GEOLOGY AND SAMPLING OF THE SIC CLAIM, KAMLOOPS MINING DIVISION, SOUTHWESTERN BRITISH COLUMBIA

(92I/15W/2)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

23,865

Latitude:	50°55'31"
Longitude:	120°58'03"
Owner:	Western Industrial Clay Products Ltd.
Operator:	Western Industrial Clay Products Ltd.
Consultant:	Geotex Consultants Limited
Author:	Peter B. Read
Date:	April 10, 1995

GEOTEX CONSULTANTS LIMITED

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

MAPS

GEOLOGY AND SAMPLING OF THE SIC CLAIM, KAMLOOPS MINING DIVISION, SOUTHWESTERN BRITISH COLUMBIA (92I/15W/2)

Peter B. Read

1. INTRODUCTION

On April 13, 1994, Western Industrial Clay Products staked the SIC Claim consisting of 12 units to cover a previously discovered occurrence of bentonite named the Split Rock showing and identified as MINFILE #092INE~~162~~ 170. After drilling, the area was extended by staking SIC 2 consisting of 12 units and SIC 3 consisting of 1 unit. Originally the showing was discovered during a regional industrial mineral assessment of the Tertiary rocks in southern British Columbia (Read, in press) and is exposed on the lower portion of the east valley wall of Deadman River valley within the SIC Claim. This report covers a 4-day period of geological investigations and sampling by means of drilling thirty 1.25 m-deep postholes with a gas-powered auger (Maps A to D).

The samples are stored at the company warehouse in Kamloops
T.K.

2. LOCATION

SIC Claim lies about 17 kilometres north of the junction the Trans Canada Highway with the gravelled and paved Deadman River Road and about 7 km west of Savona. The showing is about 22 km distant along publically maintained highways from the Canadian National Railway at Savona Siding on the west end of Kamloops Lake. The claims lie on the lower part of the east valley wall of Deadman River valley at 695 m (2275 feet) and UTM coordinates FM0642850mE and FM5643150mN (Figs. 1 and 2). SIC2 and SIC3 claims were located to allow unimpeded road access from Deadman River valley road to the claims by crossing the river near its junction with Silverspring Creek and heading 1.0 km easterly and upslope through deep overburden from 565 m (1850 feet) to 640 m (2100 feet).

Scale 1:125,000 or approximately 2 Miles to 1 Inch.

Miles 1 ½ 0 2 4 6 8 10 Miles

Scale of Kilometres

1 0 2 4 6 8 10 12 14 16

Figure 1: Regional map showing the location of SIC 1 Claim.

2

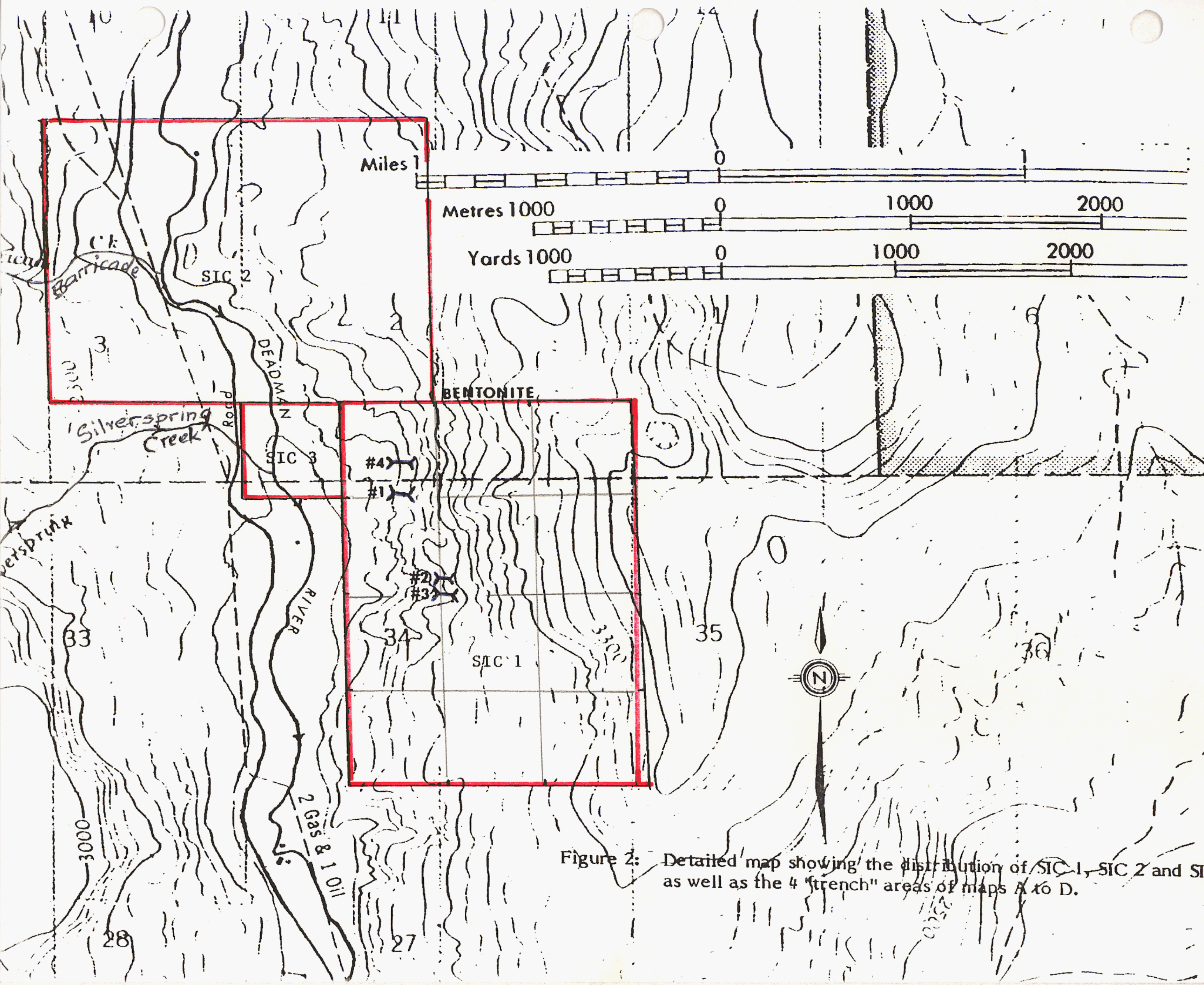


Figure 2: Detailed map showing the distribution of SIC 1, SIC 2 and SIC 3 as well as the 4 "trench" areas of maps A to D.

3. CLAIM GEOLOGY

SIC Claim lies near the base of the Eocene Kamloops Group which forms a moderate northeasterly dipping sequence of aphanitic dacite to andesite ash-tuff which is now dominantly montmorillonite. Outcrops of rare, unaltered andesite flows and dikes up to a few metres in thickness are present in the bentonite-rich ash-tuff outcrops. Two bentonite lenses up to a hundred metres thick and at least 500 metres long forms within the ash-tuff. A layer up to few feet thick composed of weathered bentonite "popcorn" covers the bentonite outcrops making it difficult to obtain unaltered samples of the bedrock.

4. BENTONITE SAMPLING

Each of the two bentonite lenses is crossed twice by sample lines which are oblique to the southeasterly strike of the crudely bedded ash-tuff (Maps A to D). The sample lines followed ridgecrests where the thickness of the bentonite "popcorn" should be least. Sampling was done with a gas-powered posthole auger which created a 20 cm diameter hole that was 1 to 1.25 metres deep. Each of the 30 holes was sampled at the top, middle and bottom which yielded ninety 10 to 15 kg samples. The metre-long holes were spaced at about every 4 metres of stratigraphic thickness which results in sampling about 25% of the deposit. A single 50 kg sample was collected in "Trench 1" between holes 9 and 10 and was subjected to an X-ray diffraction investigation, exchangeable cation analyses, and selected physical tests (Appendix A). The exchangeable cation chemistry (Table 1) shows that the montmorillonite is an intermediate Na-K montmorillonite with the highest percentage of exchangeable monovalent cations of any bentonite presently known in British Columbia.

TABLE I:
EXCHANGEABLE CATION CHEMISTRY OF BENTONITES,
SIC CLAIM AND OTHER PRODUCERS

Producer / Material"	CHEMISTRY* $\frac{+}{++\&++}$ @	Exchangeable Cation Analysis (mequiv/100 g) Mg	Ca	K	Na	Total	CEC (mequiv/100 g)	MINERALOGY (in volume %) Diatoms	CRYSTALLINE SILICA Quartz	Cristobalite	Tridymite	"CLAY" MINERALS Clays	Montmorillonite'	
WESTERN INDUSTRIAL CLAY PRODUCTS														
Deadman R.bentonite	51%	16.25	20.5	1.50	36.75	75.0	79.5							
W607 bentonite	51%	10.00	12.75	1.20	22.50	46.45	57.6							
W607-2175 bentonite	46%	7.25	17.50	0.93	20.00	45.68	46.4							
PACIFIC BENTONITE														
Calcium Bentonite	32%	12.75	14.00	1.38	11.00	39.13	53.1							
WYOMING BENTONITE														
Sodium Bentonite	64%	10.50	17.00	1.95	47.50	76.95	94.6							
ABSORBENT CLAY PRODUCTS														
Carefree Cat Litter	7%	9.25	18.25	1.70	0.23	29.43	51.3	-	7.24	0.0	0.0	92.8	73	•
PRESIDENT'S CHOICE														
Cat Litter	7%	10.50	44.75	3.00	0.90	59.15	54.5	-	9.42	0.0	2.91	86.0	73	10 3

* All analytical data determined by Pacific Soil Analysis Inc., 11720 Voyageur Way, Richmond, B.C.

