

MAPS  
 #1 Claim Location  
 #2 Claim Map  
 #3 Drill Hole Location.

Summary Statement

A program of diamond drilling was carried out by Cities Service Minerals Corporation on the Summit (also known as Burbridge Lake) Copper Prospect. The location of the prospect is shown on figure 1.

A total of 1622 feet of B.Q. wire line (1-7/16" core diameter) diamond drilling was done under contract by D. W. Coates Enterprises Ltd. Two holes were drilled, one on mineral claim Summit 2, the other on Summit 7 (see figures 2, 3):

- D.D.H. S-74-1 - drilled @ 45°, due South, 787' length.
- D.D.H. S-74-2 - drilled @ 55°, due South, 835' length.

This report contains the statement of costs of the program which are applied to assessment requirements (appendix I), the supporting drill-core logs (appendix II), and the location of the drill-holes (figures 2, 3).

Diamond drill-core has been stored at the residence of Mel Chapman, 4068 Third Avenue, Smithers, B.C.

Expenditures on diamond-drilling, as charged by the drill contractor, totalled \$16,009.40. A total of \$13,200 of this amount has been applied to assessment work on the property claims as follows:

<u>Name of Claim</u>	<u>Record #</u>	<u>Expiry Date (as of Jan/75)</u>	<u>Assessment Years applied by this Report</u>	
Summit	1	59464	June 4, 1984	
	2	59465	June 4, 1984	
	3	112279	July 10, 1982	
	4	112280	" "	
	7	112283	" "	
	8	112284	" "	
	H.B.	4	126754	July 3, 1982
		6	126756	July 10, 1982
21		126287	July 13, 1982	
22		126288	" "	
23		126289	" "	
H.B.	1 fraction	126290	" "	
	2 fraction	126291	" "	
	3 fraction	126293	" "	
	4 fraction	126294	" "	
C.S.	1 -19	130861-130879	July 30, 1975	
Total assessment years -			66	

2 years each (total of 38 assessment yrs.)  
 66

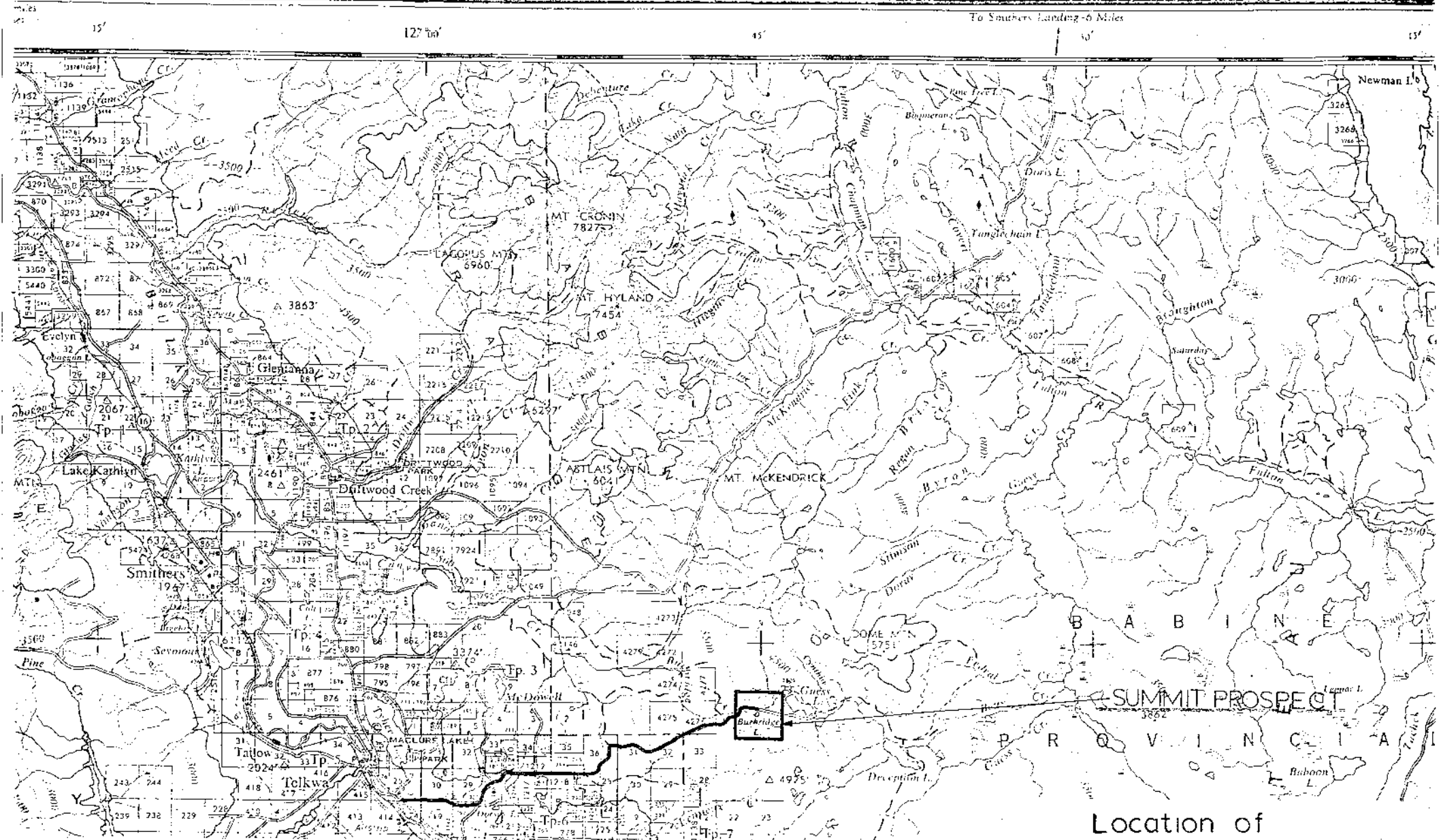
DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
BRITISH COLUMBIA

