MAR 19520001: GEORGE LAKE

Received date: Dec 31, 1952

Public release date: Jan 01, 1954

19520001

COPY

Edmonton, Alberta
Canada

J. A. Kelso, M.Sc.
Chemical Engineer
Director Industrial Laboratories
Provincial Analyst

December 26, 1952.

Mr. Wm. Pylypow,
11726 94th Str.,
EDMONTON, Alberta

Dear Sir:

I would advise that we have made preliminary tests on three small samples of clay submitted by you, numbered 1, 2 and 3 respectively.

#2 and #3 are the same and are ordinary clays with good plastic properties and burn to an ordinary grade of red brick. The shrinkage is satisfactory and the clay of good workalibity. The clay contains a small amount of sand.

not bentonite

#1 is quite similar to the other two but has a much higher shrinkage and does not burn to as satisfactory a color.

may be bentonite

Signed: James A. Kelso,

James A. Kelso,
Director Industrial Laboratories.

not relevant to bentonite evaluation

Indexing Document No. 700727

J.A. KELSO, M.Sc.
Chemical Engineer,
Director Industrial Laboratories,
Provincial Analyst

EDMONTON, Alberta
CANADA

July 10, 1952.

Mr. Wm. Pylypow,
11726 94th Street,
EDMONTON, Alberta.

Dear Sir:

I would advise that we have examined three samples received from you labelled #1, #2 and #3 respectively.

#2 and #3 are Bentonite clays and as advised, tests should be run by our Department of Petroleum Engineering re valuation for drilling mud.

#3 is a sandy clay and with a low Bentonite content. It would not have any commercial value.

Yours very truly,

(signed) James A. Kelso

JAMES A KELSO
Director of Industrial Laboratories

Telephones: ADVance 2604/6 Codes Bentley's 2nd Phrase Telegrams: Watchempro,Bochurch, London

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Our Ref. FR/GT

29th July, 1952.

Mr. W.M. Pylypow,
11726 - 94th Street,
EDMONTON, Alberta.
Canada.

Dear Sir:

We have received your sample of bentonite, and although it is not so good as American material we are still interested.

We are contacting in this matter:-

Mr. H.A. Dyde, of Milner, Steer, Dyde, Poirier Martland & Layton
Royal Bank of Canada Chambers, Edmonton

and

Mr. H. Shilton,
145 Yonge Street,
Toronto.

One of whom will probably conduct further negotiation on our behalf.

Yours faithfully
for WATFORD CHEMICAL CO. LTD.
(signed) F. Rogers, Director

11726 - 94th Street,
Edmonton, Alberta.
December 18, 1952.

J. W. Patrick,
Director of Mineral Rights,
Department of Mines and Minerals,
Administration Building,
EDMONTON, Alberta.

Dear Sir:

With reference to your letter dated June 27, 1952, I am forwarding herewith a report as to the progress made on my bentonite reservation during the period since the reservation was granted. I have had three men including myself working at various periods throughout the summer months. Approximately 4090 feet of hole was drilled by hand tools and samples recovered from all horizons. Eleven holes were drilled to a total of 85 feet. It was found that the depth of the overburden varied from about 10 feet to 64 feet with the average depth of overburden being between 30 and 40 feet. In one area comprised in the reserved area two seams of bentonite of 25 feet and 27 feet respectively were located with approximately 7 feet between these seams.

exploration reservation

test holes (attached hand-written notes for details and locations)

Many samples of material were taken and submitted to various people for analysis. Enclosed are copies of letters received from people who have examined samples, including Dr. Kelso and the Department of Mines and Technical Surveys. Some of these reports have been quite encouraging and I am therefore requesting a further period in which to continue my exploratory operation so that I might further evaluate the commercial possibilities of the area.

results attached

Inasmuch as our investigations have proved that the south half of section 17, township 57, range 1, west of the 5th meridian does not warrant further work I would ask that it be deleted from the reserved area.

W.P. N.R.

location of reservation T 57, R1 W5

It is further requested that the north half of section 21, the south half of section 28, the north west quarter of section 29, the north east quarter of section 30 and the south west quarter of section 30, township 57, range 1, west of the 5th meridian be added to the reserved area.

Yours very truly,

[redacted]

Wasyl Pylypow

$35.00 to spent

November 25th. 1951

Mr. W. Pylypow
11726 94th St.,
Edmonton, Alberta.

Dear Sir:

Your letter and samples of some few weeks back were re-received in good order and while I finished a few preliminary tests early last week time did not permit of my writing you until the present concerning the results. As you will recall there were two samples, one being in a small box, the other in a paper bag, the one in the box I marked No. 1 and the other No. 2 so that they would have numbers.

