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ASSESSMENT REPORT

EVALUATION OF A VOLCANIC ASH DEPOSIT
POZ PROPERTY, VANCOUVER ISLAND, BRITISH COLUMBIA

POZ PROPERTY

NTS 92 F/7

ALBERNI MINING DIVISION

FOR

C.R.C. EXPLORATIONS LIMITED
2197 PARK CRESCENT
COQUITLAM, BRITISH COLUMBIA V3J 6T1

BY

PROMIN EXPLORATIONS LIMITED
2197 PARK CRESCENT
COQUITLAM, BRITISH COLUMBIA V3J 6T1

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,872

CRAIG W. PAYNE M.Sc. FGAC
NOVEMBER 25, 1991

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SUMMARY AND CONCLUSIONS

The Poz property is located in the Turtle Lake area, 14 kilometres northwest of Port Alberni on Vancouver Island, British Columbia.

Access to the property is via well maintained roads to the central part of the claim.

The Poz property consists of one claim totalling 20 units(500ha) in the Alberni Mining Division, B.C.

During 1991, a program of preparatory work consisting of photogrammetric contour mapping, sieve analysis, whole rock and trace element analysis and petrographic studies were undertaken on samples of a volcanic ash deposit to determine its suitability as a pozzalanic additive for concrete.

Results of the studies suggests that the volcanic ash is suitable as a pozzalanic additive for concrete. Similar studies carried out in 1958 suggests that 75% of the insitu ash material passes through the minus 100 mesh screen. Whole rock oxide analysis of the ash material indicates SiO_2 content varies from 67.35% to 68.28% and Al_2O_3 varies from 13.09% to 13.79%. Petrographic studies suggest that the ash material is composed of subangular to subrounded grains of plagioclase(58%) and quartz(20%) while the remaining 22% is made up of sericite, limonitic and mafic material.

Triassic Minerals Ltd. in 1958 outlined drill indicated volcanic ash reserves totalling 450,000 tons.

The author has outlined a success contingent staged exploration program to further develop this property of merit.

INTRODUCTION

This report is a summary of preparatory work carried out on the Poz 1 claim during the period January 1, 1991 to October 15, 1991. Preparatory work consisted of topographic contour mapping, volcanic ash screening, major oxide composition and petrographic studies of the volcanic ash. The purpose of this work is to determine the suitability of the volcanic ash material as a pozzalanic additive to concrete.

LOCATION AND ACCESS (Figure 1)

The Poz property is located approximately 14 kilometres northwest of Port Alberni on Vancouver Island, British Columbia. The property is centred at 49° 19.5' north latitude and ~~120°~~ 57.5' west longitude on NTS map sheet 92 F/7. 124

Road access to the property is via highway 4 west from Port Alberni for approximately 12 kilometres then north on the Great Central Lake road for four kilometres and east and north on logging roads for another four kilometres to the central part of the claim block.

TOPOGRAPHY AND VEGETATION

Elevations on the property range from approximately 84 metres at the surface of Turtle Lake to 150 metres on knolls south and west of the lake.

Vegetation is typical of Vancouver Island rain forests with dense undergrowth in immature stands of cedar and fir. Most of the property is covered by open or treed swamp.

CLAIMS (Figure 2)

The Poz property consists of one claim totalling 20 units (500ha). The claims are 100 percent owned by C.R.C. Explorations Limited. Table 1 provides the pertinent claim data for the property.

