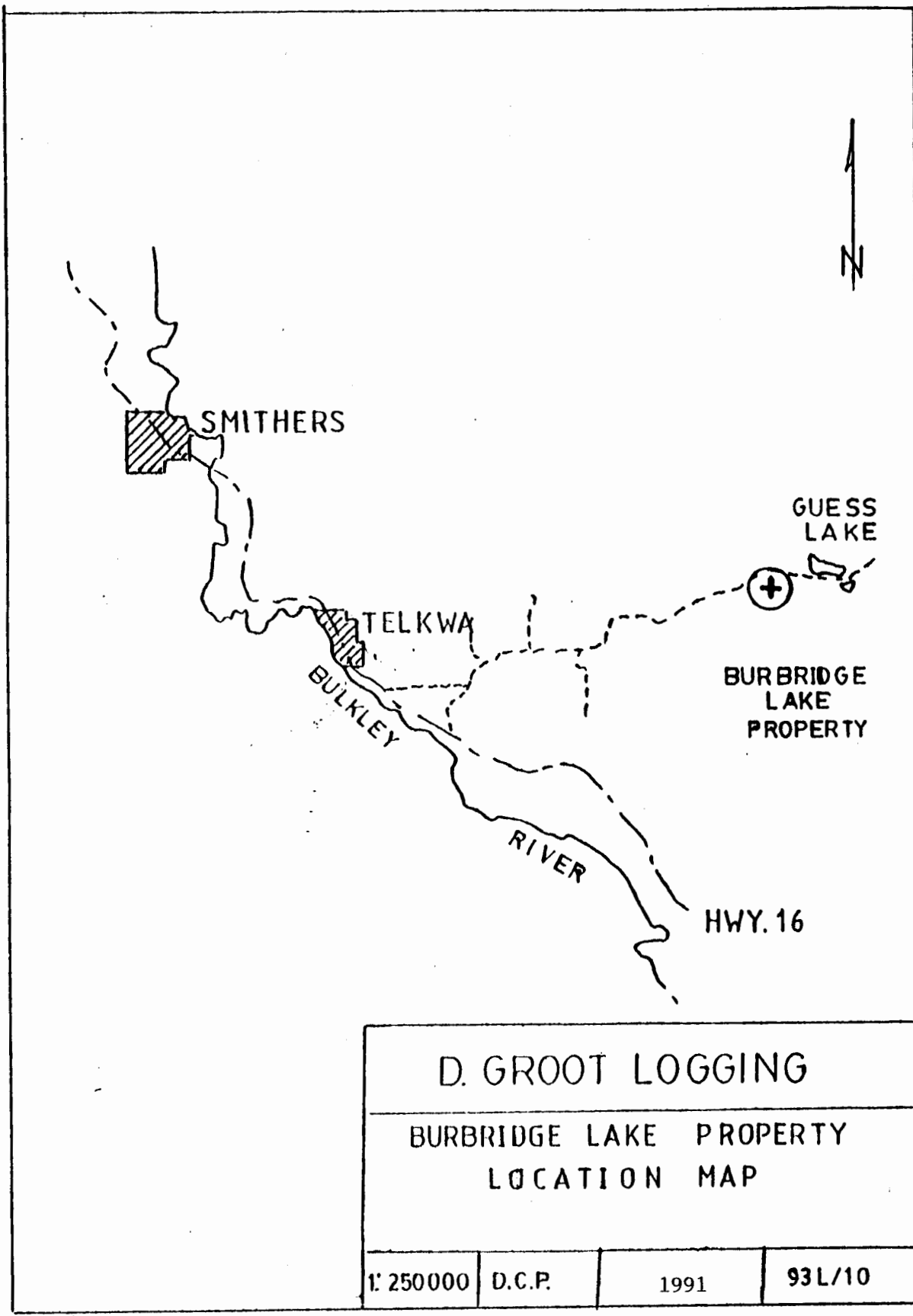


LOG NO: 0626	RD.
ACTION:	
FILE NO:	

BURBRIDGE LAKE PROPERTY
93L/10
OMINECA M.D.
D. GROOT LOGGING LTD.
SMITHERS, B.C.
D.C. PLEKASH - GEOLOGIST - MAY 1991



D. GROOT LOGGING

BURBRIDGE LAKE PROPERTY
LOCATION MAP

1: 250000	D.C.P.	1991	93L/10
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**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,446

BRITISH COLUMBIA
OMINECA M. D. - 93 / L
BURBRIDGE LAKE PROPERTY

SUMMARY:

Between April 1991 and May 1991, D. Groot Logging Ltd. of Smithers, B.C. did work on the Burbridge Lake Property. The main road into the property was cleared of snow and the existing road up to the area of the Diamond Drill program was plowed off of snow. 284M of road was constructed to get access into the Diamond Drill Sites.

