaolinization.

P-9310 - B-2 (10% of sample)

Megascopic description

Hard - difficult to break and crush.
Wavy banded, stony.
Color = black and grey bands.

Microscopic description

Glass - 75%

Not clear; no incipient crystallization; no inclusions or bubble holes.

Nonopaques - 25%

All shows some kaolinization.

P-9310 - B-3 (11% of sample)

Megascopic description

Dark colored. Crushes easily. Parallel black and grey (dominant) bands with occasional brown spots. All finely vesicular.

Microscopic description

Glass - 60-65%

Clearer than B-2 and compares with B-1. Incipient alteration more noticeable than in B-1.

Nonopaques 35-40%

Very small in size. Little kaolinization.

P-9310 - C (12% of sample)

Megascopic description

Mottled; grey with small white spots (alteration ?); crudely banded.

P-9310 - C (cont.)

Microscopic description

Glass - 95%

Incipient crystallization very abundant (about same as 9310 - B-1 and less than 9310 - B-3). Perlitic cracks common.

Nonopaques

Mostly kaolinization of feldspars. Very small in size.

P-9310 - D (40% of sample)

Megascopic description

Color = grey; massive (no banding); numerous brown spots (staining); vesicles larger than in any other sample.
Crushes very easily.

Microscopic description

Glass - 40%

Incipient crystallization about same as 9310 - B-3.

Nonopaques - 60%

Spherulites make up most of sample.
Some fairly large feldspars and possibly some quartz phenocrysts.

P-9311 - "Fine banded"

Megascopic description

Finely banded rock. Bands are grey, white, and red. Grey bands are glassy; white bands are vesicular; red bands are due to staining from iron oxides.

Microscopic description

Glass - 85-90%

Incipient crystallization (margarites and trichites mainly) prominent.
Perlitic cracks few.

Nonopaques - 10-15%

Mostly feldspars. Minor large grains. Some kaolinization.
Hematite staining prominant.

P-9312 - "Wavy bands w/rhyolite"

This sample was divided into two parts - based on megascopic appearance.

P-9312 - A (90% of sample)

Megascopic description

Flow banded stony rock. Bands distorted. Color of bands = white and grey.

Microscopic description

Glass - 80-85%

Incipient crystallization prominant but not as abundant as in P-9311.
Occasional perlitic crack.

Nonopaques

Size = very small. Probably all feldspar. Very minor chlorite. Some alteration.

P-9312 - B (10% of sample)

Megascopic description

Color = whitish-grey with small black glassy bands. Considerable alteration.
Minute vesicles common.
Crushes easily.

Microscopic description

Glass - 70-75%

Incipient crystallization about the same as P-9310 - A.

Nonopaques - 25-30%

Size = very small. Kaolinization prominent - most specimens cloudy.

P-9313 - "Banded w/rhyolite"

This sample was divided into two parts - based on megascopic appearance.

P-9313 - A (20% of sample)

Megascopic description

Light grey, thinly banded, bands parallel. Vesicular in dark, glassy bands.

P-9313 - A (cont.)

Microscopic description

Glass - 40%

Incipient crystallization noticeable but not as abundant as in P-9311 or 9312.

Nonopaques - 60%

Consist almost entirely of spherulites (intergrowths of quartz and orthoclase).

P-9313 - B (80% of sample)

Megascopic description

Grey-black and white banded, former predominating. Grey = glassy. Crushes easily.