HONOURABLE R. G. WILLISTON, MINISTER

D. BORTHWICK, DEPUTY MINISTER OF LANDS

A. H. RALFS, DIRECTOR OF SURVEYS AND MAPPING

THIRD STATUS EDITION — January 15th, 1962. RE 1



Scale 1:250,000 or approximately 1 Inch to 4 Miles

Scale of Kilometres

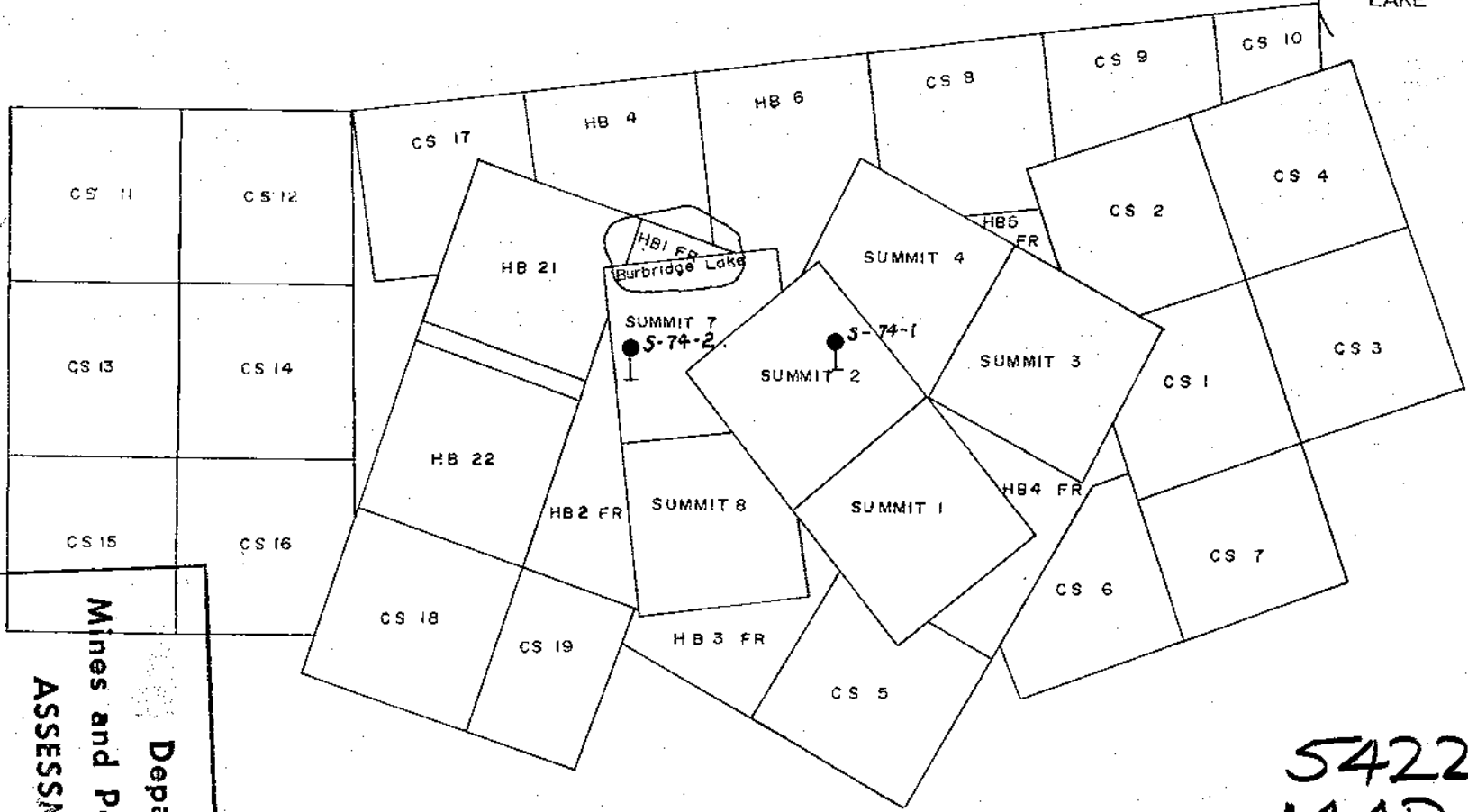
Location of  
SUMMIT COPPER PROSPECT

5422 MAP 1

Fig 1



GUESS LAKE



5422  
MAP 2

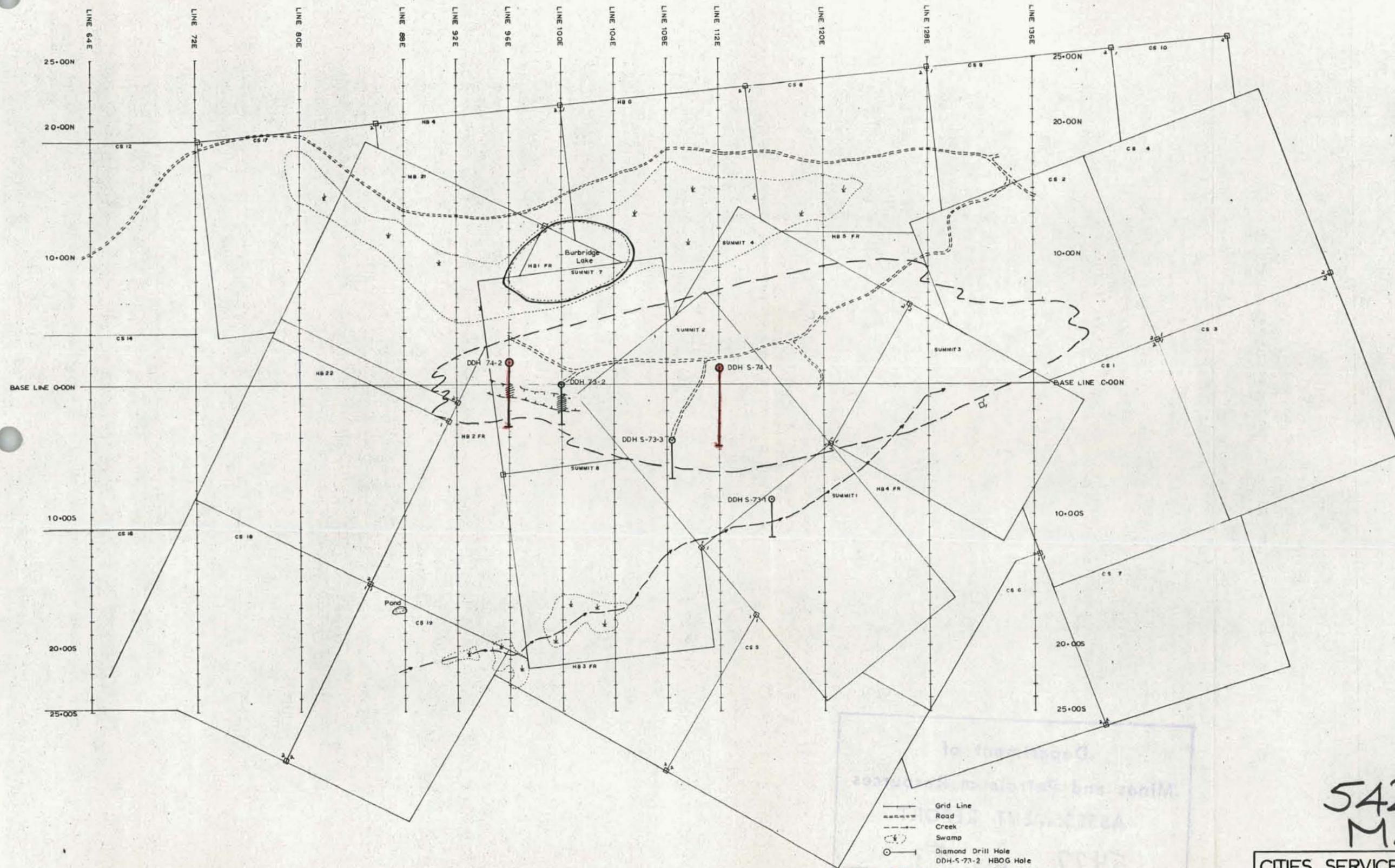
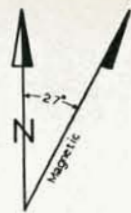
Location of  
SUMMIT PROPERTY CLAIMS

