



STATE DEPARTMENT OF GEOLOGY  
AND MINERAL INDUSTRIES

702 WOODLARK BUILDING  
PORTLAND 5, OREGON

December 29, 1948

Mr. Harold D. Wolfe  
State Assay Laboratory  
Box 417  
Grants Pass, Oregon

Dear Harold:

Enclosed is a summary on the clays from the Hamish deposit. As you suspected IG-249 to IG-252 are not true bentonites and IG-252 thru IG-256 are. Of the lot only IG-253 showed any marked swelling. IG-256 dried a very nice white and showed but slight swelling so I am going to write to one of the paper companies to see if it would be of interest to them.

Charley Jacobs is going to make a few ceramic tests on IG-248, 249, 251, 255, and 256. Tom will run specs on IG-251, 252, 253, and 256. When these reports are completed, I will send them to you.

P-3277 is a sample of Hamish bentonite that was in the office so I ran the same tests on it for comparison. It was taken in January of 1945 and sent in by Hamish.

Of interest was the percentage of feldspar grains in all samples. Lowry identified it as andesine (Ab<sub>6</sub>) in P-3277. I do not know whether it would be considered a detriment but rather imagine it would.

As you undoubtedly knew, IG-257 is a carbonate. Its index of refraction (1.53, 1.69) indicates that it is ~~calcite~~<sup>aragonite</sup>, also its hardness suggests this. However, it effervesces so readily in cold, dilute HCl that one might think it to be calcite. I'll settle for an ~~impure calcite~~<sup>aragonite</sup>. I imagine this occurred as seams in the bentonite, is this correct? *aragonite*

Best wishes for the coming New Year.

Regards,

HMD:de  
Enc.

*Hollis*



STATE DEPARTMENT OF GEOLOGY  
AND MINERAL INDUSTRIES

702 WOODLARK BUILDING  
PORTLAND 5, OREGON

July 6, 1948

Mr. Harold Wolfe  
State Assay Laboratory  
Grants Pass, Oregon

Dear Harold:

This is in regard to the piece of white clay you gave me when Mr. Libbey and I were down last month.

As I understand it, this is the clay that Hamish brought in to you and you had analyzed for  $\text{SiO}_2$  (69.25%),  $\text{Al}_2\text{O}_3$  (17.22%) and  $\text{Fe}_2\text{O}_3$  (0.34%). Also, it is my understanding that this is the clay found on Gillies property on Samson Creek *no* in T. 38 S., R. 2 E., sec. 9. If any of this is incorrect I would appreciate being notified at your earliest convenience.

Anyway, here are the results:

Crystalline;  $n =$  circa 1.55; blue reaction with benzidine base solution; non-swelling or slightly so; plastic.

The index of refraction is about right for Halloysite but because it is crystalline it is not thought that it is Halloysite. However, the index is too low for the rest of the minerals of the kaolinite group and too high for the montmorillonite group.

The reaction with Benzidine base solution indicates a mineral of the montmorillonite group. The composition also is more nearly that of the montmorillonites, too. However, it must be noted that the  $\text{SiO}_2 - \text{Al}_2\text{O}_3$  ratio is about 4:1. *In most montmorillonites the ratio is about 3:1.* In the minerals of the kaolinite group the ratio is more nearly 2 or  $\frac{1}{2}$ :1.

So - to sum it up, this clay does not seem to fit in anyone group but for the present I am willing to call it a nonswelling bentonite. If there is any quantity of the material it is quite possible that it could prove of commercial interest.

*If you haven't that is,*  
I hope you will be able to see your way clear to visit it to get samples for the Department and to see if there is any amount of it. I would appreciate your keeping me posted on it.

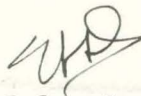
Ralph is leaving for Grants Pass tomorrow so you will be seeing him shortly after you receive this. I am sending down some of my magazines (E & M J, M & M) and Margaret is sending down the Mining World. Eventually I would like to get these back. No hurry. I'll keep sending you my copies monthly so don't worry about

↓ Same for Mining World except as noted.

reading the magazines too thoroughly. Also I am sending down some fluorescent material from the perlite mine in Maupin. It seems to me there was about a dozen other things I promised you but they have slipped my mind. If you will let me know what they were I'll only be too glad to do them.

It was good to see you last month. Hope I get to see you again this summer.

Best regards,



H. M. Dole, Geologist ?

HMD:de



LABORATORY CERTIFICATE

*Charlton Laboratories*

CHEMISTS — BACTERIOLOGISTS — ENGINEERS

2340 S. W. JEFFERSON ST. CAPITOL 8-9663  
P.O. BOX 1048  
PORTLAND 7, OREGON

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TO: Robert Burns  
305 Marion Lane  
Grants Pass, Ore.