While I only tested them on a dark mineral oil there yet remains to test them on other types like peanut oil etc. The No. 1 sample showed up quite well in its bleaching power for mineral oil and I would say is worthy of further work including that of activation, on the other hand No. 2 sample did not show up so well but it might develop a much higher bleaching power through activation, in this connection it could be treated at the same time as No. 1 in the event you should have the work done.

bleaching tests

In connection with your spending money to have further tests made there are certain conditions which are necessary to be met before I would say that you would be justified in sending money for tests, the main points to be given careful consideration by you are, is there a very large deposit sufficient to justify large operations? that is, are there thousands of tons? also how thick is the seam? that is, a few inches or say three or four ft.? Then again would it have to be mined or could the over burden be taken off economically? Also how near is it to a railway or other means of transportaion? Is there fuel for drying near by? If these points are in the main favorable then I would say that you would be quite justified in spending money to prove up the property and have complete tests made. I am assuming of course that you either own the property or are quite certain that you can obtain possession or a lease. I mention all of these things in that I would not like to see you ar any one else loose or waste any money.

economic geology factors

In the event that I can be of any further help to you it will be nice to hear from you.

Very truly yours,
(signed) W.G. Worcester

CANADA
Department of
Mines and Technical Surveys

Industrial Minerals
Division

Ottawa, October 18, 1951

Mines Branch

Mr. William Pylypow,
11726 - 94 Street,
Edmonton, Alta.

Dear Sir: Re: Bentonite Sample #3

The tests conducted on the use of bentonite Sample #3 for drilling clay showed it to be unsatisfactory. The yield value of the material was low i.e., 51 barrels per ton of 15 centipoise mud at 77°F. A Good drilling clay should give a yield value of around 100 barrels of 15 centipoise mud per ton of bentonite. The sand content of this sample measured 1.4%.

yield tests

Unfavorable results were obtained in the tests conducted to determine the suitability of the bentonite for making light-weight concrete aggregate. It proved to be a very poor bloater.

The Ceramic section report that the bentonite fuses to a creamy colored glass at about 2500°F. It exhibits no properties which would indicate any commercial value to the Ceramic or paper-making industry.

We are not equipped here to evaluate the qualities of a bentonite to be suitable for bleaching mineral or vegetable oils. I would suggest that you contact some of the oil refineries and packing plants in Edmonton with regard to this. As an alternative, you might contact Professor W.G. Worcester, 720 Saskatchewan Crescent East, Saskatoon, Sask. I believe that he would be able to make bleaching tests for you.

A portion of the sample that you submitted has been turned over to the Foundry section to test its value as a foundry sand binder. They will be replying direct to you in due course.

Yours very truly,
(signed) J. Gordon Matthews

J. GORDON MATTHEWS
Engineer

JGM/MK

CANADA
Department of
Mines & Technical Surveys

Mines Branch

Physical Metallurgy
Division

568 Booth Street,
Ottawa, Ontario
October 3, 1951

P.M. Test Report No: 9020

Re: Examination of two samples of Alberta Bentonites for foundry use.

To: Mr. Wm. Polypow
11726 94th Street,
Edmonton, Alberta.

On August 28, 1951, two samples of bentonite were received from Mr. M.F. Goudge, Director, Industrial Minerals Division, for examination to determine their suitability for use as foundry sand binders. These samples had been submitted to the Industrial Minerals Division by Mr. Wm Polypow, 11726 - 94th Street, Edmonaotn, Alberta.

bonding strength tests

Method Of Testing

In conducting the tests, the methods and equipment used were those recommended by the American Foundryman's Society (see Foundry Sand Testing Handbook, 1944 edition (A.F.S) The Alberta bentonites were compared with two commercial foundry bentonites by mixing test batches in an 18 inch laboratory mixer.

A commercial core sand was used in this investigation. This sand had a smooth sub-angular grain, and had the following screen distribution.

.....2

U.S. Screen No.	Per Cent Retained
16	nil
20	nil
30	0.6
40	2.6
50	14.8
70	41.2
100	36.2
140	4.3
200	0.2
270	nil
Pan	Trace

The following mixture was used in testing the sand

4000 gm sand
200 gm bentonite
moisture to temper

The sand was mulled 1 minute to dry and 4 minutes wet in a laboratory sand muller.

Physical Properties

The synthetic moulding sand mixtures prepared from the above bentonites had the following properties

....3

	Sample No. 1	Sample No. 2	Wyoming Bentonite	Missouri Bentonite
Green Compressive Strength, psi	5.9	5.2	5.2	5.5
Dry Compressive Strength, psi	65.5	45.5	48.5	30
Compressive Strength 500°F	69	74	58	33
Compressive Strength 1000° F	83	88	67	40
Compressive Strength 1500° F	97	130	120	46
Compressive Strength 2000° F	70	102	125	49
Compressive Strength 2200 F	10	10	128	19

Durability

When clay is heated, water of crystallization is driven off and the bonding properties deteriorate. Measuring the loss of green and dry strength of the sand mixture after it has been heated is one means of testing the durability of a foundry clay.