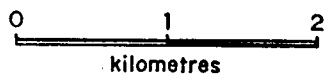
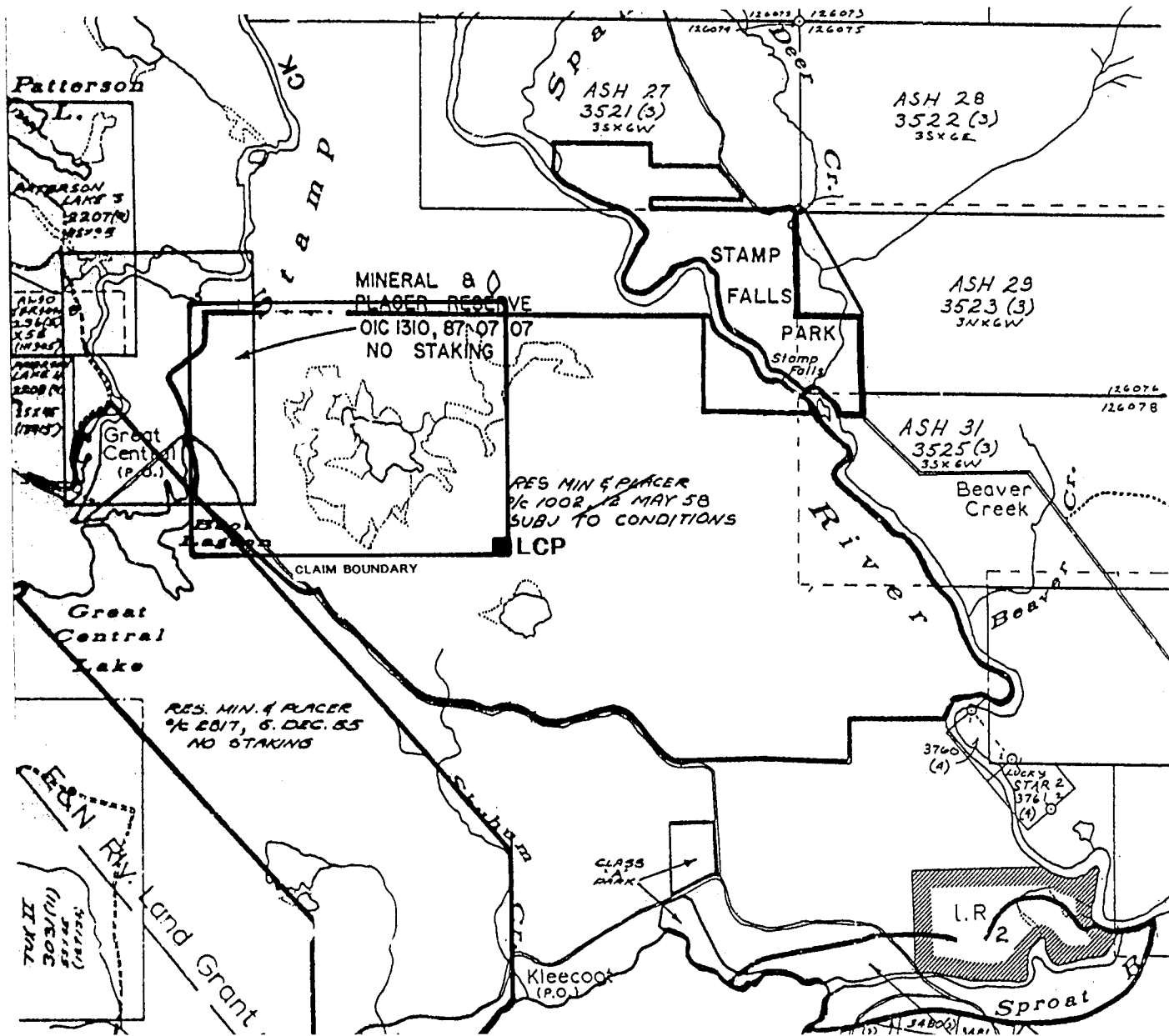
TABLE 1 - CLAIM DATA

Claim	Record No.	Units	Anniversary Date	Mining Division
Poz 1	4236	20	October 18, 1992*	Alberni

* Subject to acceptance of 1991 assessment work.



C.R.C. EXPLORATIONS LTD.				
POZ PROPERTY				
LOCATION MAP				
SCALE	DATE	BY	R.T.S.	DWG. N^o
1:2,000,000	NOV/91			1



C.R.C. EXPLORATIONS LTD.				
POZ PROPERTY				
CLAIM MAP				
SCALE	DATE	BY	N.T.S.	DWG. NO.
1:50000	NOV/91		92 F/7	2

HISTORY

The only exploration work recorded on the property was carried out by Triassic Minerals Ltd. in 1958 when a preliminary evaluation of the volcanic ash was completed which included drill testing.