@ $\frac{+}{++\&+} = \frac{Na + K}{Na + K + Ca + Mg} \times 100$ = %age of exchangeable cations that are monovalent

' Approximate percentages of "clay minerals" based on combining XRD and optical data.

5. CONCLUSIONS

(a) Sampling has verified two bentonite-rich ash-tuff lenses 50 to 100 metres thick and at least 500 metres long.

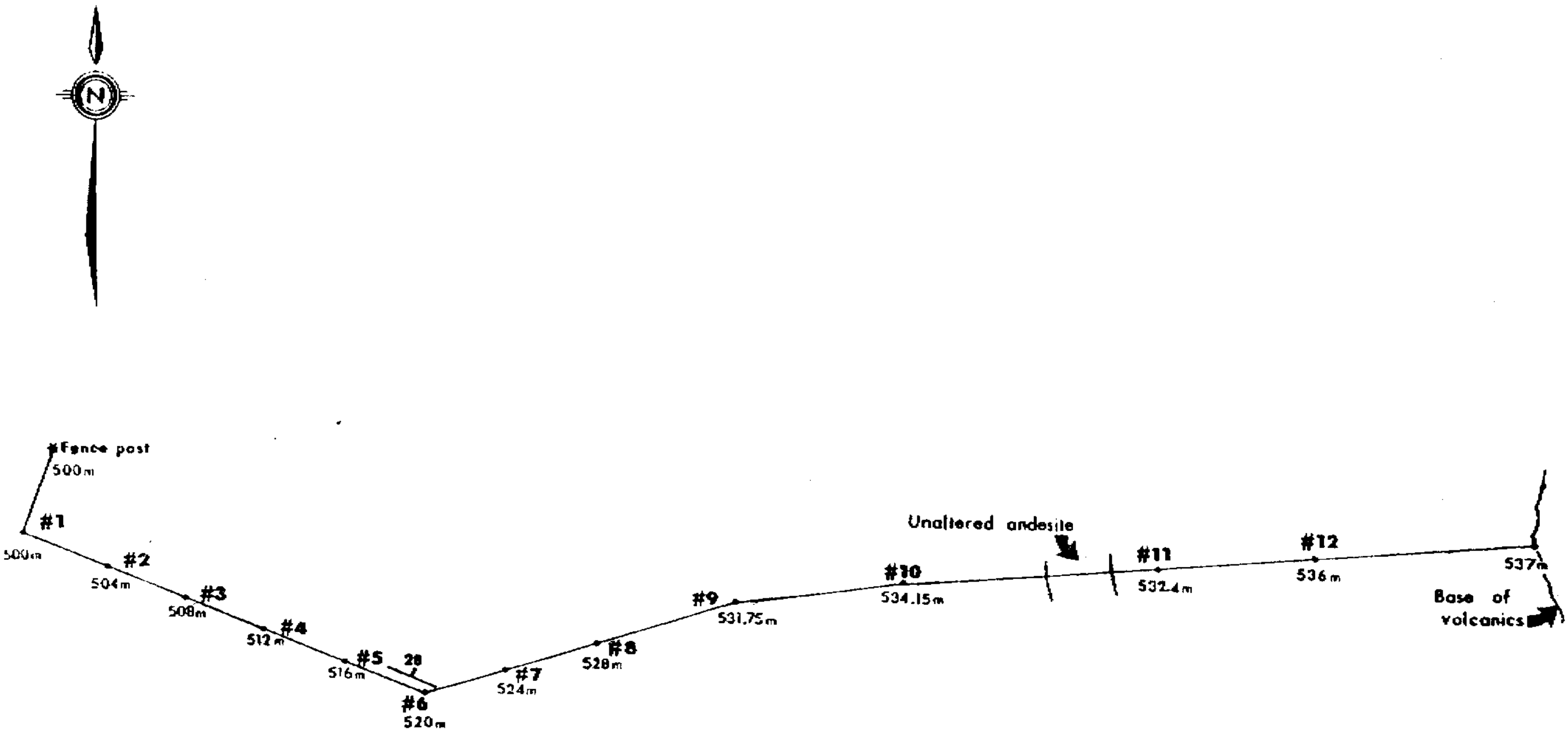
(b) A few new exchangeable cation analyses corroborate the initially determined, Na-K intermediate bentonite composition of the bentonite.

(c) Until the exchangeable cation chemistry and X-ray diffraction investigation of the samples are done, samples cannot be selected for physical testing and the economic bentonite zones defined.

REFERENCES

Read, P.B. (in press):
Geology and Industrial Minerals of the Tertiary Basins, South-Central British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources, Bulletin.

To: Paul Talis
(604) (952-0381)

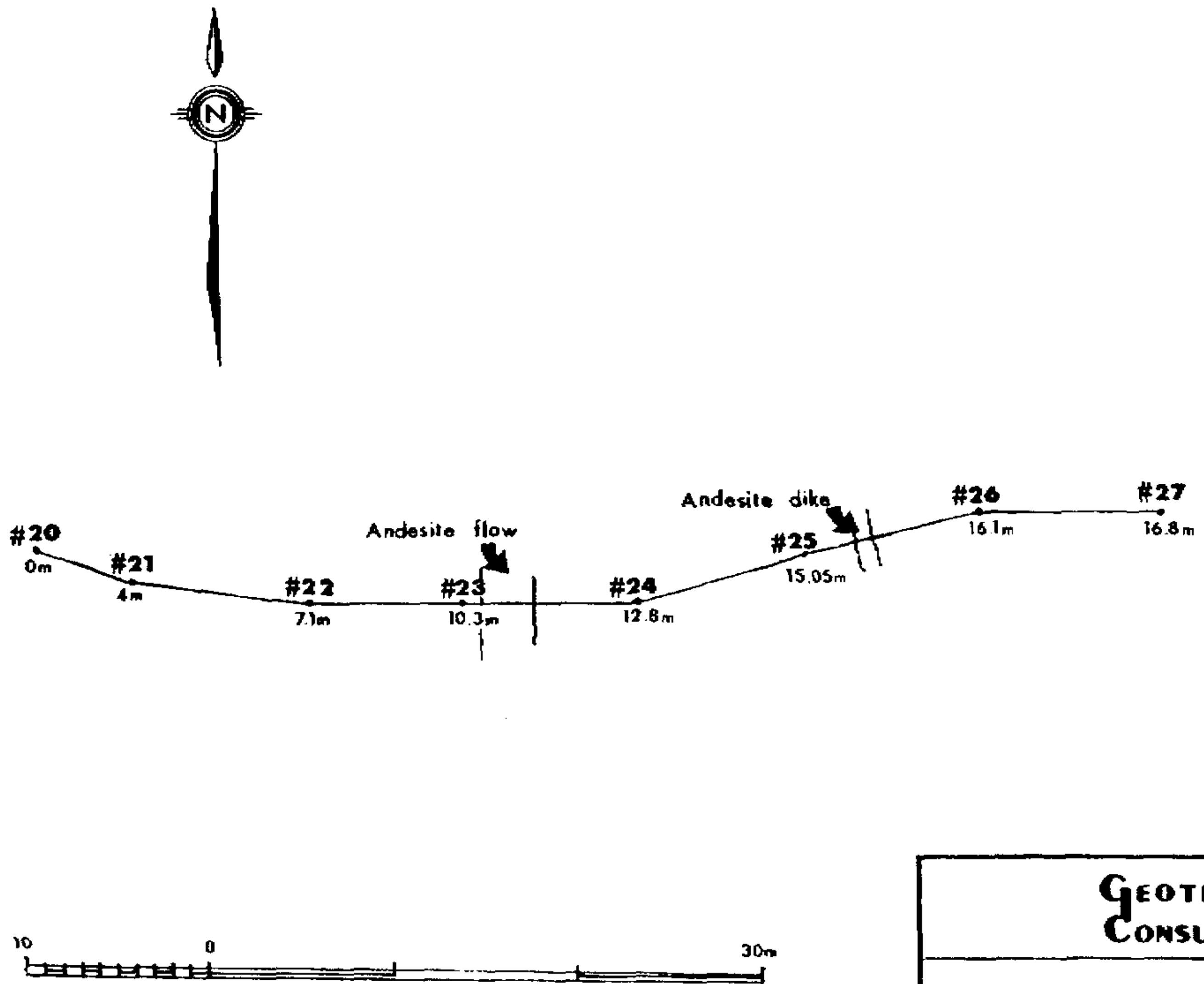


Geotex Consultants Limited

SIC CLAIM – "TRENCH 1"