Scale 1" = 1500'

Fig 2

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO 5422 M.P. #2





- Grid Line
- Road
- Creek
- Swamp
- Diamond Drill Hole
- DDH-5-73-2 HBOG Hole
- DDH-5-74-1 Cities Hole
- Outline Main Diorite Stock

5422  
MAP 3

CITIES SERVICE MINERALS CORP.  
VANCOUVER B.C. CANADA

SUMMIT COPPER PROSPECT  
(BURBRIDGE LAKE)

Location of Drill-Holes

SCALE IN Feet 0 200 400 800 1200

DATE: January, 1975 N.T.S. No: 93L/10

DRAWN BY: N.P. DRAWING No: Fig. 3



STATEMENT OF QUALIFICATIONS

I, David A. Silversides, of 581 Ellis Street, North Vancouver,  
B. C., certify that:

- (1) I am a graduate of the University of British Columbia with a Bachelor of Science degree in Honours Geology, 1961.
- (2) I am a graduate of the University of Manitoba, with a Master of Science degree in Geology, 1968.
- (3) I have practiced my profession as a geologist since 1961 in British Columbia, Yukon, and Western U.S.A.
- (4) The information contained in this report was compiled by myself and that the Summit Lake diamond drill program was carried out under my direct supervision during the period Sept. 28 - Oct. 11, 1974.

*D. A. Silversides*

D. A. Silversides  
Geologist  
CITIES SERVICE MINERALS CORPORATION

APPENDIX I

STATEMENT OF DRILL COSTS

Cities Service Minerals Corporation,  
1200 West Pender Street,  
Vancouver, B.C.

INVOICE

D.W. COATES ENTERPRISES LTD.

1668 - 1st AVENUE WEST  
VANCOUVER 9, B.C.

INVOICE NO.: 805

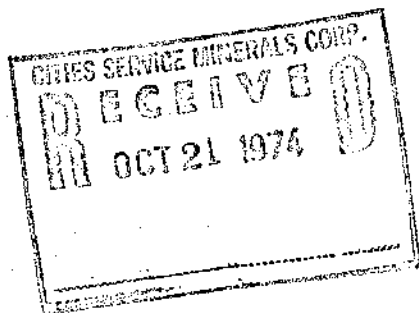
JOB NO.: 243

Date: October 16, 1974

Telkwa Area Drilling.

October 1 - 11, 1974.

Drilling Detail	\$ 13,388.60
Moving, Setting Up & Tearing Down	19.80
Transportation	485.10
Acid Tests	55.80
Core Boxes	280.00



\$ 14,233.30  
1776.10  
16009.40

E. & O. E.

Total Contractor Cost

Invoice 805 = 14,233.30  
Invoice 800 = 1,776.10  
Total \$ 16,009.40

Cities Service Minerals Corporation,  
1075 - 1200 West Pender Street,  
Vancouver, B.C.

INVOICE

D.W. COATES ENTERPRISES LTD.

1668 - 1st AVENUE WEST  
VANCOUVER 9, B.C.

