

81-#748-9452

GEOLOGICAL REPORT ON UNDERGROUND DRILLING

OF THE FRENCH MINE

OSOYOOS MINING DIVISION

49°19'N 120°01'W

N.T.S. 92 H 8 HEDLEY SHEET

85 E 5 PENTICTON SHEET

OPERATOR: GROVE EXPLORATIONS LTD.

NORMAN W. STACEY
GEOLOGIST

LOCKE B. GOLDSMITH, P.ENG.
CONSULTING GEOLOGIST

ARCTEX ENGINEERING SERVICES

JULY 1981

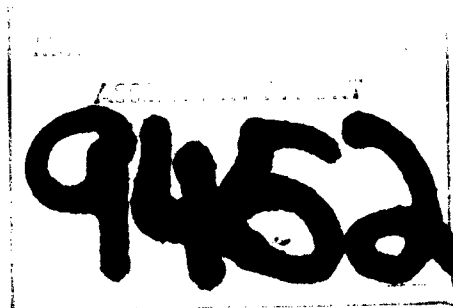


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INTRODUCTION

Some 3220 feet of AQ diamond drilling in 7 holes from 2 sites was conducted in the summer and fall of 1980.

Surface mapping had provided little elucidation, but existing mine mapping suggested a good possibility of a downfaulted continuation of the mined ore body in the eastern plate of the northwest-dipping Cariboo Fault.

Drilling was initially from Site 2, some 150 feet in on the 3785 ft main Cariboo Level. Subsequent drilling was from Site 1, adjacent to the Fault trace some 675 feet from the portal, again from the 3785 ft level and in the easternmost extension of the "North Wall" stope. Targets of an extension of the mined ore body, a repetition of the skarn horizon, or a limestone horizon amenable to skarnification were sought.

Drilling was conducted by Dillman Diamond Drilling of Keremeos under contract to Grove Explorations Ltd., utilising a BBU 2 machine, with air supplied by an Atlas Copco 600 compressor on surface. Water was obtained from an underground source near the face of the easterly Cariboo Level drift.

Holes were drilled in the following order:

<u>Hole No.</u>	<u>Depth</u>	<u>Azimuth</u>	<u>Collar</u>	<u>Terminus</u>	<u>Site</u>
DDH 7	403'	(Vert.)	-90°	-90°	2
DDH 8	530'	251°	-69°30'	-71°	2
DDH 9	240'	071°	-43°30'	-42°	2
DDH 1	593'	255°	-43°30'	-43°	1
DDH 2	702'	294°	-50°	-46°30'	1
DDH 3	493'	340°30'	-54°30'	-51°	1
DDH 4	259'	114°	-51°	-44°30'	1

FIELDWORK

Drilling in progress was inspected during several site visits and holes terminated at extensive granodiorite, interpreted as basement for this setting, or at target depth in the case of DDH 2. All core was lamped for ultraviolet response of scheelite at the sites (with negative results) and carried to the portal for geological logging.

Intersections containing visible sulphide, and encouraging lithologies were noted and split at their first occurrence, half being submitted for analysis. Regular intervals of tuffaceous sediments, approximately 100 feet apart and free of obvious addition or tectonic or mineralogical interference were split, half being submitted for 30-element spectrographic analysis.

Geological logs were typed, plotted and interpreted in cross-sections.

Results are presented in Plan with horizontal drillhole projections and in Sections A-A' through D-D'. Geological drill logs are appended as are analytical results.

Core was labelled, stacked and secured and remains at the terminus of the Cariboo Level service road.

DISCUSSION

Section A-A'

Drilling from Site 2 was planned with a dual purpose: Firstly, to gain or confirm stratigraphic and structural information on the Cariboo Fault and test both plates for possible trace element signatures; secondly, to investigate unexplored ground in both the hangingwall and footwall of the Cariboo Fault for recurrences or continuations of the mined auriferous horizon.

Stratigraphy: Good correlation is exhibited between the hangingwall inter-sections of drill holes 7 and 8. No extensive limestone horizon of the nature of the Pinto horizon was encountered. Drill hole 9 intersected extensive limey horizons, mostly as a component in tuffaceous sections, but also as rare distinct horizons with frequent small silicified sections. Nowhere was the interval as continuous or extensive as a limestone horizon of the Pinto marker horizon nature. One distinctive band of a medium green, partially devitrified volcanic was encountered. Correlation between DDH's 7 and 9 is nonexistent due either to unexpectedly large displacement along what mine mapping had postulated to be a splinter of the Gulch Fault, or alternatively, to rapid lateral pinching of limey and volcanic horizons.

Siliceous, tuffaceous sediments predominate in the footwall plate in all three holes. Three minor but distinctive bands of limestone were encountered in the upper footwall plate in DDH 7, interspaced by limey tuffaceous sediments.

Disconformable granodiorite was intersected in all three holes higher than surface mapping had indicated. This is most likely "basement" granodiorite with lithologically indistinguishable apophyses in DDH 7 and 8, and part of a major dyke recognisable on surface in DDH 9.

Structure: Bedding in drill holes 7 and 8 is most probably northeast striking and northwest dipping. Correlation of horizons between these holes indicates strike subparallel to section, and the postulated dip is consistent with mine mapping in the 3785 ft level. Strike in DDH 9 hangingwall is most likely similar, but with a less steep dip. The relatively flat dip relative to core axis, as distinct from the very steep possible alternative,

is most likely since a dip test indicated the hole flattened marginally. Core in DDH 9 was severely broken, probably due to the relatively less competent limey intervals. Movement on the proposed Gulch Fault splinter was not defined. This fault is evident at the set-up in the level, and as severely broken core, particularly in the uppermost portion of DDH 7.

Either or both of two fracture horizons near the base of DDH 9 are likely attributable to the Cariboo Fault. A well defined shatter and gouge zone where the driller reports loss of fluid return indicates a major fault intersection in DDH 7. Dips to core axis, of both these intersections, and the projected intersections, indicate the Cariboo Fault may be closer to a 30° than 40° dip. DDH 8 intersected three significant fractured horizons, none of which was as major or well defined as that in DDH 7, indicating the Fault may splinter into several slivers.

Dips, strikes, and orientation in the proposed footwall plate are not well defined and the orientation of basement and apophyses is highly interpretive.

Geochemistry: The two sections which should have been most definitive, DDH 7 and DDH 8, failed to support the trace element variations suggested in preliminary work. Additionally, lead content showed a decrease with depth but varied between 5 ppm and 1000 ppm in the hangingwall, negating its usefulness as a definitive tool. The preliminary data had suggested barium enrichment in the footwall between 2 and 5 fold. DDH 7 confirmed this; DDH 8 reduced it to 1.5 fold and indicated that elevated levels are not definitive. Depleted calcium levels were negated as a tool, as were cobalt, iron, manganese and titanium. With all these elements, weak trends were

initially suggested only to be later negated. Results are regarded as disappointingly inconclusive.

Mineralisation: Pyrite was observed in numerous places in core, particularly proximal to granodiorite, and also in the volcanic horizon. Representative samples were analysed or assayed without significant precious or base-metal values.

At the conclusion of this drilling, activities were directed to Site 1 and a fan into the footwall at the terminus of the truncated ore horizon as per the plan.

Section B-B'

Drilled from Site 1, this section was designed to test the footwall plate of the Cariboo Fault for a possible extension of the mined auriferous horizon.

Stratigraphy: Siliceous, tuffaceous sediments tending increasingly but mildly devitrified downsection with minor chloritization in the basal section predominate in DDH 2. Four distinctive bands of light coloured, partially devitrified soft material with rare talc grains are almost certainly altered granodiorite dykes also intersected in DDH 2. A similar lithology was encountered in DDH 1 and 3, indicating thickening toward a likely origin northward.

The upper portion of DDH 4 is predominantly siliceous tuffaceous sediments with two horizons of medium-green, pyritiferous, altered volcanic, lithologically similar to that encountered in DDH 9. The lower portion of this hole is exclusively in relatively fresh granodiorite, similar to "basement" or a major dyke. A finer-grained poorly defined, more mafic band near the terminus suggests foliation and a possible inclusion. The sediment/granodiorite contact is transitional with considerable recrystallisation and granitoid

inclusions within the sediments, contrasting with sharp contacts observed in surface mapping. This large granodiorite body was not anticipated in what was expected to be a thick sequence of tuffaceous sediments comprising the footwall.

Structure: The relationship between the Cariboo Fault and that of an easterly dipping dyke and fault (?) visible near the drill site is not entirely determinable from either drill results or underground mapping. The strike projection of this structure has however little or no effect on the determined trace of the Cariboo Fault.

Extensive ground core and recovered soft gouge in the lower altered granitoid sequence has a similar orientation to the Gulch Fault. Alignment is poor but may be due to survey errors, dip information or subsequent minor offset.

Geochemistry: Regularly sampled spectrographic analyses produced no major anomalies and are consistent with that sample from the footwall plate taken in preliminary underground work.

Mineralisation: Pyrite was mostly absent in the lower bulk of DDH 2, but any originally present would likely have been oxidised and hence more mobile. Pyrite in the upper volcanic horizon of DDH 4 was assayed without significant values.

Section C-C'

Drilled from Site 1, DDH 1 was also designed to probe the footwall plate of the Cariboo Fault.

Stratigraphy: Horizons intersected correlated closely with those encountered in DDH 2, Section B-B'. No logs are available, but a crude sketch indicates

previous drilling encountered granodiorite in hole C 19, similarly positioned to that in DDH 4.

One pyritiferous, very altered, volcanic horizon, similar to lesser altered equivalents in DDH 9 and 4 was encountered, apparently unconformable and possibly only an inclusion within a granitoid dyke. The hole terminated in granodiorite consistent with that of "basement".

Structure: Structure is also similar and correlates well with Section B-B'. The hole initially encountered very broken ground requiring casing, presumably attributable to the low angle at which it intersected the expected Cariboo Fault. Broken ground and gouge was encountered within a granitoid unit which also aligns closely with the projection of the Gulch Fault from 3785 level. However, core recovery was poor and an accurate orientation with respect to core axis was difficult.

Geochemistry: Spectrographic analyses were again relatively consistent, and not incompatible with the preliminary sample from the footwall plate.

Mineralisation: Samples from all visible facies or alteration changes within the major granitoid section were taken and assayed for gold without detectable values. Chloritisation in the lower section, and increasing downsection, was also evident.

Section D-D'

DDH 3 was drilled from Site 1 at a steeper angle to ease drilling problems through the initial Cariboo Fault trace and to explore ground deeper into the expected footwall plate.

Stratigraphy: Lithologies similar to those of Sections B-B' and C-C' were encountered. The altered granodiorite was considerably thicker, and

underlain by two lesser horizons bounding an intermediate, intermixed granitoid/tuffaceous sediment. These horizons appeared to be steeper down-section but orientation is unclear, probably irregular, and they may be apophyses off either the major dyke, "basement", or separate units. The hole was terminated in granodiorite tending less altered downsection and presumed to be "basement".

Structure: Structure was consistent with that shown on either of Sections B-B' or C-C'. The Gulch Fault trace does not project into this section.

Geochemistry: Spectrographic analyses were again consistent and similar to those of the preliminary footwall sample.

Mineralisation: No significant mineralisation was encountered, and one pyritic interval within the "basement" assayed without encouraging results. Increased chloritisation, serpentization, minor devitrification of sediments, more pronounced in intrusives, were again evident downsection.

SUMMARY

Drilling into the suspected downthrust block of the Cariboo Fault failed to encounter any extension of the mined auriferous skarn ore body. No limestone horizon equivalent to the Pinto Limestone or amenable to skarnification was encountered. Alteration at depth from Site 1 tended to be of the devitrification-chloritisation-serpentization type, rather than silica enrichment-skarn minerals type. Major granodiorite bodies, interpreted as basement, terminated all but one hole, higher than expected or where unexpected. Initially encouraging stratigraphy, lithology and alteration encountered in drilling from Site 2 were negated in drilling from Site 1.

30-Element spectrographic analyses were not definitive in distinguishing footwall from hangingwall tuffs of the Cariboo Fault.

CONCLUSION

A drill programme to test for a downfaulted extension or repetition of the mined French Mine ore body was terminated at the discretion of the Operator and in agreement with geological advice. Little encouragement was encountered, and some discouraging criteria negated likely success in continuing the programme.

RECOMMENDATIONS

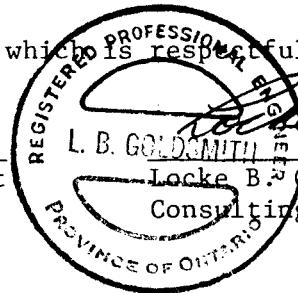
1. No further exploration should be undertaken in the Cariboo Level unless reinterpretation indicates untested targets. (Missing drill logs from previous exploration would be useful in completing an evaluation; these are not in the possession of the vendors of the property.)
2. A small amount of backhoe trenching should be planned to investigate the limestone horizon which outcrops in the north of the claim group (see earlier reports and maps for location) at an estimated cost of \$10,000.00.
3. The property should be retained, pending developments on adjacent claims.

All of which is respectfully submitted,

Norman W. Stacey, Geologist

Locke B. Goldsmith

Locke B. Goldsmith, P.Eng.
Consulting Geologist



Vancouver, B. C.

July 14, 1981

STATEMENT OF QUALIFICATIONS

I, Norman W. Stacey, of #305 Trinity Manor, 2320 Trinity Street, Vancouver, B. C., V5L 4W7, state that:

I am a graduate of the University of Auckland, New Zealand, with a B.Sc. degree in Geology and Applied Geophysics.

I am a Fellow of the Geological Association of Canada, and a Member of the Canadian Institute of Mining and Metallurgy.

Since graduation in 1974, I have pursued my profession in Geology. I have been employed as a Geologist in New Zealand, Western Australia, and in Northern and Western Canada, and as a Research Assistant at the University of British Columbia.

I am currently employed by ARCTEX ENGINEERING SERVICES.

I have written this report subsequent to logging the core during numerous visits while drilling was in progress.

I believe its contents to be fair and full disclosure of results pertaining to the program.

NORMAN W. STACEY

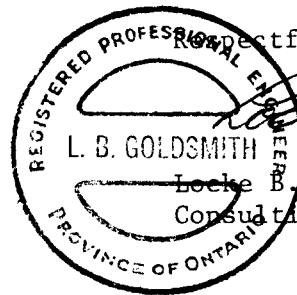
Vancouver, B. C.

July 14, 1981

ENGINEER'S CERTIFICATE

LOCKE B. GOLDSMITH

1. I, Locke B. Goldsmith, am a Registered Professional Engineer in the Province of Ontario and a Registered Professional Geologist in the State of Oregon. My address is 301, 1855 Balsam Street, Vancouver, B. C.
2. I have a B.Sc. (Honours) degree from Michigan Technological University and have done postgraduate study in Geology at Michigan Tech, University of Nevada and the University of British Columbia. I am a graduate of the Haileybury School of Mines and am a Certified Mining Technician. I am a member of the Society of Economic Geologists, the AIME, and the Australasian Institute of Mining and Metallurgy. I am a Fellow of the Geological Association of Canada.
3. I have been engaged in mining exploration for the past 22 years.
4. I have co-authored the report entitled, "Geological Report on Underground Drilling of the French Mine, Osoyoos Mining Division", dated February 1981. The report is based upon fieldwork supervised by the author.
5. I have no ownership in the property, nor in the stocks of Grove Explorations Ltd.
6. I consent to the use of this report in a prospectus or in a statement of material facts related to the raising of funds.



Respectfully submitted,

Locke B. Goldsmith, P.Eng.
Consulting Geologist

Vancouver, B. C.

July 14, 1981

APPENDIX

DDH 80-1

DIAMOND DRILL LOG

SHEET 1

AZIMUTH: 255°
 ANGLE: COLLAR @ -43° 30'. 593' @ -43°
 TOTAL FOOTAGE: 593'

Grove Explorations Ltd.

SITE 1

LOGGED BY: N.W.S.

FROM TO DESCRIPTION GEOCHEMICAL ANALYSES ASSAYS

0' 24' Casing. No core recovered.

24' 78' TUFFACEOUS SEDIMENTS

Medium and dark grey tuffaceous sediments, with lesser calcareous intervals.

24-25' Very broken core, pieces to 1". Indurated tuff with trace limonite as very small speckles.

25-27' White medium grained to sparry limestone, with trace limonite stain in upper portion.

27-29' Very broken core. Indurated sediments with fracturing at 25° to core axis.

29-30' Pastel grey-green, medium grained limestone; central portion chloritic altered, fractures trending 20° to core axis.

30-38' Very broken core, tuffaceous sediments with very minor disseminated pyrite and trace limonite coating on fractures.

38-53' 37% recovery of moderately indurated tuffaceous sediments with trace pyrite. Frequent fracturing at 30° to core axis.

53-78' Trace brown hued tuffaceous sediments.

53-63' 70% recovery, minor chloritic slickensides on fracture trending 40° to core axis.

59-63' Moderately broken core, pieces to 2".

63' → 65' 30 ELT. SPECTRO. # 34133

78' 114' TUFFACEOUS SEDIMENTS

Medium-coarse grained tuffaceous sediments, with 30% very fine grained red-brown interstices, intercollated with lesser sections of dark grey, very fine grained tuffaceous sediments. Minor chloritic coating on fractures at between 15 and 25° to core axis.

93' Limonitic stained fracture at 25° to core axis.

108.25' 2"-wide band of slightly calcareous silicate with highly irregular contacts.

114' 116.5' INTRUSIVE DYKE

Medium texture with 60% euhedral white feldspars in finer grained matrix with only minor fine grained mafics. Upper contact slightly irregular trending 40° to core axis. Lower contact regular trending 35° to core axis.