DRILLHOLE & SAMPLE LOCATIONS

Date	Scale
APR. 9, 1995	1:400
PRR	



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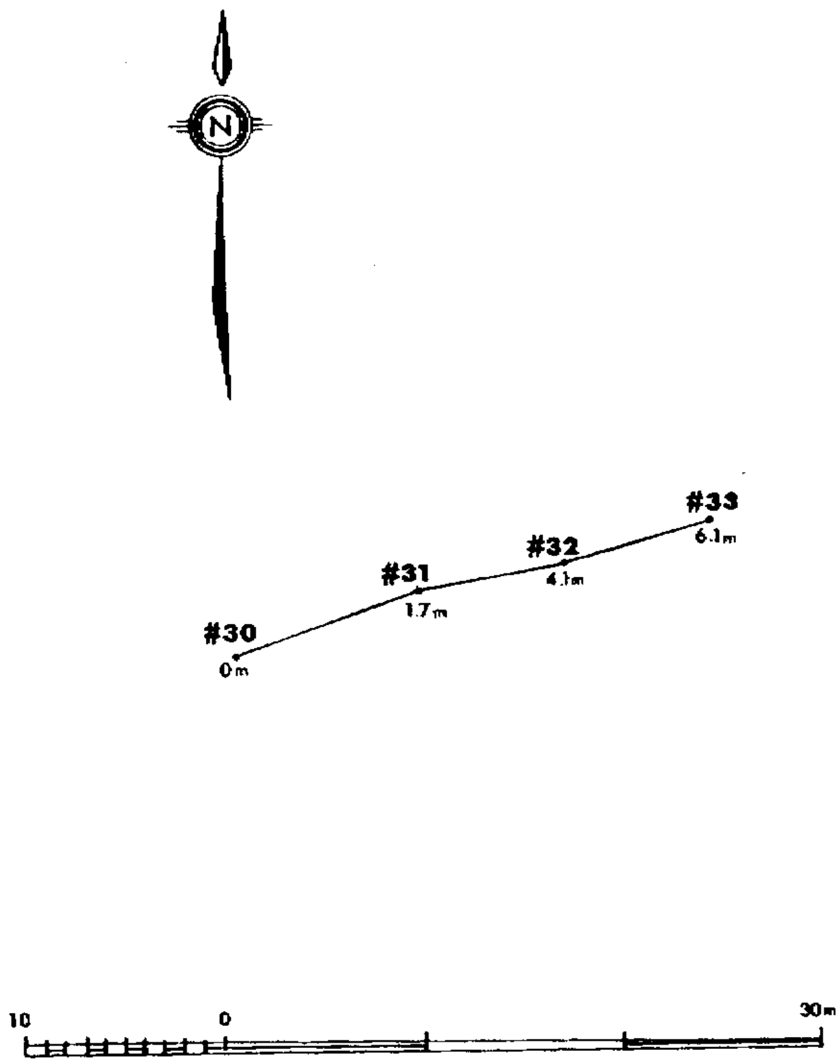
SIC CLAIM - "TRENCH 2"

DRILLHOLE & SAMPLE LOCATIONS

DATE APR. 9, 1995	SCALE 1:400
DWN PBR	MAP B



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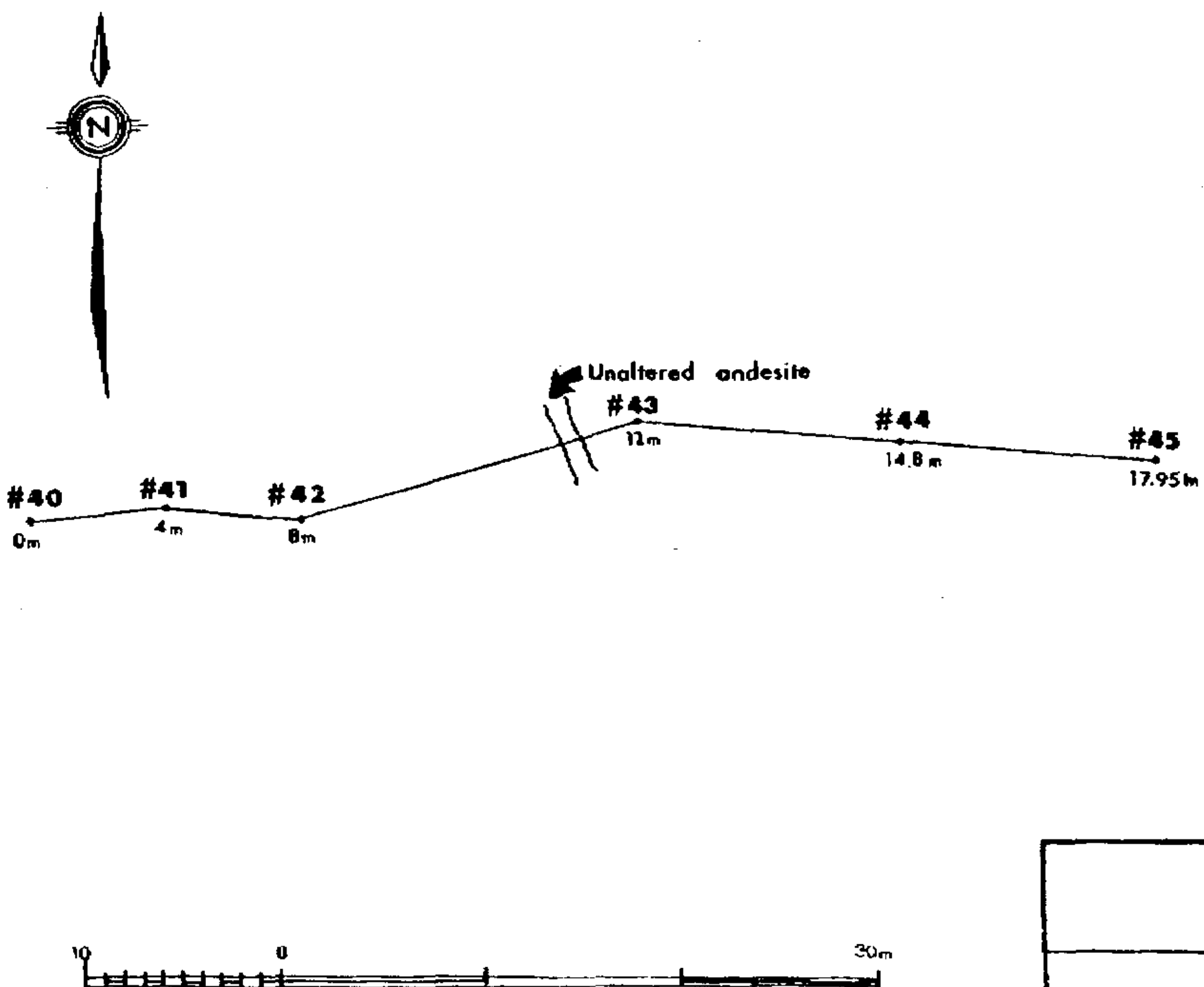
SIC CLAIM - "TRENCH 3"

DRILLHOLE & SAMPLE LOCATIONS

DATE APR. 9, 1995	SCALE 1:400
DWN P.B.R.	MAP C



GEOTEX CONSULTANTS LIMITED

SIC CLAIM - "TRENCH 4"

DRILLHOLE & SAMPLE LOCATIONS

DATE ARR 9, 1995	SCALE 1 : 400
DWN PBR	MAP D

10/19/94 12:28

Eco-Tech LABORATORIES LTD.

ASS
GEOCHEMI
ANALYTICAL CHEMIST
ENVIRONMENTAL TESTING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 2J3 Phone (604) 573-5700
Fax (604) 573-4557

FEED FAX THIS END

FAX

To: Lo Sluggett
Dept.: WIC
Fax No.: 372-3777
No. of Pages: 1
From: Sandy
Date: Oct 19
Company:
Fax No.:
Comments: 813 WR

