

GM 19019

DRILL HOLE RECORD, LAKE DUFAULT MINES

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Énergie et Ressources
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Québec 

LAKE DUFALT MINES LTD.

Drill Hole Record

Hole No. LD-73	Lat. 2,050.0	Dep. 11,850.0	Elev. 11,150.0 (approx.)	Dip -90°	Bearing	Depth 3,053'
Working Place Dupresnoy	Date Started July 4, 1966	Compass Tests		SAMPLED SECTIONS		
Date Completed Aug. 1, 1966	Depth 3,030	Dip -86°	M.Brng. 270°	From	To	C.L.
	Depth 2510					
	Depth 2705					
	Depth 2980					
Acid Test						
	Depth	Read	Corr.			
	2510	88 3/4	88°			
	2705	87 1/2	86 1/2			
	2980	86	84 1/4			
Hole deepened. Copy of old log to 2515.						

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 4.0	NO CORE							Casing.
4.0 - 97.2	DIORITE		H.g.					
97.2 - 978.0	BROKEN & FRACT'D DIORITE							Low angle fault.
978.0 - 1031.0	DIORITE		F.g.					
1031.0 - 1163.0	LAVA		F.g.	Uniform		Locally dioritized		1158-1160: Brownish carb. stgr.
1163.0 - 1670.0	DIORITE		H.g.					
1670.0 - 1713.0	GREENSTONE (NOT RHYOLITE)					Dioritized.		
1713.0 - 1755.0	DIORITE		H.g.					
1755.0 - 1778.0	LAVA	Grey	F.g.					Acid as rhyolite but probably a dyke.

Ministère des Richesses Naturelles, Québec

F6 FEB 1967

SERVICE DES GITES MINÉRAUX

No GM- **19019**

Hole No. LD-73

Logged by F & D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1778.0 - 1961.0	PILLOW LAVA	Grey	F.g.	Strongly porph.				
1961 - 1995.0	LAVA		F.g.	Uniform				Locally suggestive of warty type 1988-2000'; Strong shear zone.
1995.0 - 1998.0	LAVA				Slightly fract'd.	Bleached & altered.		Flat fault?
1998.0 - 2004.0	LAVA	Light green	F.g.	Uniform				
2004.0 - 2054.0	LAVA		F.g.	Porph (fs)				
2054.0 - 2234.0	LAVA	Greyish green to bluish		Fairly uniform				2105-2107: Bleached. 2124-2134: Rusty carb seams 2139-2145: Pillow bdrs & amygd. 2156: Warty 2181-2197: Pillows.
2234.0 - 2249.0	QTZ-FS PORPH.							Sill?
2249.0 - 2306.0	SEMI-BASIC TO ACID DYKE	Grey to bluish	F.g.	Uniform				
2306.0 - 2415.0	QTZ-FS PORPH.					Highly siliceous.		Sill.
2415.0 - 2426.0	LAVA	Green	F.g.	Uniform		Rusty carb stgrs.		
2426.0 - 2500.0	QTZ-FS PORPH.							2477-2490: Broken & sheared 50° to core.
2500.0 - 2515.0	QTZ-FS PORPH.					Alt. & bleached.		