1991 WORK PROGRAM

The 1991 work program consisted of preparatory work including development of a contour map, major oxide analysis of ash samples and a petrographic study of same. A total of six ash samples were collected during January, 1991.

PREPARATORY SURVEYS

Topographic Mapping (Figure 3)

Eagle Mapping Service Ltd. carried out the topographic mapping project using 1986, 1:20,000 airphotos purchased from the provincial government. Contour interval used for the mapping project was five metres.

Volcanic Ash Sieve Tests (Figure 3)

A total of six volcanic ash samples were collected during January, 1991 from the northwest edge of Turtle Lake. The samples were collected within a ten metre radius using a soil auger. Depth of the samples varied from 0.8 metres to 1.4 metres below water level. The volcanic ash is a compact, unconsolidated, greyish green, locally laminated, fine grained material. Overlying the volcanic ash in the area sampled is a layer of sphagnum moss.

A total of 3,785 grams of "wet" volcanic ash was collected. A composite sample weighing 1,785 grams was sent to Acme Analytical Laboratories for sieve analysis.

The composite sample was dried for 72 hours at 100°C. The sample was then rolled on a steel plate and the following sieve tests were obtained (see Appendix I):

TABLE 2 - SIEVE ANALYSIS

Screen Size	Weight (grams)
+20	148
-20 +80	383
-80 +100	19
-100 +150	64
-150 +200	99
-200	247
Loss on Screening	<u>270 ?</u>
	1,230 grams

The unusually high amount of material lost during screening is due to oversized material since the samples were collected at the edge of the volcanic ash deposit.

Major Oxide Composition of Volcanic Ash

Three samples (Poz #1) consisting of the -200, -150 to +200, and -100 to +150 size fractions were analyzed for major oxides and all sieve fractions were analyzed for 30 trace elements by ICP methods by Acme Analytical Laboratories Ltd., Vancouver, B.C.

Results of the analyses show that within all three size fractions there is only minor variation in the major oxide composition (see Appendix I).

Petrographic Study - Volcanic Ash

A sample of the -100 to +150 size fraction of the volcanic ash was sent to Vancouver Petrographics Ltd. for petrographic study (see Appendix II). The sample (Poz #1) consists of disaggregated mineral grains ranging in size from 5 to 150 microns. The dominant minerals present is subangular to subrounded grains of plagioclase and quartz with limonite material. It is suggested that the sample represents a non-indurated crystal ash of probable dacitic composition.

RECOMMENDATIONS

Based on results of the 1958 and 1991 work carried out on the property, a staged exploration program is recommended.

Stage 1

It is recommended that 2,000 metres of drilling be carried out to confirm 1958 volcanic ash tonnage estimates. Further detailed studies should be carried out on the volcanic ash to prove its acceptability as a pozzalanic additive for concrete.

Exploration drilling totalling 1,000 metres should be carried out in other areas known to be underlain by similar volcanic ash deposits.

Total cost to complete Stage 1 is estimated at \$200,000.

Stage 2

If the results of Stage 1 indicates the presence of an economic volcanic ash deposit or deposits a final feasibility study should be conducted including an in depth market review.

ITEMIZED COST STATEMENT

Photogrammetric Contour Mapping (Eagle Mapping)	\$946.00
Whole Rock and Trace Element Geochemistry (Acme)	\$197.95
Field Supplies	\$425.05
Vancouver Petrographics	\$273.92
Truck Rental/Fuel	\$361.50
Accommodation/Board	\$433.39
Salaries (2 men) eight man days	<u>\$502.04</u>
TOTAL	\$3,139.85

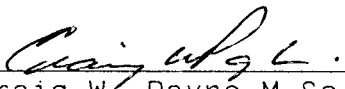
STATEMENT OF QUALIFICATIONS

I, Craig W. Payne of Coquitlam, British Columbia do hereby certify that:

1. I am a graduate of Brock University, St. Catharines, Ontario with a Master of Science degree in geological Sciences, 1979.
2. I am a Fellow of the Geological Association of Canada.
3. I have practised my profession since 1972.
4. I am a consulting geologist with Promin Explorations Limited.
5. I am the author of the report titled "Evaluation of a Volcanic Ash Deposit, Poz Property, Vancouver Island, British Columbia" dated November 25, 1991.