Three Diamond Drill holes were completed on the property. The three Diamond Drill holes were drilled to see if the stock work from the drilling done in 1977 by Asarco went to depth. In 1980 three Diamond Drill holes were drilled to the West and no significant mineralization was found, so the next step was to drill to the South of hole 77-6 of Asarco to see what was at depth. Diamond Drill hole 91-1 intersected from 0-51.51M light to dark andesitic tuffs pervasively chloritic altered from minor to major amounts of alteration. This zone has had some remobilization and has areas of quartz and quartz calcite in the core. 51.51M - 183.49M, porphyritic diorite mixed with a diorite sill that gradually becomes a total porphyritic diorite, there are fine grained blebs and veinlets of iron pyrites. In the diorite there is a zone of a greater intensity of phenocrysts that are more calcinized than normal. This zone is between 87.17M to 109.12M. The diorite is all chloritic altered from a minor nature to a more intense nature. From 183.49M - 200.26M the core is a coarse to light grained porphyry diorite with very pervasive chlorite alteration. Diamond Drill hole 91-2 intersected from 0 to 64.60M a light to dark andesite tuff pervasively chloritic altered. There are zones of quartz blebs and veinlets throughout the core. Numerous small fault zones are observed in the core. From 64.60M to 185.02M, porphyritic diorite mixed with a diorite sill that phases into a complete porphyritic diorite. The diorite is chloritic altered from slight amounts to abundant amounts. There is blebs and veinlets of iron

pyrite throughout the core from minor to substantial amounts. In the diorite there is a zone of a greater intensity of phenocrysts that are more calcinized than normal. This zone is between 133.05M - 163.07M. From 185.02M to 206.35M the core is a coarse to fine grained porphyry diorite with very pervasive chlorite alteration. Diamond Drill hole 91-3 intersected from 0 to 105.95M light to dark andesite tuff pervasively chlorite alteration. Some faults noted in the core. Fair amount of quartz blebs and veins. There seems to be alot more purple andesite in the core than noted in the previous Diamond Drill holes. 105.95M - 236.83M porphyritic diorite mixed with a diorite sill that phases into a complete porphyritic diorite. The diorite is chloritic altered. There appears to be more quartz in the diorite zone than in the previous Diamond Drill holes. There is a greater amount of phenocrysts that are more calcinitic than normal. This zone is between 183.49M to 236.83M. The diorite has blebs and veinlets of iron pyrite throughout. From 236.83M - 264.26M the core is a coarse to fine grained diorite with very pervasive chlorite alteration.

LOCATION AND ACCESS:

The Burbridge Lake property is situated in West Central B.C. at latitude $54^{\circ} 43'$ N and longitude $125^{\circ} 45'$ W. The main area of interest is located South of Burbridge Lake.

The property is accessible via Woodmere Road, which joins Highway 16 approximately 1.6km South of the Town of Telkwa, B.C. and thence up Woodmere Road 9.5km to Hutchinson Farm and beyond this point up Deception Lake Forestry Access Road for 11.3km to Burbridge Lake.

HISTORY:

The Burbridge Lake property was staked by Mel Chapman in 1969. In 1983 the property was obtained by Hudson Bay Oil and Gas, who carried out a program of geological mapping, a ground magnetic survey, geological soil sampling and 366M of Diamond Drilling in three (3) holes. The option agreement was terminated.

In 1974, Cities Service took an option on the property, and completed an I.P. and magnetometer survey and did 485M of Diamond Drilling in two (2) holes. This work failed to encounter any significant mineralization and the option was terminated.

In 1976, Asarco did a cursory examination of the structural and stratigraphic setting of the zone of mineralization. In the reviewing of all available data, it suggested a dip of the South-West, with the host diorite intrusion occurring as a sill within the volcanic succession. With Hudson Bay Oil and Gas and Cities Services Drill program set up that all of the Diamond Drill holes were enclined between 45° and 55° to the South. The holes were close to being parallel to, rather than crosscutting the zone of mineralization. On this basis, an option agreement was drawn up. In 1977 Asarco laid out a program of six (6) Diamond Drill holes. The results confirmed that the diorite is a sill-like body dipping to the Southwest. The option was terminated.

