

PERLITE , 191...

JUMBO MINE

DESCRIPTION:

Lat from OTC near

_____, 191___

JUMBO MINE

DESCRIPTION:

Grab from

B. cut dark

perlele

Nº 4904

DESCRIPTION:

grag perlitisomewhat ossisony sp glass

DESCRIPTION: Darker

Gras pertit.

possibly same as

4904

----, 191_.

JUMBO MINE

DESCRIPTION:

Light stan
spherulitie + oniony
peoplite sp slass

TUMBO MINE

DESCRIPTION: Splinter, 6 nion skin light grag 2 Spliggsite [lombo) on pellow lets] - 1 % glas

No 4908

, 191___

JUMBO MINE

DESCRIPTION:

Gray glassy ? porlite

DESCRIPTION:

splinters perlits

77 slass ev sp)

some ned luft

DESCRIPTION:

Splintery perlite Grab from several OTCs.

DESCRIPTION:

Red perlitic (inclusions)
glass (vert flow banding)
+ splintery gray perlit

SHELL OIL COMPANY DUPLICATE

The amounts shown include all taxes which the vendor or any prior vendor must pay or obligated to collect.

TO CITY & STATE CARD

NO

SOLD

495 565

The charges shown are hereby transferred to SHELL OIL COMPANY, TULSA, OKLAHOMA

BURLILE 7360 CLAUDE

LOVELOCK NEVADA

DATE

AMOUNT SHELL PRODUCTS SHELL Gals. GASOLINE MOTOR X-100 Qts. OIL SALES TAX THIS IS A CREDIT SALE TOTAL NOT A CASH RECEIPT

THIS COPY CANNOT BE USED FOR TAX REFUND PURPOSES

CUSTOMER'S COPY

J M FORBES	SHELL OIL COMPANY DUPLICATE
CARD 934 495 565	B63129 LICENSE W8059 NO The omeunit shown include oil
The charges shown are hereby francierred to SHELL OIL COMPANY, TULSA, OKLAHOMA CLAUDE BURLILE 7360	taxes which the vendor or any prior vendor must pay or is obligated to collect.
SHELL PRODUCTS QUAN. PRICE GASOLINE SUPER SHELL SHELL Gals.	AMOUNT SHELL
MOTOR SHELL A-100 MULTI X-100 Qts.	d, Purchaser pay to Shell my, on order, hown hereon. of this to creates no an of poyment, irmed
SALES TAX THIS IS A CREDIT SALE NOT A CASH RECEPT TOTAL \$	On demand, Pogress to poy Oil Compony, Oil C
8-67 PB	THIS COPY CANNOT BE USED FOR TAX REFUND PURPOSES CUSTOMER'S COPY

\$ 9.45 RECK	IVED OF	8-6 1969 No.	
	Eight for	- 4016	OLLARS
	A sold of the sold	TWO STIEFS SELLING GA	AS
	Ву	BOX 329 LOVELOCK, NEV	ADA

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coll. EW West Production Myr Gretco. Inc. queral refractories 630 Sutro Pl for angeles 90005 213-321-5081 aloe Holor the selection in

Box 903 formpore Caly 93 436 Loroted Nov 12, 1946 275° (760 276") 215° 750° WW Just thy reduch pile + duy comony porties 1850 400-250 Hu 225- 30 36 Hy At he red : # 3 181 3500 150-180 219 200 ony 54 00/00/0 18 73 086 009 693



Two Stiffs Selling Gas AND MOTEL

LOVELOCK, NEVADA 89419

TELEPHONES 3-2181 or 3-2739



January 14, 1969 Perlite Institute 45 W. 45th. St. New York, N.Y. 10036 Dear Sir: At the present time I am evaluating a perlite property and need to gather information on the subject of perlite. I should like to know if you have information available concerning evaluation of perlite deposits, perlite treatment plants, andaperlite markets. Could you give me a list of laboratories that would make tests on raw perlite to dertemine whether or not is is a commercially usable material? I will certainly appreciate any information, or source of information that you would suggest, concerning perlite. Sincerely J.Mc, aren Forbes

Marion Schendel 1430 Franklin St Phone 3-2186 Phone 3-2186 Crueback new 89419 Perl Group Perl, 1 2 3 Placer glames 7 32N A 29E \$85,000 +10% down after and 30¢ \$ 50000 a ton for every tan p666. onen 1666 Tow

Straus Exploration, Inc. 5919 EAST PIMA STREET TUCSON, ARIZONA 85716

(602) 296-0072

September 4, 1969

Mr. J. McLaren Forbes 2275 Mueller Drive Reno, Nevada 89502

Dear Mac:

The perlite sample arrived. It looks pretty good from what I can tell but does have some globules of glass, which are an impurity. However, it expands readily and I assume that, subject to detailed tests for popping temperature, expansion volume, hardness, etc, it is of commercial grade and worth an examination by you.