Dated at Coquitlam, British Columbia this 25th day of November, 1991.

Respectfully submitted,



Craig W. Payne M.Sc. FGAC
November 25, 1991

REFERENCES

- _____, 1958. General Progress Report, Volcanic Ash Deposit, Alberni, B.C.; Triassic Minerals Ltd. British Columbia Assessment Report No. 233.
- Malhotra, V.M., 1987. Supplementary Cementing Materials for Concrete; Energy Mines and Resources, Canada.

APPENDIX I
WHOLE ROCK ICP ANALYSIS
TRACE ELEMENT ICP ANALYSIS



WHOLE ROCK ICP ANALYSIS

Promin Explorations Ltd. File # 91-4215R

SAMPLE#	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ba	Sr	La	Zr	Y	Nb	LOI	SUM
	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	%	%
POZ #1 (-200)	67.36	13.79	4.56	1.41	3.07	3.76	.31	.88	.03	.06	.009	368	353	20	211	19	20	4.6	99.98
POZ #2 (-300)	69.74	20.39	6.69	1.88	3.38	5.36	.45	1.83	.04	.04	.016	1843	3368	92	1473	87	225	1.4	99.84
POZ #1 (-150+200)	68.12	13.27	4.47	1.39	3.02	3.54	.42	.83	.04	.06	.011	353	344	31	181	19	20	4.7	100.00
POZ #2 (-150+200)	54.02	20.53	6.44	1.78	3.42	4.95	.24	3.74	.73	.04	.016	1745	3299	73	1092	85	117	4.3	99.82
POZ #1 (-100+150)	68.28	13.09	4.58	1.29	2.96	3.46	.26	.80	.06	.05	.005	352	324	41	178	19	73	5.0	99.97
POZ #2 (-100+150)	58.74	20.34	6.46	1.91	3.44	4.02	.58	3.74	.79	.04	.012	1736	3229	94	1113	87	173	4.3	99.82
STANDARD SO-4	68.19	10.18	3.31	.95	1.54	1.29	2.10	.56	.23	.08	.007	810	189	30	313	23	20	11.3	99.95

.200 GRAM SAMPLES ARE FUSED WITH 1.2 GRAM OF LiBO2 AND ARE DISSOLVED IN 100 MLS 5% HNO3.
 - SAMPLE TYPE: PULP

DATE RECEIVED: SEP 20 1991 DATE REPORT MAILED: *Sept 25/91* SIGNED BY: *Chung* .D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE



Promin Explorations Ltd. File # 91-4215 Page 1

2197 Park Crescent, Port Coquitlam BC V3J 6T1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	WET	DRY SAMPLE	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	ppb	wt. gm	wt. gm	wt. gm
POZ #1 (+20)	1	37	7	18	.2	20	11	180	4.46	4	5	ND	1	45	.2	2	3	103	.62	.006	7	50	.40	104	.24	2	3.04	.02	.01	1	1.2	1785	1230	148
POZ #2 (+20)	1	37	7	18	.2	20	11	180	4.46	4	5	ND	1	45	.2	2	3	103	.62	.006	7	50	.40	104	.24	2	3.04	.02	.01	1	1.2	1785	1230	148

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: VOLCANIC ASH AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: SEP 3 1991 DATE REPORT MAILED: *Sept 18/91* SIGNED BY: *Chry* .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

72 hrs to completely dry samples



SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	SAMPLE
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	ppb	wt. gm
POZ #1 (-20+80)	1	38	2	20	.1	22	11	200	3.74	4	5	ND	1	44	.2	2	2	99	.65	.006	6	52	.47	104	.25	2	2.89	.02	.01	1	3.1	383
POZ #2 (-80-80)	16	118	16	108	1.2	25	16	192	3.68	4.5	5	ND	3	1640	1.2	2	2	254	4.63	1.76	57	57	158	110	175	1500	3.44	1.60	1.77	1.2	1.1	47