In 1980, D. Groot Logging Ltd. of Smithers, B.C. reviewed all the pertinent data from previous work done on the property and came to the conclusion that there could be a possibility of increased grades of copper and molybdenum in the stockwork to the West of the Drill holes that Asarco drilled. A deal was

made to get control of the property and then work commenced. Four (4) Diamond Drill holes were drilled. The first (3) to see if the diorite sill increased in mineralization to the West and also the Westerly extension of the sill. The results showed that the mineralization did not increase in the previous encountered amounts and also that the diorite sill is cut off to the West between Diamond Drill hole 80-2 and 80-3 by a fault. The fourth hole was drilled on the Eastern part of the property to try and pick up some small copper, silver veins at depth. This Diamond Drill hole did not pick up any vein extensions at depth. A detailed soil sample program was done over four (4) areas of the property. Some hand trenching and cat trenching was also done over a few areas of the property. In 1981 the company then decided to Diamond Drill in the areas where the previous year soil sample program came up with some high readings in two different zones. Five (5) Diamond Drill holes with a total of 491.2M were drilled. The first three (3) Diamond Drill holes were drilled on the Southwest part of the property on the strength of the high soil sample reading that were obtained from the 1980 field work. No significant mineralization was encountered in any of these Diamond Drill holes. The two (2) other Diamond Drill holes were drilled in the center part of the property Southeast of Burbridge Lake. These were also drilled in this area because of the high soil sample readings that were obtained in the 1980 field work. No significant mineralization was encountered in either of these holes.

In 1991, D. Groot Logging Ltd. decided to drill three (3) Diamond Drill holes to the South of Asarco's 77-6 Diamond Drill hole to explore the possibility of more mineralization occurring at depth as the diorite sill dips into the ground to the South at a dip of 20° to 40° . Three (3) holes were drilled for a total distance of 670.87M.

REGIONAL GEOLOGICAL SETTING:

The Burbridge Lake property is situated along the Western margin of the Babine Range, within a block of uplifted rhyolite to andesite volcanic rocks of the Jurassic Age. These rocks are part of the Telkwa formation of the Hazelton group and have been subjected to regional green schist metamorphism. With the predominant Northeast and North by Northwest trending linears intersecting in the vicinity of the Burbridge Lake property, this usually represents high angle faults.

PROPERTY GEOLOGY:

The Burbridge Lake property is underlain by rhyolitic dacite and andesite tuffs and flows of the Telkwa formation. Their rocks have been regionally metamorphosed to the green schist facies and are strongly foliated in places, with the foliation occurring along bedding planes. The general trend of the foliation is to the Northwest with variable dips to the Southwest. Eutaxitic textures are common in the more siliceous crystal and lapilli-tuff units, by D.G. MacIntyre.

In the vicinity of Burbridge Lake, the Telkwa formation is intruded by a sill like complex which is between 150M and 200M thick, and at least 1500M in length. The upper part is porphyritic and approaches a granodiorite in composition. Towards the bottom of the contacts, the sill becomes more mafic-rich with a well developed diorite texture. The sill appears to be foliated and metamorphosed to the same intensity as the volcanic country rock, which suggest that all of the rocks in the immediate area are of the same age. i.e. Jurassic.

REFERENCES:

- | | |
|--|------|
| A.D. Schmidt, P. Eng., Hudson Bay Oil and Gas Co. Ltd. | 1973 |
| D.A. Silversides, Geologist, City Service Minerals Corp. | 1974 |
| D.C. MacIntyre, Geologist, Asarco Exploration Co. | 1977 |
| D.C. Plecash, Geologist, D. Groot Logging Ltd. | 1980 |
| D.C. Plecash, Geologist, D. Groot Logging Ltd. | 1981 |

1991 DIAMOND DRILL PROGRAM:

Between April 1, 1991 and May 1, 1991, 670.87M of Diamond Drilling (B.Q. Wireline) was completed on the Burbridge Lake property.

D.D.H. 91-1 this hole was collared 60.96M South of Asarco's D.D.H. 77-6. The collar of the Diamond Drill hole is at 1251.5M, which is 35.3M above D.D.H. 77-6 at an elevation of 1251.5M and a dip of -90° . The purpose of this hole was to check out the diorite sill to the South of any other work and also to check the sill at depth. From 3.66M to 15.85M the hole went through a series of light to dark grey andesites with some quartz calcite stringers and slightly chloritic altered. From 15.85M to 19.20M the andesite is dark grey to black with quartz calcite stringers. 19.20M to 42.82M the core is light to dark grey andesites slightly chloritic altered. The andesites from 22.85m through to 34.14M have small zones of a purple hue. There are blebs and stringers of quartz calcite throughout. Some gypsum starting to show up at 24.38M. From 42.82M to 48.46M the core looks like a brecciated andesite mixed with quartz and quartz calcite. A little copper and molybdenum visible. At 48.46M to 51.51M the core is a dark green chloritic altered argillaceous andesite with bands and blebs of quartz and quartz calcite with some iron pyrite. From 51.51M to 87.17M the core is a porphyry diorite with some iron pyrites which is pervasively kaolinized chloritic altered. The core is broken and moderately siliceous. 87.17M to 109.12M the core is a porphyry diorite with the phenocrysts up to 13MM in size. There is alot of recementing with quartz calcite on the fractures, there is a pervasive chlorite alteration with some epidote appearing. Iron pyrites throughout the core. 109.12M to 127.80M the core is a fine grained diorite sill mixed with a porphyry diorite, and pervasive chlorite alteration with some epidote. From 127.80M to 132.28M the core is a black diabase dyke that appears to be fairly limy, at 132.28M to 183.4M the core is a porphyry diorite with a pervasive chloritic alteration. Larger and more kaolinized phenocrysts between 142.04M to 144.48M, this area has a greater chloritic alteration than normal. Very siliceous between 132.28M and 142.04M. There is a limy diabase dyke between 149.11M to 151.12M. Some epidote in the last 6M of this zone. Iron pyrites are shown throughout the diorite zones. From 183.49M to 200.26M (end of hole) the core is a coarse