DEEPENED

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2515.0 - 2557.0	QTZ-FS PORPH.	Med. to dark gry		Porph (fs) qtz eyes.	Weakly fract'd.	Minor sauss.	Local diss. py.	First 4.0 alt. & bleached.
2557.0 - 2558.0	TUFF?	Light grn gry	F.g.		Banded	Intense ca.		Banding @ 70°. Cts irreg. & 70° @ 2557.5 2" fault breccia. Cts 70°.
2558.0 - 2602.0	MASSIVE RHYOLITE	Med. grey	F.g.	Weakly porph (fs)	Massive. Weakly fract'd.	Mod. ca.	Sparse diss py.	20° frs. Could possibly be a tuff?
2602.0 - 2603.0	ANDESITE DYKE	Grn grey	F.g.			Mod. ca.		80° ca filled frs.
2603.0 - 2608.0	TUFF	Med. grey	M.-f.g.	Locally fragmental	Locally banded		Finely diss. py. Odd patch & stgr of py. Odd speck of cp.	Local 70° chert. bands.
2608.0 - 2629.0	ANDESITE DYKE	Med. to dark grey	F.g.		Weak to mod. fract'd	Minor ca. Ca filled frs. Local 1" to 3" qtz stgrs.	Diss. py.	60-80° ca filled frs. Cts. ground & 75°?
2629.0 - 2671.0	MASSIVE RHYOLITE	Med. grey	F.g.		Weak to mod. fract'd	Mod. ca altn. Ca filled frs.	Sparse finely diss py.	Frs. 35° and 70°.
2671.0 - 2676.0	ANDESITE DYKE	Grn grey	F.g.		Weakly fract'd.	Strong ca. Insipient dalm.	Minor py.	2677-2677.3: Fault 75°. Qtz-ca bx. Dalmatianite.
2676.0 - 2684.0	RHYOLITE BX.	Med. grey		Fragmental. Local chert frags.	Brecciated. Weakly fract'd.	Local dalm.	9% py. Diss. patches & stgrs.	Scattered chert frags.
2684.0 - 2704.0	MASSIVE RHYOLITE	Med. to dark grey	F.g.		Massive.	Local biotite	Diss. py.	
2704.0 - 2718.0	MASSIVE RHYOLITE	Dark brownish grey	F.g.		Weakly amygd.	Biotite & dalm.	Diss. & patches of py.	Chl. dalm.
2718.0 - 2725.0	RHYOLITE BX	Light blu- grey to dark grey.	F.g.		Brecciated	Chl & blue grey silic.	Local diss py. Odd speck cp.	

DEEPENED

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2725.0 - 2774.5	MASSIVE RHYOLITE	Brownish- grey	F.g.		Massive.	Weak biotite. Local chl dalm.	Diss. py. Odd py stgr.	Chl dalm. & insipient dalm. One cordierite spot noted @ 2729.5.
2774.5 - 2787.0	RHYOLITE FR. BX.	Brownish- grey	M.g.		Brecciated.	Biotite-ser. Vague dalm.	Sparse diss. py.	
2787.0 - 2798.5	MASSIVE RHYOLITE	Lt. grey to dark grey	F.g.		Massive.		Diss. py. Odd stgr of py.	2784.5-2798.5: Possible tuff (light grey frags in a light grey ground- mass)
2798.5 - 2815.0	ANDESITE DYKE	Dark grey	M.-f.g.	Odd white fs phenos.	Weakly fract'd.	Dioritized.		Cts. 40° faults (qtz-ca bx.)
2815.0 - 2823.0	RHYOLITE BX.	Med. grey	F.g.	Small chl frags in a med. grey groundmass			Diss. py & cp. 0.80% Cu.	Possible tuff. Sample for Cu, Zn. 2815-2819 2819-2823
2823.0 - 2829.0	MASSIVE RHYOLITE	Med. to dark grey	F.g.		Massive	Ser.	Finely diss py. Trace of cp.	
2829.0 - 2838.5	MASSIVE RHYOLITE	Med. to dark grey	F.g.		Massive.	Insipient chl dalm. Lt grey & ser.	Finely diss. py.	Could be a bx.
2838.5 - 2842.0	ALT. RHYOLITE	Dark brownish grey	F.g.		Massive.	Biotite & chl.	Finely diss. py. Odd patch of dusty sph.	Sample Cu & Zn 2839.5-2842. Weak chl dalm.
2842.0 - 2873.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive.	Strong chl dalm. Light grey altn.	Diss py. Tr cp.	2852-2855: Lamprophyre dyke. Cts 60°. Locally chl dalm is insipient.
2873.0 - 2899.5	MASSIVE RHYOLITE	Dark grey	F.g.		Massive	Local biotite. Local chl dalm. Local insipient chl dalm.	Diss py. Stgrs & diss cp.	Odd qtz vein. Samples for Cu 2879.5-2885 2885 - 2891
2899.5 - 2958.0	RHYOLITE BX	Med. to dark grey	F.g.	Light grey & chl frags	Brecciated	Weak light grey. Local weak biotite. Local insipient dalm.	Diss py. Local diss & stgrs of cp with minor po.	Samples for Cu 2936-2940 2940-2944