Microscopic description

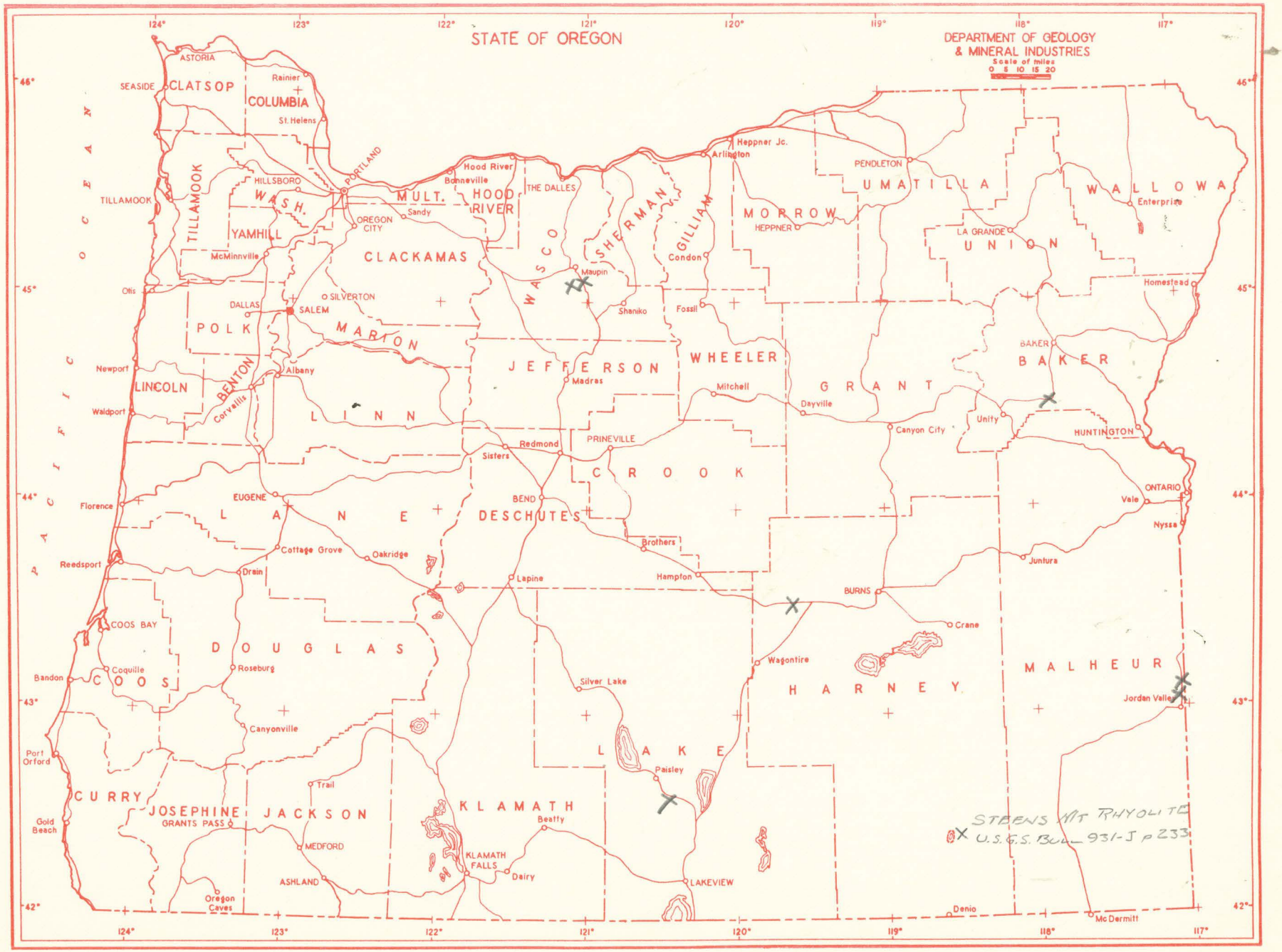
Glass - 80-85%

Incipient crystallization common but not as noticeable as in previous samples. Perlitic cracks common.

Nonopaques - 15-20%

Mostly feldspars, some fairly large.
Minor chlorite.
Some kaolinization.

H. M. Dole
Petrographer



STEENS MT RHYOLITE
U.S.G.S. Bull 931-J p 233

PERLITE DEPOSITS

TOM McCALL
GOVERNOR

DEPARTMENT OF
GEOLOGY AND MINERAL INDUSTRIES

BAKER FIELD OFFICE

2033 FIRST STREET • BAKER, OREGON • 97814 • Phone (503) 523-3133

June 20, 1972

Mr. Norm Peterson
State Dept. of Geology and Mineral Industries
P. O. Box 417
Grants Pass, Oregon 97526

Dear Norm:

Enclosed are copies of the pertinent file data we have on hand concerning the Pop Rock perlite occurrence on Dooley Mountain. Missing for some reason is a copy of a letter in which I seem to recall Supreme Perlite's offering to contract for 1400 tons after they completed the last of their various tests.

Sincerely,

NORMAN S. WAGNER

NSW/aw
enc.