Post-it® fax pad 7903E

ANALYSIS ETK94-813

18-Oct-94

WESTERN INDUSTRIAL CLAY
714 EAST SARCEE STREET
KAMLOOPS, B.C.
V2H 1E7

ATTENTION: L. SLUGGETT

21 CLAY samples received SEPTEMBER 29, 1994

Values expressed in percent

ET #.	Tag #	BaO	P205	SIO2	MnO	Fe203	MgO	Al203	CaO	TIO2	Na2O	K20	L.O.I.
1	Hole #1 bottom	0.23	0.60	53.33	0.11	7.30	2.06	14.76	4.02	1.02	2.22	0.85	13.50
2	Hole #2 bottom	0.03	0.65	52.67	0.04	8.85	1.92	14.57	3.93	1.00	2.33	0.10	13.91
3	Hole #3 bottom	0.05	0.80	54.90	0.14	8.50	1.92	15.03	4.24	1.04	2.38	0.01	11.00
4	Hole #4 bottom	0.19	0.49	57.14	0.03	7.47	1.87	15.33	3.63	1.07	2.49	1.80	8.50
5	Hole #5 bottom	0.01	0.58	57.52	0.02	7.31	1.85	15.86	3.65	1.00	2.54	0.36	9.30
6	Hole #6 bottom	0.01	0.67	59.62	0.03	6.45	1.30	15.79	3.89	0.98	2.49	0.78	8.00
7	Hole #7 bottom	0.13	0.91	53.97	0.17	8.31	2.55	15.25	4.08	1.12	2.45	0.86	10.20
8	Hole #8 bottom	0.09	0.82	52.97	0.16	8.08	2.44	15.70	4.38	1.04	2.41	0.00	11.91
9	Hole #9 bottom	0.10	0.76	54.05	0.15	8.17	1.90	15.49	3.77	0.98	2.30	0.54	11.80
10	Hole #10 bottom	0.23	0.78	53.21	0.18	8.46	2.17	15.12	4.63	0.98	2.22	0.43	11.61
11	Hole #11 bottom	0.31	0.57	55.38	0.15	6.71	2.76	15.82	4.28	0.89	2.71	1.65	8.80
12	Hole #12 bottom	0.04	0.19	57.01	0.02	5.65	1.83	18.58	1.61	0.70	1.75	1.41	11.20
13	Hole #17 bottom *	0.17	0.69	56.58	0.07	7.49	1.93	15.62	3.85	1.04	2.46	0.10	10.00
14	Hole #40 bottom	0.40	1.08	49.97	0.13	7.85	3.41	15.39	3.24	1.21	2.07	1.75	13.50
15	Hole #41 bottom	0.03	0.95	51.04	0.21	9.46	2.70	15.28	3.41	0.99	2.03	1.20	12.70
16	Hole #42 bottom	0.20	0.83	50.80	0.17	8.07	2.78	16.19	3.85	1.13	2.21	1.78	12.00
17	Hole #43 bottom	0.21	0.98	51.74	0.18	9.17	3.65	15.41	2.99	1.16	1.88	2.03	10.60
18	Hole #44 bottom	0.19	0.83	55.33	0.15	8.52	2.98	16.08	3.00	1.04	2.14	2.21	7.51
19	Hole #45 bottom	0.04	0.90	53.26	0.30	10.75	2.66	15.77	3.91	1.03	2.24	0.42	8.70
20	Hole #812 bottom *	0.12	0.65	62.19	0.13	8.34	2.47	18.46	3.95	1.00	2.47	0.22	9.91
21	Hole #4045 bottom *	0.11	0.63	55.49	0.12	7.49	1.87	16.52	3.53	0.92	2.14	0.38	10.81
QC/DATA:													
Repeat:													
1	Hole #1 bottom	0.20	0.58	52.47	0.11	7.45	2.40	14.99	4.09	1.06	2.30	0.94	13.40
Standard:													
MRG1		0.01	0.13	39.99	0.17	17.51	13.23	8.30	14.42	2.70	0.74	0.43	2.40
SY2		0.10	0.51	58.85	0.32	6.22	2.36	12.15	7.91	0.15	4.43	5.16	1.84

* Composite samples #1-7
#8-12
#40-45

ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

XLS/Kmisc6
df/wr3121

APPENDIX A:

Evaluation of Proposed Calcium Bentonite Material

EVALUATION OF PROPOSED CALCIUM BENTONITE MATERIAL

1.0 Introduction

We have completed a preliminary analysis of the two raw (unprocessed) clay samples you sent us. This analysis was based on tests we conducted along with other test information you provided. It is also based on a comparison of other calcium and sodium bentonites we have tested. From our analysis, this material appears to be a moderate to good quality calcium bentonite, with the WICP Soil sample being slightly superior to the Pacific Soils sample.

Samples taken near #10 hole. T.K.

2.0 Test Program

The test program consisted of evaluating grain size analysis, Atterberg Limits and Rheological properties of samples named Pacific Soils and WICP. It also examined copies of the XRD, CEC and exchangeable ion analysis you provided. The only other important tests not conducted were surface area, SEM and Modified Free Swell. You may wish to consider conducting these tests if further work is to be done on the clays.

3.0 Presentation and Analysis of Results

3.1 Grain Size Analysis

A dry sieve analysis and hydrometer analysis was conducted on the two samples. Graphs of these tests are shown in the Appendix. Both of the samples contained a fine grain soil, with the Pacific Soils sample being slightly finer than the WICP sample. All of the Pacific Soils sample was found to be finer than silt sized particles, and 98% of the WICP sample fell into this same category.

The American Society for Testing Materials (ASTM) classifies clays as those being from 5 to 1 μm in size. The U.S. Department of Agriculture (USDA), Canadian Soil Survey Committee (CSSC), and International Soil Science Society (ISSS) classify clays as being <2 μm in size. A hydrometer analysis conducted on these samples found that approximately 58% of each sample was clay sized. This compares to 69% for a commercial calcium bentonite tested previously and 84 to 90% for typical sodium bentonite.

3.2 Atterberg Limits

The Atterberg Limits are widely used in geotechnical engineering as a fundamental index property of fine grained soils. These limits are described in terms of the water content at which the behavior of the clay changes from a liquid to a plastic material (liquid limit) and a plastic material to a semi-solid (plastic limit). Figure 1 below shows a comparison of these values obtained for the two specimens in contrast to those of a commercial calcium bentonite. This figure shows that the liquid limits of the Pacific Soils (118.2) and WICP (97.6) samples were quite close to that for the commercial calcium bentonite (12.9).

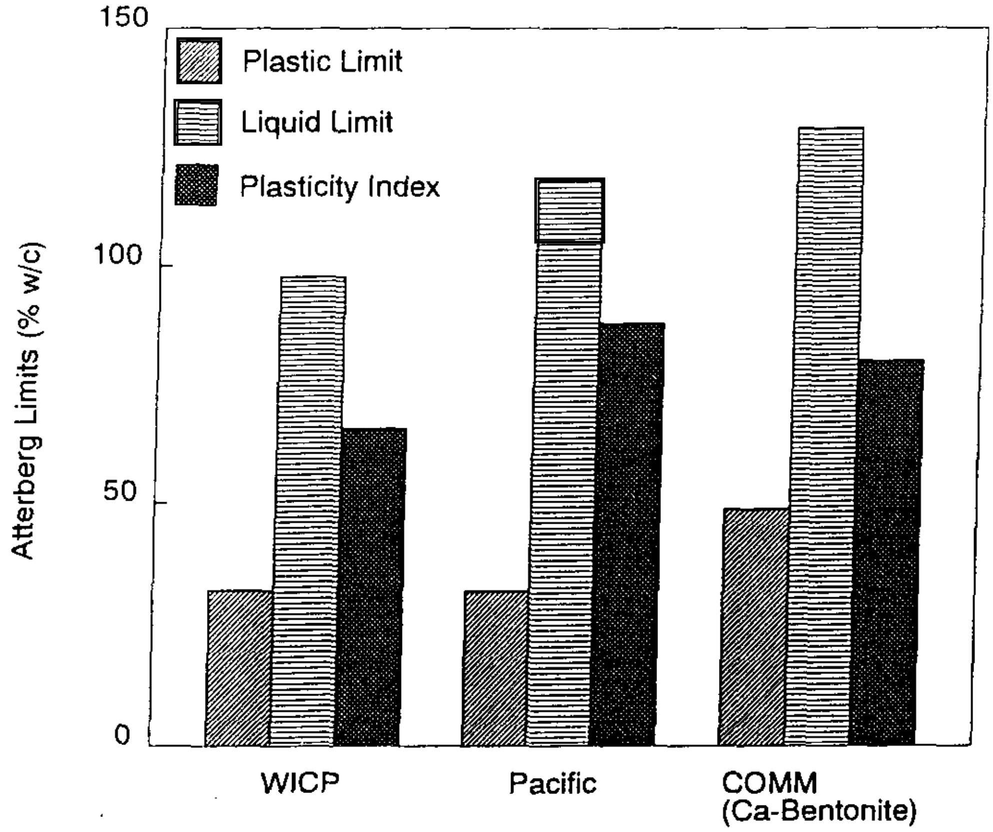


Figure 1 Comparison of Atterberg Limits

3.3 Rheological Properties

A series of tests were conducted to evaluate the rheological properties of the two samples based on 8% slurried mixtures. Details of these tests are presented in the Appendix. The 600 and 300 readings for the WICP sample were 8 and 3. The corresponding readings for the Pacific sample were 5 and 3. Figure 2 shows a comparison of the apparent viscosities versus a commercial calcium bentonite. This figure shows that the two samples being examined had generally comparable properties and characteristics. However, the WICP sample was superior to the commercial bentonite.

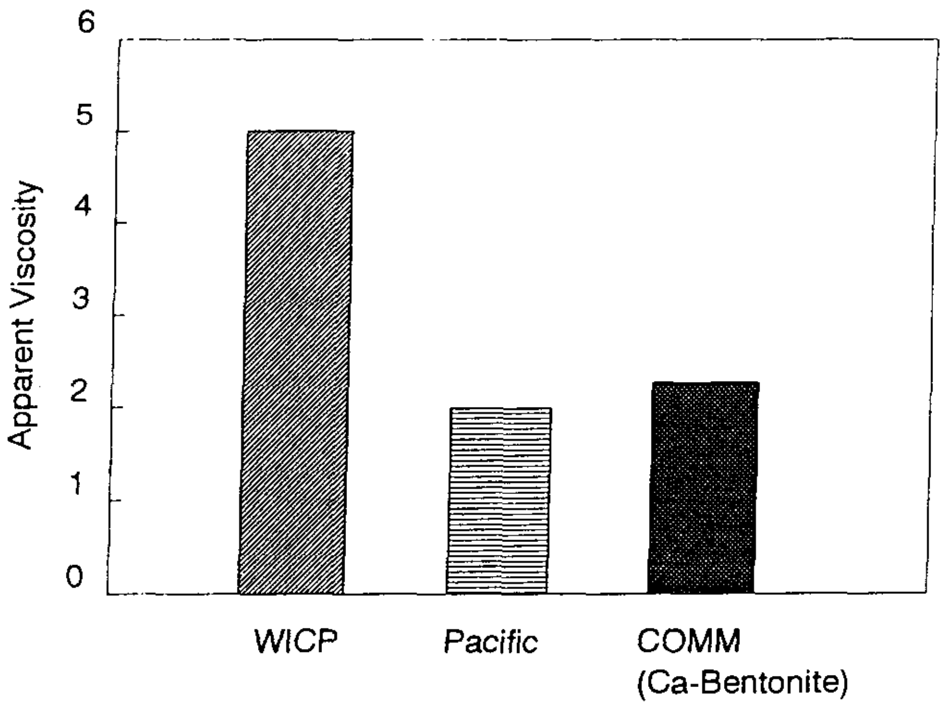


Figure 2 Comparison of the apparent viscosity

Figure 3 shows how the viscosity of the two 8% slurried samples compared with typical sodium and calcium montmorillonites. In this comparison, the WICP sample is on the high quality calcium montmorillonites curve and the Pacific Soils sample falls somewhat below this line. Both values are considerably higher than the range for native clays.