The durability was tested by baking batches at temperatures of 220°, 400°, 600°, 800°, 1000°, and 1200°F. The properties of the bentonite bonded sands were measured after baking for 2 hours at each of these temperatures. The results of these tests are tabulated below.

Durability of Green Bond

Green Compressive Strength, psi

Alberta Bentonite

Baking Temperature °F	Sample No. 1	Sample No. 2	Wyoming Bentonite	Missouri Bentonite
Room	5.0	4.6	4.9	5.3
400	4.9	5.2	4.7	4.8
600	4.8	5.0	4.5	3.5
800	4.7	4.8	5.2	3.0
1000	3.7	4.7	4.8	1.1
1200	1.5	1.7	1.5	-

Durability of Dry Bond

Green Compressive Strenght, psi

BAKING Temperature °F	Sample No. 1	Sample No. 2	Wyoming Bentonite	Missouri Bentonite
220	56.5	58.5	78	30
400	39	38	69	38
600	43	38	60	31
800	54	40	40	22
1000	33	25	23	6
1200	1	0.8	7.5	1.6

Conclusion

1. The foundry properties of the two Alberta bentonites submitted for test are somewhat similar to thos of the Wyoming bentonites, although some of the hot strength properties have a slight resemblance to the Missouri bentonites

...5

2. These bentonites could be substituted fro Wyoming bentonites in foundry practice without changing the properties of the sand mixtures appreciably.

3. The durability of the Alberta bentonites is equal to that of the Wyoming bentonites, that is, the durability is good

(signed) A.E. Murton

A.E. MURTON
Metallurgist

AEM/KW

Department of Chemical
Engineering

Edmonton, Alberta.
Canada

University of Alberta

June 25, 1951

Mr. William Pylypow
11726 94th Street,
Edmonton, Alberta.

Dear Mr. Pylypow:

Enclosed please find reports on the two samples of clay which were delivered to our laboratory on June 19th, 1951

The tests conducted on these clays indicate them to be unsatisfactory as drilling clays. The viscosity developed by the clay obtained at 50 feet was 14.6 cp. in a 10.3% suspension and for the sample obtained at 30 feet it was 12.2 cp. in the same suspension. The minimum viscosity developed by good quality Bentonites is 20 cp. in a 7% suspension. The minimum viscosity developed by fresh water drilling clays is 15 cp. in a 6% suspension, unless the price on poorer clays is extremely attractive.

viscosity tests

The sand content of both samples was relatively high.

sand content tests

Yours very truly,

(signed) D.B. Robinson
Assistant Professor

DBR:AB
Encl. 2

UNIVERSITY OF ALBERTA.

Department of Chemical Engineering
Edmonton, Alberta.
Canada

Chemical and Engineering Laboratories

Test No. 547

DATE: June 25, 1951

Report of Tests of Clay sample obtained at 30 ft.

Date of Tests June 20-22,1951

For: Mr. William Pylypow
11726 94th Street,
Edmonton, Alberta.

The lump clay sample was dried, pulverized and sieved to pass 200 mesh screen. Samples of mud corresponding to yields of 50 and 70 bbl./ton of clay were prepared. After a 24 hour period the acidity was properly adjusted and the sample allowed to stand for 20 hours. Tests were then made for viscosity and sand content.

Viscosity

The Stormer viscosity of the 50 bbl/ton sample at 70°F was 12.2 cp. The viscosity of the 70 bbl./ton sample was not obtained.

Sand Content

The sand content obtained by centrifuge for the 50 bbl./ton sample was 1.2% (approx)

viscosity tests
Sand content tests

Tested by: D.B. Robinson

Approved:

Indexing Document No. 700727

Test No. 548

Report of Tests of Clay sample obtained at 50 ft.

Date June 25, 1951
Date of Tests June 19-22,1951

For: Mr. William Pylypow
11726 94th Street,
Edmonton, Alberta

The lump clay sample was dried, pulverized and sieved to pass 200 mesh screen. Samples of mud corresponding to yields of 50 and 70 bbl./ton of clay were prepared. After a 24 hr. period the acidity was properly adjusted and the sample allowed to stand for 20 hr. Tests were then made for viscosity and sand content.

Viscosity

The Stormer viscosity of the 50 bbl./ton sample at 70°F was 14.6 cp. The viscosity of the 70 bbl./ton sample was not obtained.

Sand Content

The sand content obtained by centrifuge for the 50 bbl./ton sample was 1.2% (approx)

Tested by D.B. Robinson

UNIVERSITY OF ALBERTA.

