To: R. C. Horton

4840 0889 Memorandum

UNIVERSITY OF NEVADA Reno, Nevada

From: R. H. Olson
Geologic Report on Nevada-13 Clay Sample to be
Subject: submitted to the U. S. Bureau of Mines for

Date: November 15, 1961

testing under the Co-op Program.

On October 16 I sampled a clay deposit owned by the Lambertucci Bros. of Tonopah. Sample Nevada-13 was collected on the Garibaldi #3 claim in Sec. 32, T. 3 N., R. 42 E. approximately four miles due west of Tonopah.

Three east-west bulldozer trenches have exposed the clay body. Brunton-and-pace work has established the deposit to be 475 feet long in a N 30° E direction and to have an average exposed length in the trenches of 70 feet. Several measurements of the thickness of the bed averaged 1.8 feet. Therefore, a not tog conservative estimate of the amount of clay present would be on the order of 60,000 cubic feet, which converts to approximately 3,000 tons using the density factor of 100 lbs./cubic foot of clay.

The clay has been altered from tuff and is definitely concordant with the bedding attitude of the volcanic sequence, which I assume to be the Siebert lake beds (Miocene). The strata dip an average of 7° westerly and are only locally exposed where the northwasterly dipping pediment surface has been breached by erosion. At every locality where the base of the clay could be observed it is underlain by an intensely iron-stained rhyolite (?) felsite which is well-cemented and forms an excellent floor for excavation work. No exploratory work has been done below this surface. Above the clay there is either unaltered tuff, a reworked regolith, or soil. The clay is nowhere exposed on the property at a depth of greater than 3 feet below the ground surface and appears to be very uniform over its entire exposed extent.

Sample Nevada-13 is a composite from three sample lines along the north wall of the middle trench which divide this wall into four roughly equal parts. The average of the three sample widths is 1.6 feet.

Three samples submitted previously by the owners have been analyzed by X-ray and all are "kaolinite type clay" of varying grades of purity.

R. H. Olson

Memorandum UNIVERSITY OF NEVADA Reno, Nevada

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RNO



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF MINES

REGION II

Division कर्ष Mineral Resources Reno Field Office 1605 Evans Avenue Reno, Novada

January 9, 1961

Memorandum

Tot

E. A. Magill, Supervisory Mining Engineer, Scattle Nonmetallics Laborstory, Region I, Seattle, Washington

From

A. C. Johnson, Supervisory Mining Engineer, Reno, Neveds

Subjects

Clay testing

There is being forwarded, via parcel post a clay sample from the Lambertucci Brothers clay deposit near Tonopah, Nevada for testing in your laboratories. The testing of this clay is under a Cooperative Agreement with the Nevada Bureau of Mines and the U. S. Bureau of Mines for the evaluation of clay deposits in Nevada.

The attached copy of a letter from Mr. Robert C. Horton, Mining Engluser of the Nevada State Bureau of Mines contains information on the deposit.

Tests on this sample should be terminated when the quality and possible evaluation of the clay becomes apparent. When the tests are completed, it will be appreciated if you will send a copy of your report to Dr. Vernon E. Schied, Director of the Nevada Bureau of Mines, University of Nevada, Reno, Nevada.

A work order will be prepared by the Chief, Division of Miseral Resources, Region II for the test.

A. C. Johnson

Copy to:

of Mines

VDr. Vernon E. Schied, Director, Nevada Bureau

RECEIVED

JAN 1 0 1982 W. F. Dietrich, Chief, Division of Mineral Resources

O. M. Bishop, Chief, Division of Mineral Resources MARKY SOURS OF WHICH

C. H. Johnson, Executive Assistant for Regional Activities



UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES REGION I

Division of Mineral Resources Seattle Nonmetallics Laboratory 217 Roberts Hall University Campus Seattle 5. Washington

February 1, 1962

Memorandum

Tos

A. C. Johnson, Supervisory Mining Engineer, Bureau

of Mines, Reno, Nevada

Froms

Supervisory Mining Engineer, Seattle Nonmetallics

Laboratory

Subject: Clay testing sample MEV. 13

Preliminary tests have been conducted on sample NEV. 13 (our C-2047) and a report covering the results of these tests is attached.