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
116.5'	148'	<p><i>MASSIVE AND BANDED TUFFACEOUS SEDIMENTS</i></p> <p>Predominantly very dark grey with tinged brown medium-fine grained tuffaceous sediments. Minor bleaching adjacent to tight fractures and weak limonite coating on fractures, frequently trending 45° to core axis.</p> <p>119-119.8' Ductile deformed, grey and white banded section; dark grey medium grained less competent bands to 1" with trace calcite and very minor finely crystalline pyrite. Upper and lower contacts trending 45° to core axis.</p> <p>140-142' Minor chloritic coating on fractures trending 25° to C/A.</p>		
148'	148.5'	<p><i>VOLCANIC (?)</i></p> <p>Pastel grey-green, very fine grained to amorphous groundmass, with fine white calcite phenocrysts to 1/16" and very finely crystalline sulphide inclusions to 1/32". Limonite staining along and adjacent to tight fractures. Minor discontinuous white calcite veinlets trending 30° to core axis. Upper contact broken at 60° to core axis; lower contact broken at 45° to core axis.</p>		
148.5'	219'	<p><i>TUFFACEOUS SEDIMENTS</i></p> <p>Alternating sections of very dark grey, very fine grained, tuffaceous sediments and dark grey-brown medium-fine grained sediments with trace pyrite.</p> <p>148.5-150' Core broken along undulating fracture trending 10° to core axis, with minor limonite stain on calcite scale.</p> <p>158.5-160' Coarser, medium grained section, with white calcite scale on very tight fractures trending 40° to core axis.</p> <p>165.6" 1½"-wide medium-coarse grained quartz band trending 45° to C/A.</p> <p>170.5-171' Very irregular discontinuous ½" to 2" wide bands of coarse-grained to sparry silica, with weak alignment at 35° to core axis.</p> <p>172-175" Moderately broken core, pieces to 3", generally broken along limonite coated fractures trending 45° to core axis.</p> <p>177-180' As for 172'.</p> <p>183-187' Minor mottling with indistinct, poorly defined light grey patches to ½".</p>	153 → 155	30 ELT. SPECTRO. # 34134

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		188-190' Broken core, fractures trending 40° to core axis.		
		192' 2"-wide band of broken core with irregular greenish black chloritic lamellae.		
		192.8-194' Broken core, pieces to 3". Generally broken along limonitic stained, chloritic coated, planar fractures of no preferred orientation.		
		194-198' Coarser grained section with very fine reddish brown grained interstices.		
		198-200' Medium grey, more indurated section.		
		208-209' Very minor disseminating pyrite.		
		211.25-213' Frequently broken along limonitic stained chloritic partings trending 45-60° to core axis.		
219'	222.8'	<i>GRANITIC INTRUSIVE</i> Medium textured feldspathic dyke as at 114'. Trace limonite stain on fracture trending 45° to core axis. Highly irregular upper and lower contacts.		
222.8'	293.5'	<i>TUFFACEOUS SEDIMENTS</i> Predominantly very dark grey to black, very fine grained tuffaceous sediments tending coarser grained to medium-fine grained with reddish brown interstitial groundmass in lower portion. Trace calcite along tight fractures. 222.8-223.5' Mottled colouration with lesser light grey indistinct bands or ovoids. 231.75-232.5' Whitish-grey, weakly limonite stained, very dense, siliceous band. Upper contact at 40° to core axis; lower contact at 75° to core axis. 240-293.5' Tending marginally coarser grained with commencement of minor reddish brown interstitial groundmass. 248.5' Weak relict banding trending 35° to core axis, with minor bleaching adjacent to parallel tight fractures. 262-263' Moderately broken core with trace chlorite as partings trending 35° to core axis. 272' Weak relict banding trending 40° to core axis.	258 → 260' 30 ELT. SPECTRO	# 3A135

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		273-293.5' Dark brown, lesser dark grey medium grained tuffaceous sediments, coarsening downsection with porous surface and discrete mafic and felsic grains distinguishable toward base. Weak banding depicts possible relic bedding at between 50 and 55° to core axis.		
293.5'	329'	ALTERED INTRUSIVE Granitoid textured, alternating light grey and dark grey, brown or green speckled sections of varying degrees of silicification. Rare weakly calcareous intervals. One calcareous <i>gouge</i> sign, and frequent secondary calcite along tight fractures.		
		293.5' Very irregular upper contact.	293.5 → 294' # 34109	02/t Au <0.003
		293.5-334' Light greyish white quartzitic groundmass with minor chloritic grain inclusions to ¼".		
		294-299' Generally dark grey speckled with reddish brown fine grained <i>limonitic</i> lamellae.	294 → 299' # 34110	<0.003
		299.5' Greenish grey, medium grained 2" band or inclusion, with irregular upper and lower contacts, and to 15% pyrite as very fine grained, crystal aggregates.	299.5' # 34111 299.5 → 303' # 34112	<0.003 <0.003
		311.75-312' Brownish grey, medium grained band or inclusion.		
		312-313' Broken core, more friable and porous, and more calcareous section, with trace sulphide frequently oxidized to limonite, and to 10% soft light green talc grains.	312 → 313' # 34113	<0.003
		313-314.25' Light grey very calcareous gritty soft friable gouge. Upper contact ground; lower contact trending 50° to core axis.		
		314.6-315.6' Distinctly granitoid texture. More porous, less competent interval, with rare soft light green chloritic grains.		
		315' Gritty gouge wedge. Upper contact at 35° to core axis; lower contact at 75° to core axis.		
		315.6-328' Distinctly granitoid section, minor less competent intervals, with to 10% light green soft chloritic grains.	318 → 320' # 34114	<0.003
		328-329' Lighter coloured, finer grained more felsic section, broken along lower contact trending 35° to core axis.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
329'	333'	<i>VOLCANIC (?)</i> Dark greyish green very fine grained groundmass with distinctive, fine white calcite inclusions to 1/16" and minor magnetite. Limonite coated fractures frequently trending 35° to core axis.	331→333 # 34115	oz/t Au 20.003
333'	342.3'	<i>ALTERED INTRUSIVE (?)</i> Light grey, granitoid interval with coarse white quartz or feldspar grains, rare greenish tinged soft chloritic grains, and highly irregular black speckles and inclusions. Frequently broken core with minor limonitic smear along partings.		
342.3'	343.5'	<i>TRANSITION</i> Alternating 4" bands or inclusions of brownish grey, tuffaceous sediments and light grey, granitoid sections.		
343.5'	366'	<i>TUFFACEOUS SEDIMENTS</i> Dark brownish grey to black, medium-fine grained, tuffaceous sediments.	346→348' 30 EAT. SPECTRO. # 34136	
366'	374.6'	<i>ALTERED INTRUSIVE (?)</i> Light grey, coarsely granitoid section. Frequently broken core. Upper contact irregular; lower contact trending 35° to core axis. 373' 8" ground of core.	366→368' # 34116	oz/t Au 20.003
374.6'	462'	<i>TUFFACEOUS SEDIMENTS</i> Very dark grey, very fine grained, lesser medium-fine grained tuffaceous sediments, with minor, very light greenish grey, irregular patches or bands. Trace calcite on fractures. 377.7-378' Light grey green coarser grained band with minor chloritic alteration of groundmass and trace calcite. Upper and lower contacts slightly irregular, trending 70° to C/A.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		383.5-384' Moderately broken core, with trace calcite on irregular fractures.		
		389-390' White calcite scale on fractures at 10° to core axis.		
		394.5' 2"-wide band of coarse grained to sparry feldspar with trace calcite.		
		395.5' Weak relict banding trending 50° to core axis.		
		414-415.5' Very broken core, with minor secondary calcite on several parallel fractures, trending 15° to core axis.		
		419-422' Lesser light grey-green bands to 1" wide trending 50° to C/A.		
		422.5-423' Light grey-green, medium-coarse grained to sparry feldspar, with trace calcite along tight fractures. Highly irregular upper and lower contacts.		
		433-436.5' Indistinctly banded, light grey-green mottling.		
		446.5-452' Frequently broken core with trace calcite on chloritic coated irregular fractures.		
			453 → 455'	30 ELT. SPECTRO. # 34137
462'	463'	<i>ALTERED INTRUSIVE DYKE</i>		
		Minor talc or chloritic phenocrysts in granditoid texture, coarsening downsection. Upper contact irregular, trending 50° to core axis; lower contact more planar, trending 45° to core axis.		
463'	485'	<i>TUFFACEOUS SEDIMENTS</i>		
		Very dark grey, very fine to fine grained sediments, with rare granitic bands and minor calcite on tight fractures.		
		466.75-467.5' Calcite veneer on sinuous fracture, trending parallel to core axis.		
		467.6' Highly irregular 3" granitic band, with light green chloritic grains.		
485'	489'	<i>PARTIALLY RECRYSTALLIZED TUFFACEOUS SEDIMENTS</i>		
		Predominantly medium grey brown, medium-fine grained, tuffaceous sediments; with up to 30% very fine grained, reddish brown, interstitial groundmass or discontinuous, cusped laminae, and rare larger feldspar grains. Sediments tending partially recrystallized, marginally coarser downsection, with increased feldspars imparting granitoid texture.		

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
489'	593'	<i>INTRUSIVE BASEMENT</i> Speckled medium textured biotitic granodiorite. 489-489.25' Distinctly coarsened downsection. 489.25-593' Massive biotitic granite.		
593'		Hole completed.		

DDH 80-2

AZIMUTH: 29A°

ANGLE: COLLAR @ -50°. 702' @ -46° 30'

TOTAL FOOTAGE: 702'

DIAMOND DRILL LOG

Grove Explorations Ltd.

SITE 1

SHEET 1

LOGGED: N.W.S.

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
0'	20'	Casing. No core recovered.		
20'	216'	<i>TUFFACEOUS SEDIMENTS</i>		
		Very dark, brownish grey or black, with lesser medium light grey sections, and medium fine grained with rare irregular bands to ½".		
		20-33' Moderately broken core, pieces to 4".	26→28'	30 ELT. SPECTRO. # 34125
		38-41' Broken core, pieces rarely exceeding 1".		
		48-49.5' Core frequently bleached adjacent to parallel fractures trending 30° to core axis.		
		61-62.5' Core broken along planar fractures with limonite stain trending between 30 and 50° to core axis.		
		70.5-71' Minor, finely crystalline, secondary pyrite along tight fractures.		
		75.5 Minor, finely crystalline secondary pyrite inclusions to 1/4" x 1/16".		
		90' Minor relict banding at 60° to core axis.		
		92' Minor relict banding at 45° to core axis.		
		100-103' More frequent relict banding at 60° to core axis.	113'→115'	30 ELT. SPECTRO. # 34126
		115-143' Frequently very broken core with minor limonite stain on numerous fractures.		
		123-126' Ground core.		
		126-128' Trace limonite scale on planar fractures at 10° to C/A.		
		134-136' Ground core.		
		141-143' Ground core.		
		151-163' Core frequently broken along fractures trending less than 30° to core axis. Only trace limonite stained and rare chloritic scale in lower portion.		
		166' Two subparallel irregular calcareous bands ½" wide trending 60° to core axis.		
		201-203' Broken core, pieces rarely exceeding 1½".		
		208-213' Core frequently broken along fractures trending 45° to core axis.		
		216' Highly irregular lower contact trending 70° to core axis.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
216'	235'	<i>INTRUSIVE SECTION</i> Very light grey with greenish tinged, medium fine granitoid textured interval, with indistinct small grey speckles, and rare light green talc grains. Interval generally soft, felsic and frequently broken. 223-225' More greenish section, denser and generally finer textured.		
235'	244'	<i>TUFFACEOUS SEDIMENTS.</i> Dark grey or black with brownish tinged, very fine grained tuffaceous sediments.	236 → 238'	30 ELT. SPECTRO. # 34127
244'	293'	<i>INTRUSIVE SECTION</i> Light greenish-grey granitoid section with minor, dark grey speckles and indiscrete, partly devitrified feldspar grains, and rare soft grey lamellae trending 40° to core axis. 290-293' Slightly greener, denser, finer textured and intensely broken section. 293' Highly irregular broken lower contact.		
293'	428'	<i>TUFFACEOUS SEDIMENTS</i> Predominantly very dark grey or brownish grey, medium-fine to medium-coarse grained, tuffaceous sediments. Minor granitoid inclusions in uppermost section, and lighter coloured bands, to 8" wide, increasing in frequency downsection. 331' Coloured banding depicts relic bedding 60° to core axis. 351-355' Core frequently broken along chlorite coated, planar fractures trending 40° to core axis. 397' Weak relict banding at 50° to core axis. 403' Minor discontinuous white lenses parallel to relict banding at 60° to core axis. 420-421.5' Lighter coloured, bleached, softer, very broken section. 423-425' White calcite coating on planar fractures trending 40° to core axis. 425-426' Very broken core, pieces rarely exceeding 1". 426-428' Ground core.	336 → 338'	30 ELT. SPECTRO. # 34128
			421.5 → 423.5'	30 ELT. SPECTRO. # 34129

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
428'	458.5'	<i>GOUGE AND INTRUSION</i> Very light grey, fine grained, very soft, frequently ground upper portion, tending pale greenish-grey downsection with increased granitoid texture. 431-432' Ground core. 434-435' Ground core. 435-436' Light grey gouge. 436-438' Ground core. 438-441' Frequently broken core with pieces to 3" alternating with gritty gouge. 441-443' Ground core. 453-458.5' More competent core with distinctly granitoid texture similar to above intrusive intervals, with several planar fractures with trace calcite, trending 50° to core axis. 458.5' Highly irregular lower contacts.	52A-7526' 30 ELI. SPECTRO. # 3A130	
458.5'	702'	<i>TUFFACEOUS SEDIMENTS</i> Predominantly very dark grey, medium-fine grained, with lesser finer grained, denser, medium grained sections, and rare granitoid sections to 1' in uppermost section. 458.5-462.5' Frequently broken core, pieces rarely exceeding 4", commonly fractured at 50° to core axis. 462.5-463' Ground core. 464-464.5' Granitoid band. 464.5-467.5' Broken core. 467.5-468' Ground core. 468-471' Predominantly granitoid sections to 1' in irregular contacts with tuffaceous sediments. 491-493' Moderately broken core with trace calcite on fractures tending 10° to core axis. 495-498' Moderately broken core. No repeated fracture angle. 503-523' Frequently very broken sections to 2'. 574-586' Frequently broken core, tending slightly serpentinitic on fractures, with minor indiscrete white quartz inclusions to ½".		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		590-592' Rare white calcite veinlets, trending 50° to core axis.		
		605-618' Continued weak serpentinization with frequent fractures subparallel to core axis.		
		628-630' Light grey, medium grained, slightly calcareous bands to 5" wide, with irregular contacts occasionally trending 50° to C/A.	628 → 630'	30 ELT. SPECTRO. # 34131
		670-678' Lighter grey section with rare calcite, and abundant evidence of ductile deformation, frequently broken along planar chlorite-coated fractures, with trace calcite trending 50° to C/A.		
		678-693' Competent tuffaceous sediments with continued minor serpentinization.	695 → 697'	30 ELT. SPECTRO # 34132.
		698-702' Moderately broken section with increased serpentinization.		
		702' Hole completed.		

DDH 3

DIAMOND DRILL LOG

SHEET 1

AZIMUTH: 340° 30'
 ANGLE: COLLAR @ -54° 30' 493' @ -51°
 TOTAL FOOTAGE: 493'

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 SITE 1

LOGGED: N.W.S.

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
0'	14'	<p>CASING - BROKEN TUFFACEOUS SEDIMENTS</p> <p>0'-7' No core recovered.</p> <p>7'-9' 50% recovery, very broken core, light brownish-grey with bleaching adjacent to tight fractures. Partially devitrified, altered tuffaceous sediments.</p> <p>9'-10' Ground core.</p> <p>10'-12' 50% recovery, dark grey, fine grained tuffaceous sediments.</p> <p>12'-13' Light greenish-grey band, with minor chloritization and trace calcite. Lower contact trending 60° to core axis.</p> <p>12'-14' Dark grey, fine grained, tuffaceous sediment.</p>		
14'	185.5'	<p>TUFFACEOUS SEDIMENTS</p> <p>Very dark grey, with lesser brownish tinged sections, and rare light grey bands. Fine to very fine grained tuffaceous sediments.</p> <p>16'-17' Weak limonitic scale on slightly irregular fractures trending 10° to core axis.</p> <p>20'-25' Numerous fractures trending less than 5° to core axis. Moderately irregular with weak limonite scale on upper portion, tending to chloritic calcite coating in lower portion.</p> <p>34'-43' Heavy limonite stain on numerous fractures. No preferred orientation. Section generally marginally coarser grained with highly irregular, lighter coloured patches to 1½".</p> <p>43'-50' Very minor bleaching adjacent to tight fractures, trending 20° to core axis.</p> <p>75' 3" lighter coloured band, bounding contacts at 60° to core axis, broken by lighter limonite stained fracture, trending 20° to core axis.</p> <p>76' Weak banding depicts relict bedding at 60° to core axis.</p>	56 → 58'	30 ELT. SPECTRO. # 3A117

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		82' Weak relict banding at 50° to core axis.		
		85'-93' Frequently broken core with limonite stain on fractures, frequently trending 60° to core axis.		
		93'-95' Relict banding depicts bedding at 60-65° to core axis.		
		95'-96' Moderately broken core along weakly limonite stained fractures trending 15° to core axis.		
		103'-118' Frequent fractures with weak to moderate limonite stain, frequently trending 45° to core axis.		
		118'-120' More intensely broken core, weak limonite scale, fractures frequently 45° to core axis.		
		125'-127' Ground core.		
		132.5' 4" light grey band; upper contact at 45° to core axis, lower contact at 30° to core axis.		
		133'-134.5' Moderately broken core; ductile deformation evident. Weak limonite stained on irregular fractures.		
		134.5'-135' Ground core.		
		140'-144' Brownish tinged interval with indistinct, lighter grey mottling.		
		148'-150' Moderately broken core along limonite stained fractures trending 50° to core axis.		
		160'-161' 70% lighter grey and partially devitrified bands or patches to 4". Highly irregular contacts evidently bleached adjacent to weakly limonite stained fractures.		
		168'-168.5' Broken core. Very minor limonite scale.		
		173'-175' Moderately broken core with weak limonite stained and discontinuous, white calcite veinlets to 1/16" wide, trending 50° to core axis.	176-178	30 ELT. SPECTRO. # 3A118
		178.5' Lighter grey band; irregular upper and lower contacts trending 60° to core axis.		
		180'-180.5' Weakly limonite stained, granitoid interval. Irregular V-shaped upper contact; broken lower contact at 60° to core axis.		
		181.5'-183.5' Granitoid interval. Frequent limonite stained fractures trending 70° to core axis.		
		183.5'-184.5' Dark, fine grained tuffaceous sediments with lesser, light grey, indistinct, irregular bands.		

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
185.5'	287'	<p><i>GRANITIC INTRUSIVE</i></p> <p>Medium grey, grey-and-white speckled, medium textured granodiorite, with minor dark grey fine grained tuffaceous sediment sections to 1½ feet.</p> <p>184'-187' Weak limonite stained, unrepeated fractures trending 60° to core axis.</p> <p>190'-191' Weak limonite scale on sinuous fracture trending parallel to core axis.</p> <p>198'-199.5' Dark grey, tuffaceous ^{band} or inclusion, Weakly recrystallized; upper contact trending 60° to core axis, lower contact broken, irregular.</p> <p>216' 8" ground core.</p> <p>238'-238.5' Very weak limonite scale on sinuous fracture trending parallel to core axis.</p> <p>259' 4 inches broken core.</p> <p>260' 4 inches broken core.</p> <p>272'-273' Tuffaceous sediment section; weakly recrystallized with two 25% granodiorite inclusions. Weak foliation trending 55° to core axis.</p> <p>278'-283' Moderately broken core.</p> <p>286.75' 3 inches broken core; angular pieces to 1½ inches.</p>		
287'	296'	<p><i>TUFFACEOUS SEDIMENTS</i></p> <p>Dark grey, fine grained tuffaceous sediments with numerous granitoid inclusions and distinct foliation.</p> <p>290' Distinct banding at 20° to core axis.</p> <p>294' Distinct banding at 30° to core axis. Weak ductile deformation.</p> <p>296' Distinct lower contact trending 35° to core axis.</p>	288-290	30 ELT. SPECTRO. # 34119

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
296'	304.5'	GRANITIC INTRUSION. Medium light grey, pale greenish tinged, medium textured, biotitic granodiorite with minor serpentinization and a rare talc grains. Serpentinization marginally increased in lower most portion.		
304.5	316'	304.5' Lower contact irregular, trending 14° to core axis. PREDOMINANTLY TUFFACEOUS SEDIMENTS. Dark, grey-brown, medium fine grained tuffaceous sediments, with minor bands or inclusions of granitic material exhibiting indistinct banding, especially in lower most portion. 308.5'-309' Granitic bands. Gradational upper boundary; irregular lower boundary trending 50° to core axis. 314' -316' Regular, indistinct bands of lighter grey granitic material 2½" wide, imparting regular banded texture, trending between 40° and 50° to core axis. 316' Lower contact sharp ^{and} discordance, trending 20° to core axis.		
316'	325'	GRANITIC INTRUSION. Medium-grey with very pale greenish tinged, medium textured granodiorite, with only very rare biotite. Minor ductile deformation, and rare, light green, talc as discrete grains. 325' Sharp, but very irregular lower contact.		
325'	388'	TUFFACEOUS SEDIMENTS. Dark grey-brown with lesser medium-grey, irregular patches of medium-fine to medium grained, tuffaceous sediments. Weak serpentinization increasing down section. 334' Very weak banding at 40° to core axis. 344' -345' Minor bleaching for ¼" adjacent to tight fractures. 346 → 348 353.5' -354' Ground core. 355' -356' Broken core. Pieces to ½". Weakly serpentinized. 356' - 357' Broken core. Angular pieces to 1". 363' -364' Distinct banding trending 55° to core axis. 364' - 365' Very broken core. Pieces to ½".	30	ELT. SPECTRO. # 34120

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		365' -366' Ground core.		
		366' -370' Moderately broken core. Minor chlorite along planar fractures trending 65° to core axis.		
		370' -372' Ground core.		
		372' -373' Very broken core. Pieces to 1".		
		373' -374' Ground core.		
		374' -375' Broken core. Chlorite veneer on partings trending 70° to core axis.		
		375' -378' Ground core.		
		378' -379' Broken core tending lighter grey-brown coloured with increased serpentinization.		
		379' -383' Ground core.		
		383' -385' Broken core. Light greenish-grey, medium-grained, partially devitrified, moderately serpentinized tuffaceous sediments.		
		385' -388' Ground core.		
388'	493'	<i>GRANITIC BASEMENT</i>		
		Predominantly medium-grey or white-and-black speckled, medium to medium-coarse textured, granodiorite with two distinctly altered sections.		
		388' -389' Pastel greenish-grey, partially devitrified, weakly chloritized section, with granitic texture, almost totally obscured.		
		389' -393' Ground core.		
		393' -396' Broken core. Pieces to 1½". Moderately serpentinized granodiorite.		
		396' -398' Ground core.		
		398' -402' Moderately broken core. Pieces to 3".		