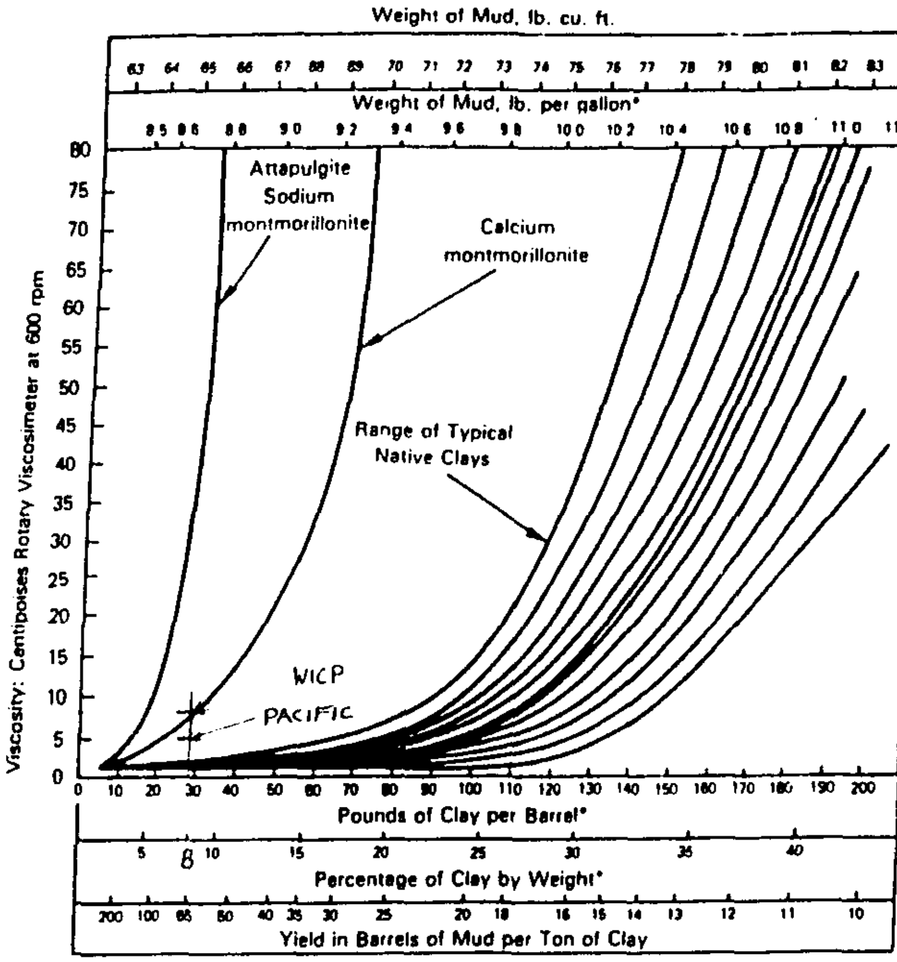


Figure 3 Apparent viscosity versus clay content for different clay materials

4.0 Examination of Previous Test Results

The results of XRD and elemental analysis were provided along with the soil samples. This information has been reviewed and compared with other test data on hand.

4.1 XRD Analysis

This analysis indicates the WICP sample contains between 46 and 51% montmorillonite, and the Pacific Soils sample 55% montmorillonite. No illite or kaolinite was reported for either material. In contrast, most calcium bentonites usually contain 70 to 80% montmorillonite, as well as small amounts of kaolinite, illite, feldspars, dolomite and gypsum. However, the WICP and Pacific Soils samples were of unprocessed materials, which tend to give lower montmorillonite contents.

4.2 Exchangeable Cations

The analysis indicated that the WICP sample contained approximately 20, 13, 10 and 1 meq/100g sodium, calcium, magnesium and potassium, respectively. The Pacific Soils sample contained 11, 14, 13 and 1 meq/100g sodium, calcium, magnesium and potassium, respectively. These values compare to 19.3, 15.3, 21.4 and 0.6 meq/100g for the commercial calcium-bentonite.

4.3 Cation Exchange Capacity

Figure 4 shows the cation exchange capacity reported for the WICP and Pacific Soils samples, in comparison with a typical commercial calcium bentonite.

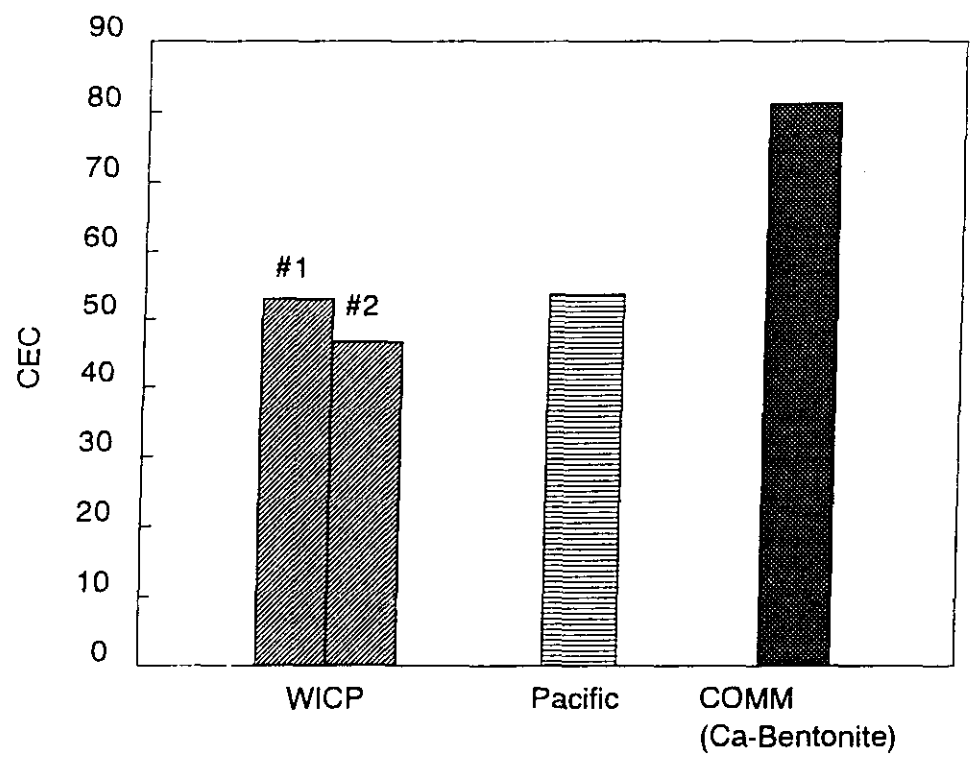


Figure 4 Comparison of Cation Exchange Capacity

5.0 Summary

The two unprocessed samples examined (WICP and Pacific Soils) contain a significant proportion of calcium montmorillonite. These soils were also highly plastic and contained rheological properties associated with calcium bentonites. The generally good test results on this unprocessed material suggests that it might be a suitable source of commercial calcium bentonite. However, some of this unprocessed material would have to be run through the plant under different milling conditions, and the resulting processed material tested.

The potential market for this material could be quite varied and may include waste management applications. This type of application would be most suited to acidic liquid wastes (pig manure for example) which have been found to be detrimental to sodium bentonites. If commercial application of calcium bentonite for this market is contemplated, additional testing should be considered to establish the level of performance of this material.

Atterberg Limits - Western Industrial Clay Products
WICP

Liquid Limit

No. of Blows	36	21	15
Tare Container	176.900	176.434	209.259
Tare+Wet	191.597	191.327	225.849
Tare+Dry	184.568	183.901	217.199
Wt. Water	7.029	7.426	8.650
Wt. Dry Soil	7.668	7.467	7.940
Water Content	91.7	99.5	108.9

Plastic Limit

Tare Container	14.945	20.048	20.101
Tare+Wet	19.532	25.792	25.127
Tare+Dry	18.404	24.445	23.888
Wt. Water	1.128	1.347	1.239
Wt. Dry Soil	3.459	4.397	3.787
Water Content	32.6	30.6	32.7
	Average	32.0	

PLASTICITY INDEX = 97.6 - 32.0
= 65.6

Summary of Tests on WICP (Sample #1) and Pacific Soils

Atterberg Limits

WICP (Sample #1)	Pacific
LL = 97.6	LL = 118.2
PL = 32.0	PL = 30.3
PI = 65.6	PI = 87.9

Both soils would be classified as CH (USCS standard) - High plasticity inorganic clays.