There are lots of perlite deposits in the western states and only the most favorably situated ones with respect to markets have a chance. We will, undoubtedly, seek Martin-Marietta's opinion on this property so try to estimate the size and purity of the deposit, mining thickness and how much overburden to strip, and nearness to railroad. Also, of course, what does the owner want for his claims.

Very truly yours

Donald T. McMillan

Straus Exploration, Inc.

5919 EAST PIMA STREET TUCSON, ARIZONA 85716 (602) 296-0072

September 19, 1969.

J. McLaren Forbes 2275 Mueller Drive Reno, Nevada 89502.

Dear Mac:

I will be interested in what sort of a reply you get from Mr. Drimmer. I have spoken to Bill Hart about the Mt. Hope mine and he agrees that the copper-silver values in the recent drill holes are of considerable interest.

I don't know of any lab that runs tests on perlite. If a deposit contains enough cheaply-mined material that can be sold in a big market area at a lower price than any other perlite then that makes a perlite mine. The only major non-captive producer that I know of outside of the New Mexico mines is Combined Metals at Pioche. From Lovelock I would think you could have the cheapest freight rate into the San Francisco Bay area of any producer and you might compete in the Salt Lake market, which is small, with Pioche. Pioche could probably beat you out in the Los Angeles market.

USBM statistics only list consumptionaby states so I don't know how much perlite the Bay area uses. If you think the Lovelock deposit looks good enough, try to get a freight rate to SandFrancisco and find out who the perlite users are and how much they consume. If the situation looks favorable for business then is the time to do some test drilling and some pilot testing. Actually, the final testing is generally dome by shipping some material to the consumer and letting him run it in his plant. There isn't any open market where perlite can be sold like copper or silver — it is sold by direct contract between mine and consumer.

I made a copy of the Jennings report and am returning this and the Heinrichs report and the assay sheets herewith.