LABORATORY NO. 63044

DATE: March 17, 1961

SUBJECT: MINERAL SPECIMEN

DATE RECEIVED: 3-10-61

We have analyzed the mineral specimen for fertilizer value, and report the following:

*Harris*

Nitrogen	none
Phosphoric Acid ( $P_2O_5$ )	trace ✓
Potash ( $K_2O$ )	0.08%

This mineral has no value as far as the three principal plant nutrients, nitrogen, phosphorous and potassium are concerned, and could not be legally called a fertilizer.

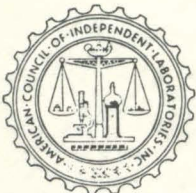
In addition to the above tests, we made qualitative tests to get some information on the composition of this material. A water extract of this material was strongly acid, having a pH of about 2. A fairly large amount of water soluble sulfate, iron and aluminum was present. It is apparent that this material contains some natural alum (sulfate of iron and aluminum). It is unlikely that this material would be of any benefit to soil except in some unusual circumstance where the acidity of this material might be beneficial in neutralizing excessively alkaline soils.

If you wish further more complete analyses made please advise us.

CHARLTON LABORATORIES, INC.

By *J. M. Harris*

COPY, ORIGINAL SIGNED PERSONALLY



JMH:ek  
3c



STATE DEPARTMENT OF GEOLOGY  
AND MINERAL INDUSTRIES

702 WOODLARK BUILDING  
PORTLAND 5, OREGON  
September 25, 1946

Mr. Hollis Dole  
State Assay Laboratory  
Grants Pass, Oregon

Dear Holly:

First, I would like to compliment you on the reports which you have been submitting. I think they are very good.

I thought you might be interested in the Hamish clay samples which you submitted. Sample no. 1 is the same material as that brought to this office by Ken Hamblen and which Raymond Ladoo, well-known consulting mining engineer, thought had possibilities as a source of both clay and feldspar. Besides the montmorillonite present in this sample are the feldspar grains which have an index circa 1.55. They are either basic oligoclase or acid andesine.

As you suspected, samples 2 and 3 are probably common clays - certainly they are not bentonitic. They are isotropic or only very slightly birefringent, with an index ranging from 1.50 to 1.52.

As Mr. Libbey has probably explained to you, Esther Miller used this clay in a number of blends and found it satisfactory in some of them. Ladoo, when I showed him the clay, thought that it might very well bleach white so that it could be used as a paper filler.

I hope that Hamish does get the additional prospecting completed this fall and that the gravel road is put in so that you can check on this property again. Apparently the flinty clays which are not bentonitic have very little relation to the bentonitic material, and if you are interested in the origin of bentonites, I will be glad to send you a copy of a very recent U.S.G.S. report on them.

Sincerely,

A handwritten signature in cursive script, reading "Wally", written in dark ink.

Wallace D. Lowry

WDL: jr

# COPY

## STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

1069 STATE OFFICE BUILDING  
PORTLAND 1, OREGON

January 12, 1966

Mr. K. E. Stanfield  
Project Coordinator  
U.S. Bureau of Mines  
P.O. Box 3395, University Station  
Laramie, Wyoming 82071

Dear Mr. Stanfield:

I have checked with our office in Grants Pass and I believe we can send you  $3\frac{1}{2}$  pounds of the Ashland shale which we have on hand. The material should be on its way to you sometime next week.

Enclosed is a report from our files concerning the Ashland shale deposit in Jackson County. The occurrence has not been clearly defined thus far, but the tuff and tuffaceous sediments in which the shale occurs cover no more than 2 square miles, Twt (Preliminary Geologic Map of the Medford Quadrangle, by F.G. Wells, 1939: Oreg. Dept. of Geology and Min. Ind.). Delineation of the deposit cannot be made without considerable excavation or by a core hole program. Such a field project may be undertaken this summer provided approval is granted by the State Geologist. Regardless of whether or not a coring program is undertaken, we will take some time next summer to further outline the shale body.

Chaney, R.W., 1930, described plant fossils as upper Miocene age which were found in the Ashland shale. The Geologic Map of Western Oregon, by D. L. Peck, 1961, indicates the tuffs and tuffaceous lacustrine sediments at Shale City to be upper Oligocene to lower Miocene age, Tmp. These pyroclastics and tuffaceous sediments are a facies in predominantly andesitic rock. Small areas of contemporary tuffs and sediments occur a few miles northeast of Shale City and over a wide area in the Western Cascades, but no other occurrences of petroliferous shales are known. The enclosed geologic notes are the extent of our present knowledge of the Shale City (Ashland) deposit.