COPY

June 19, 1972

Mr. Del T. Harmon
Perlite King Mines Co.
P. O. Box 252
Stanfield, Oregon 97875

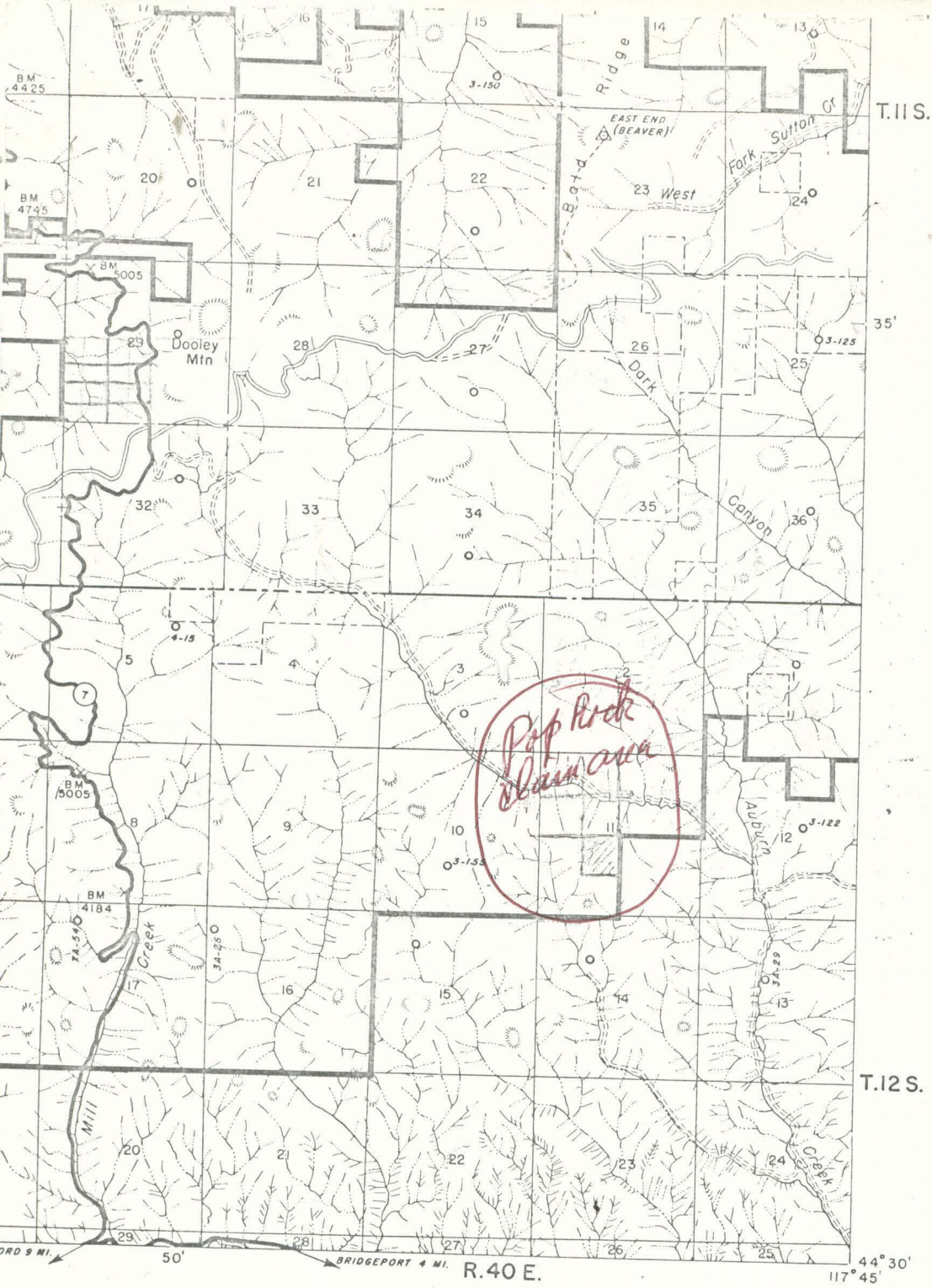
Dear Mr. Harmon:

This is just a note to let you know that our Grants Pass office has received a request from some parties in Nevada concerning perlite occurrences in Oregon. I have therefore sent them copies of the data which I have on file concerning the Supreme Perlite and the U. S. Bureau of Mines's tests that were made on the material from your Dooley Mountain claims.

Sincerely,

NORMAN S. WAGNER
Geologist

NSW/aw



ROAD CLASSIFICATION

HARD-SURFACE ALL WEATHER ROADS

Heavy-duty

Medium-duty

U.S. Route

DRY WEATHER ROADS

Improved dirt

Unimproved dirt

State Route

BAKER CITY 3, OREGON

280

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Spokane Office of Mineral Resources

North 1430 Washington Street
Spokane, Washington 99201

July 6, 1966

Mr. Del T. Harmon, Manager
Appaloosa Horse Ranch
P. O. Box 252
Stanfield, Oregon

Dear Del:

Enclosed are four copies of physical-test results the Bureau of Mines ran on samples P-51 and P-99. P-51 is the number I assigned to your crude perlite which you gave me in two jars Saturday, August 14, 1965. P-99 is your expanded perlite.