Very truly yours,

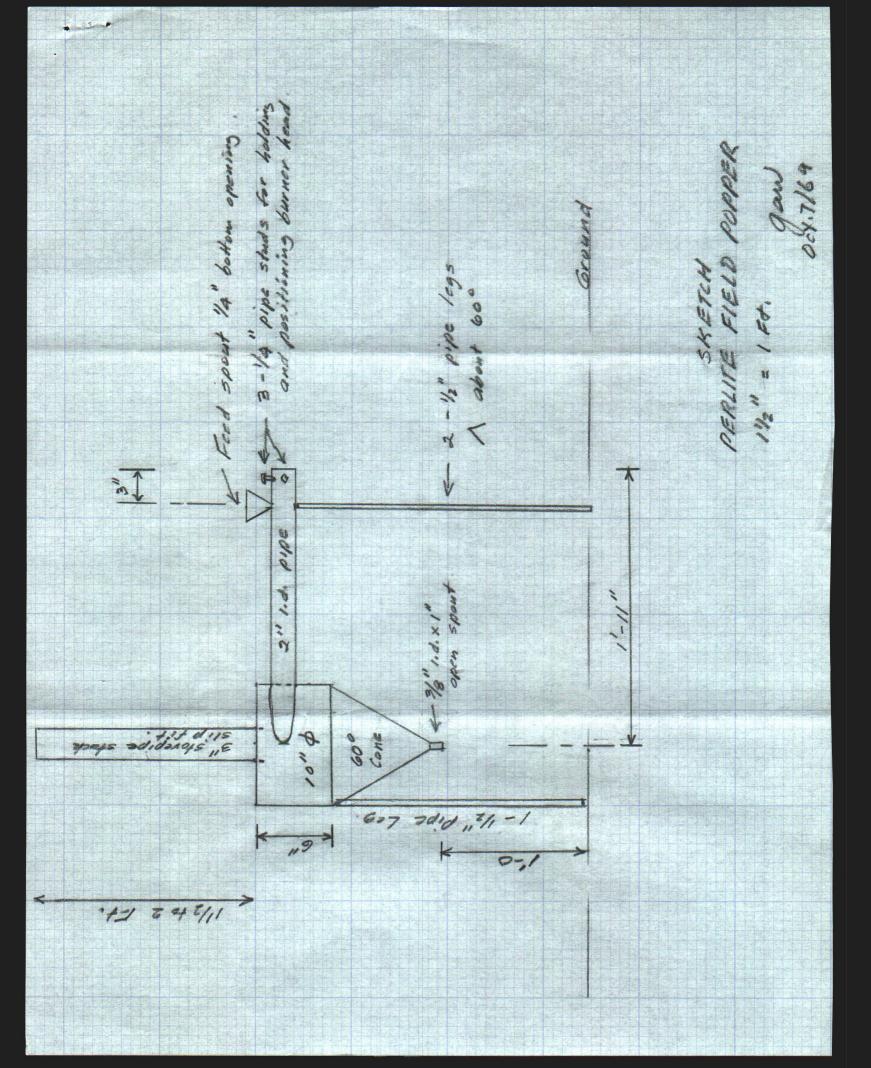
Donald T. McMillan

LOW MCMILLAN

September 26, 1969 Mr. John Wood Chapman, Wood & Griswold, Ltd. 133 East 14th Street North Vancouver, B. C. CANADA Dear John: I have to look at a perlite property. Could you tell me if there is a laboratory where I could send perlite samples to be tested for marketable qualities? I know that your knowledge of perlite is much greater than mine. Any suggestions you might have to offer concerning the examination of perlite deposit will bertainly be appreciated. Sue and I send our best regards to you and Melen. Sincerely, J. McLaren Forbes JmcLF: r

CHAPMAN, WOOD AND GRISWOLD LTD. MINING ENGINEERS AND GEOLOGISTS 133 EAST 14TH STREET NORTH VANCOUVER, BRITISH COLUMBIA TELEX: 04-50690 E. P. CHAPMAN, JR. TELEPHONE: 985-9191 JOHN A. WOOD CABLE ADDRESS: CHAPWOLD G. R. GRISWOLD October 6th, 1969 Mr. J. McLaren Forbes 2275 Mueller Drive Reno. Nevada 89502 Dear Mac: I have your letter of September 26th regarding perlite evaluation and will attempt to compress some accumulated knowledge into a few brief guidelines. There are 2 principal types of occurrence: Pumiceous, which is more or less granular-cellular, breaking into somewhat cubic particles when crushed. Color is normally whitish to very light grey. Type occurrences at Socorro, Jemez Mountains, Grants and Noagua Mt., New Mexico. 2. Glassy, which is more dense, with conchoidal fracture, often lamellar, and generally with ryholite or obsidian impurities. On crushing tends to break into needles or shards. Chief end uses are as filter-aid, plaster aggregate, wallboard admixture, concrete aggregate, and loose-fill insulation. Pumiceous ore is best for filter-aid as quick thermal shock will explode feed into porous, lightweight (2 - 4 pcf) fines. We found after extensive research and pilot plant testing that with proper pyrometric control and application of pre-heating it is possible to make strong lightweight plaster or concrete aggregate with either variety of perlite. Of course excessive impurities (unexpandables) are deleterious, say more than about 3% by volume. We have successfully field-tested deposits for purposes of preliminary evaluation with a home-made field popper as per sketch, and have one stored in Albuquerque which we could loan you if it will stand the freight.

- Two -Mr. J. McLaren Forbes cont'd Using a butane torch for a burner, a sized sample, usually 40 or 50 mesh, is fed slowly thru the small cone ahead of burner after tube has been pre-heated 5 minutes. Expanded product is collected in a graduated cylinder under the cyclone discharge and volumetric ratio of expansion is determined. It is also possible to compare color and amount of unexpandables. Normally we considered white color, expansion ratio of 5:1 up to 20:1, and very low impurities (well below salt and pepper effect) to indicate an acceptable quality perlite. While we ultimately constructed a pilot plant for product and quality control research, the Socorro, Jemez Mountain, and Noagua Mt. deposits were sold by testing carload lots in actual operating plants. I recall that U.S. Bureau of Mines, Tucson Station had a good pilot plant set-up back in the 50's when Gerhardt and Carl Rampacek were there. These facilities might now be either in Salt Lake or Rolla. I don't know of any other facilities, our own plant having been dismantled about 1960. As you may know, perlite is being blended with and substituted for diatomaceous earth as filter-aid and this product sells for \$55 to \$60 per ton. Aggregates of course must be either competitive in cost, or serving populated areas short on heavy aggregate sources. Both Johns-Manville and GREFCO (formerly Great Lakes Carbon Corp.) are producing perlite filter aid. Kaiser is using perlite in gypsum wallboard. I hope this brief summary will assist you. In event you want to use our field popper, please contact Gil Griswold in Albuquerque. Best regards to you and Sue. Sincerely, xc: G. R. Griswold File