June 13, 1951

Date of Tests June 11, 1951

Evaluation of clay

For Mr. W. Pylypow
11726 94th Street,
Edmonton,

Preparation of Clay

The sample of clay as delivered was dried 24 hours at 110 - 120°C, pulverized in a ball mill, and screened. Owing to the size and nature of the sample, everything passing 150 mesh was used in preparation of mud samples.

Preparation of Mud Samples

Samples of mud representing yields of 40 and 60 bbl./ton were prepared from the screened clay. Indications were that the clay was unsuitable as a drilling mud component. The samples were allowed to stand 20 hours. The acidity was adjusted to the required value.

Viscosity

It was apparent from visual observation that the mud samples prepared from the clay specimen would not meet viscosity requirements. Tests were therefore discontinued at this point

Test by: D.B. Robinson

Prospecting done by Shetiuck & Son Taken Samples by Geologist

Sep-11-1953-Gordon Kidd, Luscar Coal Comp - N.E-21-57-1-5

7 feet to Bentonite, 7 feet of Bentonite 15-feet

Oct-26-1953-C.J. Hoffer, Magco Bar Texas - N.E-21-57-1-5

7 feet to Bentonite 7 feet of Bentonite 14-feet

April-16-1954-Mr Wolke for Richardson & Son - S.E-30-57-1-5

6 feet to Bentonite 10 feet of Bentonite 16-feet

May-1-1954-Shaw for Duncan Supply - S.E-30-57-1-5

6 feet to Bentonite, 10 feet of Bentonite - 16-feet

May-1-1954-Shaw for Duncan Supply - N-E-21-57-1-5

7 feet to Bentonite 7 feet of Bentonite 14-feet

May-15-1954-Mr. Scott for Baroid, Texas, N-E-21-57-1-5

Hole No 1-8 feet to Bentonite 6 feet of Bentonite 14-feet

Hole No 2-3 feet to Bentonite 4 feet of Bentonite 1½ Shale and

6 feet of Bentonite Clay on Bottom 15-feet

May-17-1954-Mr. Scott for Baroid Texas - S.E-30-57-1-5

6 feet to Bentonite 13 feet of Bentonite 19-feet

May-18-1954-Mr. Scott for Baroid, Texas, N-E-21-57-1-5-

Hole No 3-9 feet to Bentonite 1½ of Bentonite balance Clay, 19-feet

Hole No 4-3 feet to Bentonite 3 feet of Bentonite balance Clay 11-feet

May-24-1954-Mr. Shaller for Richardson & Son - S.E-30-57-1-5

6 feet to Bentonite 8 feet of Bentonite 14-feet

Total 167 feet

Prospecting done by Archibald & Son Taken Samples by Geologist

May - 24 - 1954 - Mr Allen for Richardson & Son - N-E-21-57-1 - 5

Hole No 1 - 7 feet ½ Bentonite 7 feet of Bentonite 14 feet

Hole No 2 - 3 feet ½ Bentonite 4 feet of Bentonite 1½ shale and

6 feet of Bentonite Clay on Bottom 15 feet

Total 29 feet

Exploration done by Hedrick & Lee

S. E - 30 - 57 - 1 - 5th ✓	304 - feet
S. E - 30 - 57 - 1 - 5th ✓	253 - feet
S. W - 30 - 57 - 1 - 5th ✓	279 - feet
S. W - 30 - 57 - 1 - 5th ✓	310 - feet
N. W - 20 - 57 - 1 - 5th ✓	68 - feet
N. W - 29 - 57 - 1 - 5th ✓	22 - feet
S. E - 29 - 57 - 1 - 5th ✓	45 - feet
S. W - 29 - 57 - 1 - 5th ✓	36 - feet
N. E - 25 - 57 - 2 - 5th ✓	46 - feet
S. E - 25 - 57 - 2 - 5th ✓	116 - feet
N. E - 21 - 57 - 1 - 5th ✓	32 - feet
	1.511 - feet
Holes drilled with Gerlgeist	196 - feet
Total	1.707 - feet

Exploration done by Lyleyson, Strehlecke & Lore & Thompson

N-E-21-57-1-5	145-feet
S-E-21-57-1-5	22-feet
N-W-22-57-1-5	154-feet
S-W-22-57-1-5	21-feet
	342-feet

By Lyleyson, Strehlecke & Lore.

S-W-21-57-1-5	35-feet
S-W-20-57-1-5	184-feet
S-E-30-57-1-5	211-feet
	430-feet

By Lyleyson, Strehlecke & Lake.

N-E-21-57-1-5	202-feet
N-W-21-57-1-5	125-feet
	327

By Lyleyson, Strehlecke & Lore, Total feet, 1.099-feet

By Lyleyson.