AAE ANALYTICAL



AAE ANALYTICAL

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	SAMPLE	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	%	%	%	%	ppm	ppb	wt.	gm
POZ #1 (-80+100)	1	40	4	23	.1	22	11	198	3.47	5	5	ND	1	70	.2	2	2	99	.67	.007	7	50	.49	111	.27	17	2.79	.04	.01	1	2.0	19	
POZ #2 (-80+100)	11	111	10	98	12	22	17	100	3.05	12	5	ND	5	1707	15	2	2	200	4.10	1.70	40	35	56	754	.75	1592	5.50	1.00	.10	1	2.1	94	



SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	Hg	Au*	SAMPLE
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb	wt. gm
POZ #1 (-100+150)	1	36	2	24	.2	20	10	205	2.74	3	5	ND	1	75	.2	2	2	87	.70	.011	6	47	.52	98	.27	24	2.36	.05	.01	1	2.8	64
POZ #2 (-100+150)	12	150	10	100	14	25	19	201	3.48	17	5	ND	1	1007	.2	2	2	87	.70	.011	6	47	.52	98	.27	24	2.36	.05	.01	1	2.8	64



AA
ANALYTICAL



AA
ANALYTICAL

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	SAMPLE
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb	wt. gm
POZ #1 (-150+200)	1	37	4	25	.3	20	10	219	2.64	3	5	ND	1	73	.2	2	3	88	.75	.012	6	50	.55	98	30	23	2.40	.05	.01	1	2.5	99
POZ #2 (-150+200)	11	121	12	99	14	25	17	180	5.25	15	5	ND	4	1770	12	2	2	264	4.20	195	41	35	150	872	101	1405	5.65	1.65	19	1	1.2	34



SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	SAMPLE
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb	wt. gm
POZ #1 (-200)	1	35	3	25	.2	20	10	218	2.54	3	5	ND	1	68	.2	2	2	86	.76	.015	6	49	.54	96	.29	21	2.40	.04	.01	1	5.3	247
POZ #2 (-200)	42	124	16	111	15	25	18	192	3.47	18	3	ND	4	188	12	3	2	83	4.52	1200	42	40	.01	800	102	1000	3.01	1.13	.20	1.20	07	

APPENDIX II
PETROGRAPHIC EXAMINATION

SAMPLE POZ #1

Estimated mode

Quartz	20
Feldspars	58
Sericite	6
Limonitic material	12
Hornblende	2
Epidote	1
Pyroxene(?)	1
Monzonite	trace
Opaques	trace