The expanded perlite from your property passed all ASTM test requirements. The expanded perlite appears to be an excellent buffer for alkali reactive aggregates and is excellent in all other respects except water-requirement and compressive-strength-with-lime tests, which are adequate but not excellent.

Your crude perlite passed all ASTM requirements except the mortar-bar-expansion test. The mortar-bar-expansion test is an optional test; moreover, your sample did not miss the requirement by a very wide margin. Your crude perlite passed all other requirements by a wider margin than the expanded perlite. Especially impressive is the water requirement which is lower than any other samples I have tested. The crude appears to be somewhat difficult to grind, however. This drawback is likely to increase your grinding costs.

I have enclosed a copy of a letter transmitting the results of tests on the expanded perlite to Mr. Petterson, Supreme Perlite Co., North Portland, Oregon. I did not send him the results on the raw perlite. I have enclosed enough copies for you to send him one, if you should wish to for some reason.

The address of Mr. Connors is as follows:

Mr. E. B. Connors
Manager of Exploration and Development
Kaiser Cement and Gypsum Corporation
Permanente, California 95014

Sincerely yours,

David P. King

David P. King
Pozzolan Project Leader

Enclosures

BUREAU OF MINES POZZOLANIC MATERIALS PROJECT
Denver Pozzolan Testing Laboratory

Mineral Resource Area VII
Sample No. P-99
Laboratory No. D-759

Results of physical tests on raw or calcined natural pozzolan for use as an admixture in portland cement concrete (ASTM Specifications C402-63T)

Test material Pumicite

Source Expanded Dooley Mine Perlite, Baker County, Oregon Sec. 2, 11, 12-12S-40E

Special instructions Grind material to required fineness only. Do not calcine material.

Mineral composition, percent		Chemical analysis, percent		
			ASTM specs.	Test mat'l.
Active: Volcanic glass Type I	99+	$SiO_2+Al_2O_3+Fe_2O_3$	70.0 min.	
n = 1.49		MgO.....	5.0 max.	
		SO_3.....	3.0 max.	
Other: Feldspar	Trace	L.O.I.....	10.0 max.	
Sericite	Trace	Moisture.....	3.0 max.	

Sample preparation: Calcining none °F for ____ hours in ____

Grinding 15 minutes with 12 x 14-inch laboratory ball mill.

Physical Test Data

Specific gravity 2.32

Fineness:	ASTM specs.	Test mat'l.
Mean particle diameter.....microns	9.0 max.	2.9
Material retained on No. 325 sieve.....percent	12.0 max.	6.3
Pozzolanic activity index:		
Compressive strength with portland cement @ 28 days.....percent of control	75 min.	82
Compressive strength with lime @ 7 days.....psi	600 min.	837
Water requirement.....percent of control	115 max.	110
Change in drying shrinkage of mortar bars @ 28 days.....percent	0.03 max.	0.01
Soundness: Autoclave expansion or contraction....percent	0.50 max.	- 0.01
Reactivity with cement alkalies:		
Reduction of mortar expansion @ 14 days.....percent	75 min.	87

Mineral Resource Area VII

Sample No. P-51

Laboratory No. D-735

BUREAU OF MINES POZZOLANIC MATERIALS PROJECT
Denver Pozzolan Testing Laboratory

Results of physical tests on raw or calcined natural pozzolan for use as an admixture in portland cement concrete (ASTM Specifications C402-63T)

Test material Perlite

Source Perlyte King Mine, Baker County, Oregon

Special instructions Grind material to required fineness if required.

Mineral composition, percent		Chemical analysis, percent		
			ASTM specs.	Test mat'l.
Active: Volcanic glass	99			
n= 1.500		$SiO_2+Al_2O_3+Fe_2O_3$	70.0 min.	
		MgO.....	5.0 max.	
		SO_3.....	3.0 max.	
Other: Feldspar	1	L.O.I.....	10.0 max.	
		Moisture.....	3.0 max.	

Sample preparation: Calcining none °F for ____ hours in ____

Grinding 60 minutes with 12 x 14-inch laboratory ball mill.