October 29, 1969 Mr. Everret Chapman Chapman Laboratories, Inc. Box 207 West Chester, Pennskivania 19380 Dear Mr. Chapman: Mr. Marion Schendel of Lovelock, Nevada has shown me a perlite deposit located north of Lovelock. I am evaluation this deposit for Straus Exploration, Inc. of Room 3555, 120 Broadway, New York 10005. Mr. Scheldel has given me your nake as one of his co-owners of the perlite. He tells my that you have donthextensive testing on the perlite from this deposit. He felt that you could furnish me with data regarding the grade, expansion, and commercial applications that this perlite is suitable for. Any such information that you can let me have will certainly help in my evaluation of this deposit. Yours truly, J.McLaren Forbes

Frhe

Sward Repartorus October 29, 1969 Tel. 213-381-5081 Mr. E.W. Hest Production Manager GREFCO. Inc. 630 Sutro Place Los Angeles, Calif. 90005 Dear Mr. West: Several days ago when I was talking with Mrl Paul Gemmill, of the Nevada Mining association, I asked him if he knew where I could get test work done on perlite. He suggested th that I contact you. I am evaluating a perlite deposit north of Fallon, Nevada and need to know if it is suitable for commercial was. Would you be in a position to test this perlite? If so, what would be the cost of a preliminary test on a sample of the perlite to determine if the deposit warrants further examination? How large a sample would be needed, and how long would such a gest take? Any information you can give me regarding perlite evaluation will be appreciated. Yours truly, Me Faren Inhes J.McGaren Forbes

October 29, 1969

Freight Rates Western Pacific Railroad Company 526 Mission Street San Francisco, California 96105

Dear Sir:

I am making an economic evaluation of a perlite deposit located north of Lovelock, Nevada. The nearest rail shipping point to West Goast cities such as Los Angeles, Sacramento, San Francisco, Wertaged, and Seattle is on the Western Pacific at or near Sulpher, Nevada.

I will appreciate it if you can give me tentative freight rates for such shippments.

Yours truly,

J.McLaren Forbes

+ Mc Faren Fabre

THE WESTERN PACIFIC RAILROAD COMPANY

SACRAMENTO NORTHERN RAILWAY

TIDEWATER SOUTHERN RAILWAY CO.

WESTERN PACIFIC BUILDING, 526 MISSION STREET

SAN FRANCISCO, CALIFORNIA 94105

J. H. H.

TELEPHONE (415) 982-2100

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W. F. MCGRATH

November 7, 1969. File:H-2696-7. J. H. HYLAND
GEORGE MCDEARMID
H. F. HAMILTON
P. R. MCELHENEY
ASST. FREIGHT PRICING
MANAGERS

R. M. TOFANELLI
ASST. TO
FREIGHT PRICING MANAGER

Mr. J. McLaren Forbes Consulting Geologist 2275 Mueller Drive Reno, Nevada 89502

Dear Mr. Forbes:

Refers your letter October 29, regarding freight rates on perlite from Sulphur, Nevada to Pacific Coast destinations.

То	
Sacramento	\$6.26 per net ton)
San Francisco	6.68 per net ton : Min. wt. 100,000 lbs. per car.
Los Angeles	8.55 per net ton)
Portland) and : Seattle)	\$16.16 per net ton, min. wt. 100,000 lbs., except when cars of less weight carrying capacity are furnished at carriers convenience, min. wt. will be capacity of car but not less than 80,000 lbs.

The rates to California are published in Item 7720 of PSFB Tariff 278-A. There are no specific rates in effect today from Sulphur to Pacific Northwest destinations, therefore Class rate would apply. However, we do find rates in Item 8720-A, Supplement 113 of PSFB Tariff 52-H published from Antonito, Colo. to Portland and Seattle, which are lower than the Class rates. Since the Antonito, Colo. rates will apply via Sulphur under intermediate application we have quoted them above as the going rate.