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		402' -403' Ground core.		
		403' -409' Frequent fractures trending 50° to core axis.		
		419' -424' Very pale, pastel green section with abundant disseminated sulphide, totally lacking granitoid texture.		
		Upper and lower contacts broken but apparently gradational.	423 → 424' # 34121	% Cu 40.01
		421' -422' Ground core.		oz/t Au 40.003
		440' -443' Ground core.		
		443' -444' Very broken core. Increased serpentinization of pieces.		
		478' -483' Distinct foliation of biotite, trending 50° to core axis.		
493'		Hole Completed		

DDH 4

DIAMOND DRILL LOG

SHEET 1

AZIMUTH: 114°
 ANGLE: COLLAR @ -51°. 259' @ -44° 30'
 TOTAL FOOTAGE: 259'

Grove Explorations Ltd.

SITE 1

LOGGED: N.W.S.

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
0'	8'	Casing, no core recovered.		
8'	39.5'	<p><i>TUFFACEOUS SEDIMENTS</i></p> <p>Dark, grey-brown, medium fine-grained, tuffaceous sediments with minor medium grey mottling.</p> <p>8' -12' Broken core. Pieces to 1½" with trace limonite stain, on open fractures.</p> <p>15' -21' Broken core. Minor chlorite and weak limonite stain on fractures at between 15° and 20° to core axis.</p> <p>27' -27.75' Ground core.</p> <p>30' -31' Ground core.</p> <p>31' -39.5' Broken core. Weak limonite scale on fractures of no preferred orientation.</p> <p>35.5' -37' Ground core.</p> <p>39.5' Broken, but apparently sharp, lower contact.</p>	21→23' 30 ELT. SPECTRO. # 34122	
39.5'	45'	<p><i>VOLCANIC</i></p> <p>Porphyritic medium green, fine-grained, groundmass with 5 to 10% white feldspar phenocrysts (to 1/8"). Several irregular, heavily limonite stained, fractures, of no preferred orientation. Broken lower contact apparently at 30° to core axis.</p>	41→43' # 34123	<p>% Cu oz/t Au</p> <p>20.01 20.003</p>
45'	128'	<p><i>TUFFACEOUS SEDIMENTS</i></p> <p>Predominantly dark grey-brown with lesser varied shades of grey, medium fine-grained, tuffaceous sediments with increased granitic content in lower most section. Minor chloritisation, especially along fractures.</p>		

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		45' -68' Moderately broken core. Grey-brown tuffaceous sediments with minor bleaching immediately adjacent to tight fractures. Trace chlorite on partings. No preferred orientations.		
		73' Faint relief banding at 70° to the core axis.		
		80' -84' Minor, indistinct, medium-grey banding depicts ductile deformation.		
		84' -87.5' Intermixed granitic material predominates in bands or inclusions to 4". Weak foliation at 55° to core axis.		
		87.5' -91' Medium light-grey bands to 1 foot and lesser, irregular, light grey patches (to ½") constitute 45% of interval. Weak foliation in bands imparted by dark grey lamellae oriented 70° to the core axis.		
		91' -101.5' Indistinct lesser medium-dark grey and dark grey-brown mottling.		
		101.5' -103' Medium green, porphyritic section with white feldspar phenocrysts as at 39.5 feet. White calcite scale on fractures @ 50° to core axis. Upper contact ground. Lower contact irregular, trending 30° to core axis.		
		104' -114' Lesser, medium light-grey bands to 6" comprise 20% of section; frequently trending 35° to core axis.	106 → 108'	30
		114' -128' 30% granitoid material; dominant in bands to 2 feet and as inclusions to ½", imparting pseudo-porphyrific effect in reddish-brown sediments. Minor, chloritic & calcic scale on fractures of no preferred orientation.	ELT. SPECTRO.	# 34124

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
128'	131.5'	<i>TRANSITION</i> Recrystallized tuffaceous sediments with very fine-grained red-brown interstices and medium grey, more felsic interconnected grains. More distinctly granitoid bands in lower portion. Foliation in both above trending 45° to core axis.		
133'	259'	<i>GRANODIORITE.</i> Medium grey or grey-and-white speckled, medium textured, biotitic granodiorite. Minor reworked tuffaceous sediments and inclusions in upper 20 feet. No foliation evident. Generally fresh without significant fractures. 251.5' Distinctly finer textured, darker, more biotitic wedge; approximately 1½" wide. Upper contact @ 50° to core axis. Lower contact trending 30° to core axis.		
259'	Hole Completed.			

DDH 80-7

DIAMOND DRILL LOG

Grove Explorations Ltd.

SHEET 1

AZIMUTH: (VERT.)

ANGLE: -90

TOTAL FOOTAGE IN HOLE: 403

SOUTHING: SITE 2.

EASTING:

DATE COMMENCED:

DATE COMPLETED:

LOGGED BY: N. W. Stacey

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
0'	8'	Casing. 25% recovery. Pieces to 3" predominantly of medium grey, coarse grained to sparry calcite.		
8'	8.75'	Calcite dominant band. Basal 3" of very light green silicate with broken lower contact.		
8.75'	28'	<i>TUFFACEOUS SEDIMENTS</i> Very dark grey or black, very fine grained tuffaceous sediments with minor limonite coated fractures. 8.75-11' Very broken core, especially along fractures trending 10° to C/A. 11-15' Marginally more siliceous with minor bands (to 3") lighter grey, more siliceous with green microfractures and minor very finely crystalline, ovate pyrite inclusions to 1/16". 15-18' 100% recovery. Decreased frequency of fractures and rare pyrite. 18-20' 100% recovery. Continued dark grey tuffaceous sediments with rare to minor disseminated pyrite, and minor irregular bands, 1/4" to 1 1/2", finer grained grey-green with 2% to 10% very fine pyrite. 20-25' 100% recovery. Similar to above trending, marginally more siliceous. 23-24' Core broken along fractures trending 10° to C/A. 25-28' 100% recovery. Similar to 20', but weakly mottled with lighter coloured, more siliceous patches.		
			25-25 → 26-25' 30 FLT. SPECTRO.	# 34027

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
28'	38'	<p><i>TUFFACEOUS SEDIMENTS</i></p> <p>Dark grey, lesser dark green and mauvish, fine grained to very fine grained tuffaceous sediments.</p> <p>28-30' Distinctly mottled with to 60% lighter coloured, angular more siliceous patches.</p> <p>30-33' Tight fractures at no preferred orientation accentuated by bounding 1/32" bleached.</p> <p>33-38' Similar to above with continued minor disseminated pyrite.</p> <p>36.75' 7% finely crystalline pyrite inclusions to 1/16".</p>		
38'	48'	<p><i>BANDED TUFFACEOUS SEDIMENTS</i></p> <p>Very dark-grey and lesser dark mauvish-grey, fine to medium-fine grained tuffaceous sediments, frequently interbanded to 2".</p> <p>Minor visible pyrite, both disseminated and as rare, finely crystalline inclusions to 1/8".</p> <p>38-43' 97% recovery.</p> <p>43-48' 80% recovery.</p> <p>43.25-44.4' Broken core. Pieces to 1". Upper contact very weakly limonite coated and stained at 20° to C/A. Lower contact at 35° to C/A.</p> <p>47.1' Weak limonite scale on planar fracture at 10° to C/A.</p>		
48'	53'	<p><i>TUFFACEOUS SEDIMENTS</i></p> <p>Similar to above but pyrite less evident.</p> <p>48-50' Continued weak mottling with decreased light coloured more siliceous patches.</p> <p>50-53' Banding marginally more apparent, predominantly medium to dark grey and more regular.</p>		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
53'	79'	<p><i>SILICEOUS TUFFACEOUS SEDIMENTS</i></p> <p>Good recovery of dark grey to black, fine to medium-fine grained, siliceous, tuffaceous sediments.</p> <p>53-53.4' Broken core. Pieces to 1".</p> <p>55-57' Weakly mottled.</p> <p>58-64' Full recovery. Continued weak mottling.</p> <p>62.3-62.5' Broken core. Fractures at 30° to C/A.</p> <p>64-66' Full recovery. Marginally more siliceous.</p> <p>66-69' Full recovery. Distinctly more siliceous with increased regular banding beneath gradational upper contact.</p> <p>69-74' Dark mauvish cherty silicate with darker grey bands to ½" trending 50° to C/A.</p> <p>74-79' Similar to above, continued cherty with tight fractures @ 20° to C/A with bounding ¼" bleached.</p>		
79'	84'	<p><i>CHERTY TUFFACEOUS SEDIMENTS</i></p> <p>Full recovery. Medium and light grey, lesser pale mauvish cherty silicate with trace calcite and dark grey lamellae along tight fractures.</p> <p>83-84' Broken core. Angular pieces to 2".</p>		
84'	134'	<p><i>CALCITE AND TUFFACEOUS SEDIMENTS</i></p> <p>Indurated, very fine grained to amorphous, light grey silica with lesser dark grey fine grained tuffaceous sediments and rare calcite bands.</p> <p>84-89' Good recovery of light coloured siliceous section with 10% poorly defined, darker grey dendrites, and rare ovate inclusions to ¼" of 60% finely crystalline pyrite.</p> <p>89-94' Full recovery of light grey dense silicate, with limonitic scale on frequent planar fractures @ between 10° and 35° to C/A.</p> <p>94-99' As above. Less fractured.</p>		

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS	
		95-96' Minor limonite stain on fracture trending subparallel to C/A.			
		99-104' Light grey cherty upper portion with poorly defined darker bands in lower portion, trending 60° to C/A.			
		102.2' 3" band of darker, slightly less siliceous, slightly coarser grained tuffaceous sediments, with irregular scoured lower contact.			
		102.4-103' Very pale greenish-grey silica with minor sulfide inclusions to 1/8", on discontinuous tight fractures.			
		103-103.9' Darker, distinctly banded interval trending perpendicular to C/A. Finely crystalline sub-angular pyrite inclusions to 1/4". Minor bleaching adjacent to repeated tight fractures @ 30° to C/A. Highly irregular lower contact.			
		104-109' Full recovery of very light grey to white amorphous silica and trace calcite along tight fractures.			
		104.5-104.9' Dark grey medium fine grained and lighter mauvish grey siliceous interbands to 1/2". Sharp irregular upper contact and less distinct irregular lower contact.			
		105.6' Broken along two parallel finely crystalline quartz veinlets, 2" apart, trending 20° to C/A.			
		109-134' Increased darker tuffaceous content downsection.			
		109-109.25' Darker band with highly irregular contacts.			
		109.55-109.9' Coarse grained to sparry calcite bounded by white to very light grey silicate.			
		109.9-112.25' Continued very light coloured silicate with minor poorly defined limonite stained lenses.			
		112.25-114.0' Darker, slightly more tuffaceous with finely crystalline pyrite adjacent to fractures.	(ppm)Mo 112.8 → 114' 2	ppm W 2	ppm Cu 106
		114-119' Full recovery.			
		114-114.5' Very light to whitish coloured silicate with minor weakly limonite stained lenses.			
				Oz/T Au 0.003	
				# 3A032	

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		114.5-115.5' Darker grey band with minor finely crystalline sulfide.		
		115.5-118.2' Lighter coloured silicate with minor darker inclusions.		
		118.2-118.6' Distinctly banded section with darker bands to 1" @ 80° to C/A.		
		119-124' Full recovery of very light grey to white silicate tending more mottled with minor sections to 6" of darker grey, more tuffaceous sediments.	119 → 120' 30 ELT. SPECTRO # 34028	%Mo <0.001 %WO ₃ <0.01 oz/t Au <0.003
		124-129' Predominantly dark grey banded tuffaceous section with rare sulfide inclusions.		
		126.5-128' Very light grey to white amorphous silica section with coarse grained calcite in basal ½. Bounded by sharp sinuous contacts @ 40° to C/A.		
		129-134' Intercalated bands 3" to 1', of dark mauvish grey bands in irregular contact with very light grey, lesser very pale pink or mauvish, cherty bands.		
134'	219.65'	<i>SPECKLED TUFFACEOUS SEDIMENTS</i> Predominantly medium to dark grey, fine to medium-fine grained tuffaceous sediments with to 35% distinctive softer reddish-brown, fine grained lenses, speckles or groundmass.		
		134-144' Reddish-brown speckles to 1/8".		
		144-149' Continued reddish-brown speckles with lighter grey more felsic speckles imparting granitoid texture. Trace sulfide as very finely crystalline, irregular inclusions to 1/8".		
		149-154' Reddish-brown speckled as above with weak limonitic smear on rare fractures at between 10° and 30° to C/A.		
		154-159' Similar to above but with marginally more banded texture. Increased frequency and intensity of limonitic stained fractures at up to 65° to C/A.		
		156.1-156.7' Broken core. Pieces to 2" with earthy limonite coating on fractures at 50° to 75° to C/A.		

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FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		159-164' Reddish-brown speckling marginally decreased down-section. Rare light grey-green bands and patches to 1", with irregular contacts, trending 55° to C/A. Less frequent fractures with only trace limonite stain.		
		164-169' Continued full recovery. Minor calcite along rare parallel fractures @ 45° to C/A.		
		169-174' Weakly banded in upper portion, tending speckled to granitoid in lower portion.		
		174-176' Similar to above with rare pale grey-green bands to ½".		
		177.6-177.8' Weakly calcareous interval overlying 1/3" thick, drusy white calcite band @ 70° to C/A.		
		177.8-179' Dark grey, fine grained, lesser pale green banded and mottled section. Frequently broken @ 70° to C/A. Unspeckled.		
		179-184' Pale grey-green mottled and speckled. Speckles less frequent but larger and angular (to ½" x ¼").		
		179.25-180.3' Frequently broken core. Parted along limonite coated, trace calcitic fractures trending 55° to C/A.		
		182.25-183' Broken core. Pieces to 2½" with weak limonite coating. Upper contact at 45° to C/A, lower contact less regular @ 30° to C/A.		
		183-184' Relict banding evident obscured by very irregular lighter grey mottling.		
		184-189' 97% recovery. Similar to above but with larger reddish-brown inclusions and very weak relict banding.		
		184.5' Trace calcite and weak limonite on parallel fractures at 40° to C/A.		
		184.5-185.5' Continued, less frequent, parallel fractures with minor calcite.		
		189-191.5' Frequent fractures with minor calcite coating and weak limonite stain @ 40° to C/A.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		194-199' Upper portion similar to above grading into lower portion with reddish-brown speckles or inclusions finer (to 1/8") and rarely exceeding 10%.		
		196-197' Weak limonite and minor calcite veneer on irregular fractures trending parallel to C/A.		
		197.3' 1/4" gouge on broken fracture @ 40° to C/A.		
		199-204' Similar to above with fine speckles, rarely to 1/4", and white felsic inclusions to 1/8". Rare dark grey-green, amoeboid inclusions bounded by 1/4" bleached aureole.		
		204-209' Reddish-brown inclusions increased in size (to 1/4") and frequency (to 20%). Distinctively bleached (to 1/4") bounding dark grey-green lamellae @ between 20° and 70° to C/A.		
		209-210.5' 30% bleached, bounding fractures.		
		210.5-214' 98% recovery - as 204'. Continued speckled.		
		214-219' Full recovery - speckled.	214.3 → 215.3	30 FLT. SPECTRO. # 3A029
		216' Two limonite coated fractures trending 65° to C/A, intersect @ 30°.		0.2/t Au 0.003
		219-224' 85% recovery.		
		219-219.65' Decreased frequency of red-brown inclusions.		
219.65'	243'	<i>BANDED TUFFACEOUS SEDIMENTS</i> Medium grey, medium fine grained tuffaceous sediments with irregular darker grey or reddish-grey coloured sections. Reddish-brown, softer, medium-fine grained material, similar to overlying inclusions, but here as fine discontinuous lenticular bands, or predominating in matrix of brecciated intervals. Moderate ductile deformation evident.		
		219.65-220.2' Medium grey bands to 4" with to 30% reddish-brown laminae and lesser small grey inclusions.		
		220.2-222' Predominantly medium grey with reddish-brown dominant sections to 3". One rounded 3" inclusion with discrete reddish-brown speckles.		
		221.6' 1/4" white calcite veinlet and minor limonite stain on broken fracture trending 45° to C/A.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		222-224' Weakly, plastically brecciated with 15% reddish-brown dominant, less competent, matrix. Core broken along undulating limonite stained fractures trending 15° to C/A.		
		224-229' 90% recovery. Brecciated and rehealed with 15% to 20% light reddish-brown matrix. Fragments of light to medium grey sediments and lesser, very fine grained to amorphous silica.		
		224-224.4' Broken core. Pieces to 1" with rare calcite smear on highly irregular partings.		
		228-228.9' Broken core. Pieces to 1" with trace calcite along irregular partings trending 60° to C/A.		
		229-234' 97% recovery. Upper portion of rehealed breccia with lower portion less deformed, more banded with decreased reddish-brown softer sediment.		
		229.75 1½" coarse grained to sparry white calcite vein with irregular contacts trending 70° to C/A., and trace response to U.V. light.		
		234-238' Full recovery. Rehealed breccia. Lower portion frequently broken along white calcite veinlets (to ¼") trending 30° to C/A.		
		238-243 92% recovery. Distinctly banded upper portion, plastically brecciated lower portion with reddish-brown dominant, matrix. Lower contact broken @ 50° to C/A.		
243'	258'	<i>MOTTLED TUFFACEOUS SEDIMENTS</i> Dark grey, very fine grained tuffaceous sediments with lesser, pale grey-green patches or poorly defined irregular banding. Rare calcite stringers and absence of medium-fine grained, reddish-grey sediment.		
		246.7-248' Fissile black lamellae (to ¼") along partings @ 40° to C/A.		
		248-253' 98% recovery. Similar to above with rare fractures. Predominantly massive, very dark grey to black, very fine grained, moderately indurated tuffaceous sediments.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSIS	ASSAYS
		251-251.5' Broken core. Pieces to 1½" with minor limonite stain on fractures trending 50° to C/A.		
		253-258' 80% recovery. Similar to above but lighter greenish coloured patches and bands to 40%.		
		253-254' Light greenish-white section with ½" band of pitted calcite @ 70° to C/A.		
		255.9-258' 1.3' recovered. Broken core. Pieces weakly limonite stained bounding fractures trending 70° to C/A. Driller reports total loss of drilling fluids at 258.6'.		
258'	364.4'	<i>CALCITE AND TUFFACEOUS SEDIMENTS</i> Frequently distinctly banded, dark grey to black, very fine grained, tuffaceous sediments and lesser lighter coloured, frequently calcareous bands, alternating in lower portion. 258-259' Weakly limonite stained and white calcite veinlets to ¼" trending 50° to C/A. 259-262' Distinctly banded. Fine, sinuous, nearly white lamellae forming 80% of light coloured, calcareous bands to 3". 262' 3" white calcite dominant band @ 30° to C/A. 262.25-263' Dark grey sediments with limonitic scale on irregular fracture trending 5° to C/A. 263-264.5' Decreased light green mottling. 264.5-265.5' Pale greenish-grey medium grained limestone with irregular upper and lower contacts trending 35° to C/A. 268-270.5' Medium to dark grey sediments with minor discontinuous reddish-brown lamellae on tight fractures. Lower "contact" trending 70° to C/A. 270.5-273' Medium to light grey, calcareous sediments. 273-275.8' Medium-fine grained, marginally more siliceous, calcareous section. 275.8-276.8' Medium grained to sparry white limestone with relict bedding @ 45° to C/A.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES			ASSAYS	
		278-280.65' Medium grey, fine grained tuffaceous sediments, with minor limonite scale on fractures trending 10° to C/A.					
		280.65-281.15' Medium grained to sparry white calcite with finely crystalline pyrite along upper contact @ 30° to C/A.					
		282-285.5' Coarse grained to sparry white calcite band. Concentration of finely crystalline sulfide along upper contact at 30° to C/A. Weak relict banding @ 30° to C/A. Lower contact irregular with only trace sulfides.	285' → 286'	ppm Mo 2	ppm W 3	ppm Cu 46	oz/T Au 40.003 # 34033
		285.5-289.5' Medium to dark grey, fine-grained sediments with minor lighter grey, irregular mottling.					
		289.5-293.5' Light grey to white, medium grained banded limestone. Upper contact gradational over 3". Banding at 55° to C/A. Lower contact @ 50° to C/A.					
		293.5-298' Fine to medium grained tuffaceous sediments with finely disseminated sulfide.					
		298-302' As above. Continued minor sulfide and weak mottling.					
		302-303. Gradational upper contact above light grey sediments with 30% fine grained, reddish-brown inclusions or matrix, similar to 219.65'.					
		305.65-308' Dark grey, fine to medium grained tuffaceous sediments with lesser light grey banding and trace sulfide.					
		303-313' Full recovery. Similar to above with increased mottling, minor reddish-brown hue, continued sulfide and rare irregular inclusions of finely crystalline pyrite to ½".	313 → 314'	30	ELT. SPECTRO	# 34030	oz/T Au 40.003
		313-318' Marginally coarser grained.					
		318-323' As above with minor ductile deformation.					
		318-319.5' Distinctly greyer, coarser grained section.					
		323-328' Similar to 318 tending less deformed or mottled with marginally increased pyrite downsection.					
		328-332' Massive dark tuffaceous sediments with very fine disseminated pyrite throughout.					