As you will note, the clay has a high cone of fusion. We would be glad to carry our tests further if you think the size of the deposit warrants.

E. A. Magill

Attachment

Dr. Vernon E. Schied
W. F. Bietrich
O. M. Bishop

RECEIVED FEB 5 1962

Markay School of Kines University of Nevada Rose, Nevada · 4 -6-26x b

Date _____February 1, 1962

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

27.77		ICAL REPORT	a notin
Sample No.		Laboratory No.	C-2047
Sample of	J		
A. C. John	son, Reno Field Office	, Reno, Nevada	
From			
5 3 - 4 0	17 h	Analyzed .	
•	Δ,	NALYSIS	
Location: Giribaldi No. 3 cl west of Tonopah, N	aim in Sec. 32. T. 3N.	R. 42 E., approximately for owned by the Lembertucci B	our miles due rothers of Tonopal
Mines in a memo da three samples lin	ted December 28, 1961	Horton, Mining Engineer, Net to A. C. Johnson, "is a com I of the middle trench. The s 1.6 feet".	posite from
Inharatory Waste.			
of a ver was crus broken s brown sp planes w	EV. 13 (No. C-2047) corry white clay-like mater hed without difficulty surfaces of most of the seckles that appeared to erre also apparent in so	nsisted of numerous 1- to 3- rial. The material was ver- using a mortar and pestle. Tumps were dotted with mim be some form of iron oxide ome of the broken surfaces. In color, a few were light go	y fine and The freshly ite reddish Bedding Nost of the
P.C.E.: Come 33,	white		
D.T.A.: Kaolinit	e-type clay		
and the state of t	r Reflectometer	G.E.	
<u>Green</u> 87.75	Amber <u>Blue</u> 70.85	Equivalent 80.2	
Evaluation:			
This clay has		(cone 33), and fires white	

(Signed) George J. Carter, Chemist.

U. S. GOVERNMENT PRINTING OFFICE 16-23840 COTADIC Engineer

considered it should undergo firing tests to determine its firing characteristics. Whether further tests are warranted depends upon the size of of the deposit and the dilution that might occur while mining. The narrowness (1.6 feet) would indicate that further tests are probably not warranted.

· tori

Low reflectance, (G.E. equivalent of 80.2) eliminates this clay from use as a filler material. The low reflectance is largely due to the inclusion of reddish brown iron oxide minerals.

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

		ANALYTICAL	REPORT	a police
Samp	le No		Laboratory No.	C-2047
Samp	le of			
From	A. C. Johnson, Reno F	rield Office, Ren	o. Nevada	
Samp	eled Robert C. Horton	Received at lab.	Analyzed	
			Collector	
Beeti		ANALY		
Locat: Girib west		00 E 0/1 D	42 R., approximately for	ur miles due others of Tonopal
Mines thank		he north wall of	on, Mining Engineer, Nev C. Johnson, "Is a comp the middle trench. The feet".	
Labor	of a very white cl was crushed withou broken surfaces of brown speckles tha	c-2047) consist ay-like material t difficulty using most of the lum t appeared to be	ted of numerous 1- to 3. The material was very ng a mortar and pestle. ps were dotted with mim some form of iron oxide of the broken surfaces. lor, a few were light g	The freshly ite reddish e. Bedding Kost of the
	P.C.E.: Cone 33, white			
	D.T.A.: Kaolinite-type cla	y		
	Gardner Reflector Green Amber 87.75 89.40	Elue 70.85	G.E. Equivalent 80.2	

Evaluation:

This clay has a high cone of fusion (cone 33), and fires white. It could be used as a super-duty refractory material. If its use for this purpose is

...., Chemist. Date February 1, 1962 (Signed) George J. Carter. U. S. GOVERNMENT PRINTING OFFICE 16-23840 CETEMIC Engineer

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Region I fell



Division of Mineral Resources

DEPARTMENT OF THE INTERIOR

REGION II

Reno Field Office 1605 Evans Avenue Reno, Nevada

January 9, 1961

Memorandum

To:

E. A. Magill, Supervisory Mining Engineer, Seattle Nonmetallics Laboratory, Region I, Seattle, Washington

From:

A. C. Johnson, Supervisory Mining Engineer, Reno, Nevada

Subject:

Clay testing

There is being forwarded, via parcel post a clay sample from the Lambertucci Brothers clay deposit near Tonopah, Nevada for testing in your laboratories. The testing of this clay is under a Cooperative Agreement with the Nevada Bureau of Mines and the U. S. Bureau of Mines for the evaluation of clay deposits in Nevada.