DEEPEMED

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2958.0 - 2960.0	FAULT ZONE	Grn grey			Brecciated			Fault incl cts 20°.
2960.0 - 2971.0	ANDESITE DYKE	Med. grey	F.g.		Mod. amygd.	Local chl dalm.	Minor cp.	Far ct irregular.
2971.0 - 2983.0	RHYOLITE BX	Med. grey	F.g.	Chl. frags in a light grey groundmass.	Brecciated	Light grey & minor biotite.	Finely diss. py. One patch of py-cp.	Sample for Cu 2976.5-2977.5
2983.0 - 3005.5	RHYOLITE BX	Brownish grey	F.g.		Brecciated	Biotite & light grey alt'n.	Fine diss. py, minor cp.	Local insipient dalm.
3005.5 - 3053.0	RHYOLITE BX	Med. grey	F.g.		Brecciated	Chl & light grey	Sparse diss. cp, py. Odd patch of cp-py.	Local sects. of massive rhyolite. Local insipient dalm. Samples: 3022-3024 3040-3044 3049.5-3054
	END OF HOLE							

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LAKE DUFALT MINES LTD.

Drill Hole Record

Hole No. <u>D-134</u> Lat. <u>1,690.0</u>		Dep. <u>11,810.0</u>		Elev. <u>11,168.13</u>		Dip <u>-90°</u>		Bearing		Depth <u>2940.0</u>						
Working Place	Date Started <u>Aug. 6, 1966</u>		Compass Tests			Acid Test			SAMPLED SECTIONS							
	Date Completed <u>Oct. 19, 1966</u>															
	<u>Depth</u>	<u>Dip</u>	<u>M.Brng.</u>	<u>Depth</u>	<u>Read</u>	<u>Corr.</u>	<u>Depth</u>	<u>Read</u>	<u>Corr.</u>	<u>From</u>	<u>To</u>	<u>C.L.</u>	<u>Cu</u>	<u>Zn</u>	<u>Au</u>	<u>Ag</u>
				<u>12'</u>	<u>90°</u>	<u>90°</u>	<u>2200'</u>	<u>88 3/4°</u>	<u>88°</u>							
				<u>525'</u>	<u>89°</u>	<u>89 1/2°</u>	<u>2500'</u>	<u>88 3/4°</u>	<u>88°</u>							
				<u>1000'</u>	<u>89°</u>	<u>88 1/2°</u>	<u>2935'</u>	<u>88 3/4°</u>	<u>88°</u>							
				<u>1500'</u>	<u>89 1/4°</u>	<u>88 3/4°</u>										
				<u>2000'</u>	<u>88°</u>	<u>87°</u>										

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 4.0								Casing.
4.0 - 318.0	DIORITE	Med. gry	Coarse to m.g.		Weakly fract'd.	Minor epid.		Moderately blocky 224-232: Highly broken 2.5' lost core. 45-60° sauss filled frs.
318.0 - 337.5	ANDESITE DYKE	Med. gry	M.-f.g.			Dioritized		Cts. 45°
337.5 - 414.0	DIORITE	Med. gry	Coarse to m.g.		Weakly fract'd	Minor epid.		
414.0 - 463.5	MASSIVE DIORITE	Grey, white mottled	Med. coarse		Massive fract'd	Minor qtz veins & mauve alt'n of amphibole		Massive almost pegmatitic phase of diorite/
463.5 - 488.0	FRAGMENTED DIORITE	Dark grn	Med.	Crystalline	Massive fract'd	Qtz epidote veinlets		Shear 471-473 20° to axis. Section similar to dioritized andesite.
488.0 - 522.0	MASSIVE DIORITE	Grey grn mottled.	Coarse	"	Massive	Fresh with magnetite		Section coarse grained. Pegmatitic.
522.0 - 656.0	DIORITE	Dark grey grn	Med. grained	"	Massive. Minor fractures	Epidote, carbonate in fractures.		617-619: Fracture at 12° to core axis. 621-622: Fine-med. late dyke 643-644.6: Fracture at 30° to core axis.