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		332-333' Minor irregular, discontinuous, red-brown laminated bands, bounded by slight concentration of pyrite.		
		333-338' As 328'.		
		340-341' Minor pale grey-green mottling in bands to 3".		
		343-347' As 328'.		
		347-348' Lighter coloured, slightly sinuous bands trending 50° to C/A, with reddish-brown lamellae to 1/16" and slightly increased pyrite content.		
		348-353' Dark grey with reddish tint, medium grained tuffaceous sediments. Marginally coarser grain size for 6" from 348'.		
		349.45' 3" light grey, medium coarse grained, non-calcareous band without visible sulfide.		
		350.25' 4" light grey, coarse grained, granitoid textured band, upper and lower contacts @ 40°. Minor mica and trace calcite along irregular fracture trending 55° to C/A.		
		353-358' Dark grey, reddish tinged, medium grained tuffaceous sediments, with minor light grey mottling and rare calcite.		
		353.6 and 354' Planar fractures with calcite veneer @ 20° to C/A.		
364.4'	366.75	<i>INTRUSIVE DYKE</i> Medium grained, biotitic, hornblendic granodiorite. Upper and lower contacts trending 55° to C/A, with marginally finer grains in bounding 2'.		
366.75'	368.7'	<i>TUFFACEOUS SEDIMENTS</i> Dark grey, reddish tinged, medium-fine grained, massive tuffaceous sediments.	367-368' 30 FLT. SPECTRO. # 34031	Oz/T Au 0.003
368.7'	370.15'	<i>INTRUSIVE DYKE</i> Medium grained, biotitic hornblendic granodiorite. Upper contact @ 50° to C/A; lower contact irregular.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
370.15'	380.3'	<p><i>TUFFACEOUS SEDIMENTS</i></p> <p>370.15-373' Interbanded dark grey, medium-fine grained tuffaceous sediments and 40% light grey to white non-calcareous bands (to 1½") trending 50° to C/A.</p> <p>373-380.3' Dark grey-brown and reddish tinged, medium grained tuffaceous sediments with trace disseminated pyrite in upper portion, trending irregularly lighter grey mottled in lower portion.</p> <p>380.3' Lower contact slightly irregular trending 60° to C/A.</p>		
380.3'	403'	<p><i>INTRUSIVE BASEMENT</i></p> <p>Light grey, medium grained, granodiorite with dark mafics to 1/8", constituting 15%.</p>		
403'		Hole completed.		

DIAMOND DRILL LOG

DDH 80-8

Grove Explorations Ltd.

SHEET 1

AZIMUTH: 251°
 ANGLE: COLLAR @ -69°30'. 530' @ -71°
 TOTAL FOOTAGE IN HOLE: 530

SOUTHING: SITE 2
 EASTING:

DATE COMMENCED:
 DATE COMPLETED:
 LOGGED BY: N. W. Stacey

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
0.0'	6.0'	Casing. No core recovered.		
6.0'	80.0'	<i>TUFFACEOUS SEDIMENTS</i>		
		Very dark grey to black rare reddish tinged fine to very fine grained, non-calcareous tuffaceous sediments. Rare irregular light green inclusions to 1½". Minor sections of rehealed breccia.		
		6.0-8.0' Very broken angular core pieces to 1". Rare pieces coarse-grained limestone.		
		12.5-14.0' Moderately broken core. No apparent preferred fracture orientation.		
		16.5' Rare disseminated pyrite.		
		18.0-21.0' Core broken along sharp fractures trending parallel to C/A.		
		21.0-22.0' Marginally more siliceous with rare finely disseminated pyrite.		
		28.5-29.5' Section mottled with 30% irregular pale greenish, more siliceous inclusions in pyritiferous (to 10%) tuffaceous sediments.		
		29.5-34.0' Siliceous sediments exhibiting weak rehealed brecciation and rare to minor disseminated pyrite.	33 → 34'	# 340A8 0.003
		35.5-37.5' Broken core. Pieces to 3" with weak limonite scale along fractures at very low angle to C/A. Lower contact trending 20° to C/A.		
		41.0-43.0' Moderately broken core. Ductile deformation and weak brecciation in marginally coarser grained, weakly reddish tinged, tuffaceous sediments.	48-15 → 50-15'	30 ELT. SPECTRO # 340A2
		55.0-73.0' Marginally increased grain size, tending lighter grey and more siliceous down section.		
		55.5' Relict banding @ 70° to C/A.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		63.0-68.5' Broken core. Angular pieces average 2". Fractures trending 030° to C/A with very weak limonite scale and rare dendrites.		
		73.0-80.0' Tending distinctly lighter coloured more siliceous downsection.		
		73.0-75.0' Pale greenish coloured bands to 3" trending 70° to C/A - 15% of interval.		
		75.0-80.0' Broken core. Pieces ½" to 3". Medium-fine grained, medium light grey siliceous sediments.		
80.0'	85.0'	Suspected fault. 8% recovery. Dark grey very siliceous sediments. Pieces to 2".		
85.0'	141.0'	<i>BANDED TUFFACEOUS SEDIMENTS</i> Intercalated sections of very dark, very fine grained tuffaceous sediments to 12'; medium grey, fine grained siliceous sections 10'; very light greenish grey to white-calcareous or siliceous sections to 5'. 85.0-85.5' Very broken core. Pieces to ½". Medium grained grey siliceous sediments. 85.5-92.5' Medium-grey siliceous sediments. 85.5-91.0' Weak limonite stain on parallel tight fractures. Trending 20° to C/A. 92.5-95.5' Very pale greenish-grey and white bands to 3", of micro fractured amorphous silica and very fine grained almost indistinguishable calcite. Rare finely disseminated pyrite in small (to ½") darker green cusped lenses and in greener material particularly bounding lower contact. Lower contact transitional, highly irregular with possible trend @ 50° to C/A. Upper contact sharp but irregular. Trending 50° to C/A.	94 → 95.5' # 34049	% Mo <0.001 % WOs 0.01 oz/tan Au <0.003
		95.5-115.5' Predominantly dark grey tuffaceous sediments.		
		97.0-99.0' Broken core. Angular pieces ½" to 2". Parallel planar fractures trending 10° to C/A.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES				ASSAYS			
100.0-101.0'		Moderately broken core. Weak limonite scale on fractures and between 5° and 20° to C/A.								
103.0-106.0'		Moderately broken core. Weak limonite scale on fractures trending 5° or less to C/A.	106 → 108'	30	ELT. SPECTRO	# 34043				
111.0-112.0'		Rare disseminated pyrite.								
112.5-115.5'		Broken core. Angular pieces ½" to 2' very fine grained, very dark grey tuffaceous sediments. Weakly limonite coated irregular fractures.								
115.5-125.0'		Medium-light grey very fine grained to amorphous, very siliceous section with light green lamellae along fractures.								
120.0-122.0'		Lamellae along several parallel fractures trending 25° to C/A with very rare disseminated pyrite.	120 → 122'	# 34108	% Cu	% Mo	% WO ₃	oz/t Au		
125.0-127.25'		Darker grey, reddish tinged tuffaceous section.			<0.01	<0.001	0.01	<0.003		
127.25-135.5'		Section predominantly very light coloured micro-fractured amorphous silica and lesser medium grained limestone bands to 4" intercalated with dark grey sediment bands to 6". Weak relict banding 45° to C/A. Trace grey metallic along very fine fractures in silica.	129 → 130'	# 34050	% Mo	% Pb	% Zn	% WO ₃	oz/t Ag	oz/t Au
134.5-135.5'		Tending pale green, mottled with fine grey specks and trace-disseminated sulfide.			<0.001	<0.01	<0.01	<0.01	0.03	<0.003
135.5-140.5'		Intercalated dark grey-brown, lesser medium grey bands and irregular pale greenish-grey patches of medium fine grained siliceous sediments. Rare bands to 1½" with (to 10%) disseminated pyrite. Banding trending 65° to C/A.								
140.5-141.0'		Very light grey to white intensely micro-fractured amorphous silica with trace specks responsive to U.V. light.	140 → 140.8'	# 34101			% WO ₃		oz/t Au	
141.0'	218.5'	<i>SPECKLED TUFFACEOUS SEDIMENTS</i> Medium dark-grey, medium grained tuffaceous sediments with to 40% fine grained red-brown specks or inclusions of variable size to ¼". Generally massive with only minor tight veinlets. Good competent core.					0.02		0.003	

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		141.0' 3" distinctly banded light grey sediments with finely crystalline pyrite inclusions to 1/2" orientated long axis parallel to banding @ 65° to C/A.		
		141.0-149.0' 40% reddish brown inclusions to 1/8" in partially granitoid texture. Weak relict banding in lower portion @ 45° to C/A.		
		149.0-150.0' Darker grey dominant, more siliceous, more massive interval with very finely disseminated sulfide.		
		150.0-152.0' 1/8" wide sinuous calcite vein trending parallel to C/A. Bounding sediments granitoid, grey-brown with acicular black crystals, particularly adjacent to vein.		
		151.0-164.0' Similar to 141.0-149.0' with red-brown fine grained more discrete inclusions.		
		164.0-166.0' Similar to above with pale green bands containing trace disseminated pyrite to 2" and rare finely conglomeratic calcite dominant bands (to 1 1/2"). Both trending 75° to C/A.		
		166.0-190.0' Grey tuffaceous sediments with fine grained red brown inclusions, distinctly larger (to 1/4"), and euhedral finely crystalline pyrite disseminated throughout. Minor bleached light grey zone immediately adjacent to tight fractures.		
		190.0-200.0' Markedly lesser and finer red-brown inclusions (<1/16") and to 10% white feldspathic grains (to 1/16").		
		198.6' White crystalline quartz vein, 1 1/4" thick, with black acicular blades, oriented perpendicular to walls. Parallel contacts @ 15° to C/A.		
		200.0-210.0' Similar to 166.0-190.0' but red-brown inclusions more rounded elongate and rarely exceeding 1/4". Bleached rim adjacent to fractures pronounced in lower portion. 5% white feldspar grains (to 1/8").		
		210.0-217.0' Finer textured granitoid sediments with medium grey bands (to 1") frequently trending 50° to C/A.		

204 → 206' 30 ELT. SPECTRO # 34044

Grove Explorations Ltd.

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES				ASSAYS			
		215.0' White and vitreous intermixed quartz band (2½" true thickness) trending 15° to C/A.								
		217.0-218.0' Sediments with coarse euhedral, fine grained, reddish brown inclusions (to ¼").								
		218.0-218.5' Inter banded fine grained grey and red-brown, medium grained band (to 2") @ 70° to C/A. Lower contact 65° to C/A.								
218.5'	402.25'	<i>MOTTLED TUFFACEOUS SEDIMENTS</i>								
		Indistinctly inter banded and mottled, medium-fine grained dark grey-brown, light grey, and medium grey, tuffaceous sections.								
		218.5-223.0' Grey-brown section. Weak banding trending 70° to C/A.								
		223.0-226.0' Marginally more siliceous section with minor intervals (to 6") pale greenish grey bleached.								
		226.0-227.0' Crenulated fracture with weak limonitic stain trending 5° to C/A.								
		227.0-229.0' Predominantly dark grey brown with minor lighter bands (to 2") bounding medium fine grained pyritiferous limestone.	227.5 → 228.5	# 34103	% Cu		oz/t Au			
					20.01		20.003			
		229.0-231.0' Very dark grey tuffaceous sediments with possibly very fine silvery metallic.	230 → 231'	# 34102	% Mo	% Pb	% Zn	% WO ₃	oz/t Ag	oz/t Au
					0.001	20.01	0.01	0.02	0.08	20.003
		231.0-232.0' Core broken along open fractures trending 30° to C/A.								
		233.0' Weak relict banding @ 50° to C/A.								
		235.0-240.0' Pale greenish grey dominant, and dark grey-brown mottled section.								
		240.0-243.0' Lesser mottled.								
		243.0-244.5' Medium-grey, marginally more siliceous section.								

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		246.0-250.5' Coarsely granitoid with 30% very fine grained red-brown cusped or irregular inclusions (to 1/4"). Minor bleached zones immediately adjacent to fractures trending 45° to C/A.		
		250.5-253.0' Medium grey and dark grey-brown patches with lesser sections to 5". Pale greenish-grey marginally coarser grained sediments trending 45° to C/A.		
		265.0-270.0' Pale greenish-grey speckled and mottled dominant section with unbleached grey-brown sections.		
		277.5' 3/4" white quartz band parallel to relict bedding @ 45° to C/A.		
		279.0-280.0' Broken core. Pieces to 1 1/2". Weakly brecciated and micro-fractured, frequently bleached pale greenish-grey, tuffaceous sediments.		
		290.0-294.5' Brass contamination. Under gauge bit.		
		294.5-295.0' Broken core. Rounded pieces to 1" of dark grey tuffaceous sediments.		
		295.0-305.0' Apparently ductile formed, dark grey and dark grey-brown tuffaceous sediments.		
		305.5-307.0' Very finely crystalline pyrite as inclusions to 1/8" and rare chalcopyrite as discontinuous hairline veinlets.	300 → 302' 30 ELT. SPECTRO. # 34045	
		309.5-310.5' Limonite stain along sinuous fracture trending 5° to C/A.	305.5 → 307' # 3A10A	oz/t Au 20.003
		311.0-313.0' Tight fractures trending parallel to C/A - frequently broken.	% Cu 20.01	
		317.0' Smear of limonitic gouge on fracture trending 10° to C/A.		
		318.0' 1/8" friable gouge along irregular fracture trending 25° to C/A.		
		322.0-323.0' Limonite stained calcite smear on fracture @ 5° to C/A.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		324.0' Weak relict banding @ 45° to C/A.		
		346.0-346.5' Broken core. Pieces to 1". Generally broken along calcitic veinlets @ 50° to C/A.		
		352.0' Weak relict banding @ 45° to C/A.		
		357.0' Broken limonitic stained fracture @ 10° to C/A.		
		362.0-365.0' Core frequently broken along limonite stained calcareous veinlets @ 50° to C/A.		
		366.0-380.0' 25% poorly defined irregular red-brown inclusions in dark grey host rock.		
		384.0-385.0' Broken core. Pieces rarely exceeding ½".		
		385.0-386.5' Weakly ductile deformed red-brown and grey sediments.		
		386.5-388.5' Granitic section. 20% poorly defined feldspar porphyroblasts or phenocrysts, bounded by minor black fine mafic in coarse grained reddish-grey matrix. Possibly recrystallized tuffaceous sediments. Minor calcite and trace manganese on limonite stained fracture sub-parallel to C/A.		
		388.5-391.0' Grey-brown tuffaceous sediments with minor poorly defined white inclusions to 1/8".		
		390.0' 3/4" white quartzitic band trending 60° to C/A..		
		391.0-392.0' Pale greenish-grey section with highly irregular upper and lower contacts. 1½" ovate, coarsely crystalline limestone inclusion.		
		392.0-402.25' Dark grey-brown tuffaceous sediments speckled with to 5% very finely crystalline sulfide inclusions to 1/16".		
		402.25' Lower contact gradational over ½" perpendicular to C/A.		
402.25'	403.25'	TRANSITION		
		Granitic section. 15% white feldspar phenocrysts to ½". Rare, very fine black mafic in coarse grained reddish-grey matrix. Trace finely crystalline sulfides and very minor		

400 → 402' 30 ELT. SPECTRO. # 34046

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES						ASSAYS
		bronze coloured mica. Lower contact irregular trending 80° to C/A. Possibly recrystallized tuffaceous sediments or granitic selvage rim or remixing.							
			402.25 → 403.25'	ppm Cu	Mo	Pb	Zn	Ag	ppb Au
				18	1	8	68	0.1	L10 # 34105
403.25'	422.75'	<i>INTRUSIVE DYKE</i> Hornblende granodiorite. Medium to coarse grained white feldspar with to 30%, very fine euhedral black hornblende, minor biotite and very rare bronze mica. 403.23-412.0' Medium grained feldspars. 412.0-424.75' Coarser grained feldspars. 424.75' Sharp lower contact @ 75° to C/A.							
422.75'	451.0'	<i>CALCITE AND TUFFACEOUS SEDIMENTS</i> Grey reddish brown tinged, medium coarse grained, and lesser medium grey fine grained, tuffaceous sediments. Very rare pyrite and trace bronze sulfide in coarser fraction. 423.0' Relict banding @ 60° to C/A. 425.0-426.5' Medium grey, finer grained and more siliceous section with rare finely crystalline sulfide bands to ¼" trending 45° to C/A. 426.0' Weakly sinuous limonite stained fracture @ 10° to C/A. 428.0-431.0' Lighter grey band. Gradational upper and lower contacts. 429.5' Sinuous limonite coated fracture trending 20° to C/A. 434.75' 2" wide, mostly silicified coarse grained calcareous band trending 60° to C/A bounded by ½" bleached host rock. 442.0-451.0' Coarser fraction. Weak banding @ between 45° and 70° to C/A. To 5% disseminated pyrite.							
			448 → 450'	ppm Cu	Mo	Ag	W	ppb Au	# 34047
				30	ELT.	SPECTRO.			
451.0'	465.25'	<i>BANDED TUFFACEOUS SEDIMENTS</i> Light grey and medium grey-brown, inter banded, coarse grained sediments with rare, limey intervals to 4", and minor primary pyrite and rare chalcopyrite.							