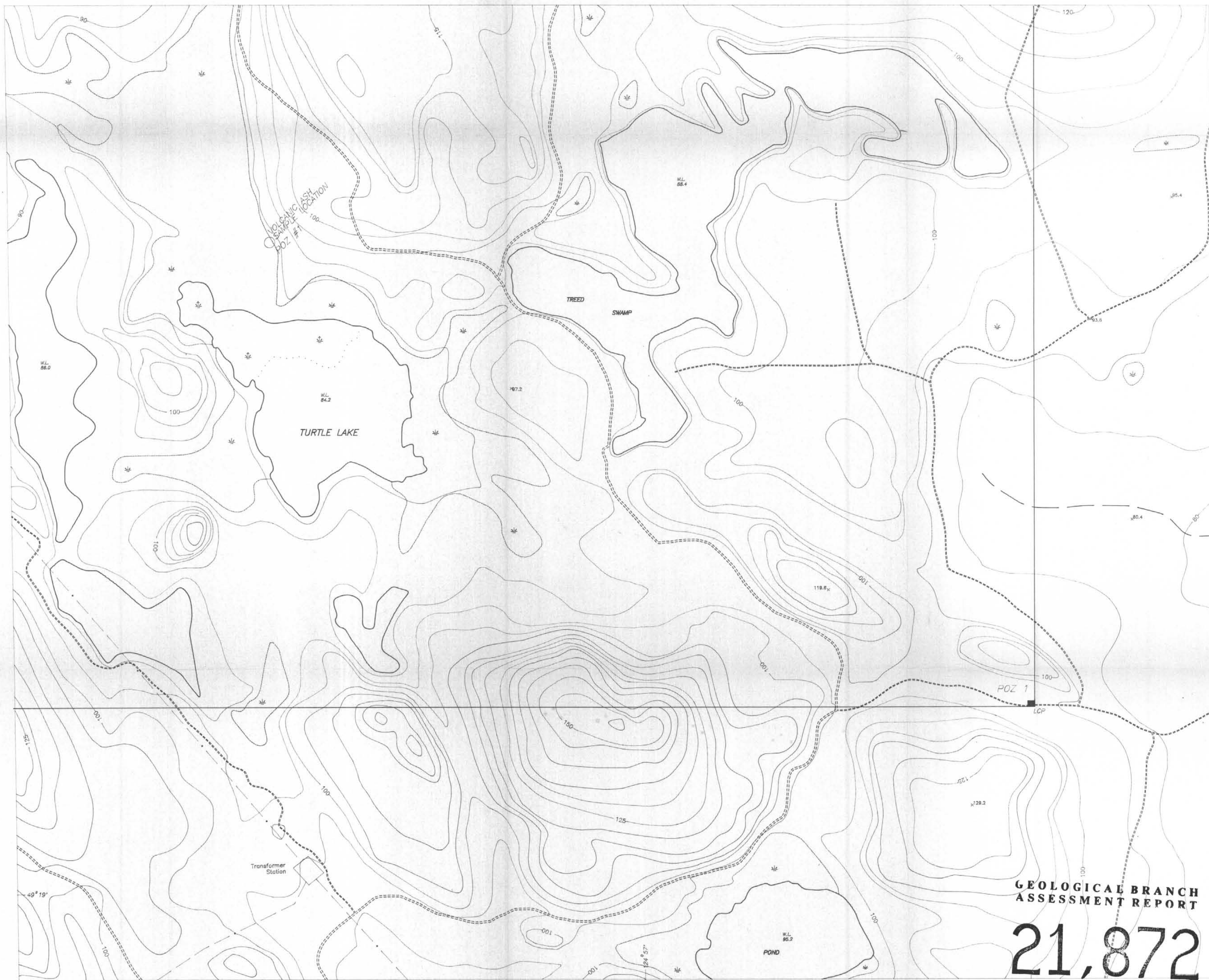
This sample consists of disaggregated mineral grains, 5 - 150 microns in size.

These consist predominantly of feldspars (probably mainly plagioclase), fresh to mildly sericitized. Principal accessories are quartz and a translucent brown phase which appears to consist of minutely felted sericite diffusely stained with limonite.

Accessories are particles of more or less strongly sericitized felsitic material, green hornblende, colourless pyroxene (both fresh) and epidote.

Opaques are notably sparse. Carbonate is not seen.

The low average particle size of this material (much of which is well below the designated grind of 100-150 mesh), combined with the monomineralic liberated state of the particles, and the partial rounding of some of them, suggest that the sample consists of a non-indurated crystal ash of probable dacitic composition.

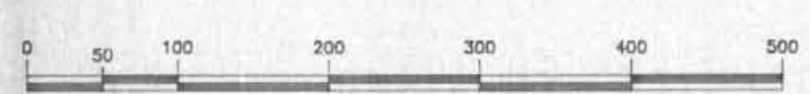


GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,872

TURTLE LAKE
(92F/7)

CONTOUR INTERVAL 5 m
SCALE 1:5000



SYMBOLS

- ROAD
- HYDRO LINE
- WATER LEVEL ELEVATION
- SPOT ELEVATION
- ELEVATION CONTOUR
- SWAMP
- SWAMP BOUNDARY
- SAMPLE LOCATION AND NUMBER

POZ PROPERTY
CONTOUR MAPPING