N-W-21-57-1-5	44-feet

S.E-30-57-2-5-4

No 2 - 93 feet.
34-Co Boulmile 21-Boulmile
7 Shale 27-Boulmile
No 1 58 feet 21-Co
Boulmile 22-Boulmile
7 Shale 8-Boulmile
No 3 - 60 feet - 40-Co
Boulmile 15-Boulmile
5-Shale

Explored by Harry Hechicheh
in the year 1947 - Information
given to Mr. Wm Pylypow
Feb the 27th 1951, in Edmonton.
Also two quarts samples -

Shale - 211 feet

Hrikedky Ryleyfoor & Sore & Hrediscketk & Sore

North

No 12 - 23 feet clay & Stone

No 9 - 15 feet clay & Stone

No 13 - 25 feet Clay Yellow & green dry

No 10 - 15 feet clay & Stone

No 8 - 13 feet Clay & Stone

No 11 - 15 feet clay & Stone

No 14 - 21 feet clay & Stone

No 7 - 13 feet clay & Stone

No 15 - 21 feet. Green clay

No 16 - 25 feet Clay

No 5 - 15 feet clay & Stone

No 4 - 23 feet Clay

No 17 - 13 feet clay & Stone

No 6 - 20 feet clay & Stone

Total - 253 feet

South

Worked by Hedrick & Love

North

No. 23 - 14 feet to Clay 10 feet of yellow Clay.

No. 24 - 14 feet to Clay 10 feet of yellow clay

No. 18 - 37 feet 20 - to Rubber Clay 9 feet of Clay 8 feet of Coal Shale Bottom

No. 27 - 19 feet 9 feet to Bentonite 4 inch Shale 6 feet of yellow Bentonite and 5 feet of green Bentonite

No. 19 - 35 feet 20 to Bentonite 2 feet of Bentonite Shale + Blue Sand of 13 feet -

No. 20 - 30 feet 22 feet of Clay 8 feet of Rubber Clay -

No. 21 - 26 feet 13 feet Coal Shale 3 feet of Shale 10 feet mixed Rubber Clay + Shale

No. 22 - 29 feet Clay + Rubber Clay to Bottom

No. 25 - 20 feet Clay + Sand on Bottom

No. 26 - 27 feet Clay + Rubber Clay to Bottom

No. 29 - 12 feet 6 feet to new yellow Clay 6 feet of Clay Stone on Bottom

No. 30 - 21 feet 6 feet to new yellow Clay 7 feet of Clay balance Rubber Clay + Water

No. 28 - 20 feet 5 feet to Bentonite 7 feet of Bentonite Clay + Sand mixed at 13 feet Water below Rubber Clay

Total - 304 feet -

South

1-E-30-27-1-5-[illegible]

G. Horkesky & the Linkell P & Son

North

No (4) - 16 feet Clay + Sand

No (5) 16 - Clay and Stone

No (6) 30 - Yellow Clay

No (7) - 22 - Clay + Stone

No (8) - 26 - Blue Clay + Stone

No (9) (22) - Clay + Stone

No (10) - 6 feet Clay + Stone

No (11) - 6 feet Clay + Stone

No (12) - 13 feet Clay + Stone

No (13) - 10 feet Clay + Water

No (3) - 14 feet Green Clay

No (2) 15 feet Clay + Stone

No (1) 15 - feet Clay + Stone

No (14) - 25 feet Clay

No (15) - 21 - feet Clay + Sand

No (16) - 1 Hole 30 feet Rubber Clay.

No (17) 1 Hole 25 feet Rubber Clay

Total 310 feet

T-N-30-27-1-25-W

South

Worked by J. Hendricks & Love

North —

No 22 - 30 feet clay
and Black clay with Sand + Water

No 19 - 29 feet
Clay Sand + Water

No 18 - 28 feet 12 feet to
Montmorrilite 16 feet
of Montmorrilite

No 20 - 29 feet clay
and Black clay with
Sand all the way

No 23 - 28 feet
4 feet of Brown clay 6 feet of marl
18 feet of green clay

No 21 - 29 feet clay
and Black clay all the way

No 24 - 21 feet 11 feet
to Bentonite 1 1/2 of Bentonite
balance clay -

No 25 - 12 feet
6 feet of clay 5 - marl
Sand on Bottom

Total 279 feet

No 26 - 26 feet 20 - to
Bentonite 6 inch of Bentonite
balance clay

No 27 26 feet 14 feet clay
8 feet Bentonite clay

No 28 - 21 feet 2 feet to
Bentonite 6 feet Bentonite balance
clay + Rock on Bottom -

South -

8-11-30-51-1-38

Worked by [illegible] & Lowe

S.E. 21-57-1-5th -

North

South -

No 1 - Hole 22 feet
clay + lime

Trial 22 feet

Hrabowsky, Pylypow, Hnatishak + Rose

N.E-21-57-1-5th

- North -

Hole No. 2 - 12 feet - 6 feet to Bentonite 4 feet of Bentonite 2 feet of Shale -

Hole No. 3 - 8 feet 3 feet to Bentonite 4 feet of Bentonite 1 foot of Shale

Hole No 1 - 12 feet 6 feet to Bentonite 4-feet of Bentonite 2 feet of Shale.