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		451.0' Limonite stain on tight fracture trending 60° to C/A.		
		451.57-454.0' Banding trending 55° to C/A. To 5% disseminated pyrite.		
		452.5' 3" section with 20% finely crystalline pyrite in discontinuous bands @ 45° to C/A.	452.5 → 453.5' # 34106	% Cu 0.09 oz/t Au 20.003
		454.25-455.25' Partially silicified, sparry white limestone band. Upper contact @ 35° to C/A. Lower contact irregular.		
		455.25-460.0' Lighter coloured coarse grained section with primary pyritic grains.	457.25 → 459.25' # 34107	% Cu 0.01 oz/t Au 20.003
		458.0' Fracture @ 20° to C/A in 2" band of coarse grained calcite.		
		459.0' 1" wide band of finer grained sediments, with 15% very fine grained sulfides including copper pyrite. Trending 45° to C/A and underlain by 4" calcareous section.		
		460.0-465.25' Medium red-brown dominant interval, with minor disseminated pyrite.		
		465.25' Slightly irregular lower contact trending 55° to C/A.		
465.25'	530.0'	INTRUSIVE BASEMENT		
		Granodiorite. Mostly uniform medium to medium-fine grained felsics with to 30% black hornfels, with bronze lustre, and minor biotite.		
		483.5' Very weakly limonite stained fracture trending 10° to C/A.		
		447.0-449.0' Weak limonite scale on several fractures trending 20° to 40° to C/A.		
		477-479' Three parallel fractures with very weak limonite stain trending 35° to C/A with parallel, very tight, hairline calcite veins.		
		511.5-512.5' Broken core. Pieces to 4" with weakly limonite stained fractures trending 25° to C/A, and trace calcite.		
		520.6' 1/8 to 1/4" wide planar white calcite vein @ 35° to C/A.		
530.0'		Hole completed.		

DIAMOND DRILL LOG

DDH 80-9

Grove Explorations Ltd.

SHEET 1

AZIMUTH: 071°
 ANGLE: COLLAR -43° 30'. 240' @ -42°
 TOTAL FOOTAGE IN HOLE: 240

SOUTHING: SITE 2.
 EASTING:

DATE COMMENCED:
 DATE COMPLETED:
 LOGGED BY: N. W. Stacey

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
0'	6.0'	Casing. No core recovered.		
6.0'	15.5'	<i>TUFFACEOUS SEDIMENTS</i> Dark fine grained tuffaceous sediments. 6.0-13.0' Very broken core pieces to 2". Broken along irregular fractured veins. Trace limonite stain. 9.0' 3" section of light greenish-cream, limey section. Irregular upper and lower contacts. Minor dendritic manganese. Relic bedding @ 45° to C/A. 13.0-15.0' More competent core. Very dark grey to black tuffaceous sediments. Minor limonitic scale on fractures @ 25° to C/A. Lower contact irregular trending 35° to C/A.		
15.5'	18.5'	<i>LIMESTONE</i> Pale pinkish cream, lesser grey and light green, fine grained friable limestone. Upper 6" moderately silicified. Lower portion easily broken tending to gouge.		
18.5'	88.0'	<i>BANDED AND SPECKLED TUFFACEOUS SEDIMENTS</i> Dark grey or black, occasionally pinkish tinged fine grained tuffaceous sediment sections alternating with lighter grey, finely brecciated more siliceous sections. 18.5-19.5' Tuffaceous section, minor irregular very light greenish inclusions to 2½" and rare sulfide as very finely crystalline inclusion less than 1/16". 19.5-22.5' Lighter grey mottled section. Light grey siliceous host with 10% irregular very fine grained red-brown inclusions to 1/16". To 5% very fine (< 1/16") dark grey lath-like crystals (poss. hornblende) and very fine dark disseminations along hairline fractures.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		22.5-39.0' Tuffaceous sediments with pinkish hue.	27→28'	30 ELT. SPECTRO # 34034
		39.0-66.0' Lighter grey section more siliceous with sections distinctly mottled.	62→63'	ppm Cu Mo Pb Zn Ag ppb Au 20 1 34 16 0.1 <10 # 34037
		66.0-71.0' Brecciated section. Pinkish, greyish and brownish poorly defined sub-angular fragments to 1½" rehealed in dark grey fine grained matrix. Minor dendrites adjacent to tight fractures @ 20° to C/A. Rare limonitic scale along open fractures @ 25° to C/A.		
		68.0' 6" broken core pieces to 1".		
		71.0-88.0' Dark grey tuffaceous sediments.	81→82'	30 ELT. SPECTRO # 34035
		72.0' Possible relic bedding @ 65° to C/A.		
		76.0' Relic bedding @ 65° to C/A. Rare very small sulfide inclusions - disseminated pyrite.		
		83.0-85.0' Limonitic scale on fracture trending parallel to C/A.		
88.0'	111.5'	ALTERED LIMESTONE Very light grey silicified limestone section. Numerous tight fractures and septa marked by dark staining. Rare intervals to 3" of relict limestone. Rare inclusions of pyrite (< 2%).		
		92.0' Irregular fine grained calcitic, chloritic-green stained vein to ½" @ 5° to C/A with rare finely crystalline pyrite.		
		97.0' Relic banding offset by small fault ¼" displacements trending parallel to C/A.		
		100.5' Discontinuous sulfide bearing greenish vein material to ¼" wide trending 30° to C/A.	103→105'	ppm Cu Mo Pb Zn Ag ppb Au 6 1 4 20 0.01 <10 # 34038
		110.0-111.5' Frequently broken core with trace limonite stain along fractures. Interval generally more brecciated with increased chloritic green matrix.		
111.5'	124.5'	TUFFACEOUS SEDIMENTS Dark grey or black reddish tinged tuffaceous sediments with numerous finely crystalline pyrite as inclusions (to 1/8") and disseminated. Broken upper contact.	112→114'	ppm Cu Mo Pb Zn Ag ppb Au 38 1 10 62 0.1 <10 # 34039
		116.0-117.0' Very broken core pieces to ½". Driller reports lost water return.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		120.0-122.0' Pyritic interval. 124.5' Very irregular boundary.		
124.5'	145.0'	<i>ALTERED LIMESTONE</i> Very fine-grained to amorphous siliceous white sections to 2' alternating with lesser coarsely crystalline limestone sections. 130.0-132.0' Weakly brecciated with numerous fine dark grey accentuated tight fractures. 132.0' 5" section of dark grey tuffaceous sediments. Lower contact @ 50° to C/A. 135.0' Fine sulfides along relic banding @ 55° to C/A.		
145.0'	164.5'	<i>CALCAREOUS SEDIMENTS</i> Light grey, lesser light brown, and green very fine grained calcareous sediments. Core extensively broken. Gradational upper contact and ground lower contact. 145.0-148.0' Weakly limonite brown stained limestone dominant with black manganiferous specks. 148.0-151.0' Very broken core pieces to ½" in upper portion; caved and ground lower portion. 151.0-152.0' Continued broken core. More angular pieces to 1". 152.0-162.0' Broken very calcareous core. Pieces to 2" frequently broken along fracture @ 55° to C/A. 162.0-164.5' Less broken with marginally increased limonite as weak stain on fractures.		
164.5'	170.0'	<i>VOLCANICS (?)</i> Light grey green, lesser dark green mottled pyritic section with well formed dark green pyroxene laths to 1/3". Lower contact planar @ 40° to C/A. To 5% very finely crystalline ovate chalcopyrite inclusions to 1/8".		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
		164.5-166.0' Mostly ground core. 166.0-168.0' Very broken core pieces rarely exceeding 1". 168.0-170.0' Competent core.	168 → 169' # 34040	% Cu oz/t Au < 0.01 < 0.003
170.0'	172.0'	<i>BANDED AND MOTTLED TUFFACEOUS SEDIMENTS</i> Dark reddish grey, pink and white mottled, very fine grained, silicified and tuffaceous sediments.		
172.0'	184.0'	<i>TUFFACEOUS SEDIMENTS</i> Dark grey to black, occasionally reddish tinged, fine grained tuffaceous sediments. Frequently very broken core. Upper contact gradational. Lower contact sharp but irregular trending 65° to C/A. Frequently limonite scale on fractures. 172.0-174.0' Broken core. Pieces rarely exceeding 1" with irregular sides. 180.0-184.0' Broken core. Pieces to 3" frequently pyritic and with limonite stained fractures.		
184.0'	202.0'	<i>LIMESTONE - PARTIALLY ALTERED</i> Very light coloured, coarsely crystalline limestone dominant interval. Lesser white siliceous sections (to 2") especially bounding rare dark grey tuffaceous sediments. 186.3-187.0' Tuffaceous sediment with highly irregular upper contact and bounding 3" silicified. 193.0' Finely crystalline sulfide parallel to relict banding @ 55° to C/A in limestone. 201.5-202.0' Broken core. Pieces to 1" with earthy limonite stain and gouge to ¼" along fractures @ 70° to C/A.	192.5 → 194.5' ppm Cu Mo Pb Zn Ag ppb Au 14 4 4 14 0.01 < 10 # 34041	
202.0'	202.5'	<i>TRANSITION</i> Broken core. Pieces to 1½" of granitic texture with euhedral oxy-hornblende grains to 1/8" rimmed by limonite in white medium grained quartzo-feldspathic groundmass.		

FROM	TO	DESCRIPTION	GEOCHEMICAL ANALYSES	ASSAYS
22.5'	205.0'	<i>TUFFACEOUS SEDIMENTS</i> Very dark grey, fine grained tuffaceous sediments with very fine grained, disseminated pyrite. Lower contact @ 55° to C/A.		
25.0'	206.8'	<i>TRANSITION</i> Granitoid intrusive. Coarse grained pale greenish feldspathic groundmass with 15% fine euhedral amphiboles.		
26.8'	233.0'	<i>TUFFACEOUS SEDIMENTS</i> Dark grey, very fine and medium fine tuffaceous sediments. 206.8-208.0' Broken core. Pieces to 1". Irregular fracture with trace limonite. 208.0-209.0' Broken core. Angular pieces to 1" with minor limonite stain on fractures. 212.0' 2" very finely broken core. 217.0-219.0' Broken core. Angular pieces to 1". 219.0-223.0' Frequent limonite stained fractures, trending 35° to C/A. Minor pyrite. 223.0-225.5' Slightly increased grain size. Browner bands depict ductile deformation. To 5% finely crystalline pyrite. 225.5-227.0' Finely granitoid texture. White feldspar phenocrysts to 1/16". 227.0-233.0' Broken core. Pieces to 4". Weak limonite stained fractures trending 30° to C/A or less. Slightly irregular lower contact trending 60° to C/A. 228.0' Highly irregular granitic inclusion with coarsened brownish grey adjacent sediments.	215 → 216' 30 ELT. SPECTRO # 34036	
233.0'	240.0'	<i>INTRUSIVE BASEMENT</i> Medium grained granodiorite with abundant black, euhedral hornblende and lesser pyroxene. Fractures frequently 65° to C/A with weak limonite stain.		
240.0'		Hole completed.		



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Grove Explorations Ltd.,
 Ste. 1250 - 800 W. Pender
 Vancouver, B.C.
 V6C 2V6
 ATTN:

CERTIFICATE NO. SP720

INVOICE NO. 38651

RECEIVED Aug. 28/80

ANALYSED Sept. 8/80

SAMPLE NO. :	Lower Concentration Limit (PPM)	34027	34028	34029	34030	34031
Antimony	50	bcl	bcl	bcl	bcl	bcl
Arsenic	50	bcl	bcl	bcl	bcl	bcl
Barium	5	500	150	1500	1500	700
Beryllium	5	bcl	bcl	bcl	bcl	bcl
Bismuth	5	bcl	bcl	bcl	bcl	bcl
Boron	20	70	20	bcl	30	bcl
Cadmium	20	bcl	bcl	bcl	bcl	bcl
Calcium	0.05%	170	2% (1%?)	3%	1%	2%
Chromium	10	100	100	100	150	100
Cobalt	10	10	bcl	bcl	bcl	15
Copper	1	70	70	70	70	70
Gallium	5	10	bcl	20	20	20
Germanium	20	bcl	bcl	bcl	bcl	bcl
Iridium	50	bcl	bcl	bcl	bcl	bcl
Iron	0.05%	2%	2%	7%	7%	3%
Lead	5	70	1000	500	150	150
Magnesium	0.02%	1%	0.7%	2%	1.5%	1.5%
Manganese	5	1000	200	500	200	700
Molybdenum	10	< 100	< 100	< 100	< 100	< 100
Nickel	5	15	10	10	15	50
Niobium	50	bcl	bcl	bcl	bcl	bcl
Silver	1	bcl	bcl	bcl	bcl	bcl
Strontium	2	100	70	500	150	100
Tellurium	200	bcl	bcl	bcl	bcl	bcl
Thorium	200	bcl	bcl	bcl	bcl	bcl
Tin	10	30	15	10	20	20
Titanium	5	1500	500	2000	2000	2000
Vanadium	20	30	bcl	300	150	200
Zinc	50	70	200	150	150	150
Zirconium	20	70	bcl	100	150	150

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

>5000 ppm ≈ > 5000 ppm 50 ppm = 25-100 ppm
 5000 ppm ≈ 2500-10000 ppm 20 ppm = 10-50 ppm
 2000 ppm ≈ 1000-4000 ppm 10 ppm = 5-20 ppm
 1000 ppm ≈ 500-2000 ppm 5 ppm = 2-10 ppm

N.W.S. FROM
 CHEMEX.

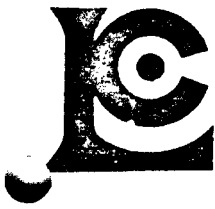
500 ppm ≈ 250-1000 ppm 2 ppm = 1-4 ppm
 200 ppm ≈ 100-400 ppm 1 ppm = 0.5-2 ppm
 100 ppm ≈ 50-200 ppm bcl = below concentration limit

Ranges for Iron, Calcium & Magnesium are reported in %



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY: *[Signature]*



CHEMEX LABS LTD.

212 BRJOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE XXXXXXXXXX 984-0221
 AREA CODE 604
 TELEX 043-52597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. SP 742

TO: Grove Explorations Ltd.,
 Ste. 1250 - 800 W. Pender St.,
 Vancouver, B.C.
 V6C 2V6

INVOICE NO. 38954

ATTN: Durward J. Brown

CC. Norman W. Stacey

RECEIVED Sept. 12/80

ANALYSED Sept. 17/80

SAMPLE NO.	Lower Concentration Limit (PPM)	34034	34035	34036	34044	34045	34046	34047
Antimony	50	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Arsenic	50	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Barium	5	300	300	1500	700	100	700	1500
Beryllium	5	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Bismuth	5	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Boron	20	70	70	150	bcl	bcl	20	100
Cadmium	20	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Calcium	0.05%	0.3%	0.5%	0.3%	3%	1%	1.5%	0.7%
Chromium	10	100	150	100	70	50	150	150
Cobalt	10	20	15	10	10	bcl	10	bcl
Copper	1	70	30	30	15	7	30	20
Gallium	5	15	15	20	20	20	15	10
Germanium	20	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Indium	50	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Iron	0.05%	2%	2%	3%	5%	7%	3%	2%
Lead	5	20	20	10	10	5	20	7
Magnesium	0.02%	1%	1%	1.5%	1.5%	1.5%	1.5%	1.5%
Manganese	5	500	500	200	300	300	500	300
Molybdenum	10	<100	<100	<100	<100	<100	<100	<100
Nickel	5	20	20	20	bcl	10	20	20
Niobium	50	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Silver	1	50	70	50	300	200	100	1500
Strontium	2	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Tellurium	200	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Thorium	200	bcl	bcl	bcl	bcl	bcl	bcl	bcl
Tin	10	1500	1500	2000	2000	5000	1500	1000
Titanium	5	30	30	200	300	bcl	100	100
Vanadium	20	50	50	70	70	150	100	100
Zinc	50	100	100	150	100	300	100	100
Zirconium	20							

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

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 5000 ppm = 2500-10000 ppm 20 ppm = 10-50 ppm
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 100 ppm = 50-200 ppm bcl = below concentration limit

Ranges for Iron, Calcium & Magnesium are reported in %



MEMBER
 CANADIAN TESTING

CERTIFIED BY: *W. Stacey*



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE 984-0221
 AREA CODE 604
 TELEX 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Grove Explorations Ltd.,
 Ste. 1250 - 800 W. Pender St.,
 Vancouver, B.C.
 V6C 2V6

ATTN:

CC. N. Stacey

*DDH 8
 48.15 - 50.15
 106 → 108*

CERTIFICATE NO. SP 745

INVOICE NO. 39217

RECEIVED Sept. 15/80

ANALYSED Sept. 27/80

SAMPLE NO. :	Lower Concentration Limit (PPM)	34042	34043
Antimony	50	bcl	bcl
Arsenic	50	bcl	50
Barium	5	300	500
Beryllium	5	bcl	bcl
Bismuth	5	bcl	bcl
Boron	20	50	50
Cadmium	20	bcl	bcl
Calcium	0.05%	0.3%	0.5%
Chromium	10	150	150
Cobalt	10	10	20
Copper	1	50	50
Gallium	5	10	10
Germanium	20	bcl	bcl
Indium	50	bcl	bcl
Iron	0.05%	5%	5%
Lead	5	50	50
Magnesium	0.02%	1%	1%
Manganese	5	500	500
Molybdenum	10	< 100	< 100
Nickel	5	20	20
Niobium	50	bcl	bcl
Silver	1	bcl	bcl
Strontium	2	70	100
Tellurium	200	bcl	bcl
Thorium	200	bcl	bcl
Tin	10	1500	1500
Titanium	5	50	50
Vanadium	20	100	70
Zinc	50	70	70
Zirconium	20	70	70

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

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Ranges for Iron, Calcium & Magnesium are reported in %



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY:

A. Ballantyne



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. SP 843 (a)

TO: GROVE EXPLORATIONS LTD.
 Ste. 1250, 800 W. Pender Street
 Vancouver, B.C.
 V6C 2V6