to fine very pervasive chloritic altered diorite with quartz calcite stringers up to 5CM in width scattered throughout. Visible chalcopryrite and molybdenum in core and quartz calcite stringers very effervescent when sprayed with HCL.

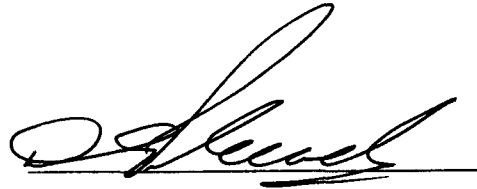
D.D.H. 91-2 was collared 48.76M South and then 43.59M East of D.D.H. 91-1, the hole was drilled at this location to look a little deeper in depth with an also lateral view of the diorite zone. It was drilled at an elevation of 1268.3M with a dip of -90° . From 4.21M to 39.62M the core is a dark to light grey andesite pervasively chloritic altered with some argillites. There are some blebs and stringers of quartz calcite with minor amounts of epidote. 39.62M to 52.73M the core is a dark grey to black andesite with quartz calcite stringers in it and slightly chloritic altered. From 52.73M to 64.65M there is light andesites pervasively chloritic altered with quartz blebs and stringers throughout. Foliated at 25° to 30° to core axis. Some purple andesite between 57.7M to 58.2M. At 64.65M to 133.05M the core is a mixture of a porphyry diorite with a diorite sill with up to 20% iron pyrites. The core is moderately siliceous. From 133.05M to 185.02M the core is a porphyry diorite with about 10% to 15% iron pyrites, pervasive chloritic altered and a zone between 133.05M to 163.07M that has phenocrysts up to 13MM in size and broken core with calcite on fracture and some vug holes. From 181.36M to 182.88M 30% iron pyrites. 185.02M to 206.35M (end of hole) the core is a coarse to light grained very pervasive chloritic altered diorite with quartz calcite stringers and blebs up to 13MM in size. Some molybdenum visible on fractures and chalcopryrite along quartz stringers.

D.D.H. 91-3 was collared 91.4M due South of D.D.H. 91-1 at an elevation of 1280.2M and drilled at a -90° dip. From 4.82M to 49.47M the hole was in a light to dark grey andesite, pervasive chloritic argillaceous altered Foliated at 35° to core axis. The core is very siliceous with quartz stringers up to 0.36M thick. From 32.39M to 44.81M there is a moderate amount of purple andesites. Some faulting in the hole with a large fault zone highly altered at 49.07M to 49.47M. At 49.47M to 100.1M the core is a dark grey to dark green ^{andesite} for 17M then becomes alot lighter in color due to a lesser amount of alteration. Some purple andesite and quartz stringers in later part of core. From 100.1M to 105.95M the core is a layered andesite pervasive chloritic argillaceous altered that is foliated at 40° to core axis.

Some small stringers of diorite with 5% to 10% iron pyrite. 105.95M to 108.11M is a porphyritic diorite mixed with andesites and the total zone chloritic altered. 108.11M to 171.88M the core is a porphyry diorite pervasive chloritic altered with intrusions of iron pyrites that double in volume from 151.79M and on. Quartz stringers appearing up to 10.2CM in size and gypsum starting to appear at 137.47M. From 160.94M to 171.88M the fracture fillings and quartz calcite have a yellowish orange hue. From 183.49M to 236.83M the core is a mixture of a diorite sill with a porphyritic diorite pervasive chlorite altered. At 227.60M to 231.41M there is a diabase dyke that is fairly limy. From 183.49M to 236.83M the core is porphyry diorite has phenocrysts of quartz calcite up to 13MM in size with much kaolinized alteration. The core is very broken with alot of recementing of calcite on the fractures. From 236.83M to 264.26M the core is a coarse to light grained porphyritic diorite. Very pervasive chloritic altered. There are quartz stringers up to 1.9CM in size. Some visible copper and molybdenum along with iron pyrites adjacent to the quartz, these stringers are limy when sprayed with a solution of HCL. 264.26M is the end of the hole.