INVOICE NO.: 800

JOB NO.: 243

Date: October 9, 1974

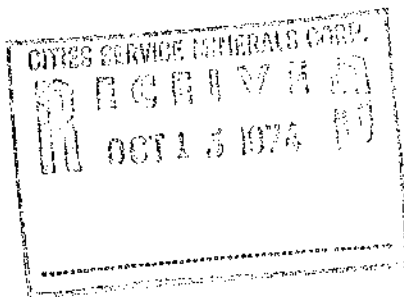
Telikwa Area Drilling

September 29-30, 1974.

Drilling Detail

Transportation

Core Boxes



\$ 1,000.40

733.70

42.00

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\$ 1,776.10

E.&. O.E.



APPENDIX II

DRILL CORE LOGS

DIAMOND DRILL RECORD

PROPERTY SUMMIT(BURBRIDGE LAKE) Project Number 581-F-5  
 Copper Prospect  
 Hole No. S-74-1 Co-ordinates Line 112 + 00E Bearing at Collar Due South (180° Az.)  
Picket 1 + 00N Dip at Collar -45°  
 Collar Elevation 3970' Commenced Drilling Sept. 30/74  
 Total Depth 787' Completed Drilling Oct. 5/74  
 Logged By: D. A. Silversides  
 Core Size B.Q. Coring Method Wireline Drilling Contractor Coates Enterprises Ltd.  
BBS-1, drum-mounted mast.

<u>Survey Summary</u>				<u>Pertinent Assay Data</u>		<u>Pertinent Geology</u>	
Depth	Dip	Bearing	Method	Interval	% Cu	Interval	Rock Type
0'	-45	Due South	Brunton			0'-7'	Casing, no core, 2 feet of overburden
600'	-43°	?	Acid			7'-654'	diorite, moderately (epidote-chlorite-calcite) altered to strongly altered (quartz-sericite-calcite).
						654'-777'	Rhyolite
						777'-786'	Andesite tuff
						475' - 698'	sections contains 4-7% pyrite by volume as disseminations, and in quartz veinlets and fracture fillings - only minor quantities of chalcopyrite are present.

Company Cities Service Minerals Corp.

Mining

Division Omineca

Geographic Lat. 54° 43' N.

Coordinates Long. 126° 45' W

Project 581-F-5

Property Summit (Burbridge Lake)

Started Sept. 30 / 74

Completed Oct 5 / 74

Logged by D. A. Silversides

Bearing Due South (190° Az.)

Inclination - 45° @

collar.

Depth 787'

S-74-1

Sheet 1 of 3 Hole No.

Coordinates

Line 112 + 00 E

Picket 101 + 00 N

Altitude 3970'

Footage	Core Rec	% Rec	% Cu	Remarks
0	7			
7'	20'	100%		- casing, no core. Top of casing to bedrock = 5', casing in bedrock = 2'.
20	30	"		
30	40	"		
40	50	"		
50	60	"		
60	70	"		
70	80	"		
80	90	"		
90	100	"		
100	110	"		
110	120	"		
120	130	"		
130	140	"		
140	150	"		
150	160	"		
160	170	"		
170	180	"		
180	190	"		
190	200	"		
200	210	"		
210	220	"		
220	230	"		
230	240	"		
240	250	"		
250	260	"		
260	270	"		
				<u>Summary - Rock types</u>
				1004 to 73'
				7'-654' - Diomite: moderately altered (epidote - chlorite - calcite) to strongly altered (schistose, quartz - sericite - calcite). Least altered diomite is medium grained, equigranular, with approximately 15% dark green chloritized biotite and 85% epidotized plagioclase, rock has an overall medium to dark green color. Strongly altered diomite is completely sericitized, with patchy shearing (forming quartz - sericite - calcite schist). Completely sericitized diomite generally contains 3-5% pyrite as disseminations and as veinlets together with quartz.
				654'-777' - Rhyolite - varies from banded to massive, light to medium grey green color.
				777'-786' - Andesite tuff, dark maroon color.
				<u>Detail</u>
				7'-37' - massive, dark green diomite, moderate chlorite - epidote - carbonate alteration, cut by

Hole No. S-74-1  
Sheet 1 of 3

Company \_\_\_\_\_ Mining \_\_\_\_\_ Division \_\_\_\_\_ Geographic \_\_\_\_\_ Coordinates \_\_\_\_\_