The attached copy of a letter from Mr. Robert C. Horton, Mining Engineer of the Nevada State Bureau of Mines contains information on the deposit.

Tests on this sample should be terminated when the quality and possible evaluation of the clay becomes apparent. When the tests are completed, it will be appreciated if you will send a copy of your report to Dr. Vernon E. Schied, Director of the Nevada Bureau of Mines, University of Nevada, Reno, Nevada.

A work order will be prepared by the Chief, Division of Mineral Resources, Region II for the test.

Attachment .

A. C. Johnson

NEVADA BUREAU OF MINES UNIVERSITY OF NEVADA RENO, NEVADA

PFICE OF THE DIRECTOR

December 25, 1961

Mr. A. C. Johnson W. S. Bureau of Mines 1003 Evens Avenus Rede, Navada

Bear Mr. Johnson

A single clay sample is being submitted to you for transfer to the proper U. S. Burges of Mines etation for testing under the cooperative agreement between the V. S. Burges of Mines and the Nevada Burges of Mines. The comple is sumbered Fov. 13.

The following is a description of the deposits

Hav. 13

The scople was collected at the Ciribaldi 63 claim in Sec. 32, T. 3 B., T. 42 M., approximately four miles due west of Transpal, Nevade. The claims are owned by the Leobertrock Spothers of Transpal.

Three east-west bulldoner transless have exposed the clay body. Drantonand-pass surveying actablished the discussions of the deposit as 675 feet in Isoph in a N. 30 B. direction with so everage exposed width of 71 he has twenther. Savarai remourantees of the thickness of the bed averaged 1.8 feet. The body contains no estimated 60,000 cobin feet, which neaverts to 0,000 tone when using a density of 100 less per capit feet.

The clay has been forced by alteration of a volcamic tuff and is definitely edimendent with the bending estimate of the volcamic sequence, which is assume to be the Sisbert Lake hade (Microse). The estate dip an everage of 7 ergona mealerly and are exposed locally where has northwesterly dipping preliment surface has been broashed by erosion. At every locality where the base of the clay could be observed in is successful by an intercouly inconstrued thyolica (1) felette white is well commented and force as recallant floor for exact that work. No employatory work has been done below this surface. Above the clay there is either mealtered tuff, a meanthed ungolish, or coil. The clay is mealers emposed on the property at a dopth greater than three feet and appears to be uniform over its entire emposed waters.

Semple Nov. 13 is a composite drop throe temple lines along the month wall of the middle tranch. The average of the bives umple widths is 1.5 fast.

Three complete previously submitted to the Eswada Surses of Mines by the contest were itenzified as labitates type elsy by North analysis.

Very truly justs,

Robert G. Harton Michag Register

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Region II file



Division of Mineral Resources

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF MINES

REGION II

Reno Field Office 1605 Evans Avenue Reno, Nevada

January 9, 1961

Memorandum

To:

E. A. Magill, Supervisory Mining Engineer, Seattle

Nonmetallics Laboratory, Region I, Seattle, Washington

From:

A. C. Johnson, Supervisory Mining Engineer, Reno, Nevada

Subject:

Clay testing

There is being forwarded, via parcel post a clay sample from the Lambertucci Brothers clay deposit near Tonopah, Nevada for testing in your laboratories. The testing of this clay is under a Cooperative Agreement with the Nevada Bureau of Mines and the U. S. Bureau of Mines for the evaluation of clay deposits in Nevada.