CONCLUSION:

The Diamond Drilling (3 Holes) completed in April 1991, showed that the diorite is still in place at depth and that as you go deeper, the rock formations are more defined at the contacts. The appearance of iron pyrites in the core seems to increase at depth. The results also showed that the diorite stock in an area of fracturing and veining with clay-chloritic quartz-calcite alteration which contains low amounts of Cu and Mo that are seldom visible to the naked eye. A further Diamond Drill program should be concentrated on checking the magnetic anomalies that were found by Hudson Bay Oil and Gas Co. Ltd. in 1973 and forget the soil sample anomalies as they did not indicate any commercial ore zones, having been checked out by previous Diamond Drill programs.




D.C. PLEKASH
GEOLOGIST

STATEMENT OF QUALIFICATIONS:

I, Donald C. Plecash, of 3869-12th Avenue, Box 2694, Smithers, B.C.

Certify than:

- 1) I attended Queens University, Kingston, Ontario from September 1947 to May 1950.
- 2) I was employed by Yale Lead and Zinc Mines of Ainsworth, B.C. as a Mine Surveyor, Junior Engineer and Junior Geologist from 1950 to 1956.
- 3) I was employed by Canam Copper Mines of Hope, B.C. as a Mine Engineer and Mine Geologist from 1956 to 1957.
- 4) I was employed by Reeves MacDonald Mines Ltd. of Remac, B.C. as a Mine Engineer and Mine and Exploration Geologist from 1957 to 1969.
- 5) I was employed by Norex Uranium of 605-535 Thurlow St., Vancouver B.C. as Exploration Manager and Geologist from June 1969 to October 1969.
- 6) I was employed by Nadina Explorations Ltd. of 1005-789 West Pender St., Vancouver, B.C. as Mine Engineer and Mine Geologist then Mine Manager from November 1969 to September 1973.
- 7) I was employed from September 1973 to April 1980 in the Sales Industry.
- 8) I was employed by D. Groot Logging Ltd. of Box 520, Smithers, B.C. as a Geologist from May 1980 to June 1984.
- 9) I have been self-employed in the Mining Industry as Engineering and Geology Services where I have worked from Exploration to Mine Production.



D.C. PLECASH

BURBRIDGE LAKE
1991
COST STATEMENT

Diamond Drilling and Road Clearing	\$ 51,247.06
Northern Mountain Helicopters Inc.	452.86
D.C. Plecash - Salary and Fringe Benefits	<u>6,225.00</u>
	\$ 57,924.92

Diamond Drill Core Stored at Britton Bros. Drilling
Smithers Airport



D.C. PLECASH
GEOLOGIST

CLAIM LIST:

NAME	RECORD NO.	DATE RECORDED
Summit #1	59464	
Summit #2	59465	
Summit #3	112279	
Summit #4	112280	
Summit #7	112283	
Summit #8	112284	
H.B. #4	126754	
H.B. #6	126756	
H.B. #21	126287	
H.B. #22	126288	
H.B. #23	126289	
H.B. #1 FRA.	126290	
H.B. #2 FRA.	126291	
H.B. #3 FRA.	126292	
H.B. #4 FRA.	126293	
MAY (9 Units)	2792	May 16, 1980
JUNE #1 (12 Units)	2833	June 23, 1980
JUNE #2 (20 Units)	2834	June 23, 1980
JUNE #3 (20 Units)	2835	June 23, 1980



**WATTON
PROS. DIAMOND
DRILLING LTD.**

P.O. Box 32
Smithers, B.C.
VOJ 2N0

Phone: (604) 847-3636
Fax: (604) 847-9200

INVOICE TO:

D. Groot Logging Ltd.,
Box
Smithers, B.C.,
VOJ 2N0

INVOICE #019

April 20, 1991

For diamond drilling footage and related services provided on the
Burbidge Lake Project for the period of April 10-20, 1991, as per contract:

DDH #:

91-1	cat hours	52.5	@	\$80.50	\$ 4,226.25
"	overburden (0' to 12')	12.	@	19.20	230.40
"	coring (12' to 657')	645.	@	19.20	12,384.00
91-2	cat hours	6.5	@	80.50	523.50
"	overburden (0' to 12')	12	@	19.20	230.40
"	coring (12' to 677')	665	@	19.20	12,768.00
91-3	overburden (0' to 12')	12	@	19.20	230.40
"	cat hours	11	@	80.50	885.50
"	coring (12' to 867')	855.	@	19.20	16,416.00

Sub-total

\$47,894.45

G.S.T. (Registration #R123665200)

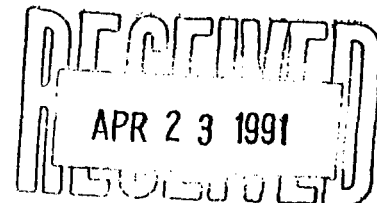
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INVOICE TOTAL

\$51,247.06

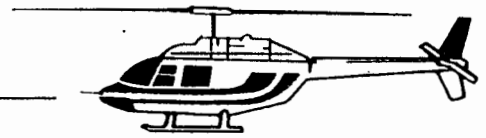
OK. [Signature]

#22368



Northern Mountain Helicopters Inc.