Project \_\_\_\_\_ Property \_\_\_\_\_ Started \_\_\_\_\_ Completed \_\_\_\_\_ Logged by \_\_\_\_\_

Bearing \_\_\_\_\_ Inclination \_\_\_\_\_ Depth \_\_\_\_\_

Sheet 2 of 3 Hole No. \_\_\_\_\_ Coordinates \_\_\_\_\_ Altitude \_\_\_\_\_

Footage	Core Rec	% Rec	% Cu	Remarks
270	280	100%		
280	290	"		
290	300	"		
300	310	"		
310	320	"		
320	330	"		
330	340	"		
340	350	"		
350	360	"		
360	370	"		
370	380	"		
380	390	"		
390	400	"		
400	410	"		
410	420	"		
420	430	"		
430	440	"		
440	450	"		
450	460	"		
460	470	"		
470	480	"		
480	490	"		
490	500	"		
500	510	"		
510	520	"		
520	530	"		
530	540	"		
540	550	"		

1/16" - 1/4" quartz-calcite veinlets generally at 45° to core axis, 1-2' spacing. Veinlets contain trace amounts of chalcopyrite, pyrite. Total pyrite content estimated at less than 1% by volume.

37'-49' - Chlorite schist, grading to quartz-sericite schist by 49', contains 3-4% disseminated pyrite, cut by 1/4"-1" quartz-calcite-chalcopyrite-pyrite veinlets at 10° to 80° to core axis, vein spacing 3"-6". Foliation of schist 40° to core axis.

49'-91' - pervasively sericitized diorite, patchy schistosity, 3-5% pyrite. Trace of MoS<sub>2</sub> @ 55', Hematite-filled fault breccia @ 56' for 3".

91'-27' - dark green, chloritized diorite, 6-10% pyrite, hematite blebs up to 1/4" diameter, trace of disseminated chalcopyrite.

97'-105' - sericitized diorite, grading to massive, chloritic diorite by 105', 2-3% pyrite.

105'-190' - moderately altered diorite, chlorite-hematite filled fractures, 2-3% pyrite to 120', fading to less than 1% in interval 120'-190'. Trace amounts of chalcopyrite in quartz-carbonate veinlets occur sporadically.

190'-197' - sheared, sericitized diorite, 3-4% pyrite

197'-250' - same as 105'-190'.

250'-259' - pervasive clay alteration of diorite, no pyrite.

Company \_\_\_\_\_  
 Mining \_\_\_\_\_  
 Division \_\_\_\_\_  
 Geographic \_\_\_\_\_  
 Coordinates \_\_\_\_\_

Project \_\_\_\_\_  
 Property \_\_\_\_\_  
 Started \_\_\_\_\_  
 Completed \_\_\_\_\_  
 Logged by \_\_\_\_\_

Bearing \_\_\_\_\_  
 Inclination \_\_\_\_\_  
 \_\_\_\_\_  
 Depth \_\_\_\_\_

Sheet 3 of 3 Hole No. S-74-1  
 Coordinates \_\_\_\_\_  
 \_\_\_\_\_  
 Altitude \_\_\_\_\_

Footage	Core Rec	% Rec	% Cu	Remarks
550	560	100%		
560	570	"		259' - 280' - diorite, same as 197' - 250'.
570	580	"		280' - 281' - chlorite schist, foliation @ 30° to core axis.
580	590	"		281' - 289' - pervasive clay alteration, cut by quartz-pyrite-carbonate veinlets @ 30° to core axis, 3-5% pyrite by volume
600	610	"		289' - 475' - moderately altered diorite, same as 259' - 280', at 394', 6" waxy quartz vein, 18" argillite alteration of diorite both sides of vein.
610	620	"		475' - 527' - moderately altered diorite with patchy quartz-sericite alteration increasing in quantity, pyrite 4-5% in veinlets and fractures spaced 1/2" apart.
620	630	"		527' - 585' - pervasive quartz-sericite alteration of diorite, 5-7% pyrite in fractures, quartz veinlets and as disseminations.
630	640	"		585' - 605' - moderately altered diorite with patchy sericite, pyrite 5-7%.
640	650	"		605' - 623' - pervasive sericite alteration, 5-7% pyrite.
650	660	"		623' - 654' - moderately altered diorite, patchy sericite alteration, 5-7% pyrite.
660	670	"		654' - 777' - Gray-green banded rhyolite, patchy sericite alteration, gradual decrease in pyrite to 4% by 698'.
670	680	"		777' - 786' - dark massive, andesite tuff, no pyrite
680	690	"		
690	700	"		
700	710	"		
710	720	"		
720	730	"		
730	740	"		
740				
740	No core			split and assayed beyond 740'