The attached copy of a letter from Mr. Robert C. Horton, Mining Engineer of the Nevada State Bureau of Mines contains information on the deposit.

Tests on this sample should be terminated when the quality and possible evaluation of the clay becomes apparent. When the tests are completed, it will be appreciated if you will send a copy of your report to Dr. Vernon E. Schied, Director of the Nevada Bureau of Mines, University of Nevada, Reno, Nevada.

A work order will be prepared by the Chief, Division of Mineral Resources, Region II for the test.

Attachment

A. C. Johnson

OFFICE OF THE DIRECTOR

December 25, 1964

ir. A. C. Johnson N. C. Burene et Misea Lund Error Avance Repo, Mirale

Bear Mr. Johnton:

A single clay sample to being substituted to you for transfer to the project U. S. Evraca of Dispersionation for tasting motor the cooperative agreement between the T. S. Burers of aires and the laving indeed of dunes. The pumple to manhared Pay. 17.

The following to a Second octom of the ospisits

May. 13

The sample was collected at the Citieslal #3 claim in Feb. 51, 2. 4 8., R. 42 I., approximately four wiles due part of Toropau, Marada. The olaflas are owned by the Laurenthurel recipers of Toropau.

Three east-court bulliager travels between the clay account the clay body. Francosand-para curvating solubished the processor of any deposit of 77 th the length in a st. 30 k. direction with as average employed which of 77 th the travelse. Reversi meant appeals of the chimness of the sex averaged 1.8 feet. The body contains an estimated buying outly fairly which provests to 3,000 tone play upin, a density of 100 less, por units foot.

The clay are been forced by alteration of a colombic sufficiently and in definitely appropriate with the besting abstrains of the equation requires, which is account to be one distance half hade frincane). The ensure die as account of agrees whether we have been probably exact the complete factor of applies probably exact the complete factor of applies and the clay could be observed in a secretary by an introduced items standed applies (i) relette where to each took understand my an introduced items standed applies work. No emphasize such has been during the standard translations from a the clay there is either manifered fuffice a responsible engalists, or soil. The clay is unitary as a cities understand an and property at a injute greater twen three feet and appears to be uniform over its yeters appears untarity.

Sample May. If he a composite from these sample lines along the march wall of the middig Grands. The average of the toxes sample pictus is 1.5 feat.

Three explic praviously examinate to the hevade Sursay of Albea by the owners were insatified at his listin type city by E-may analysis.

Tery craft yours.

Rulart G. Haston Aintag England Mr. A. G. Johnson U. S. Bureau of Mines 1605 Evans Avenue Reno, Nevada

Dear Mr. Johnson:

A single clay sample is being submitted to you for transfer to the proper U. S. Bureau of Mines station for testing under the cooperative agreement between the U. S. Bureau of Mines and the Nevada Bureau of Mines. The sample is numbered Nev. 13.

The following is a description of the deposit:

Nev. 13

The sample was collected at the Giribaldi #3 claim in Sec. 32, T. 3 N., R. 42 E., approximately four miles due west of Tonopah, Nevada. The claims are owned by the Lambertucci Brothers of Tonopah.

Three east-west buildozer trenches have exposed the clay body. Bruntonand-pace surveying established the dimensions of the deposit as 475 feet in length in a N. 30 E. direction with an average exposed width of 70 in the trenches. Several measurements of the thickness of the bed averaged 1.8 feet. The body contains an estimated 60,000 cubic feet, which converts to 3,000 tons when using a density of 100 lbs. per cubic foot.

The clay has been formed by alteration of a volcanic tuff and is definitely concordant with the bedding ettitude of the volcanic sequence, which is assumed to be the Siebert Lake beds (Miccane). The strata dip an average of 7 degrees westerly and are exposed locally where the northwesterly dipping pediment surface has been breached by erosion. At every locality where the base of the clay could be observed it is underlain by an intensely iron-stained rhyolite (?) felsite which is well cemented and forms an excellent floor for excavation work. No exploratory work has been done below this surface. Above the clay there is either unaltered tuff, a reworked regolith, or soil. The clay is nowhere exposed on the property at a depth greater them three feet and appears to be uniform over its entire exposed extent.