Total 32-feet -

- South -

Explored by Hrehirchek & Son on April the 26th 1953 -
Information given to Mr. Pylypow by Letter dated December the 10th 1952

N-E-21-57-1-5th meridian

No 7 18½ Clay
No 6 7 - Clay + Stone
No 5 14 - Clay + Stone
No 4 13 - feet 6½ Th Bentonite - 6½ Bentonite
No 8 14 feet 9 Th Bentonite 5 feet Bentonite
No 9 feet 4 Th Bentonite 4 - Bentonite - 1 - Shale
No 10 - 15 feet 10 Th Bentonite - 5 Bentonite

No 12 - 6 feet 3½ Th Bentonite 2½ - Bentonite

No 11 - 17 - feet 12 feet Th Bentonite 5 feet 7 Bentonite
No 13 14 feet 4 inch 7 - 4 Th Bentonite - 7 feet Bentonite

No 15 - 10 feet Clay + Sand
No 14 - 8 - feet Clay + Gravel

Total 145 feet

Worked Dyleffson and Hedinlek and Lee
and Dike Thompson –

N-E-21-57-X-5th meridian. South.

No 19 - 22 feet clay

No 17 - 22 feet clay

No 23 - 32 feet all clay

No 20 - 24 feet 9-10 Bentonite 4 feet Bentonite balance clay

No 16 - 16 - 8-10 Bentonite 2 1/2 feet Bentonite balance clay

No 18 - 24 feet clay

No 21 - 21 feet all clay

No 24 - 17 feet 10 To Bentonite 4 Bentonite balance clay

No 22 - 24 feet clay

Trac 202 feet -

North -

Dyeyppng, Sacko, and Stukinkek worked

N-W-21-57-1-5th, South -

No (1) - 9 feet
10"-4 Bentonite 4 inch
Bentonite Fullers clay

No (2) 24 feet clay

No (3) - 24 feet clay

No (4) - 24 feet clay

No (6) - 14 feet
clay + Lime

No (5) - 24 feet clay

No - (6) - (7) - (8) worked
by Rylepow - 44 - feet

No (7) 10 feet
clay + Lime

No (8) - 21 feet
clay + Lime

Total - 169 feet -

South -

Worked by Dyleyson, Kulinick & Salko

S-W-21-57-X-5

No (1) Hard 21 feet
19 feet clay 1½ feet of
Brown Sandstone

No (2) 14 feet clay & lime

Total 35 feet

Worked by Pylypow Skolinski & Lore

Worked by Heckickek + Love

N-W-20-57-1-5E

No (6) 5 feet Lime
Bentonite 3 feet
Bentonite and clay
12 feet

No (5) 6 feet 2 feet
Bentonite clay
Sand no Bentonite

No (2) 20 feet clay & lime

No (3) 7 feet clay & lime

No (4) 8 feet clay & lime

No (1) Hole 15 feet
clay & lime

Total 68 feet

West

East

North

No 9 Hole 8 feet Caving Land

No 1 Hole 16 feet Clay & Stone

No 2 Hole 21 feet ore Land

No 3 Hole 21 feet Blue Clay

No 4 Hole 20 feet Clay & Stone

No 8 6 feet Hard to Mare 2½ Marl Calcareous Clay

No 5 Hole 21 feet Clay and Caving Land

No 6 Hole 14 feet Clay & Stone

No 7 Hole 37 feet 18 feet to Bentonite Limestone Bentonite Calcareous Black Clay

Trees 1844 feet.

South

Horkoc. dey Pylyppory, Heelickek & Lore –

S-W-22-57-1-5th

North

South

No 1 - Hole 21 feet
clay & gravel

Total 21 feet

Worked by Pyeffson, Strelicek + Love and Lowe Thompson -

N-W-22-57-1- Sweetofite 5E¼

North

South

No. (5) Hole-22. clay - 4 feet Coal Shale

No. (6) Hole 22 feet clay

No. (7) Hole 4 feet clay + stone

No. (9) Hole 8 feet + stone

No. (8) Hole 22 feet clay

No. (10) Hole 7 feet clay + stone

No. (4) Hole 9 feet Caving Sand

No. (3) Hole 12 feet Clay Traces of Bentonite

No. (11) 14 feet of clay 4 - Coal Shale 3 feet of Green Bentonite Hole - 21 feet

No. (2) Hole - 22 feet clay

No. (1) 15 feet clay + Stone

Total 154 feet

Work done by Dylyson, Hekinebek & Lee are [illegible] [illegible] Thimpson.