Hole No. S-74  
 Sheet 3 of 3



DIAMOND DRILL RECORD

PROPERTY SUMMIT (BURBRIDGE LAKE) Project Number 581-F-5  
Copper Prospect

Hole No. S-74-2 Co-ordinates Line 96+00E Bearing at Collar Due South (180° Az.)  
Picket 1 + 70 N Dip at Collar -55°

Collar Elevation 3935 Commenced Drilling October 5, 1974  
 Total Depth 835' Completed Drilling October 10, 1974

Core Size B. Q. Coring Method Wireline Drilling Contractor Coates Enterprises Ltd.  
BBS-1, drum-mounted mast. Logged By: D. A. Silversides

<u>Survey Summary</u>				<u>Pertinent Assay Data</u>		<u>Pertinent Geology</u>	
Depth	Dip	Bearing	Method	Interval	%	Interval	Rock Type
0'	-55°	Due South	Brunton			0 - 4'	- Casing, no core, 2 ft overburden.
835'	-52°	?	Acid			4'-437'	- Diorite
						437'-455'	- Feldspar-quartz porphyry
						455'-486'	- Diorite
						486'-562'	- Andesite
						562'-636'	- Rhyolite
						636'-662'	- Diorite
						662'-835'	- Rhyolite
						330' - 835' rock contains 3-5% pyrite, as disseminations and in quartz veinlets. Chalcopyrite occurs sporadically.	

Company Cities Service Minerals Corp.  
 Mining  
 Division Ominesa  
 Geographic Lat. 54° 43' N  
 Coordinates Long. 126° 45' W

Project 581-F-5  
 Property Summit (Burbridge Lake)  
 Started Oct. 5, 1974  
 Completed Oct. 10, 1974  
 Logged by D.A. Silversides

Bearing Due South (180° Az.)  
 Inclination -55° @  
collar  
 Depth 835'

5-74-2  
 Sheet 1 of 4 Hole No. \_\_\_\_\_  
 Coordinates \_\_\_\_\_  
Line 96+00E  
picket 1+70 N.  
 Altitude 3935'

Footage	Core Rec	% Rec	% Cu	Remarks
0	4'			
4'	10'	100%		casing, 2 ft overburden, no core.
10'	20'	"		
20'	30'	"		
30'	40'	"		
40'	50'	"		
50'	60'	"		
60'	70'	"		
70'	80'	"		
80'	90'	"		
90'	100'	"		
100'	110'	"		
110'	120'	"		
120'	130'	"		
130'	140'	"		
140'	150'	"		
150'	160'	"		
160'	170'	"		
170'	180'	"		
180'	190'	"		
190'	200'	"		
200'	210'	"		
210'	220'	"		
220'	230'	"		
230'	240'	"		
240'	250'	"		
250'	260'	"		

Summary - Rock Types  
 FeOx to 42 feet.  
 4'-437' - diorite - moderately altered (chlorite-epidote-calcite) to strongly altered (quartz-sericite schist), similar to hole 5-74-1.  
 437'-455' - feldspar-quartz porphyry, sericitized, with 1/8" white feldspar and glassy quartz phenocrysts, set in an ophanitic grey matrix.  
 455'-486' - diorite, moderately to strongly altered.  
 486'-562' - fine-grained, dark green chloritized andesite.  
 562'-636' - medium grey rhyolite.  
 636'-662' - moderately altered diorite.  
 662'-835' - medium grey rhyolite.

Detail  
 4'-20' - moderately altered diorite, 1/16" - 1/2" quartz-calcite veinlets spaced 6"-1', with trace amounts of chalcopyrite, hematite film on fractures, approximately 1% pyrite in matrix and in disseminations.

Company \_\_\_\_\_  
 Mining \_\_\_\_\_  
 Division \_\_\_\_\_  
 Geographic \_\_\_\_\_  
 Coordinates \_\_\_\_\_

Project \_\_\_\_\_  
 Property \_\_\_\_\_  
 Started \_\_\_\_\_  
 Completed \_\_\_\_\_  
 Logged by \_\_\_\_\_

Bearing \_\_\_\_\_  
 Inclination \_\_\_\_\_  
 Depth \_\_\_\_\_

S-74-2.