INVOICE NO. 41373
 RECEIVED Dec. 10, 1980
 ANALYSED Jan. 8, 1981

ATTN: cc - Norm Stacey

SAMPLE NO. :	Lower Concentration Limit (PPM)	34117B	34118B	34119B	34120B	34122B
Antimony	50	bcl	bcl	bcl	bcl	bcl
Arsenic	50	bcl	bcl	bcl	bcl	bcl
Barium	5	1000	700	2000	1500	1000
Beryllium	5	bcl	bcl	bcl	bcl	bcl
Bismuth	5	bcl	bcl	bcl	bcl	bcl
Boron	20	50	bcl	100	20	bcl
Cadmium	20	bcl	bcl	bcl	bcl	bcl
Calcium	0.05%	0.2%	0.2%	0.7%	1%	0.7%
Chromium	10	300	300	200	200	300
Cobalt	10	bcl	10	bcl	bcl	10
Copper	1	50	70	20	70	70
Gallium	5	10	10	10	10	10
Germanium	20	bcl	bcl	bcl	bcl	bcl
Indium	50	bcl	bcl	bcl	bcl	bcl
Iron	0.05%	5%	5%	3%	5%	5%
Lead	5	20	10	20	20	20
Magnesium	0.02%	1.5%	1.5%	1%	1.5%	1.5%
Manganese	5	500	500	500	500	300
Molybdenum	10	< 100	<100	<100	<100	<100
Nickel	5	50	100	20	30	100
Niobium	50	bcl	bcl	bcl	bcl	bcl
Silver	1	bcl	bcl	bcl	bcl	bcl
Strontium	2	200	200	100	300	150
Tellurium	200	bcl	bcl	bcl	bcl	bcl
Thorium	200	bcl	bcl	bcl	bcl	bcl
Tin	10	bcl	bcl	bcl	bcl	bcl
Titanium	5	2000	2000	1500	2000	2000
Vanadium	20	150	100	50	150	200
Zinc	50	200	200	100	200	200
Zirconium	20	150	200	150	300	200

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

>5000 ppm => 5000 ppm 50 ppm = 25-100 ppm
 5000 ppm = 2500-10000 ppm 20 ppm = 10-50 ppm
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 1000 ppm = 500-2000 ppm 5 ppm = 2-10 ppm

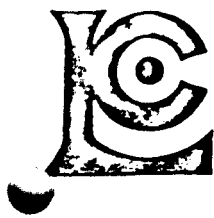
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 200 ppm = 100-400 ppm 1 ppm = 0.5-2 ppm
 100 ppm = 50-200 ppm bcl = below concentration limit

Ranges for Iron, Calcium & Magnesium are reported in %



MEMBER
 CANADIAN TESTING

CERTIFIED BY: *[Signature]*



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: GROVE EXPLORATIONS LTD.
 Ste. 1250 - 800 W. Pender Street
 Vancouver, B.C.
 V6C 2V6

ATTN: cc - Norm Stacey

30 H A 106 → 109'
20 H 2 26 → 28'
7 113-115'

CERTIFICATE NO. SP 843 (b)
 INVOICE NO. 41373
 RECEIVED Dec. 10, 1980
 ANALYSED Jan. 8, 1981

SAMPLE NO. :	Lower Concentration Limit (PPM)	34124B	34125B	34126B
Antimony	50	bcl	bcl	bcl
Arsenic	50	bcl	bcl	bcl
Barium	5	1000	500	2000
Beryllium	5	bcl	bcl	bcl
Bismuth	5	bcl	bcl	bcl
Boron	20	bcl	20	50
Cadmium	20	bcl	bcl	bcl
Calcium	0.05%	1%	1%	1%
Chromium	10	300	300	100
Cobalt	10	10	30	bcl
Copper	1	70	150	70
Gallium	5	10	10	10
Germanium	20	bcl	bcl	bcl
Indium	50	bcl	bcl	bcl
Iron	0.05%	5%	7%	5%
Lead	5	20	20	30
Magnesium	0.02%	1.5%	1.5%	1%
Manganese	5	300	500	500
Molybdenum	10	< 100	< 100	< 100
Nickel	5	150	200	20
Niobium	50	bcl	bcl	bcl
Silver	1	bcl	1	1
Strontium	2	200	150	200
Tellurium	200	bcl	bcl	bcl
Thorium	200	bcl	bcl	bcl
Tin	10	bcl	bcl	bcl
Titanium	5	2000	2000	2000
Vanadium	20	200	150	150
Zinc	50	200	200	150
Zirconium	20	200	150	300

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

>5000 ppm = > 5000 ppm 50 ppm = 25-100 ppm
 5000 ppm = 2500-10000 ppm 20 ppm = 10-50 ppm
 2000 ppm = 1000-4000 ppm 10 ppm = 5-20 ppm
 1000 ppm = 500-2000 ppm 5 ppm = 2-10 ppm

500 ppm = 250-1000 ppm 2 ppm = 1-4 ppm
 200 ppm = 100-400 ppm 1 ppm = 0.5-2 ppm
 100 ppm = 50-200 ppm bcl = below concentration limit

Ranges for Iron, Calcium & Magnesium are reported in %



MEMBER
 CANADIAN TESTING

CERTIFIED BY: *[Signature]*



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: [REDACTED] 984-0221
 AREA CODE: 604
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. SP 845

TO: GROVE EXPLORATIONS LTD.
 Ste. 1250 - 800 W. Pender Street
 Vancouver, B.C.
 V6C 2V6

ATTN: cc - Norm Stacey, W. 41 Ave., Vancouver

DDN 1 258-240
346-348
453-455

INVOICE NO. 41312
 RECEIVED Dec. 10, 1980
 ANALYSED Dec. 31, 1980

SAMPLE NO. :	Lower Concentration Limit (PPM)	34135B	34136B	34137B
Antimony	50	bcl	bcl	bcl
Arsenic	50	bcl	bcl	bcl
Barium	5	1500	3000	1500
Beryllium	5	bcl	bcl	bcl
Bismuth	5	bcl	bcl	bcl
Boron	20	bcl	30	50
Cadmium	20	bcl	bcl	bcl
Calcium	0.05%	0.5%	0.5%	0.5%
Chromium	10	500	100	100
Cobalt	10	20	10	10
Copper	1	70	70	100
Gallium	5	20	20	20
Germanium	20	bcl	bcl	bcl
Indium	50	bcl	bcl	bcl
Iron	0.05%	7%	5%	5%
Lead	5	20	20	20
Magnesium	0.02%	1%	1%	1%
Manganese	5	500	500	500
Molybdenum	10	< 100	<100	<100
Nickel	5	100	20	20
Niobium	50	bcl	bcl	bcl
Silver	1	bcl	bcl	bcl
Strontium	2	500	300	300
Tellurium	200	bcl	bcl	bcl
Thorium	200	bcl	bcl	bcl
Tin	10	bcl	bcl	bcl
Titanium	5	2000	2000	2000
Vanadium	20	100	100	100
Zinc	50	150	150	100
Zirconium	20	200	200	200

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

>5000 ppm => 5000 ppm 50 ppm = 25-100 ppm
 5000 ppm = 2500-10000 ppm 20 ppm = 10-50 ppm
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MEMBER
 CANADIAN TESTING

CERTIFIED BY: *[Signature]*



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: GROVE EXPLORATIONS LTD.
 Ste. 1250, 800 W. Pender Street
 Vancouver, B.C.
 V6C 2V6

ATTN: cc - Norm Stacey

CERTIFICATE NO. SP 844 (a)
 INVOICE NO. 41373
 RECEIVED Dec. 10, 1980
 ANALYSED Jan. 8, 1981

SAMPLE NO. :	Lower Concentration Limit (PPM)	34127B	34128B	34129B	34130B	34131B
Antimony	50	bcl	bcl	bcl	bcl	bcl
Arsenic	50	bcl	150	bcl	50	bcl
Barium	5	1000	1000	1000	1000	700
Beryllium	5	bcl	bcl	bcl	bcl	bcl
Bismuth	5	bcl	bcl	bcl	bcl	bcl
Boron	20	20	50	30	30	bcl
Cadmium	20	bcl	bcl	bcl	bcl	bcl
Calcium	0.05%	1%	0.5%	1%	0.7%	1%
Chromium	10	300	300	200	500	500
Cobalt	10	10	10	10	20	20
Copper	1	70	20	50	70	100
Gallium	5	10	10	10	15	10
Germanium	20	bcl	bcl	bcl	bcl	bcl
Indium	50	bcl	bcl	bcl	bcl	bcl
Iron	0.05%	5%	3%	3%	5%	5%
Lead	5	20	20	20	10	10
Magnesium	0.02%	1%	1%	1%	1%	1.5%
Manganese	5	500	500	300	300	500
Molybdenum	10	< 100	< 100	< 100	< 100	< 100
Nickel	5	70	70	50	150	100
Niobium	50	bcl	bcl	bcl	bcl	bcl
Silver	1	bcl	bcl	bcl	5	bcl
Strontium	2	300	200	300	200	300
Tellurium	200	bcl	bcl	bcl	bcl	bcl
Thorium	200	bcl	bcl	bcl	bcl	bcl
Tin	10	bcl	bcl	bcl	bcl	bcl
Titanium	5	2000	1500	1500	1500	2000
Vanadium	20	100	100	150	150	150
Zinc	50	200	150	150	150	150
Zirconium	20	200	200	150	200	150

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

>5000 ppm => 5000 ppm 50 ppm = 25-100 ppm
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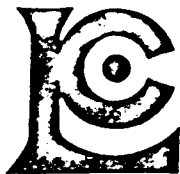
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Ranges for Iron, Calcium & Magnesium are reported in %



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY: *[Signature]*



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: GROVE EXPLORATIONS LTD.
 Ste. 1250, 800 W. Pender Street
 Vancouver, B.C.
 V6C 2V6

ATTN: cc - Norm Stacey

CERTIFICATE NO. SP 844 (b)
 INVOICE NO. 41373
 RECEIVED Dec. 10/80
 ANALYSED Jan. 8, 19

22H2 635-637
22H2 63-65
183-155

SAMPLE NO. :	Lower Concentration Limit (PPM)	34132B	34133B	34134B
Antimony	50	bcl	bcl	bcl
Arsenic	50	bcl	bcl	bcl
Barium	5	1000	1500	1000
Beryllium	5	bcl	bcl	bcl
Bismuth	5	bcl	bcl	bcl
Boron	20	20	20	20
Cadmium	20	bcl	bcl	bcl
Calcium	0.05%	0.7%	0.5%	0.5%
Chromium	10	300	300	500
Cobalt	10	bcl	bcl	10
Copper	1	70	50	50
Gallium	5	10	10	15
Germanium	20	bcl	bcl	bcl
Indium	50	bcl	bcl	bcl
Iron	0.05%	5%	3%	5%
Lead	5	20	10	20
Magnesium	0.02%	1%	1%	1%
Manganese	5	300	200	200
Molybdenum	10	< 100	< 100	< 100
Nickel	5	70	50	100
Niobium	50	bcl	bcl	bcl
Silver	1	bcl	bcl	bcl
Strontium	2	200	100	100
Tellurium	200	bcl	bcl	bcl
Thorium	200	bcl	bcl	bcl
Tin	10	bcl	bcl	bcl
Titanium	5	1500	1500	2000
Vanadium	20	200	200	300
Zinc	50	200	200	150
Zirconium	20	150	150	150

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

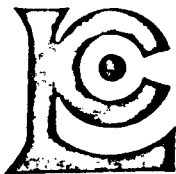
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MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY: *[Signature]*



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. SP 843 (a)

TO: GROVE EXPLORATIONS LTD.
 Ste. 1250, 800 W. Pender Street
 Vancouver, B.C.
 V6C 2V6

INVOICE NO. 41373
 RECEIVED Dec. 10, 1980
 ANALYSED Jan. 8, 1981

ATTN: cc - Norm Stacey

PH 3 56-58
7 76-478
3 288-290
3 346-348
PH A 21-23

SAMPLE NO. :	Lower Concentration Limit (PPM)	34117B	34118B	34119B	34120B	34122B
Antimony	50	bcl	bcl	bcl	bcl	bcl
Arsenic	50	bcl	bcl	bcl	bcl	bcl
Barium	5	1000	700	2000	1500	1000
Beryllium	5	bcl	bcl	bcl	bcl	bcl
Bismuth	5	bcl	bcl	bcl	bcl	bcl
Boron	20	50	bcl	100	20	bcl
Cadmium	20	bcl	bcl	bcl	bcl	bcl
Calcium	0.05%	0.2%	0.2%	0.7%	1%	0.7%
Chromium	10	300	300	200	200	300
Cobalt	10	bcl	10	bcl	bcl	10
Copper	1	50	70	20	70	70
Gallium	5	10	10	10	10	10
Germanium	20	bcl	bcl	bcl	bcl	bcl
Indium	50	bcl	bcl	bcl	bcl	bcl
Iron	0.05%	5%	5%	3%	5%	5%
Lead	5	20	10	20	20	20
Magnesium	0.02%	1.5%	1.5%	1%	1.5%	1.5%
Manganese	5	500	500	500	500	300
Molybdenum	10	< 100	<100	<100	<100	<100
Nickel	5	50	100	20	30	100
Niobium	50	bcl	bcl	bcl	bcl	bcl
Silver	1	bcl	bcl	bcl	bcl	bcl
Strontium	2	200	200	100	300	150
Tellurium	200	bcl	bcl	bcl	bcl	bcl
Thorium	200	bcl	bcl	bcl	bcl	bcl
Tin	10	bcl	bcl	bcl	bcl	bcl
Titanium	5	2000	2000	1500	2000	2000
Vanadium	20	150	100	50	150	200
Zinc	50	200	200	100	200	200
Zirconium	20	150	200	150	300	200

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

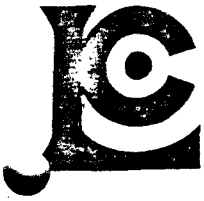
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 Ranges for Iron, Calcium & Magnesium are reported in %



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY: *H.P. [Signature]*



CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER B.C.
CANADA V7J 2C1
TELEPHONE 984-0221
AREA CODE 604
TELEX 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Grove Explorations Ltd.,
Ste. 1250 - 800 W. Pender St.,
Vancouver, B.C.
V6C 2V6

c.c.-L. B. Goldsmith
Silverton, B.C.

c.c.-N. W. Stacy
Vancouver

CERTIFICATE NO. 54507
INVOICE NO. 37180
RECEIVED July 13, 1980
ANALYSED July 23, 1980

ATTN: ROCK

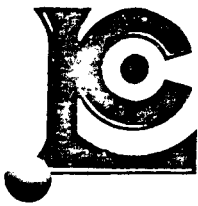
SAMPLE NO.	PPM Cu	PPM Mo	PPM Ag	PPB Au
34024B	24	1	0.2	<10
34025B	28	1	0.2	<10



MEMBER
CANADIAN TESTING

CERTIFIED BY:

Hart Biddle



CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B C
CANADA V7J 2C1
TELEPHONE 984-0221
AREA CODE 604
TELEX 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO: Grove Explorations Ltd.,
Ste. 1250 - 800 W. Pender St.,
Vancouver, B.C.
V6C 2V5

ATTN: D. J. Brown

CC. Norm Stacey

CERTIFICATE NO. 69956

INVOICE NO. 38967

RECEIVED Aug. 27/80

ANALYSED Sept. 23/80

SAMPLE NO. :	% Mo	% W ₀ 3	oz/ton Au
34028	< 0.001	< 0.01	< 0.003
34029			0.003
34030			< 0.003
34031			0.003
34032			0.003
34033			< 0.003

R. Swaites



CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7T 2C1
TELEPHONE (604) 944-1211
TELEX 431597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : Grove Explorations Ltd.,
Ste. 1250 - 800 W. Pender St.,
Vancouver, B.C.
V6C 2V6

CERT. # : A8010273-001-1
INVOICE # : 39089
DATE : 25-SEP-80

C.C. NORM STACEY

Sample description	Prep code	Cu ppm	Mo ppm	W ppm			
34032	214	106	2	2	--	--	--
34033	214	46	2	3	--	--	--

Certified by *Hart Biddle*



CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER B.C.
CANADA V7V 2C1
TELEPHONE (604) 984-0221
TELEX 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : Grove Explorations Ltd.,
Ste. 1250 - 300 W. Pender St.,
Vancouver, B.C.
V6C 2V6

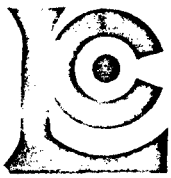
CERT. # : A8010843-001-A
INVOICE # : 40392
DATE : 12-NOV-80
P.O. # : NONE

ATTN. D. T. BROWN

Sample description	Prep code	Au oz/t					
34109	207	<0.003	--	--	--	--	--
34110	207	<0.003	--	--	--	--	--
34111	207	<0.003	--	--	--	--	--
34112	207	<0.003	--	--	--	--	--
34113	207	<0.003	--	--	--	--	--
34114	207	<0.003	--	--	--	--	--
34115	207	<0.003	--	--	--	--	--
34116	207	<0.003	--	--	--	--	--

R. Swartz

.....
Registered Assayer, Province of British Columbia



CHEMEX LABS LTD.

212 BROOKSBANK AVE.
 NORTH VANCOUVER, B.C.
 CANADA V7J 2C1
 TELEPHONE: 984-0221
 AREA CODE: 604
 TELEX: 04-352597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO: Grove Explorations Ltd.,
 1250 - 100 W. Pender,
 Vancouver, B.C.
 V6B 2V6

ATTN: cc: Mr. Stacey

Project French

CERTIFICATE NO. 70129
 INVOICE NO. 39614
 RECEIVED Sept.15/80
 ANALYSED Oct.17/80

SAMPLE NO. :	% Copper	% Molybdenum	% Lead	% Zinc	% W03	Oz/Ton Silver	Oz/Ton Gold
34101					0.02		0.003
34102		0.001	<0.01	0.01	0.02	0.08	<0.003
34103	<0.01						<0.003
34104	<0.01						<0.003
34106	0.09						<0.003
34107	0.01						<0.003
34108	<0.01	<0.001			0.01		<0.003
34040	<0.01						<0.003
34048							0.003
34049		<0.001			0.01		<0.003
34050		<0.001	<0.01	<0.01	<0.01	0.03	<0.003



MEMBER
 CANADIAN TESTING



CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER B.C.
CANADA V7J 2C1
TELEPHONE (604) 984-0221
TELEX 043-52597

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

Client: Grove Explorations Ltd.,
Ste. 125C - 800 W. Pender St.,
Vancouver, B.C.
V6C 2V6

CERT. # : A8010479-001-A
INVOICE # : 39172
DATE : 30-SEP-80

CC. N. STACEY

Sample description	Prep code	Cu ppm	Mo ppm	Pb ppm	Zn ppm	Ag ppm	Au -(AA) ppb
34105	205	18	1	8	68	0.1	<10
34037	205	20	1	34	16	0.1	<10
34038	205	6	1	4	20	0.1	<10
34039	205	38	1	10	62	0.1	<10
34041	205	14	4	4	14	0.1	<10



CHEMEX LABS LTD.

212 BROOKSBANK
NORTH VANCOUVER
CANADA V7L
TELEPHONE (604)984
TELEX 0435

• ANALYTICAL CHEMISTS

• GEOCHEMISTS

• REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : Grove Explorations Ltd.,
Ste. 1250 - 800 W. Pender St.,
Vancouver, B.C.
V6C 2V6

CERT. # : A8011410-06
INVOICE # : 41231
DATE : 16-DEC-80
P.O. # : NONE

ATTN. D.J.BROWN : C.C. NORM STACEY

Sample description	Prep code	Cu percent	Au oz/t	Au oz/t			
34121 B	207	<0.01	DELAYED	0.003	--	--	--
34123 B	207	<0.01	DELAYED	0.003	--	--	--

N.W.S. FROM CHEMEX.

San Amador

Registered Assayer, Province of British Columbia



MEMBER

July 20, 1981

INVOICE

In Account With: GROVE EXPLORATIONS LTD.

From: L. S. GOLDSMITH

Re: REPORT ON DRILLING, FRENCH MINE, HEALEY, B.C.