North.

No-4-6 feet Gravel
on Bottom

Trial - 127-feet

No-2-3-Hole drilled by Lang - 89-feet
No-1-4-5-Hole drilled by Stuhlsatel + Love - 36-feet.

No 3- Hole 50 feet
clay & Strips of Bentonite

No 1- Hole. 18 feet clay
and Stone.

No 2- Hole 41 feet 39 feet of
clay 2 feet of Bentonite

N-5- 12 feet 5 feet to
Bentonite 3 feet of Bentonite
balance Bentonite clay

South.

S-W-29-57-1-5-B

Worked by Kaupaua [illegible] & [illegible]

S.E-29-57-1-5th

No 2 Hole 17 feet 8 feet clay - 6 feet Mergaye Beutonite 3 feet shale Hard Coal on Bottom -

No 1 Hole - 18 feet clay Lime on Bottom

No 3 - 18 feet 5 1/2 Gr Beutonite 3 1/2 Beutonite 6 feet Shale Blue Sand on Bottom

Total - 45 feet

Harkeedey Theheickk & Love –

N-W-29-57-1-5E-

Total - 22 feet

No. 1 Well - 22 feet 3 feet clay, trace of Bowlder Material clay, coal & clay

Worked by Hrdlicka & Love

North

No (2) Hole 23 feet
Yellow Clay + Sand

Tree 46 feet

No (1) Hole 23 feet
Yellow Clay + Shale

South

N.E.-23-57-2-W4-

Worked by J. Heckinelsk & Love

North -

No 5 - 14 feet - 7 feet
yellow hard clay

No 6 - 14 feet 7 feet
yellow hard clay

No 7 - 10 feet - 4 feet
hard yellow clay

No 8 - 12 feet
sand & quick sand

No 4 - 29 feet 14 - clay - 4
coal streak between yellow
and Gray clay

No 3 - 21 feet sand & clay

No 2 - 10 feet caving sand

No 1 Hole 6 feet sand
and stone

Total - 116 feet

South -

Worked by Strickrock & Son

All Tottalk Drilling
Holes for Bentonite

N E. 22 – 57 – 1 – 5	314 feet
S. E. 25 – 57 – 2 – 5	219 " "
N W. 22 – 57 – 1 – 5	678 " "
N E 21 " " " "	82 " "
S. W. 21 " " " "	86
S W. 27 " " " "	63
N E. 27 " " " "	227
S E. 30 " " " "	1025
N E. 20. " " " "	103
N E. 21. " " " "	785
	3562 feet

Tottalk

Sept. 3th 1954
11726-94 st Edmonton Alta

Mr. Woltman. Kpn. Edmonton.

S.E.¼. sec. 30. Tow. 57 – Range. 1 – 5. meridian

O. overburden.

L. Lowgrade. Bentonite

B. Bentonite

F. feet.

D. Dry. Hole

X. 35. F 0.24 F. B. I. Y.S.	Hole
X ← 32. F 0. 52. F. B. I. Y.S. F. Hole	X ← 30. F. D. Hole
X ← 35. F 0. 30. F. B. I. Y.S. F. Hole	
X ← 22. F. 0. 21. F. B. I. Y.S. F. Hole	
X ← Y.S. F. D. Hole	
X ← 27. F 0. 13. F. B. I. Y.S. F.	Hole
X ← 42 F. 0. 35. F. B. I. Y.S. F. Hole	
X ← 45. F 0. 40. F. B. I. Y.S.	Hole
X ← Y.S. F. D. Hole	
X ← 35. F. D	Hole
X ← 55. F. D. Hole	
X. 40. F. D	Hole
X ← 45. F. D. Hole.	

G. F 0. 24. F. B. 35. Y.S. Hole →

Sub 1. one

Sub 2

X. 25. F. B | Hole

X. 30. F D. Hole

Total. feet 1025.

SE-30-57-1-5

Sub. 3. total

Sub 4.

NE 21 — 57 — 1 — 5

H. X. 16. fut. clay

H X. 15 fut. C.