Sheet 2 of 4 Hole No. \_\_\_\_\_  
 Coordinates \_\_\_\_\_  
 Altitude \_\_\_\_\_

Footage	Core Rec	% Rec	% Cu	Remarks
260	270	100%		<p>20'-44' - sheared, sericite-clay altered diorite, schistosity @ 20° to core axis, 2-3% pyrite.</p> <p>44'-265' - diorite, moderately to strongly chloritized, epidote in veinlets, patchy (1/6" to 2") sections of clay-sericite, schistose in sericitized sections, foliation 20° to core axis. Estimated 1-2% pyrite content, trace amounts of chalcopyrite in quartz-calcite veinlets 1/16" - 1/2" thick, 3" to 6" spacing. At about 105', hematite content increases, hematite occurs in fractures and in feldspars.</p> <p>265'-437' - diorite, becomes increasingly sheared, schistosity @ 30° to core axis, clay-sericite increases, pyrite content increases to 2% - 3% by 265', 3% - 5% by 300', 5-6% by 330'. By 300', rock completely sericitized, cut by a quartz-pyrite stockwork, 1"-2" spacing. By 330' feet, rock has a porcellanous texture which continues to 427'. From 427' - 437', rock is schistose, low abundant pyrite (10-15%). Trace amounts of chalcopyrite occur in the quartz vein stockwork.</p> <p>437'-455' - feldspar-quartz porphyry, sheared, sericitized, with 1/8" white feldspar phenocrysts (altered to clay), clear quartz phenocrysts, set in a grey sericite matrix. Porphyry contains 5-7% pyrite, trace of chalcopyrite, sulphide occur as disseminations and in quartz veinlets.</p>
270	280	"		
280	290	"		
290	300	"		
300	310	"		
310	320	"		
320	330	"		
330	340	"		
340	350	"		
350	360	"		
360	370	"		
370	380	"		
380	390	"		
390	400	"		
400	410	"		
410	420	"		
420	430	"		
430	440	"		
440	450	"		
450	460	"		
460	470	"		
470	480	"		
480	490	"		
490	500	"		
500	510	"		
510	520	"		
520	530	"		
530	540	"		

Company \_\_\_\_\_  
 Mining \_\_\_\_\_  
 Division \_\_\_\_\_  
 Geographic \_\_\_\_\_  
 Coordinates \_\_\_\_\_

Project \_\_\_\_\_  
 Property \_\_\_\_\_  
 Started \_\_\_\_\_  
 Completed \_\_\_\_\_  
 Logged by \_\_\_\_\_

Bearing \_\_\_\_\_  
 Inclination \_\_\_\_\_  
 \_\_\_\_\_  
 Depth \_\_\_\_\_

5-74-2.

Sheet 3 of 4 Hole No. \_\_\_\_\_  
 Coordinates \_\_\_\_\_  
 \_\_\_\_\_  
 Altitude \_\_\_\_\_

Footage	Core Rec	% Rec	% Cu	Remarks
540' 550'		100		
550 560'		"		
560 570'		"		
570 580'		"		
580 590'		"		
590 600'		"		
600 610'		"		
610 620'		"		
620 630'		"		
630 640'		"		
640 650'		"		
650 660'		"		
660 670'		"		
670 680'		"		
680 690'		"		
690 700'		"		
700 710'		"		
710 720'		"		
720 730'		"		
730 740'		"		
740 750'		"		
750 760'		"		
760 770'		"		
770 780'		"		
780 790'		"		
790 800'		"		
800 810'		"		

455'-486' - diorite, chloritic alteration dominant over clay-schist, 5-6% pyrite, schistose (chlorite schist) between 466' - 486', pyrite content dies out to 1-2% by 486'.  
 486'-562' - very fine-grained, chloritized andesite tuff? 1-2% pyrite as disseminations, in veinlets.  
 562'-636' - medium grey rhyolite, 5-7% pyrite in blebs and stringers.  
 636'-662' - diorite, chloritic alteration pervasive, 3-4% pyrite.  
 662'-835' - grey rhyolite, 4-5% pyrite in veinlets and disseminations to 720', gradually decreases to 2-3% by 835'. Calc-coated fractures common from 720' to end of hole.  
 End of Hole = 835'.