Grain Size Distribution

Hydrometer analysis separates the clay size material from the silty material. The analysis on both soils shows very similar distributions with a large amount of clay size material present. Clay size being less than 0.002 mm in diameter.

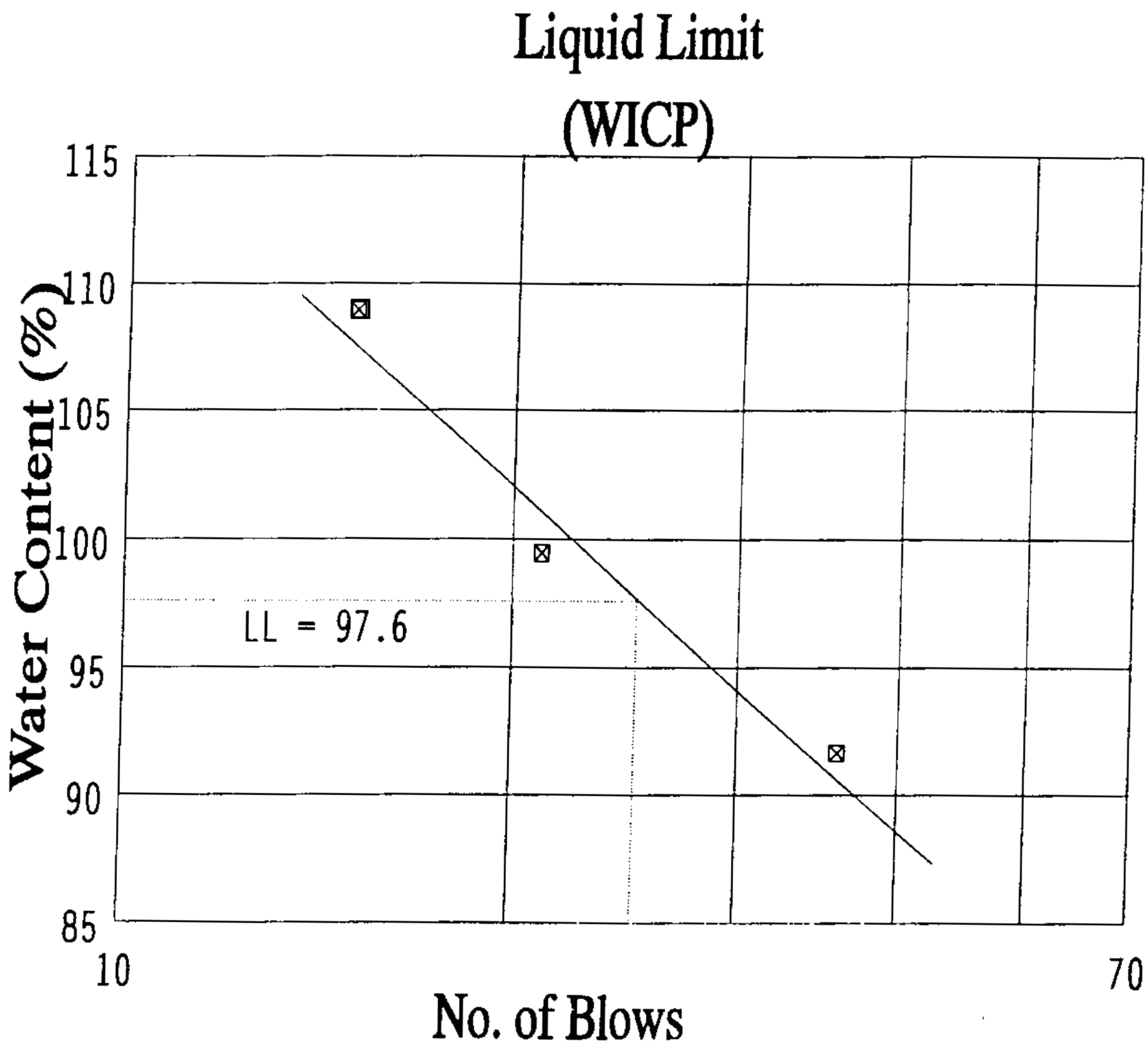
A dry sieve analysis was conducted to evaluate the coarse fraction of both soils. The grain size distribution shows each to be a well graded soil ($C_u > 10$) with the WICP sample slightly coarser.

Viscometer Tests

Viscometer tests were conducted on slurries mixed at 8 % soil content.

WICP (Sample #1)	Pacific
600 rpm = 8	600 rpm = 5
300 rpm = 3	300 rpm = 3
Apparent Viscosity = 5 cP	Apparent Viscosity = 2 cP

Plotting the 600 rpm values on a graph of viscosity versus percent clay the Pacific soil falls on the calcium montmorillonite curve, while the WICP soil is just below the curve. This would indicate that both soils may behave in a similar manner to calcium montmorillonite in terms of swelling potential.



Liquid Limit
(WICP)
115
110
105
100
95
90
85
Water Content (%)
LL = 97.6
10
70
No. of Blows

Atterberg Limits - Western Industrial Clay Products
Pacific Soil

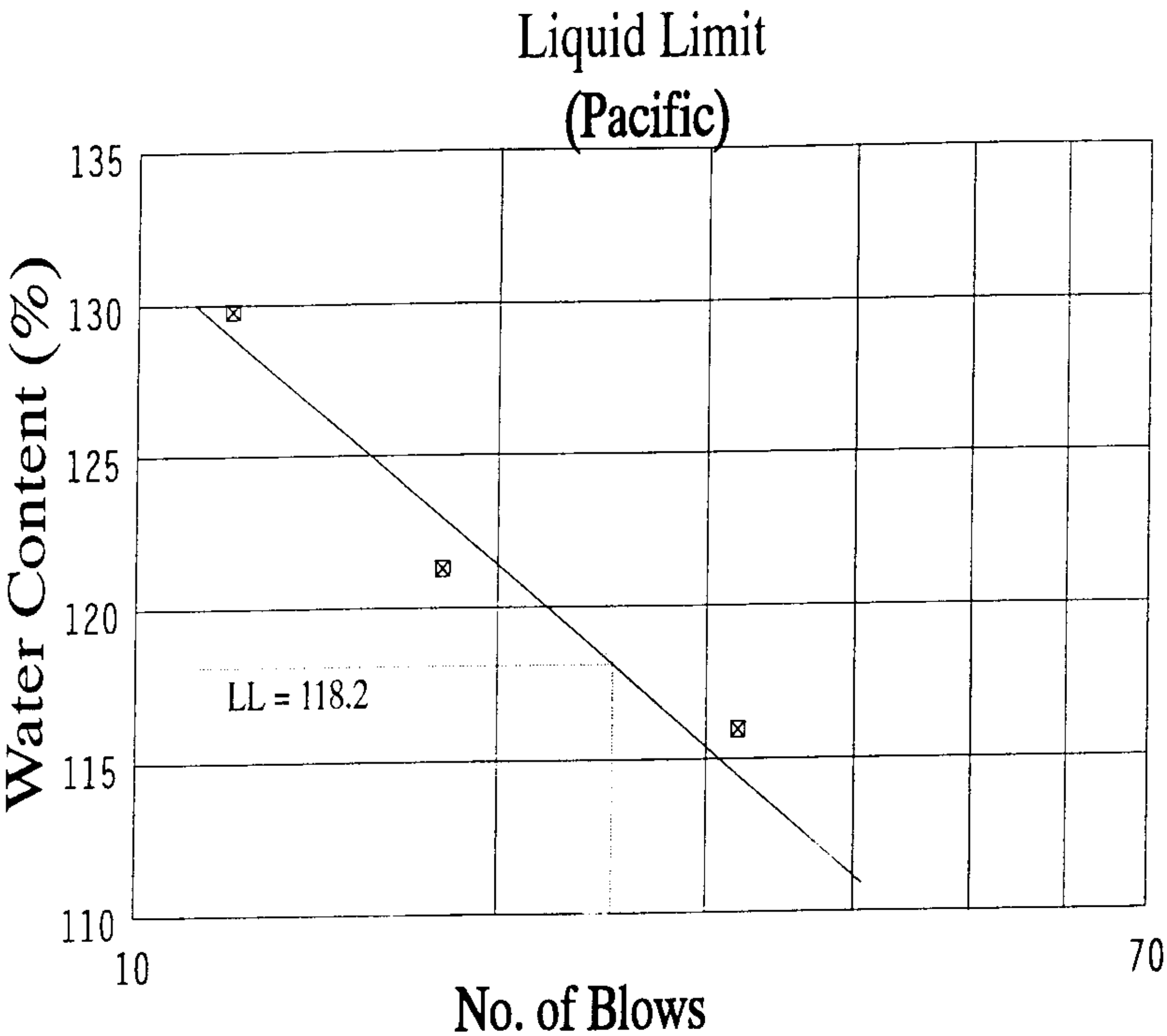
Liquid Limit

No. of Blows	32	18	12
Tare Container	197.066	20.130	176.360
Tare+Wet	211.198	34.174	193.636
Tare+Dry	203.610	26.476	183.878
Wt. Water	7.588	7.698	9.758
Wt. Dry Soil	6.544	6.346	7.518
Water Content	116.0	121.3	129.8