Sincerely,



Vernon C. Newton, Jr.  
Petroleum Engineer

VCN:lk  
cc Len Ramp

# COPY

## STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

1069 STATE OFFICE BUILDING  
PORTLAND 1, OREGON

January 3, 1966

Mr. K. E. Stanfield  
Project Coordinator  
U.S. Bureau of Mines  
Laramie Research Center  
P.O. Box 3395, University Station  
Laramie, Wyoming 82071

Dear Mr. Stanfield:

We received the results of your shale analysis last week and very much appreciate the assistance you have given us on our shale study. We will prepare a description of the "Shale City" deposit for you as soon as possible.

We probably do not have 10 pounds of the "Shale City" material on hand to send you but possibly our office in Grants Pass will have enough. It will be difficult to obtain a sample until spring if we do not have it on hand as the area is "snowed in" at present.

We were pleasantly surprised with the results of the "Shale City" material and had not realized it would run as high as it did. The Nye shale samples were disappointing, and we would like to re-sample the best location and have the shale re-tested. On fresh fracture the Nye shale has a good bituminous odor but not as strong as the "Shale City" material. If we can bore into the outcrop it may be possible to obtain a fresh sample and perhaps find that the oil content is higher than on the first analysis.

Many thanks for running these tests for us, and we will gather the data you requested.

Sincerely,

Vernon C. Newton, Jr.  
Petroleum Engineer

VCN:lk



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

Laramie Petroleum  
PETROLEUM AND OIL-SHALE  
Research Center  
EXPERIMENT STATION, BOX 621

LARAMIE, WYOMING

January 5, 1966

Mr. Vernon C. Newton, Jr.  
Petroleum Engineer  
Dept. of Geology and  
Mineral Industries  
State of Oregon  
1069 State Office Building  
Portland, Oregon 97201

Dear Mr. Newton:

In reply to your letter of January 3, 1966, our request for 10 pounds of the "Shale City" material was to obtain ample sample for several possible tests but without taking into account difficulties that might be involved in the sampling.

We are particularly interested in examining this material in a study that is currently being made by another group at this Center. It involves extracting the soluble bitumen, then fractionating it into n-paraffins, isoparaffins, cycloparaffins, and other polar and non-polar materials. Finally, the iso plus cycloparaffin fraction will be examined for isoprenoid compounds (phytane, pristane, and others).

A shale sample of at least 2 pounds (a larger sample would be better) is required for the above study. If necessary, we could combine the unused portions of the two samples (SBR65-700X and SBR65-701X) submitted previously with any additional material you can provide.

Your cooperation in this matter is appreciated and we shall be interested in the information you are collecting on the nature and extent of the Shale City deposit.

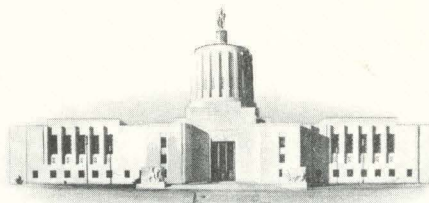
Sincerely yours,

(Signed) K. E. Stanfield

K. E. Stanfield  
Project Coordinator



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STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
1069 STATE OFFICE BUILDING  
PORTLAND, OREGON 97201

January 10, 1966

Mr. Len Ramp  
State Assay Laboratory  
P.O. Box 417  
Grants Pass, Oregon

Dear Len:

Many thanks for your letter of January 5, 1966, and the enclosed report. I had forgotten the mined material that was covered by the plastic tarps. A copy of the green report will be forwarded to Mr. K. E. Stanfield of the U.S. Bureau of Mines in Laramie, Wyoming.

Enclosed is a recent letter from Mr. Stanfield suggesting that two pounds of shale would be adequate for further tests they desire to make. Could you send the  $3\frac{1}{2}$  pounds of shale you have on hand to me. I will combine this with the  $1\frac{1}{2}$  pounds I have and ship it to Mr. Stanfield.

As for making arrangements with Mr. Thommes and planning a field project for the shale deposit, I would like to discuss this at our staff meeting in February - tentatively scheduled for February 22 or thereabouts. Further field study seems to be warranted with perhaps a reconnaissance of rocks of the same age within a 10-mile radius of the Shale City occurrence.

I will mail Bob Welch a quote from the Physical and Economic Geography of Oregon, by W. D. Smith, 1924, on the Hartman Oil Shale Co.

Thank you again for the assistance on this project. I hope a field study can be made as the Ashland shale is of commercial grade (anything over 25 gallons per ton is commercial in today's market and economy).

The U.S. Bureau of Mines tests may give us criteria to look for in deposits of the same character and age as the Ashland shale. I believe the present known deposit should be outlined and its stratigraphic position established.

Sincerely,

Vern Newton

VCN:lk