Services, L. S. Goldsmith, $\frac{1}{4}$ June 12, $\frac{1}{2}$ 13, $\frac{1}{4}$ 15,
 $\frac{1}{2}$ 16, total $1\frac{1}{4}$ days @ \$300/day 375.00

Services, N. Stacey, July 6-14, total
9 days @ 200/day 1800.00

Services, K. Berleske, typing 181.60

Services, J. Hope, expediting 10.00

Services, J. Francis, typing 195.00

Expenses: Prints 37.87

Travel 33.60

Prints 10.48

" 12.45

Report materials 18.00

112.40

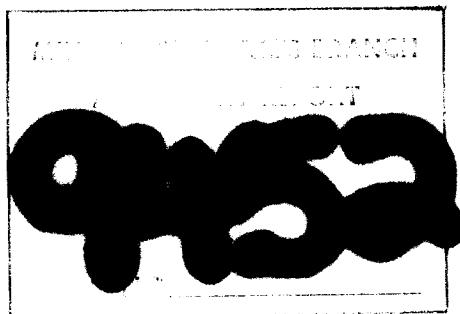
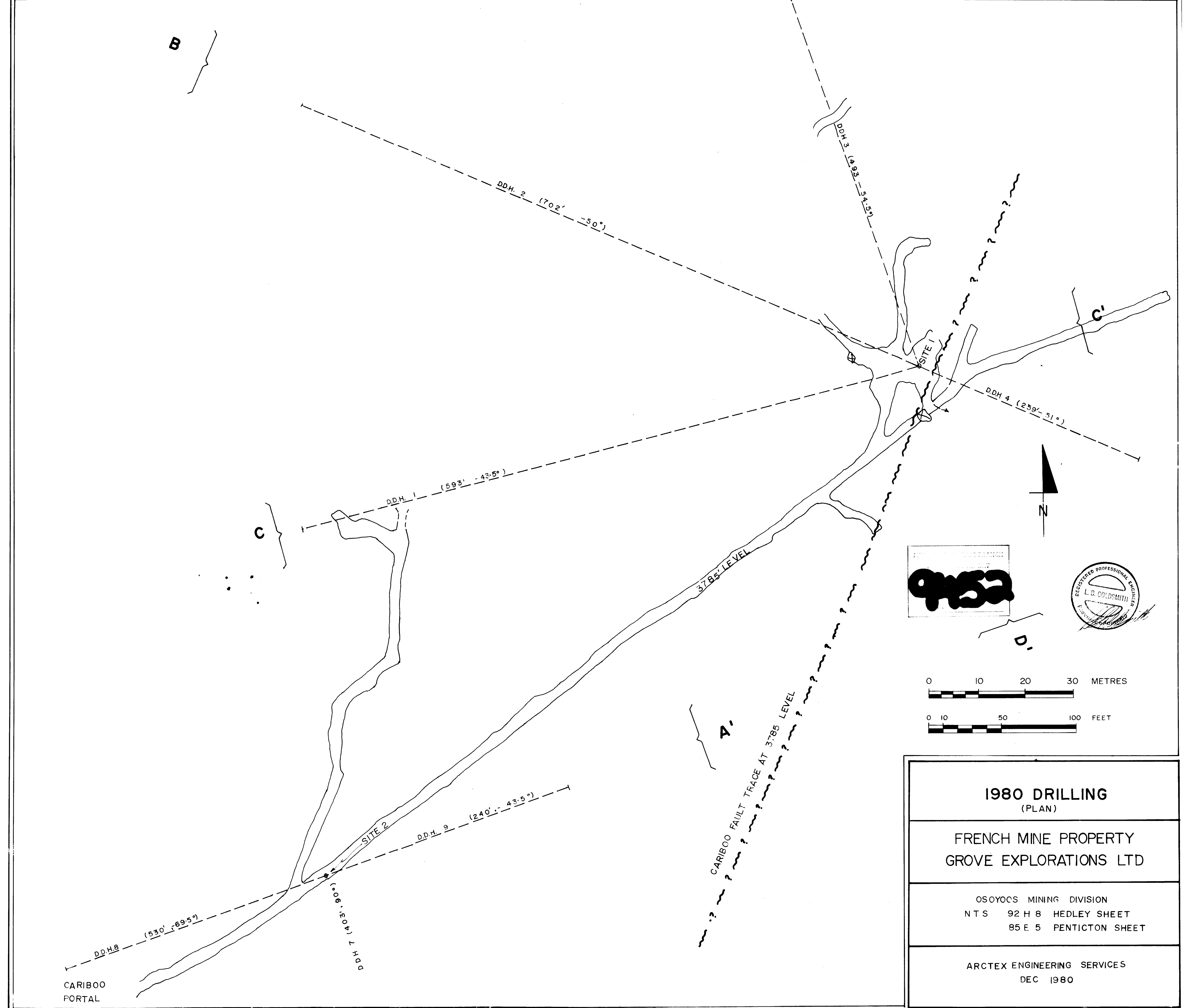
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" 24.84

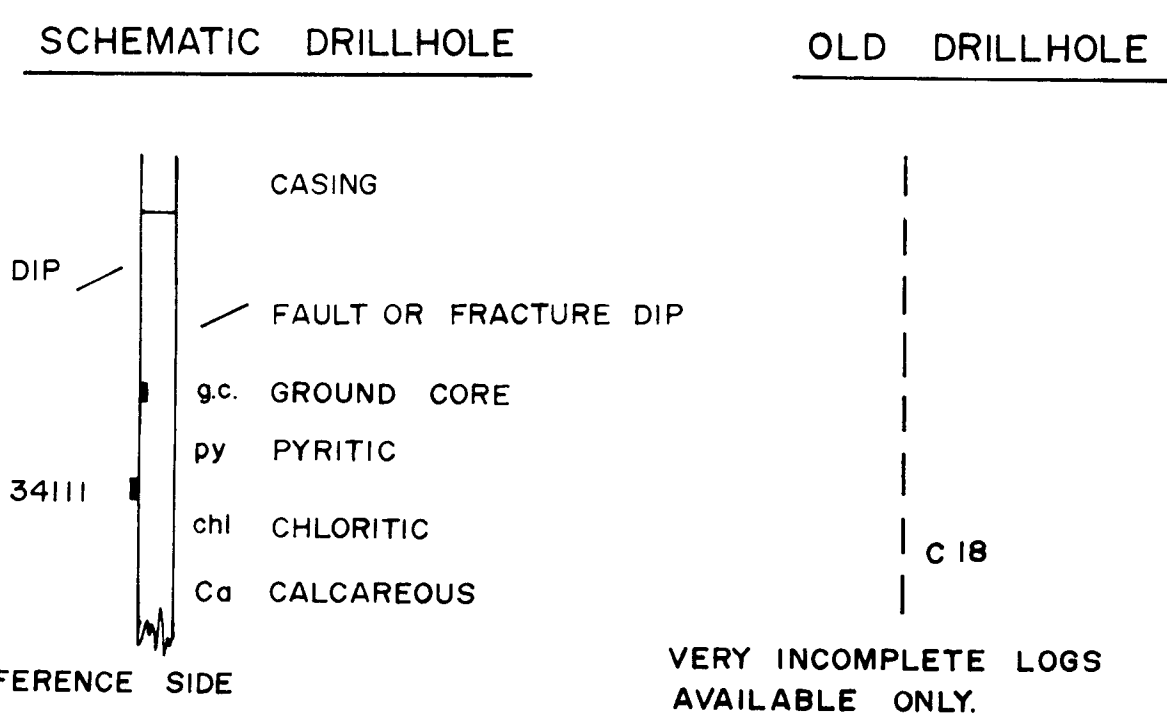
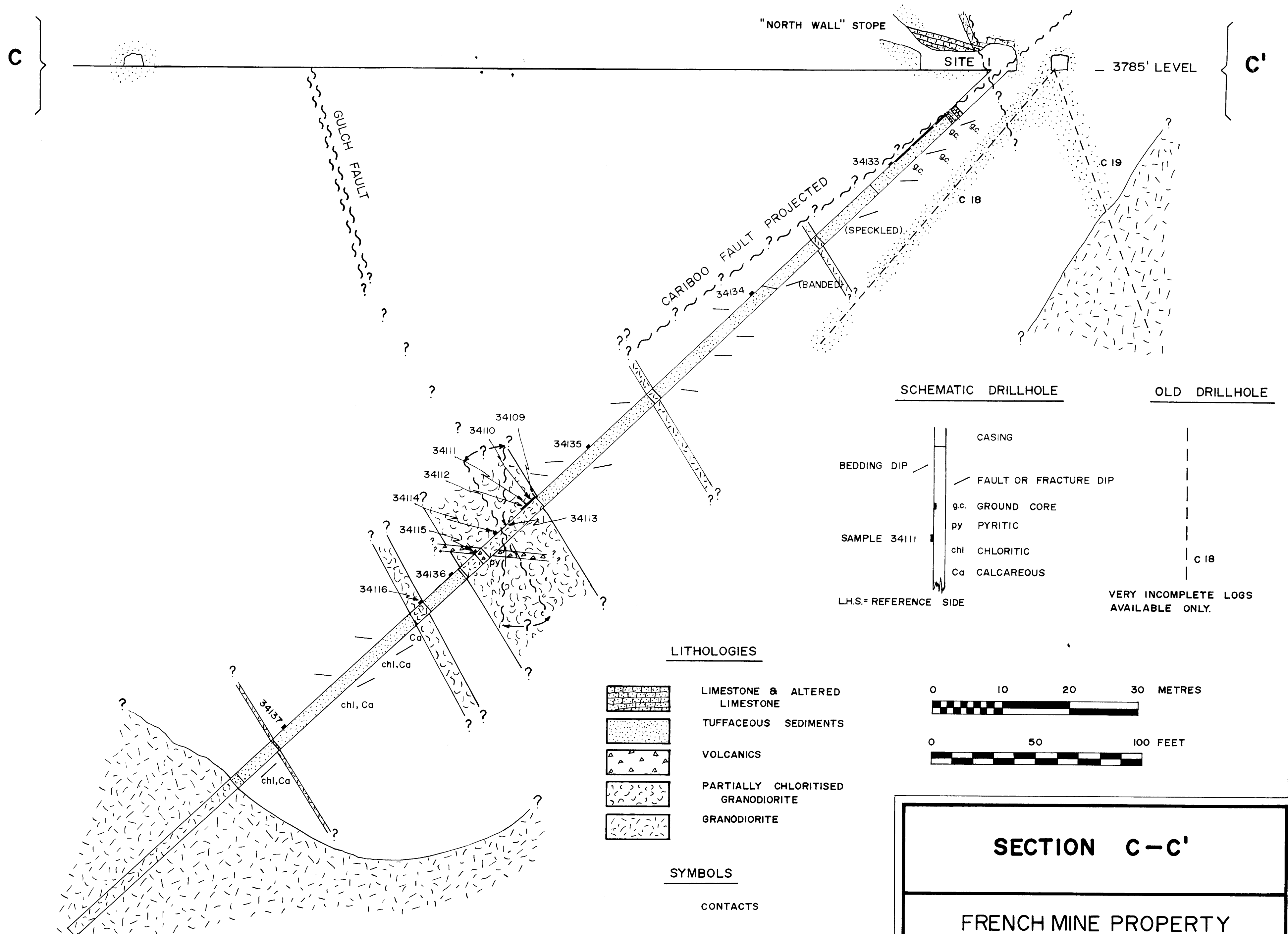
24.84

TOTAL \$2678.84

L. S. Goldsmith, P. Eng.
Consulting Geologist



1980 DRILLING (PLAN)
FRENCH MINE PROPERTY GROVE EXPLORATIONS LTD
OSOYOC'S MINING DIVISION NTS 92 H 8 HEDLEY SHEET 85 E 5 PENTICTON SHEET
ARCTEX ENGINEERING SERVICES DEC 1980

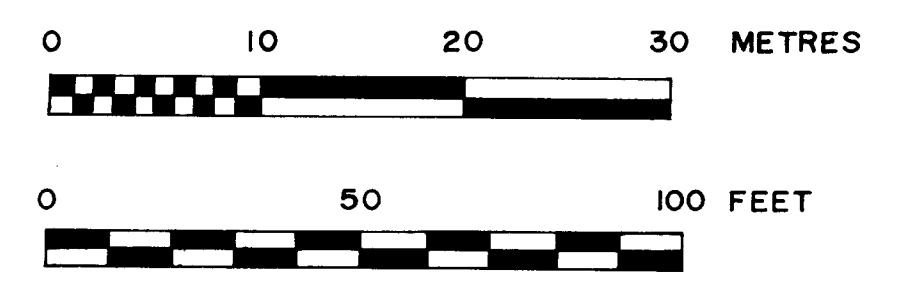


LITHOLOGIES

- LIMESTONE & ALTERED LIMESTONE
- TUFFACEOUS SEDIMENTS
- VOLCANICS
- PARTIALLY CHLORITISED GRANODIORITE
- GRANODIORITE

SYMBOLS

- CONTACTS**
- DEFINED
- ? ASSUMED
- FAULTS**
- ~ ~ ~ DEFINED
- ~ ~ ~ ? ASSUMED



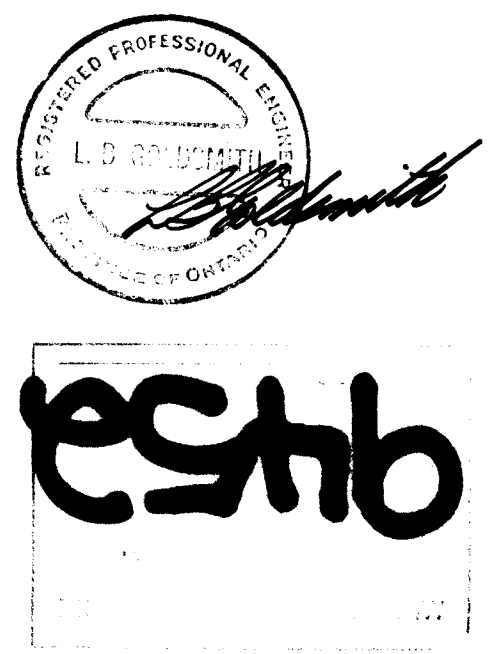
SECTION C-C'

FRENCH MINE PROPERTY
GROVE EXPLORATIONS LTD

OSOYOOS MINING DIVISION
N.T.S. 92H/8 HEDLEY SHEET
85E/5 PENTICTON SHEET

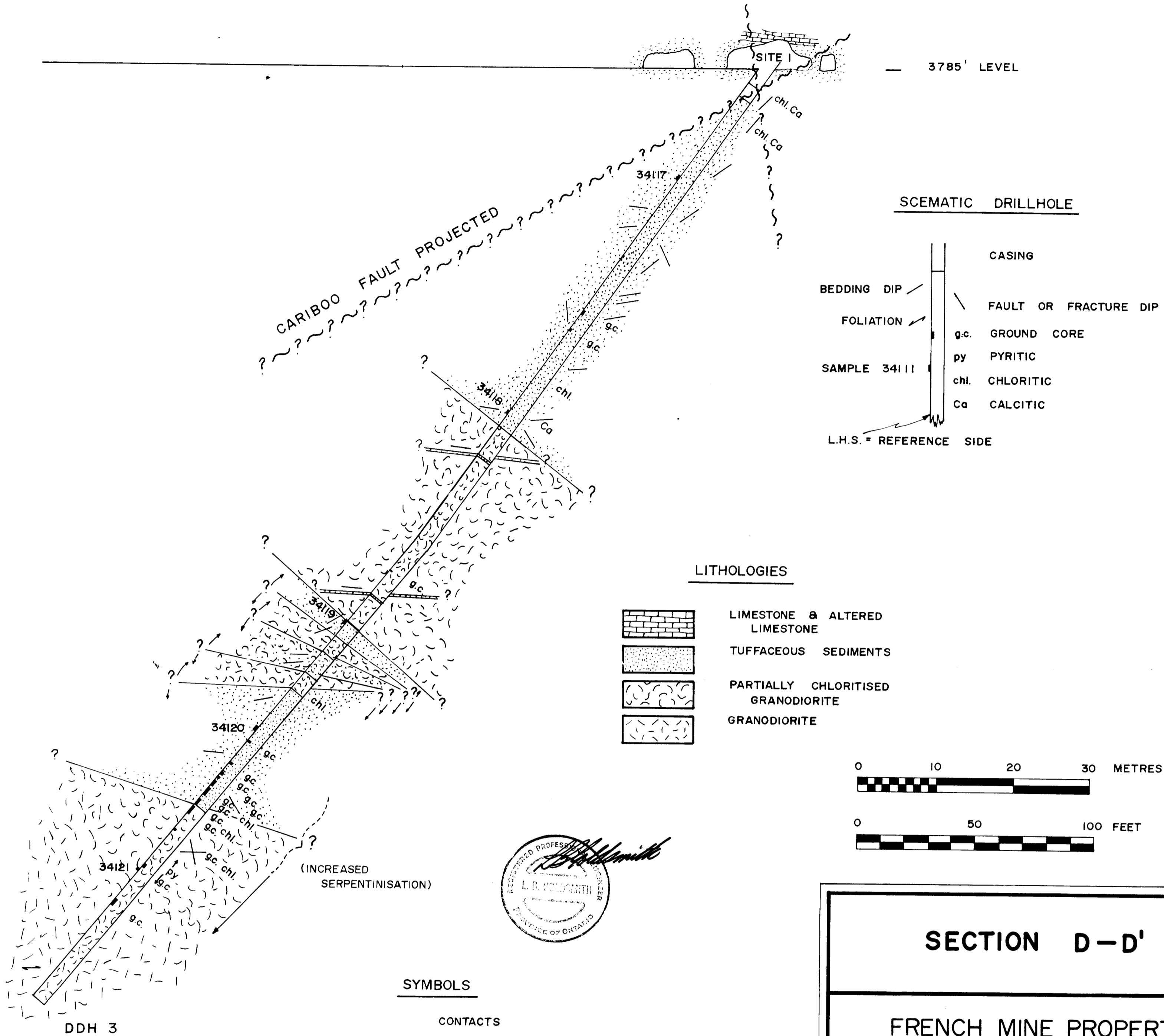
ARCTEX ENGINEERING SERVICES
JANUARY 1981

GEOLOGY: N.W.S.