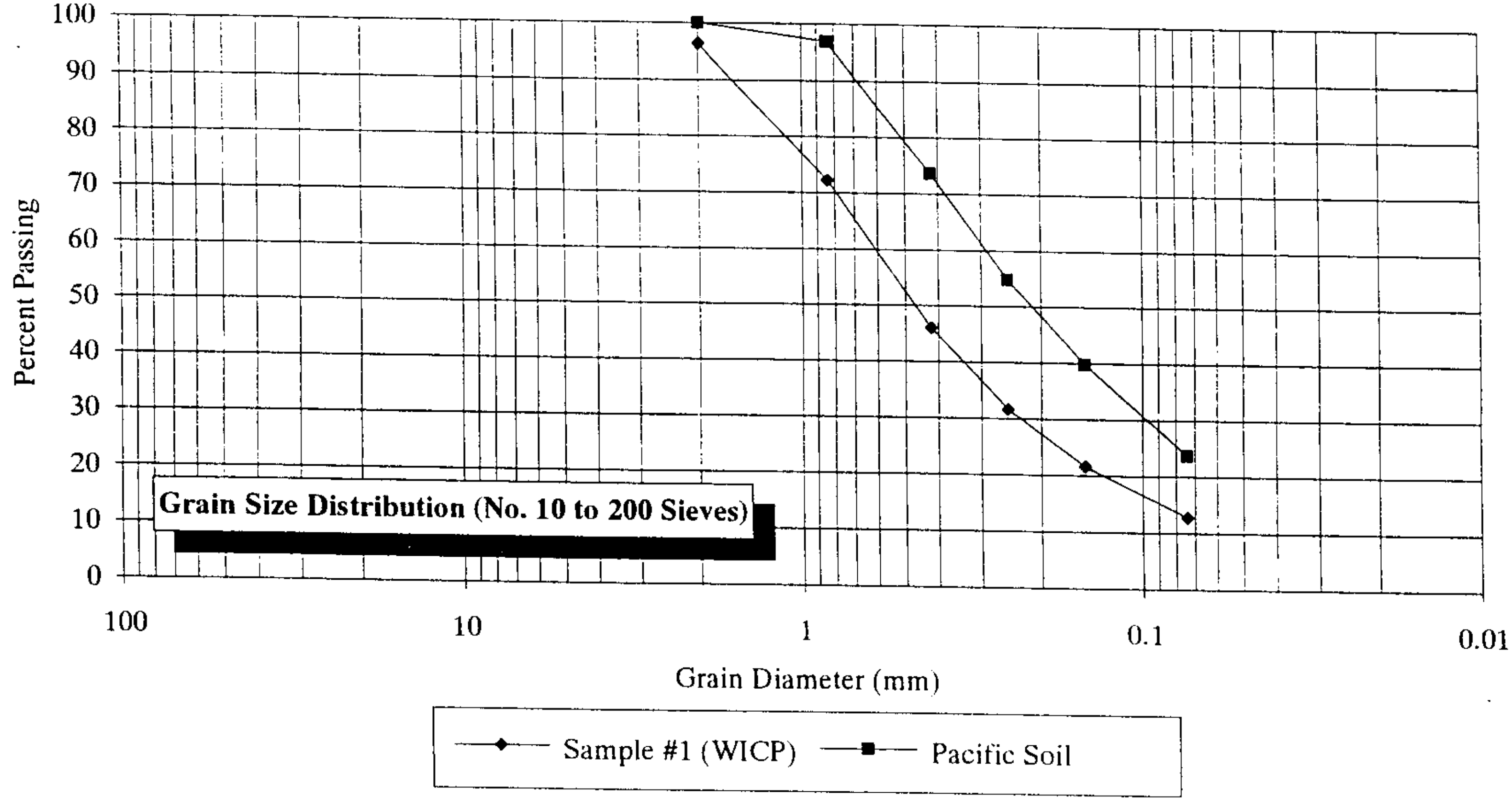
Plastic Limit

Tare Container	14.946	20.037	20.098
Tare+Wet	21.717	26.782	28.667
Tare+Dry	20.181	25.194	26.656
Wt. Water	1.536	1.588	2.011
Wt. Dry Soil	5.235	5.157	6.558
Water Content	29.3	30.8	30.7
	Average	30.3	