Sample Nev. 13 is a composite from three sample lines along the north wall of the middle trench. The average of the three sample widths is 1.5 feet.

Three samples previously submitted to the Hevada Bureau of Mines by the owners were identified as kaolinite type clay by K-ray analysis.

Very truly yours,

Robert C. Horton Mining Engineer Lambertucci Bros. Box 18 Tonopah, Nevada

Gentlemen:

The U. S. Bureau of Mines has completed the testing of the clay sample which I cut on the Garibaldi No. 3 claim (Sec. 32, T. 3 N., R. 42 E.) last October 16. The results of these tests will be summarized below.

The clay has a pyrometric cone equivalent of 33 and fires white. This would indicate that it has the potential to be a super-duty refractory clay. Differential thermal analysis by the U. S. Bureau of Mines and our X-ray work shows that the material is a kaolinite-type clay. Its reflectance expressed as a G. E. Equivalent is 80.2.

The U. S. Bureau of Mines' evaluation is quoted directly as follows:

Evaluation:

This clay has a high come of fusion (come 33), and fires white. It could be used as a super-duty refractory material. If its use for this purpose is considered it should undergo firing tests to determine its firing characteristics. Whether further tests are warranted depends upon the size of the deposit and the dilution that might occur while mining. The narrowness (1.6 feat) would indicate that further tests are probably not warranted.

Low reflectance, (G. E. equivalent of 80.2) eliminates this clay from use as a filler material. The low reflectance is largely due to the inclusion of reddish brown iron oxide minerals.

On my next trip to Nye and Clark Counties in mid-March I will stop in to see you and discuss at length with you what I know about clay and possibly suggest what should be done next on the property.

Sincerely yours,

RHO

R. H. Olson Economic Geologist

RHO: hm

cc: Lambertucci Bros.
Robert C. Horton

NEVADA BUREAU OF MINES UNIVERSITY OF NEVADA RENO, NEVADA

OFFICE OF THE DIRECTOR

May 3, 1962

Mr. G. B. Shea U. S. Bureau of Mines 595 Battery Street San Francisco 11, California

Dear Mr. Shea:

You will remember the talk we had with Mr. George Gates last February in which it was agreed that Mr. Gates could test not more than two clay samples per mouth for us under our cooperative program with your agency. The first group of samples is being sent to you via percel post and this package will contain samples Nevada 13A, Nevada 14, and Nevada 15.

Revada 13A was collected in the NW/4 Sec. 32, T. 3 N., R. 42 E., Esmeralda County, Nevada. The site is about four miles west of Tomopah and readily accessible by conventional vehicle. From a narrow bulldozer trench I sampled a 2.5 foot thickness of pure greenish-white, waxey, bentonitic clay. The bottom of this clay body is not exposed in the trench and the clay is overlain by approximately three feet of unargillised volcanic ash bads which are somewhat silicified. Clay which appears to be the same as 'pysda 13A is exposed in two trenches approximately 300 feet southerly across a major gully. At this latter locality the clay is probably not more than three feet thick. Nevada 13A was collected about one-half mile westerly from Nevada 13, which has been determined by your Seattle laboratories to be a superduty refractory clay (P.C.E. 33).

Mevada 14 is a duplicate sample of one which is being sent to Seattle for testing under the cooperative program. The probable location is Sec. 20, T. 14 N., R. 35 E., Mineral County, Nevada. (See my letter of May 7 to W. T. Benson for details).

Revada 15 is also a duplicate of a sample which is being sent to the Seattle laboratories for testing. Its probable location is MS/4, Sec. 1, T. S N., R. 36 E., Mineral County, Kevada about 10 miles north of Luming. (See my letter of May 7 to W. T. Benson for details).

Would you please test these three samples for possible exploitation as commercial drilling clays? Sample Havada 15 may not be a bentonite clay, but I am mending it along anyway. Thank you for your cooperation.

Very truly yours,

Richard E. Olson Economic Geologist

RHO: hos

cc: W. T. Benson

W. F. Dietrich

G. L. Gates

R. C. Horton