Hole No. D-134

Logged by D.M. & H.S.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
656.0 - 731.0	MASSIVE DIORITE	Grey-grn mottled	Med. coarse	Crystalline	Massive		minor scattered pyrite & chalco in fractures.	Pegmatitic phase of diorite appears to be later than med.-grained portion. 654-656: Fracture with epidote at 12° to core axis.
731.0 - 859.0	MASSIVE DIORITE	Green-grn mottled	Med.-coarse gr.	Crystalline	Massive, weakly fract'd	Qtz & carbonate in fractures	Scattered minor chalco & pyrite.	Fractures with qtz at 20° to core axis 797-798.6 ft. Lower 10 ft. is chilled margin.
859.0 - 889.0	MASSIVE ANDESITE	Grey-grn	Fine-med.		Massive, weakly fract'd	Qtz carbonate in fractures.		Diorite sill 878-879 ft.
889.0 - 907.0	ANDESITE DYKE	Med. gry	Fine-med.	Crystalline	Massive, weakly fract'd	Qtz feldspar in fract's.		Lower contact sheared at 30° to core axis.
907.0 - 982.6	MASSIVE ANDESITE	Grey-grn mottled.	Fine-med.		Massive, fract'd & sheared.	Epidote, carbonate, qtz & hematite in fractures.		714-715') 747-748') Fractures 30° to core axis. 772-779': Shear zone 50° to core axis.
982.6 - 1009.6	ANDESITE DYKE	Grey	Med.	Crystalline	Massive, weakly fract'd	Qtz carbonate in fract's.		Dyke coarser grained than above.
1009.6 - 1050.0	AMYGDAL ANDESITE	Dark grey	Fine-med.		Weakly amygdal, weakly fractured	Epidote, sericite alt in patches		Chlorite in amygdules.
1050.0 - 1056.0	ACID BRECCIA & TUFF	Grey	Fine-med.		Brecciated with basic fragments in an acid matrix.	Chlorite in shears		1050-1051: Chlorite shear zone at 50° to axis.
1056.0 - 1133.6	AMYGDAL ANDESITE	Dark grey	Fine-med.		Weakly amygdal fractures.	Brown biotite alt in flows, carbonate & epidote in fractures	Minor pyrite & chalco.	1084-1107: Strong fractures filled with carbonate at 45° to core axis.
1133.6 - 1307.0	MASSIVE ANDESITE	Dark grey	Fine-med.		Massive, moderately fractured & sheared	Red & white carbonate in fractures. Sericite & chlorite in shears. Biotite alt weak-moderate.		1133.6-1135: Fractures with qtz carb at 20° to axis. 1140-1150: Fractures 20° to axis. 1208-1211: Shear zone at 50° to axis.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1307.0 - 1331.0	RHYOLITE FS. PORPH	Med. bluish-gry	M-f.g.	Weakly porph. (fs phenos)	Massive, weakly fract'd	Weak sauss.	Finely diss. py	Upper ct 80° & slightly chilled, lower ct 20°. Apophyses of dyke in R.F.P. in last 2.0' of sect.
1331.0 - 1402.0	ANDESITE DYKE	Grn-gry	F.g.	Weakly porph.	Massive, mod. fract'd			Frs. 75° & 20° @ 1370 high angle qtz-ca fault. Far ct. 55°
1402.0 - 1412.0	ALT RHYOLITE	Light grn-gry	f.g.		Massive, mod. fract'd	Ca & chl spot.	Diss py.	
1412.0 - 1437.0	MASSIVE RHYOLITE	Med. to dark gry	f.g.		Massive, mod. fract'd		Minor py.	Far ct. 65°.
1437.0 - 1461.5	ANDESITE DYKE	Dark gry	f.g.		Massive, mod. fract'd			50-80° frs.
1461.5 - 1463.0	FAULT ZONE	Grn-gry	f.g.		Highly fract'd	Qtz-ca filled frs.		80° fault (to core axis).
1463.0 - 1475.0	RHYOLITE FS PORPH	Med. gry	m.-f.g.		Massive, weakly fract'd	Some sauss.		
1475.0 - 1521.0	MASSIVE RHYOLITE	Med. to dark gry	f.g.		Massive, weakly fract'd			Cooling frs. in upper 2.0' of sect. Locally very weakly porph. Cts. gradational.