Main Office: P.O. Box 368, Prince George, B.C. V2L 4S2



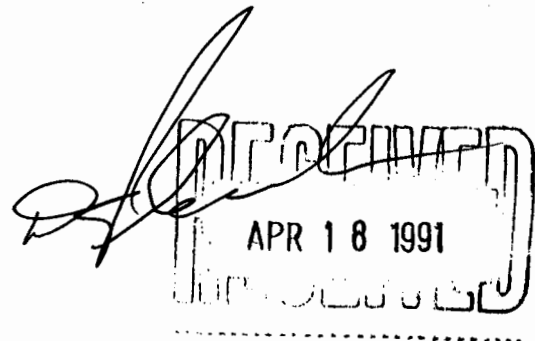
Telephone (604)963-9622
Fax (604)963-9015

CUSTOMER: D. GROOT LOGGING
P.O. BOX 520
SMITHERS, B.C.
VOJ 2NO

INVOICE NO: 11783
INVOICE DATE: Mar 31 91
CUSTOMER NO: 20630
REFERENCE NO:

DATE	REF	DESCRIPTION	UNITS	RATE	AMOUNT
03/28/91	65705	NMK PARADISE LAKE	.60	635.00	381.00
		FUEL - LITRES	68.40	.60	41.04
		OIL - HOURS	.60	2.00	1.20
TAXABLE AMOUNT					423.24
7% G.S.T. #R120966635					29.62

#22365
APR-1991



TOTAL AMOUNT OWING: \$452.86
=====

TERMS: 30 DAYS NET
INTEREST AT 1 1/2% PER MONTH (18% PER ANNUM) CHARGED ON OVERDUE ACCOUNTS

PLEASE RETURN REMITTANCE
ADVICE WITH PAYMENT

CUSTOMER COPY



D.GROOT LOGGING LTD.