At your convenience we would be most pleased to sit down and discuss specific rates that you feel would be necessary to move perlite. We are most anxious to develop bulk mineral movements from Nevada to the Pacific Coast and will do all possible from a rate standpoint to put together a successful venture.

Yours very truly,

Sick MElherry

EVERETT CHAPMAN BOX 207, WEST CHESTER, PENNSYLVANIA 19380 TELEPHONE (215) 696-1984 CONSULTING ENGINEER Nov.8,1969 West Chester, Pa. J. McLaren Forbes Consulting Geologist 2275 Mueller Drive Reno, Nevada 89502 Dear Mr. Forbes, Thank you for your letter of Oct.29.1969 concerning the perlite deposits north of Lovelock, Nevada. Considerable work has been done on the quality, development and commercial applications for this perlite by Mr. Chapman. The entire file including the information you have requested is currently being returned by the lawyers for the estate. We will send a complete report to you as soon as received. Yours truly. Tildegarde Chapman Hildegarde Chapman

EVERETT CHAPMAN BOX 207, WEST CHESTER, PENNSYLVANIA 19380 TELEPHONE (215) 696-1984 CONSULTING ENGINEER Nov.24,1969 J. McLaren Forbes Consulting Geologist 2275 Mueller Drive Reno, Nevada 89502 Dear Mr. Forbes. The following is the text of a letter written recently by Mr. Chapman discussing the properties and applications of the Lovelock Perlite Deposits. I feel that this will answer most of your questions. "The potential uses for perlite center in the two properties of heat insulation and sound proofing. My work with it has been to evaluate the best raw material I could find in Arizona, Nevada and California. I checked out 350 samples and found widely different "popping" characteristics depending on how the material cooled off during the earths formative days. The material from the deposit in Lovelock is the most flexible material I have found-hence our claim. I have popped this material to a density as low as 1.5 pounds per cubic foot without bursting the bubble. Since there are many small trapped bubbles of air within each gross bubble, this dead air space constitutes the heat barrier needed to account for its heat insulating properties. Again, such dead airspaces also account for the sound insulating properties. This application is best in plaster and wide use has been found for the material because of the heat insulating and sound proofing qualities of the popped rock. It is also fireproof and light to handle. The other aspect I have engaged in is to evaluate a proper furnace for popping the material. Most of the current installations use a horizontal furnace which clinker up and have to be dug out with a crow-bar to get started again. There are many failures on the west coast because of improper furnace design. There is another trouble with the marketing of perlite; the rock weighs about 100 pounds/cu.ft.and, as such, one can get a car load; hence the freight doesn't kill the project as far as freight is concerned. But! once it's popped to, say, 5 lbs/cu.ft., a freight barrier is automaticaly erected around the popping site-you can't get much in a car:it's like a load of goose feathers. My thought was to ship the heavy rock to small local popping plants and serve the immediate area from these plants. No one has ever picked up this idea-rather the installations I've seen are monsters and pop tons per hour-now what do you do with it? Especially when the large capital investment in large popping units ties one down to a specific point from which to ship. I even thought that small furnaces could be rented to local building supply houses and fired up when, and if a quantity was needed. I'm not telling you much about who'd use it, but the wide application is in building plaster. It is an excellent substitute for the sand commonly used: lighter, heat insulating, and sound proof.

EVERETT CHAPMAN BOX 207, WEST CHESTER, PENNSYLVANIA 19380 TELEPHONE (215) 696-1984 CONSULTING ENGINEER Page 2. I understand that the plasterers have standardized on 7 lbs/cu.ft. To me this is something that was shoved down thier throats by those who had a material that wouldn't pop any lighter, or whose furnaces wouldn't pop it any lighter. I think the material would be more economical at 4-5 lbs/cu ft. and this might be a way to steal the market, providing one had enough money to back such an invention. I have made seven furnaces before hitting the best one and have Ahalf a ton unit here at my lab that works well. I sort of gave up; or the pocketbook did, along about furnace No. 7.1 then tried to peddle the little local units and, again, everyone wanted a monster-they didn't consider the tie down of freight. So this endeavor has lain dormant for several years. We have the best perlite and the best furnace-where do we go from here?" We still have the furnace here at the laboratories. It can be made operable if future interest warrants. Please write if additional information is needed. Yours truly, I delkyard chyman Hildegarde Chapman cc: M. Schendel