Physical Test Data	ASTM specs.	Test mat'l.
Specific gravity 2.37		
Fineness:		
Mean particle diameter.....microns	9.0 max.	5.7
Material retained on No. 325 sieve.....percent	12.0 max.	5.5
Pozzolanic activity index:		
Compressive strength with portland cement @ 28 days.....percent of control	75 min.	84
Compressive strength with lime @ 7 days.....psi	600 min.	919
Water requirement.....percent of control	115 max.	99
Change in drying shrinkage of mortar bars @ 28 days.....percent	0.03 max.	0.00
Soundness: Autoclave expansion or contraction....percent	0.50 max.	0.01
Reactivity with cement alkalies: Reduction of mortar expansion @ 14 days.....percent	75 min.	58

Does test material meet specifications? Yes, in all critical tests.

Spokane Office of Mineral Resources

North 1430 Washington Street
Spokane, Washington 99201

July 6, 1966

Mr. W. I. Patterson, Owner-Manager
Suprano Perlite Company
Suttle Road
P. O. Box 66
North Portland, Oregon

Dear Mr. Patterson:

Mr. Harmon's expanded perlite passed all ASTM requirements for pozzolans. It appears to be especially good as a buffer for alkali-reactive aggregates. It should crush and mill quite easily.

Enclosed are two copies of the ASTM test results on Mr. Harmon's expanded perlite.

Sincerely yours,

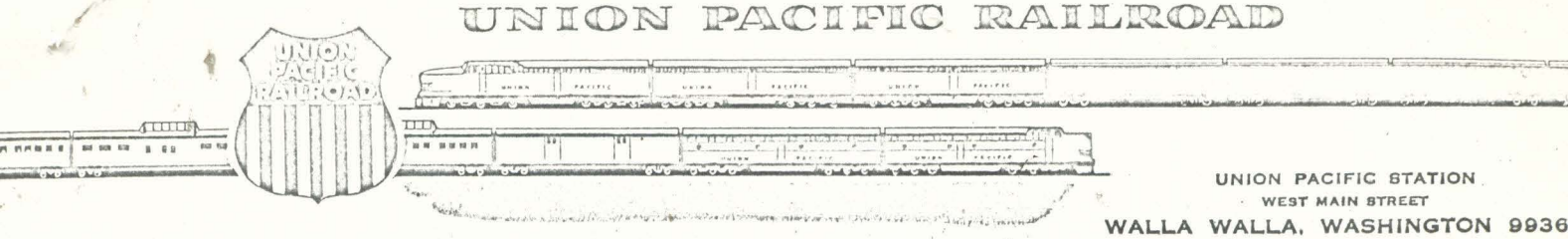
David P. King
Pozzolan Project Leader

Enclosure

DPKing:dl

cc: PZinner
NLWright
SO
DF

UNION PACIFIC RAILROAD



UNION PACIFIC STATION
WEST MAIN STREET
WALLA WALLA, WASHINGTON 9936

J. M. LANDAU
GENERAL TRAFFIC AGENT

L. R. CAPPS
TRAFFIC AGENT

D. L. WALKER
TRAFFIC AGENT

October 18, 1965

File: C-7-335

Mr. Del T. Harmon
Perlite King Mines Co.
P. O. Box 352,
Stanfield, Oregon

Dear Mr. Harmon:

Further my letter of September 16th advising that proposed rate of $5.00 per ton on crude perlite, Baker to Portland, had been approved by North Pacific Coast Freight Bureau. We are pleased to advise this rate has been published in Supp. 27, NPCFB Tariff 2-R, and shipments may be made on or after November 18, 1965 at the $5.00 per ton rate, minimum carload weight 140,000 lbs.

Mr. L. C. Heriza, our Agent at Baker, is receiving copy of this letter, and he will be happy to arrange for cars when you are ready to start your loading.

Yours very truly,

Del Walker

D. L. Walker

cc: Mr. L. C. Heriza, Agent -
Baker, Oregon
Mr. L. R. Capps
Pendleton, Oregon

UNION PACIFIC RAILROAD

UNION PACIFIC STATION
WEST MAIN STREET
WALLA WALLA, WASHINGTON 99362

J. M. LANDAU
GENERAL TRAFFIC AGENT

L. R. CAPPS
TRAFFIC AGENT

D. L. WALKER
TRAFFIC AGENT

September 16, 1965

File: C-7-335

Mr. Del T. Harmon
Perlite King Mines Co.
P. O. Box 352
Stanfield, Oregon

Dear Mr. Harmon:

Confirming phone conversation today concerning North Pacific Coast Freight Bureau Docket 6306 proposing $5.00 per ton net rate on crude perlite from Baker to Portland, Oregon.