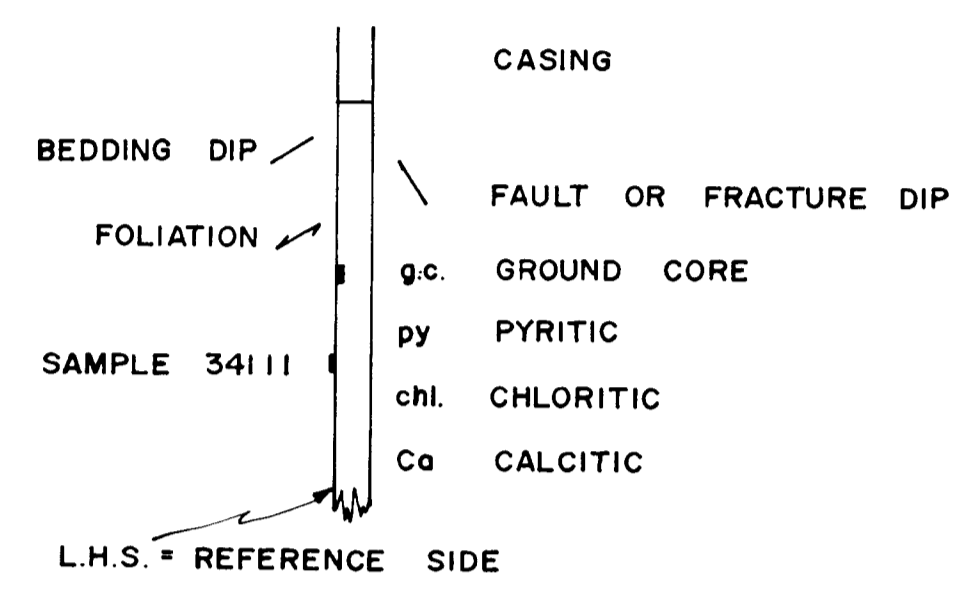


D

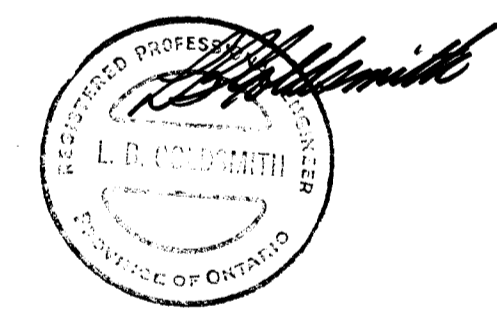
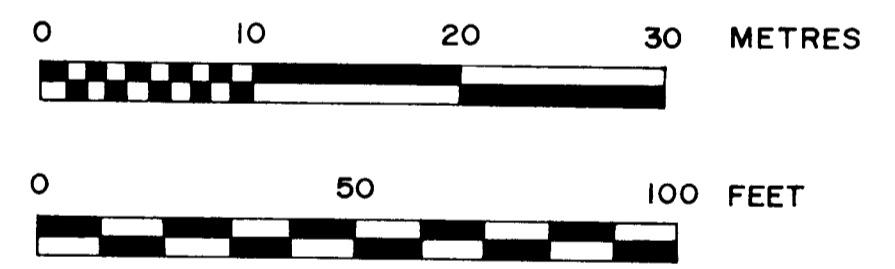
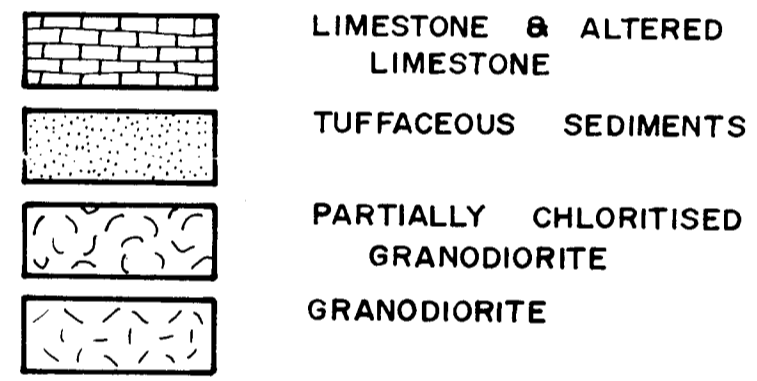
D'



SCHEMATIC DRILLHOLE



LITHOLOGIES



SYMBOLS

- CONTACTS
- DEFINED
- ? ASSUMED
- FAULTS
- ~~~~ DEFINED
- ~~~~ ? ASSUMED

DDH 3

(INCREASED SERPENTINISATION)

9452

SECTION D-D'

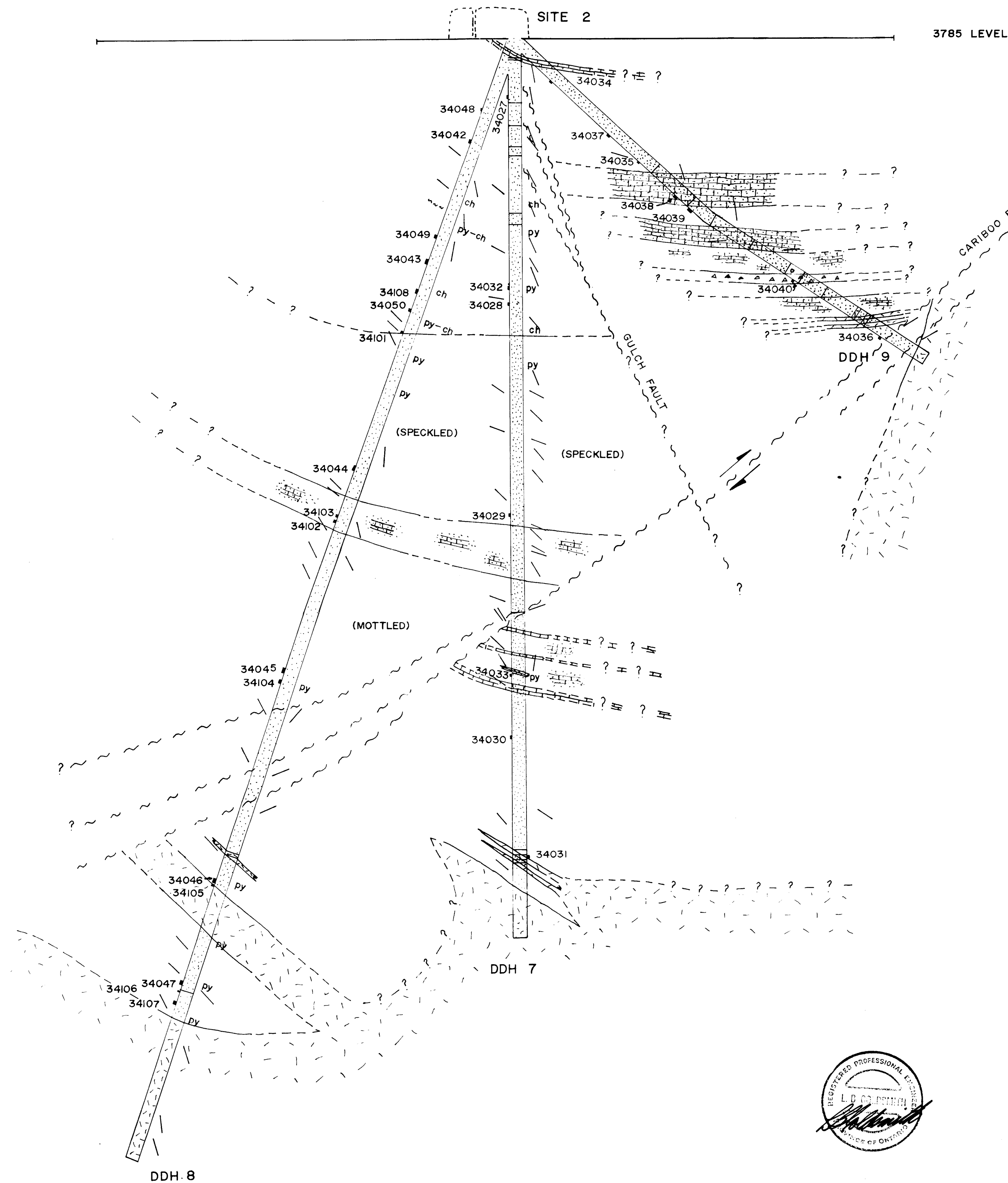
FRENCH MINE PROPERTY
GROVE EXPLORATIONS LTD

OSOYOOS MINING DIVISION
N.T.S. 92H/8 HEDLEY SHEET
85E/5 PENTICTON SHEET

ARCTEX ENGINEERING SERVICES
JANUARY 1981
GEOLOGY : N.W.S.

A

A'

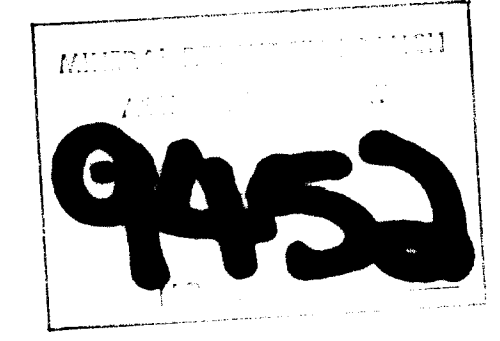


LITHOLOGIES

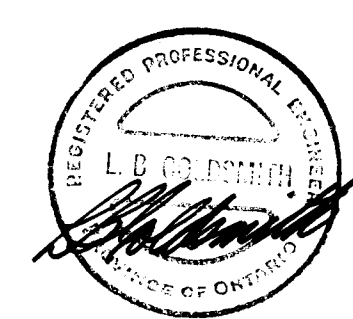
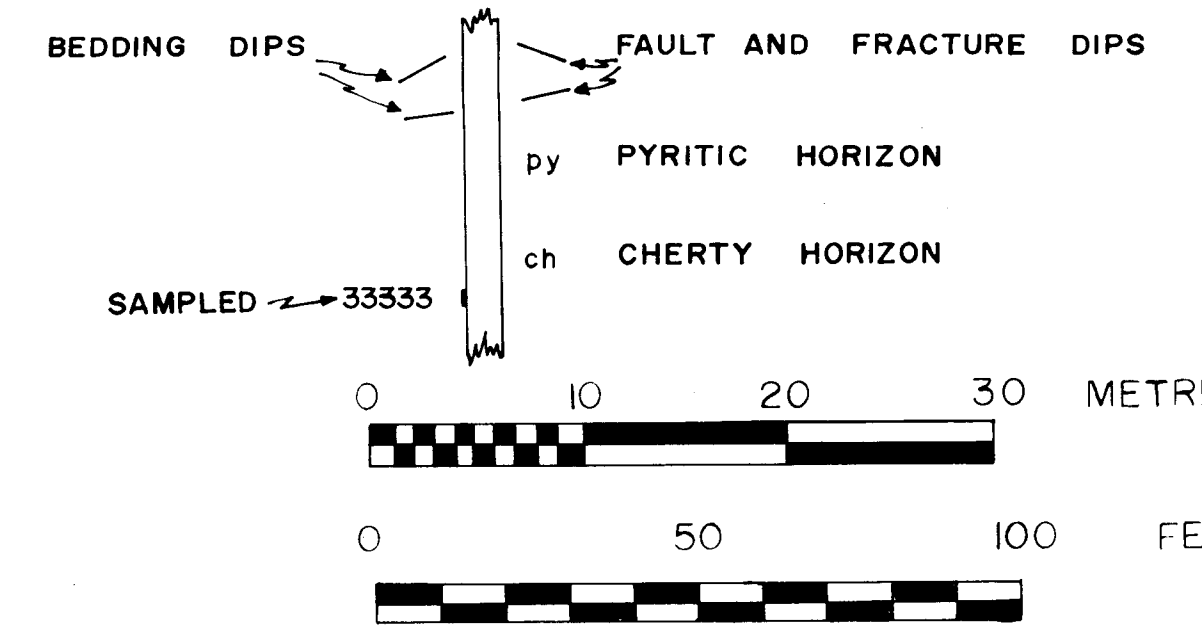
- TUFFACEOUS SEDIMENTS
- LIMEY TUFFACEOUS SEDIMENTS
- LIMESTONE
- ALTERED LIMESTONE
- VOLCANICS ?
- GRANODIORITE

SYMBOLS

- CONTACT
- DEFINED
- INFERRED
- ASSUMED
- FAULT
- INFERRED
- ASSUMED



SCHEMATIC DRILLHOLE



SECTION A-A'

**FRENCH MINE PROPERTY
GROVE EXPLORATIONS LTD**

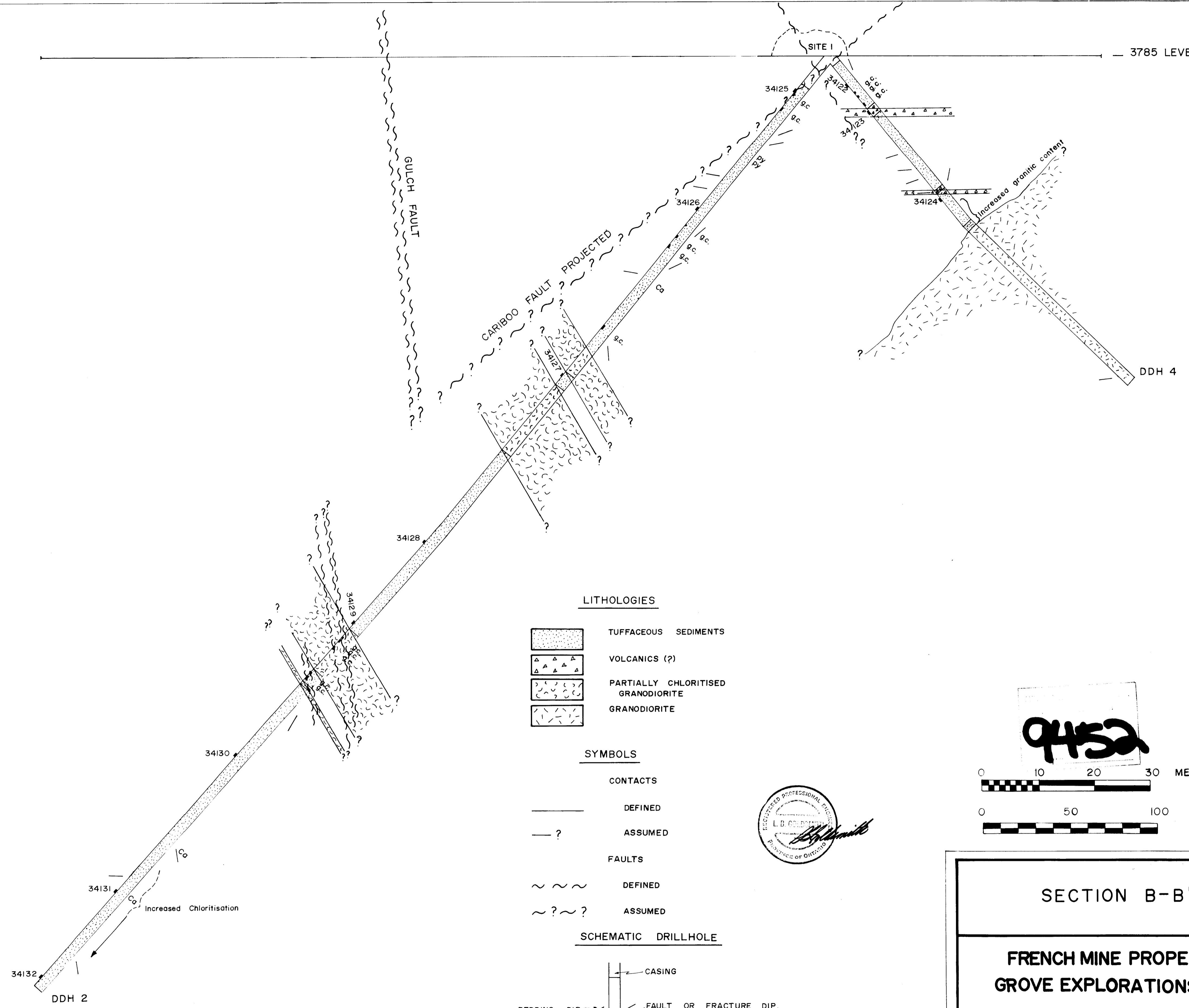
OSOYOOS MINING DIVISION
NTS 92 H 8 HEDLEY SHEET
85 E 5 PENTICTON SHEET

ARCTEX ENGINEERING SERVICES
DECEMBER 1980

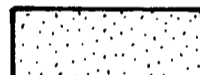
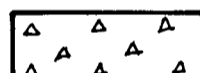
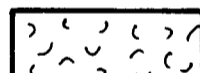
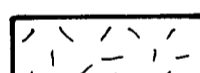
B

3785 LEVEL

B'



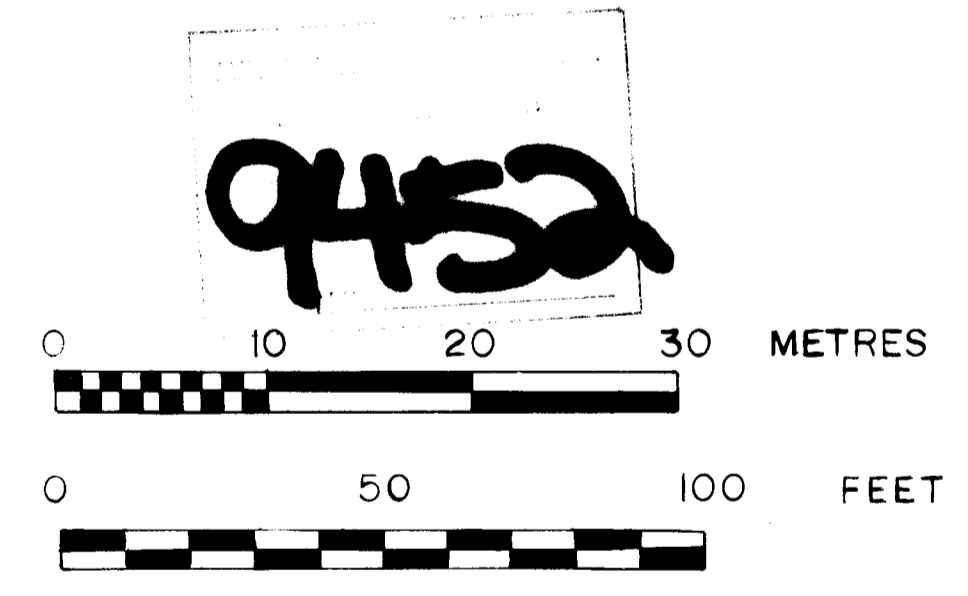
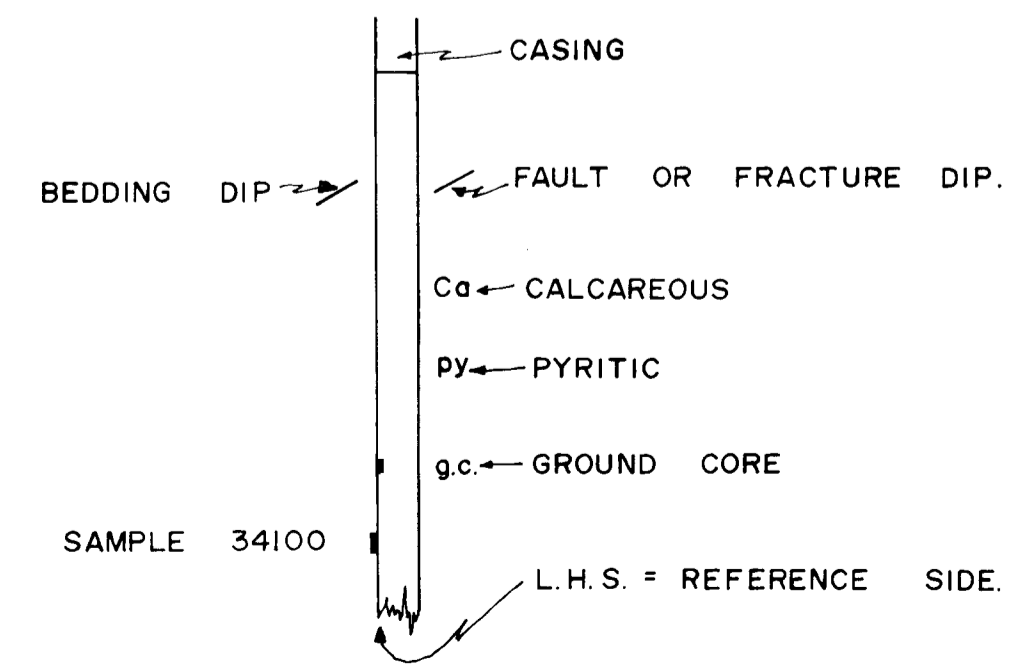
LITHOLOGIES

-  TUFFACEOUS SEDIMENTS
-  VOLCANICS (?)
-  PARTIALLY CHLORITISED GRANODIORITE
-  GRANODIORITE

SYMBOLS

- CONTACTS**
- DEFINED
- ? ASSUMED
- FAULTS**
- ~ ~ ~ DEFINED
- ~ ? ~ ? ASSUMED

SCHEMATIC DRILLHOLE



SECTION B-B'

**FRENCH MINE PROPERTY
GROVE EXPLORATIONS LTD**

OSOYOOS MINING DIVISION
NTS 92 H 8 HEDLEY SHEET
85 E 5 PENTICTON SHEET

ARCTEX ENGINEERING SERVICES
DECEMBER 1980