H. X. 18. fut clay

Sub — 15

16. Holes. 14. fut
from. 6. inches to
7. fut. Bentonite

10. 18 fut.
4 Holes. Bentonite
6. Holes. clay

H. X. 18. fut. clay

H. X. 22 fut. C

Sub. — 16

10. Holes. 14 fut
from. 18. inches to
7. fut. Bentonite

11. 14 fut. clay

Total. 785 fut

Sub. — 10

NE 21 — 57 — 1 — 5

Sub. — 9

S.W. 21 – 57 – 1 – 5

Hole. 20 feet, 6. inches. Bentonite overburden. 18 feet

16. feet. clay x H

Sub – 5

Sub. – 6

Total feet. 36 feet

S.W.-21 – 57 – 1 – 5

Sub. – 4

Sub. – 3

S. E. 21 – 57 – 1 – 5

Hx. 22. fut. clay

Hx. 20. fut. clay

Hx. 22 fut. clay

Hx. 18. fut. clay

Sule. 7

Sule- 8.

Tottoll 82 fut

SE. 21 – 57 – 1 – 5

Sule- one. (1).

NE 20— 57— 1—5

Hole 36 feet clay

Sub.— 15

Hole X 10 feet clay

Hole X 27 feet clay

Hole X 30 feet
20 feet to Bentonite
4 inches Bentonite
Kellens clay

Sub.— 16

Total 103 feet

Sub.— 10

NE 20—57—1—5

Sub.— 9

NE. 22—57— 1— 5

H.X 14 fut. clay
H.X. 14 fut clay H X 14 f. clay
H X. 14. fut, clay
H.X. 14. fut, clay
H. 14. fut, clay, H.X 14 fut, clay

H.X. 14 fut. clay
H.X. 14 fut. clay
H.X. 14. fut, clay. H x. 14. fut clay
H. X. 14. fut. clay
H X. 14 fut. clay

Sub.—15

H. X. 14 fut. clay
H. X. 14 fut clay
H X 14. fut. clay
H. X. 14. fut. clay
H X. 14. fut. clay

Sub.— 16

H X 14 fut. clay
H X. 14. fut. clay
H X 20. fut clay
H. X. 14. fut clay

Tallull. — 314 fut

Sub.— 10

NE. 22— 57— 1— 5

Sub.— 9

NW. 22 — 57 — 1 — 5

H. X. 14. feet clay
H x. feet. clay
H. x. feet. clay.
H x. 14. feet. clay
H. X. 14. feet. clay.
Hole x 14. feet. C
Totall. 90. feet clay

Sub. — 14

16. Holes. 14. feet. all clay
Totall. 224. feet.

Sub. — 13

7. Holes. 14 feet.
Totall. feet 98 clay

19. Holes. 14. feet
Totall. feet. 266 clay

Totall 678 feet. clay NW 22 — 57 — 1 — 5

Sub. — 11

Sub — 12

Section | Township | Range, meridian

N.E.¼. 27 — 57 — 1 — 5

H. X. Hole

H X clay.

B. X. Bentonite

H X. 16. F C

H X. 18. F C

H. X. 14. F C

H X. 22. F. 4. inch. B. overburden. 20. F

Sule. No. 15

H. X. 22. F C

H X. 15 F. C

H. X. 14. F. C

H X. 12. F. C

H. X. 18. F. C

H X. 22. F C

Sule. no 10

Hx.16 F C

H. X. 18. F C

Sule. no. 16

H X. 20. F C

NE. 27 — 57 — 1 — 5

Total 227 feet

Sule no. 9

Section.	Township	Range.	meridian
S. W. ¼ 27	— 57 —	1 —	5

H. X. Hole

F. feet

C. Clay

H. X 12. F C

H. X. 21. F C

Sub. no. 5

H. X. 26 F C

H. X. 14, F C

Sub no 6

Tallall. fut 63

S. W. 27 — 57 — 1 — 5

Sub. no. 4

Sub. no. 3.

Section	Township	Range	Meridian
S. E. 1/4. 27	— 57 —	1 —	5

H. X Hole

C. ~~Cotton~~ clay

H. X. 15 F C

H X. 10. F C

H X. 14 F. C

H X. 16. F. C

Sub. no. 7

Sub. no. 8

H. X. 12. F. C

H. X. 16. F. C

H. X 14. F C

S. E. 27 — 57 — 1 — 5

Total. — 93 feet

Sub. no. 2

Sub. No. 1.

SE 1/4 Sec. 9 S. Tow. 57 Range 2. W-5

O. Overburden

B. Bentonite

F. feet

D. Dry. Hole

M. Montmirillonite

H. Hole

X. 11. F. D. H

X. 10. F. D. H

X. 10. F. D. H

X. 15. F. D. H

X. 12. F. D. H

X. 15. F. D. H

X. 0 11 F. B. 8. inches. 16 F. H

X. 0. F. 9. B. 2. F. 18. H

X 12. F. D. H

X 22 F. D. H

Sub. one. 1.

X. 0. 10 F. M. 10. B. 22 F. H

X 10. F. D. H

X. 14. F. D. H

Sub. Group 2

S 6, 25. — 57 — 1 — 5

Tabbell Fee 219.

Sub 8.

Sub. 7