This proposal was approved at the September 14th meeting of the North Pacific Coast Freight Bureau in Seattle. Effective date of tariff publication is not known at this time; however, it normally takes around 45 days for publication, and we will advise you further when effective date is known.

Yours very truly,

Del Walker

D. L. Walker

supreme perlite company

SUTTLE ROAD · P.O. BOX 66 · NORTH PORTLAND, OREGON · PHONE AVENUE 6-4333 – AREA CODE 503

Manufacturers of Supreme Perlite and American vermiculite aggregate

Made in the Northwest for use in the Northwest.

July 22, 1964

Mr. Del T. Harmon
Box 252
Stanfield, Oregon

Dear Mr. Harmon:

Your perlite ore was run through our furnace on July 15. Even with the small amount of ore we had to work with, the results were considerably better than I had expected. We have four bags of your expanded ore on hand (one sealed bag and three open topped bags) that you can pick up when you happen to be in Portland. We are making a charge of $25.00 for furnace time and our ore lost in change to your ore and back again. This comes about because it takes 12 minutes for the ore to travel through the preheat tube, and the change-over has to be made while the expander is in operation in order to simulate normal operating conditions as near as possible when the ore drops into the expanding tube.

The expanding tube heat was raised slightly higher for your ore than that used for Picche ore; however, the small amount of ore to work with could have accounted for this. The thermocouple located at the end of the tube read 1450 to 1400 degrees. The hot zone in front of the burner where the ore expands cannot be measured but is estimated at 2200 degrees.

The expanded material broke down very little. Elongated particles of ore came out of the furnace in the same shape except larger. Very little of it broke down into dust or minus 100 screen size. This is a most favorable factor.

Your ore sample gradation was slightly coarser than normal plaster aggregate but would make a good concrete aggregate. If it had been ground slightly finer, it would probably have made a good plaster aggregate. A sieve check of the expanded particles in about the middle of the run showed 60% retained on a 16 mesh screen, 99% retained on the 100 mesh screen and 1% through the 100 mesh. This good showing may have partially induced by the relatively coarse ore sample.

The expanded product seemed a little more friable than Picche perlite, but this could easily have been caused by not getting the heat properly adjusted to the small quantity of ore.

The expanded product seemed to average about 7½ pounds per cubic foot---this about ideal.

Some small white flecks in the ore were possibly not perlite. They went through the furnace and showed up unchanged in the expanded product. They would not be considered very objectionable, as the untrained eye would probably not notice them, especially in the expanded perlite.

I think you would be interested in having your expanded perlite which you can take away without further charge. We shall appreciate receiving your check for $25.00 to cover cost of running the ore.

It appears that this ore would work well in our furnace, and if you can supply us at a better price than we are paying for Picche ore from Nevada, we would be interested in giving it a try.

Very truly yours,

W. I. Patterson

W. I. Patterson

SUPERIOR PERLITE COMPANY

supreme perlite company

SUTTLE ROAD · P.O. BOX 66 · NORTH PORTLAND, OREGON · PHONE AVENUE 6-4333 – AREA CODE 503

Manufacturers of Supreme Perlite and American vermiculite aggregate

Made in the Northwest for use in the Northwest.

August 3, 1965

Mr. Del Harmon
Stanfield, Oregon

Dear Mr. Harmon

The plaster aggregate ore sample that you left is finer than we are now using to make plaster aggregate. We can only assume that if your ore had the same gradation of our present ore (namely 2 to 3% retained on the 16 mesh screen with not over 2 to 3% passing the 100 mesh screen) that it would expand to the proper gradation. This fact will have to be determined by a trial run. We would need a ton of ore to make a satisfactory trial run. If you will furnish us with this ore , we will make this run.

Our present ore works quite well, but it is not entirely satisfactory. Your ore appears to be good from all angles; if you can process it to the required gradation, it may be what we need.

Along with plaster aggregate ore, we currently need a supply of ore graded minus 16 plus 30 mesh size. One of the samples you left on your last stop appeared to be approximately right for this coarse product but this too can only be determined by a trial run.

The color and general appearance of your ore and the relative short haul to our plant as well as its behavior in furnacing a small sample previously leads me to believe that your ore might serve our purpose very well. If this turns out to be an accurate assumption, then your ability to process and ship is all that is required to put you in the perlite ore business at least in the amount of our requirements.

Yours truly,

W.I. Patterson

W.I.Petterson owner-mgr.