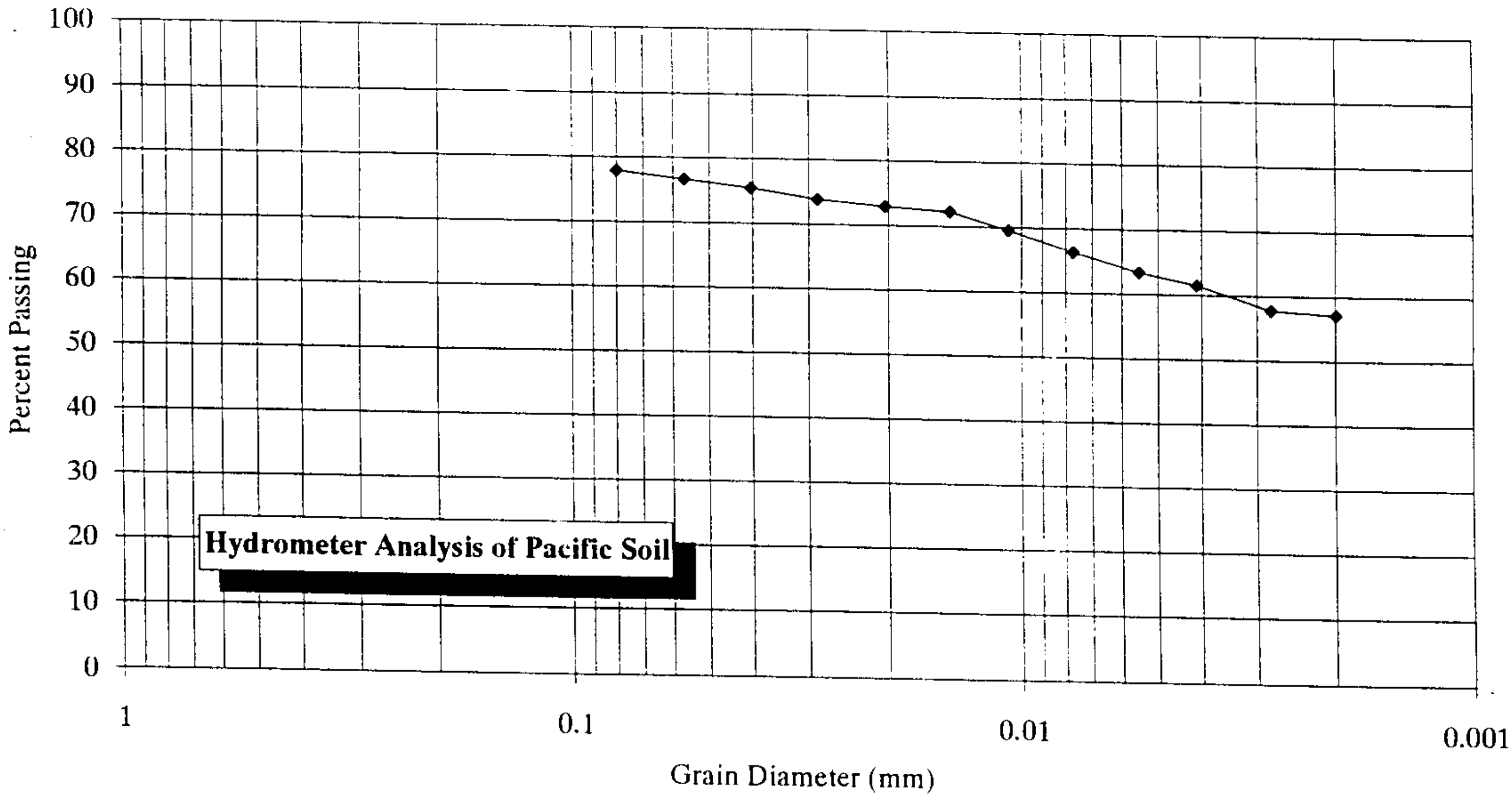
PLASTICITY INDEX = 118.2 - 30.3
= 87.9

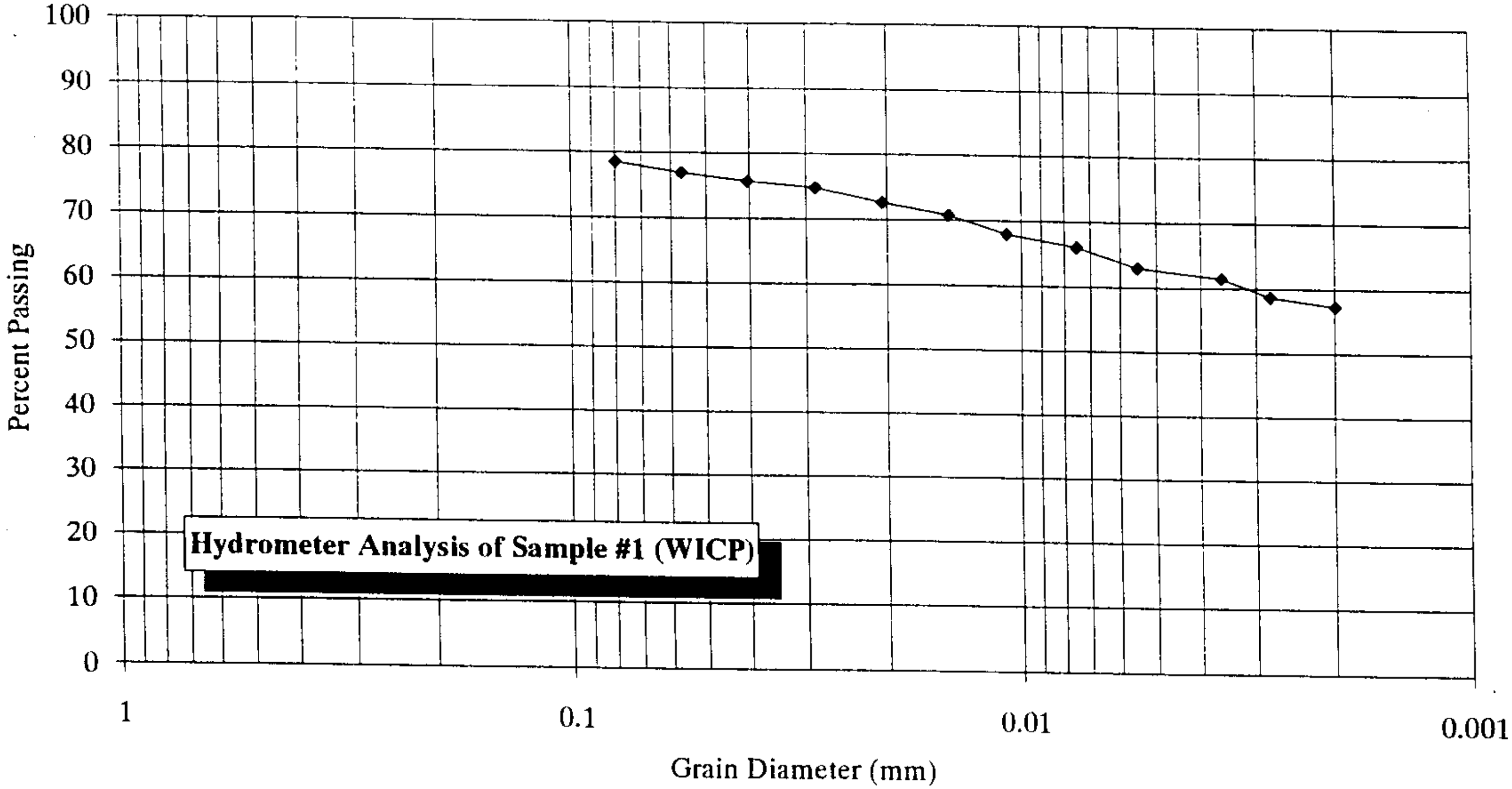


Liquid Limit
(Pacific)
135
130
125
120
115
110
Water Content (%)
LL = 118.2
10
70
No. of Blows



Percent Passing
100
90
80
70
60
50
40
30
20
10
0
Grain Size Distribution (No. 10 to 200 Sieves)
100
10
1
0.1
0.01
Grain Diameter (mm)
Sample #1 (WICP)
Pacific Soil


Hydrometer Analysis of Pacific Soil
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
1
0.1
0.01
0.001
Grain Diameter (mm)



Hydrometer Analysis of Sample #1 (WICP)
Percent Passing
100
90
80
70
60
50
40
30
20
10
0
1
0.1
0.01
0.001
Grain Diameter (mm)

SIEVE ANALYSIS

	Sieve	Sieve Mass (g)	Sieve + soil #1 Mass (g)	Soil #1 Mass (g)	Sieve + soil #2 Mass (g)	Soil #2 Mass (g)	Percent Finer #1 (%)	Percent Finer #2 (%)
2 mm	10.00	524.65	539.75	15.10	524.65	0.00	96.29	100.00
.84	20.00	504.55	602.78	98.23	517.89	13.34	72.19	96.84
.42	40.00	422.99	530.01	107.02	521.50	98.51	45.93	73.55
.25	60.00	463.06	521.35	58.29	542.21	79.15	31.63	54.83
.177	100.00	432.45	473.03	40.58	496.41	63.96	21.67	39.70
.074	200.00	345.85	382.14	36.29	413.09	67.24	12.77	23.80
	pan	398.90	450.94	52.04	499.51	100.61	0.00	0.00
	Total			407.55		422.81		

May 18,1994

APPENDIX B: Statement of Qualifications

AUTHOR'S STATEMENT OF QUALIFICATIONS

I, PETER B. READ, do hereby certify:

1. That I am employed by Geotex Consultants Limited with offices at #1200 - 100 W. Pender Street, Vancouver, B.C.

2. That I graduated from the University of British Columbia with a BASc (1957) and MASc (1960) in Geological Engineering, and from the University of California, Berkeley with a PhD (1966) in Geology.

3. That I have practiced my profession from 1965 to 1974 in various teaching positions in the universities of Otago, Dunedin, New Zealand; Carleton, Ottawa; and British Columbia, Vancouver. Since 1974, I have been president of Geotex Consultants Limited and been involved with geology as an academic study for the Geological Survey of Canada, and as an applied study for engineering purposes for B.C. Hydro, for structural geology for various major and junior mining companies in British Columbia and parts of United States, and for industrial minerals for mining companies and the British Columbia government.

4. My experience specific to industrial minerals in south-central British Columbia results from consulting for Canadian Occidental Petroleum in 1977 and 1978, Western Industrial Clay Products Ltd. from 1993 to the present, and the British Columbia Ministry of Energy, Mines and Petroleum Resources in 1986 to the present. This experience is summarized in private reports to clients in the mining industry and publically available reports for the British Columbia Ministry of Energy, Mines and Petroleum Resources (list attached).

5. That I am a Fellow in good standing of the Geological Association of Canada, and a member of various other geological and mineralogical societies.

6. That I hold no interest in the properties or securities of Western Industrial Clay Products Ltd., or affliates thereof, nor do I expect to receive any directly or indirectly.

7. That written permission from the author is required to publish this report or any parts thereof in any Prospectus or Statement of Material Facts.

Dated at Vancouver, British Columbia this 7th day of April 1995.

Peter B. Read

The following is a list of industrial mineral publications by P.B. Read published under the auspices of the British Columbia Ministry of Energy, Mines and Petroleum Resources.

Read, P.B. (1987a):
Industrial minerals in some Tertiary basins, southern British Columbia; in Geological Fieldwork 1986, British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 1987-1, p. 247-254.

_______ (1987b):
Tertiary stratigraphy & industrial minerals, Princeton & Tulameen basins, British Columbia; British Columbia Ministry of Energy, Mines and Petroleum Resources, Open File 1987-19.

_______ (1988a):
Industrial minerals in Tertiary rocks, Lytton to Gang Ranch, southern British Columbia; in Geological Fieldwork 1987, British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 88-1, p. 411-415.

_______ (1988b):
Industrial minerals in the Tertiary of Bonaparte to Deadman River area, southern British Columbia; in Geological Fieldwork 1987, British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 88-1, p. 417-419.

_______ (1988c):
Tertiary stratigraphy & industrial minerals, Merritt basin, British Columbia; British Columbia Ministry of Energy, Mines and Petroleum Resources, Open File 88-15.

_______ (1988d):
Cenozoic stratigraphy and industrial minerals: Fraser River, Lytton to Gang Ranch, southwestern British Columbia; B.C. Ministry Energy, Mines and Petroleum Resources, Open File 88-29.

_______ (1988e):
Tertiary stratigraphy & industrial minerals, Cache Creek, British Columbia: British Columbia Ministry of Energy, Mines and Petroleum Resources, Open File 88-30.

_______ (1989a):
Miocene stratigraphy and industrial minerals, Bonaparte to Deadman River area, southern British Columbia (92I/14, 15; 92P/2,3); in Geologic Fieldwork 1988, B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1989-1, p. 515-518.

_______ (1989b):
Tertiary stratigraphy & industrial minerals, Bonaparte to Deadman rivers, British Columbia; British Columbia Ministry of Energy, Mines and Petroleum Resources, Open File 1989-21.

Read, P.B. (1990):
Tertiary stratigraphy & industrial minerals, Hat Creek, British Columbia; British Columbia Ministry of Energy, Mines and Petroleum Resources, Open File 1990-23.

________ (1994):
Kaolinite Potential of the Comox Sub-Basin, Vancouver Island, British Columbia: B.C. Ministry of Energy, Mines and Petroleum Resources, Open File 1994-16.

________ (in press):
Geology and industrial minerals of the Tertiary basins, south-central British Columbia; British Columbia Ministry of Energy, Mines and Petroleum Resources, Bulletin (submitted April 1991).

________ (in press):
Industrial Mineral Potential of the Tertiary Rocks, Vernon (82l) and Adjacent Map Areas; British Columbia Ministry of Energy, Mines and Petroleum Resources, Open File (submitted March 18, 1995).

APPENDIX C: Itemized Cost Statement

SUMMARY OF WORK PROGRAM

Task/Activity	Responsible	Cost
Geological Survey, Map and Report	Geotex Consultants	$ 1,952.28
Geochemical Surveys - Samples 21	Eco-tech Labs	$ 634.78
Other Rel Tech Studies	M.D. Haug	$ 716.90
Preparatory/Physical	Geotex Consultants	$ 3,472.73
Total		$ 6,776.69