P.O. BOX 520, SMITHERS, B.C. V0J 2N0
PHONE: 847-4201

D.C. PLEKASH SALARY	\$	6000.00	1 Mos
FRINGE BENEFITS	\$	<u>225.00</u>	
TOTAL	\$	6225.00	1 Mos

LOG RECORD

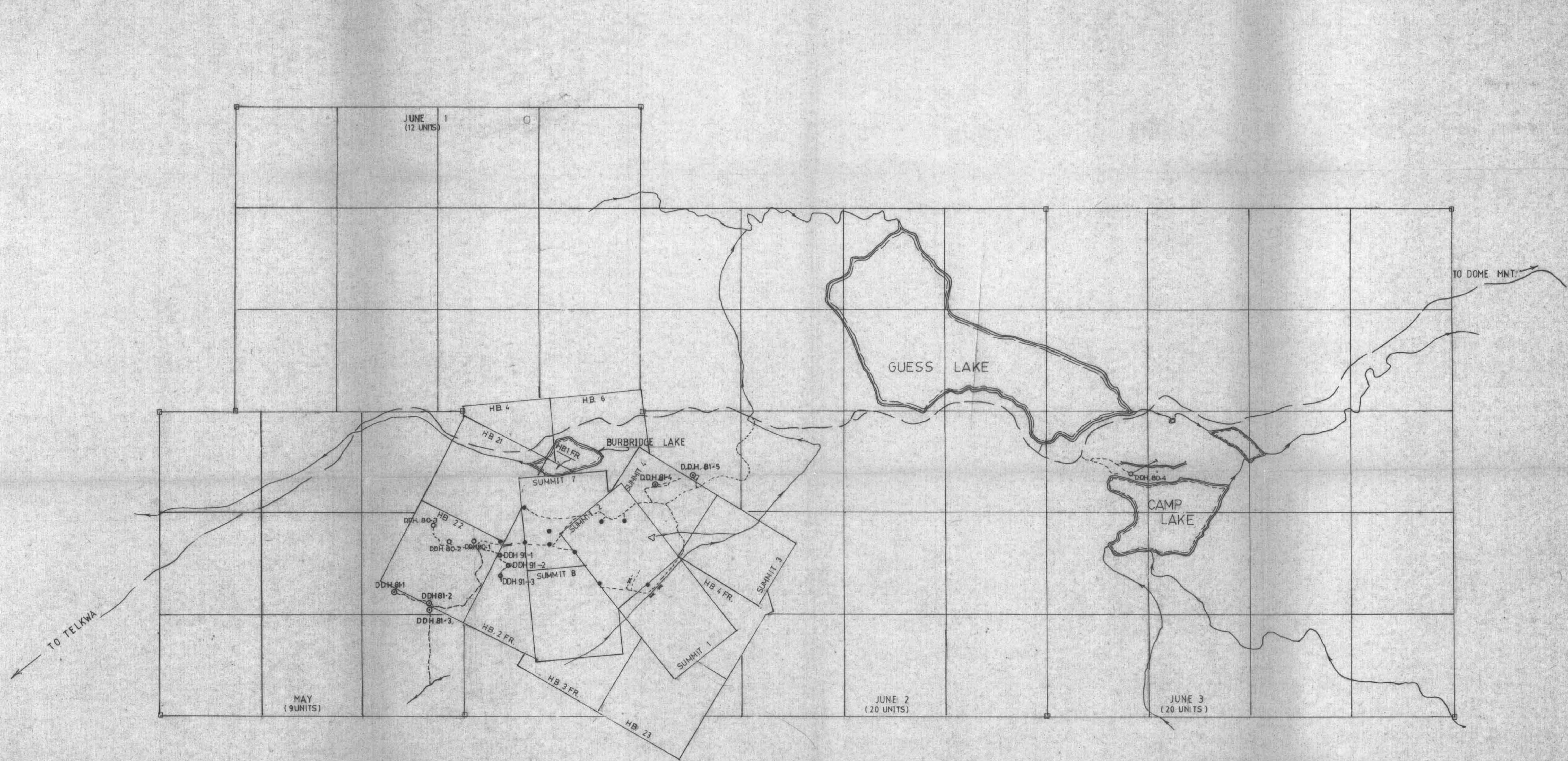
PROPERTY BURBRIDGE LAKE

HOLE NO. 91-2

Latitude 48.71 N Elevation 1268.30 Longitude 101.27 W Depth 206.35M Started April 16/91 Completed April 17/91

Departure Section Dip Drilled By BRITTON BROS. Logged By D.C. PLECASH

Depth	Formation	Sample No.	From	To	Width	Assays
48.71	0.64M epic Low Fault Zone					
52.73-	Light Andesite Pervasive Chloritic Alteration					
54.65	Quartz Blebs throughout, tilted at 25° to 30°					
71.51-	71.51-77.72					
77.72	Fine Grained Diorite Sill. Chloritic Alteration 10%					
	Iron Pyrites					
81.69	Porphyritic Diorite with Fe S throughout, pervasive					
	Chloritic Alteration mixed with Diorite					
	Fine Grain Sill					
91.53-	91.53-90.53					
90.53	Diorite Sill Fine Grained with pervasive Chloritic					
	Alteration 2% Pyrite					
90.53-	90.53-101.19					
101.19	Light Diorite with Very Little Chloritic					
	Alteration					