THE PERLITE CORPORATION 200 E. DUTTON'S MILL ROAD, CHESTER, PENNSYLVANIA 19014 TELEPHONE (215) 876-0400 (215) 876-5432 February 2, 1970 Mr. J. McLaren Forbes 2275 Mueller Drive Reno, Nevada 89502 Dear Mr. Forbes: Thank you for your letter of January 26. We would be glad to test one-ounce samples of your perlite ore under a hand-held oxi-acetylene torch and give you our opinions of them without charge. Later you might wish for us to test two-pound samples of the more promising rock in our laboratory perlite expander. Our charge for this work is \$100.00 per sample. Please let us know if we can help you further. Very truly yours, THE PERLITE CORPORATION 3. Minhoch John B. Murdock JBM: 1kb



2 February 1970

J. McLaren Forbes 2275 Mueller Drive Reno, Nevada 89502

Dear Mr. Forbes:

I have your letter of January 26, in regard to the possibility of our company testing your samples of perlite ore.

I would like to first suggest that you send us some very small samples, approximately one pound in weight, which we may look at and then if further action is warranted, we would contact you and ask that you send us larger samples which could be tested in our production equipment here at Hodgkins, Illinois.

In the event a production test is warranted, after consultation with you, our charges are as follows: \$100 per hour, with a minimum of three hours. This test would take place in our production perlite furnaces, and we could test for production rates, screen analyses, densities, and other physical properties. At that time, we would require approximately one ton of the crushed and sized material. We do not have any facilities here at our plant to crush or screen this one ton of material.

Please advise us if we can be of any further help.

Very truly yours,

Don Diekman

Vice President

THE CLEVELAND GYPSUM COMPANY

Manufacturers and Distributors

Plant; 2146 W. Third St.

LITE-ROCK PERLITE
WYO-LITE VERMICULITE PERL-LOME MAGIK-MOSS MICA-GROW MICA-MOSS

2100 WEST THIRD ST. CLEVELAND, OHIO 44113



Telephone: MAin 1-4300 Area Code: 216

MYX-CRETE CEMENT MIXES PLAY-BOX SAND KLINGSTONE STUCCO SANDED PLASTER WYO-LITE HI-TEMPERATURE INSULATION LITE-ROCK LOW-TEMPERATURE INSULATION

February 13, 1970

Mr. J. McLaren Forbes 2275 Mueller Drive Reno, Nevada

Dear Sir:

Some years ago, when we first entered the perlite expanding field, we did a considerable amount of testing of perlite ore from numerous deposits throughout the country. We crushed by hand, screened, and blended, and then expanded the samples in a small pilot plant of the vertical design.

However, we no longer have these facilities available.

As a matter of suggestion, it might possibly be to your interest to contact Silbrico Corporation at 6300 River Road, Hodgkins, Illinois. Mr. Ed Mendius is the president of this company and is the person with whom you might speak.

This firm is active in three phases of the perlite industry. They build a vertical type furnace in addition to being expanders, and quite recently, are producers.

We appreciate your contacting us and are sorry we could not be of help to you.

Very truly yours,

THE CLEVELAND GYPSUM DIVISION THE CLEVELAND BUILDERS SUPPLY CO.

RJL:MD

cc: Mr. E. E. Mendius 6300 River Road Hodgkins, Illinois





Lanigan Ind



19 February 1970

J. McLaren Forbes 2275 Mueller Drive Reno, Nevada 89502

Dear Mr. Forbes:

I have been advised of your contact with the Cleveland Gypsum Company, with regard to the testing of perlite ore.

Our company does not have any facilities for the grinding and classifying of crude perlite ore at our production plant here, but we do have facilities for testing already classified ores in production equipment in order to obtain production data.

We would not be able to test any of the ores to see what value they are -- other than just to detect whether the samples might expand.

In our full production testing, we have a charge of \$100, per hour, of production machine time, with a minimum charge of \$300. Under most circumstances, approximately one ton of a crushed, screened and classified crude perlite ore can be tested within the three-hour period. If you would wish to send us some very small, few-ounce samples of your crude ore, we would be happy to look at it and give you our comments.

Very truly yours,

Don Diekman Vice President

DD:z