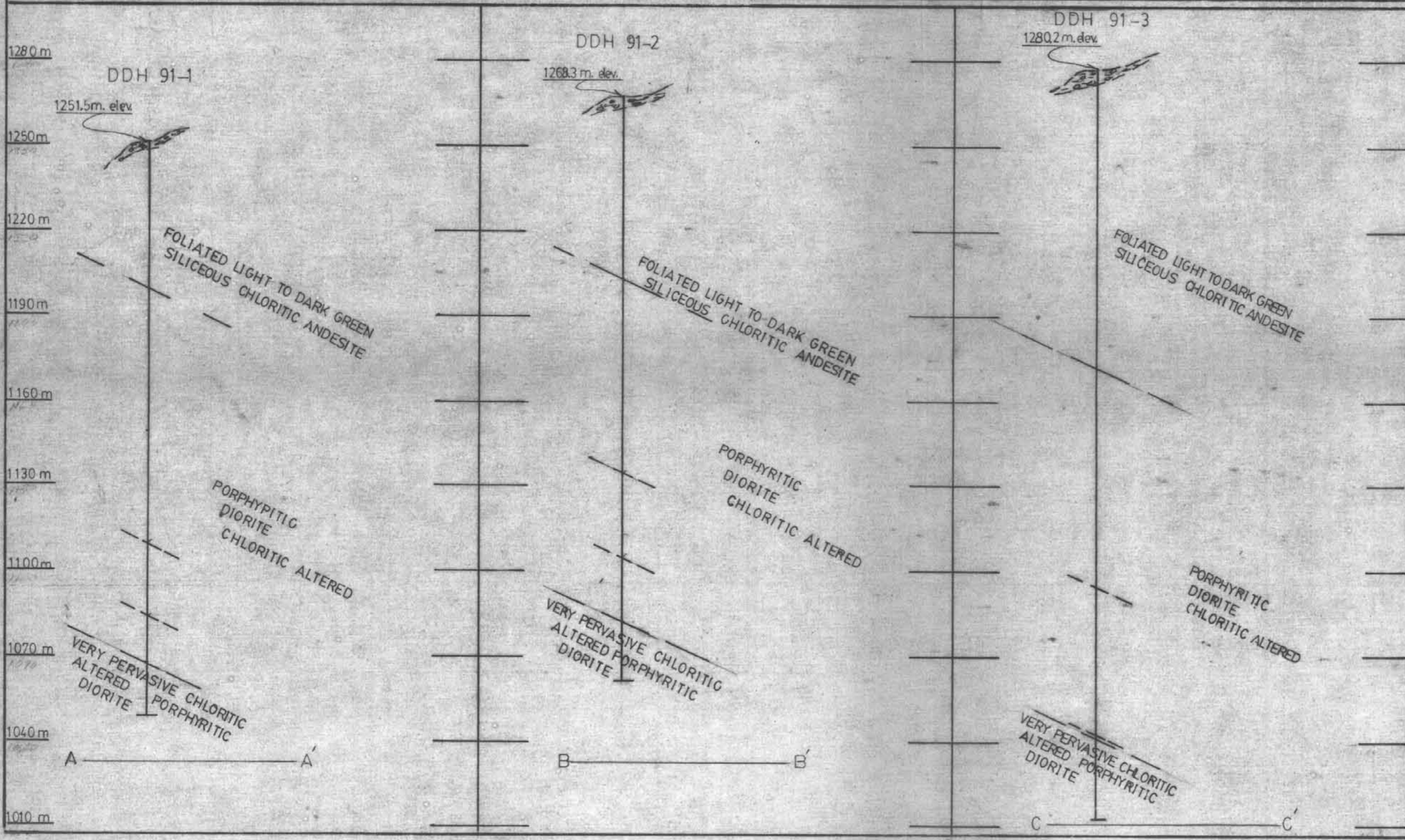
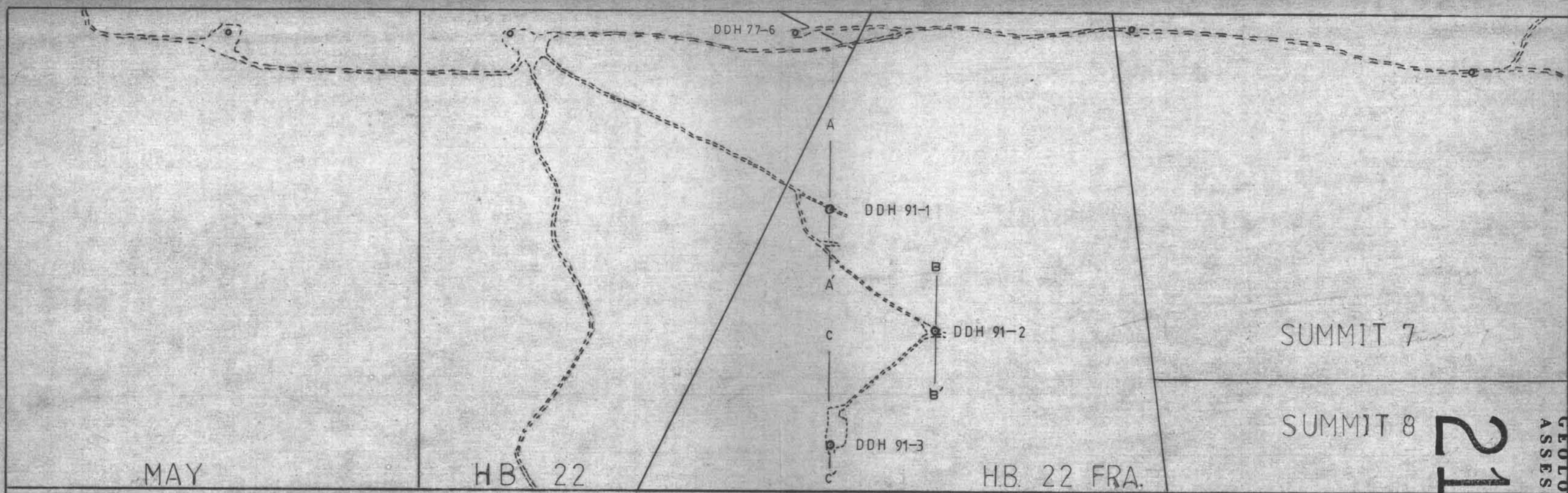
- LEGEND**
- MAIN ROAD
 - - - PROPERTY ROADS
 - ~ CREEKS
 - OLD DDHOLES
 - 1980 DDHOLES
 - TRENCHING
 - ⊙ 1981 DD.HOLES
 - 1991 DD.HOLES

D. GROOT LOGGING LTD.
MINERALS EXPLORATIONS
SMITHERS. BRITISH COLUMBIA.

BURBRIDGE LAKE
&
ENVIRONS
SURFACE PLAN

SCALE: 0' = 600'	DATE: 1991	REF. NO. NTS
DWN: D.C. PLEASH		73 L / 10

21,446



D GROOT LOGGING LTD.
MINERALS EXPLORTIONS

BURBRIDGE LAKE

1991 DIAMOND DRILLING

SCALE: 0 10m 20m 30m

DATE: APRIL 1991

DWN: D.C.PLECASH