1521.0 - 1585.0	RHYOLITE FS PORPH	Med. bluish gry	m.-f.g.	Porph (fs). Odd qtz eye.	Massive, weakly fract'd	Sauss-filled frs. Odd qtz clot.		Becoming progressively less porph towards end of sect.
1585.0 - 1612.0	RHYOLITE FS PORPH	Med. gry	f.g.	Very weakly porph.	Massive, mod. fract'd	Sauss, minor ca-filled frs.		
1612.0 - 1619.0	FAULT ZONE	Med. gry	f.g.		Massive, highly fract'd & sheared, locally schistose	Ca-filled frs.		40-45° fault. Alt diorite?
1619.0 - 1656.0	DIORITE	Med. gry	m.g.		Massive	Weak epid.	Minor py	Cts. not sharp.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1656.0 - 1811.0	SILIC. ANDESITE	Med. gry	f.g.		Massive, weakly to mod. fract'd	Ser speck		Siliceous andesite. Dacite?
1811.0 - 1821.0	FAULT ZONE	Light grn gry.	f.g.		Sheared, locally schistose, locally brecciated.	Ca-ser.	Minor py. Odd stgr of hematite.	65° fault (to core axis).
1821.0 - 1905.0	PORPH. ANDESITE	Grn gry	m.-f/g.	Porph. Fs phenos. Odd qtz eye.	Massive, mod. fract'd	Ser speck. Ser, some chl-filled frs.	Odd speck py.	Shrinkage frs. Frs. 45-70°. Odd 20° fr. Siliceous andesite.
1905.0 - 1948.0	MASSIVE ANDESITE	Dark gry	f.g.		Massive, mod. fract'd/ & blocky.	Silic. Ca-filled frs.		Blocky 45° joints & 20° joints. Siliceous andesite, Cts gradational & 45°.
1948.0 - 2004.0	PORPH ANDESITE	Grn grey	m.-f.g.	Porph. Fs phenos. Scattered qtz eyes.	Very weakly, weakly to mod. fract'd	Ca & ser filled frs.		
2004.0 - 2019.0	SILIC. DYKE	Med. gry	m.-f.g.	Weakly porph.	Massive	Weak sauss & hematite	Sparse diss py	Cts 75°.
2019.0 - 2072.0	AMYGD ANDESITE	Grn gry	m.-f.g.	Weakly porph.	Weakly amygd.	Ca-ser filled frs.		Frs. 45°-70°. Siliceous andesite.
2072.0 - 2117.0	MASSIVE ANDESITE	Dark gry	f.g.		Massive, weakly to mod. fract'd	Qtz-ser ca-filled frs.		Frs. 50°-75° and 20°.
2117.0 - 2227.0	RHYOLITE Q.F.P.	Med. gry	f.g.	Porph. Qtz eyes, local fs phenos	Massive. Highly fract'd & broken.	Local sauss. Local patches silic. Local minor epid.	Sparse diss. scattered patches & stgrs of py.	Upper ct 45°. 40-60° joints & low angle joints. Very blocky. 5' lost core 2172-2176. Fault zone. Kaolinized fs & qtz, minor epid shearing 45°.
2227.0 - 2234.0	ANDESITE DYKE	Grn-gry	f.g.		Massive. Weakly to mod. fract'd		Diss py, cp less than 0.25% Cu.	Cts 45°.
2234.0 - 2292.0	ALT. RHYOLITE Q.F.P.	Light grn gry	f.g.	Porph. Qtz phenos. Local fs phenos.	Massive. Strongly fractured.	Bleached. Silic & epid.	Sparse, finely diss py.	45-55° frs.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2292.0 - 2305.0	RHYOLITE Q.F.P. BRECCIA	Grn gry	m.-f.g.		Strongly brecciated strongly fract'd	Epid-chl		Dynamic breccia. Fault zone.
2305.0 - 2321.0	ANDESITE DYKE	Grn-gry	f.g.		Massive, weakly to mod. fract'd	Ca-filled frs.		Cts. ground & 35°.
2321.0 - 2333.0	ALT. RHYO- LITE Q.F.P.	Med. gry	f.g.	Porph, qtz eyes.	Massive, highly fract'd, mod. sheared.	Sauss, weak epid.		40°-50°.
2333.0 - 2338.0	LAMPROPHYRE DYKE	Grn-gry	f.g.	Porph (horn- blende phenos)	Massive	Minor hematite specks		Cts 45° & 30° fault.
2338.0 - 2482.5	ALT. RHYO- LITE Q.F.P.	Grn-gry to med gry	f.g.	Porph, qtz eyes. Vague fs phenos.	Massive. Mod. fract'd, mod sheared	Sauss. Minor epid.		45-65° shearing. 2424-2429: Strong hematite altn. 2444-2449: Andesite dyke cts 80°. 2457-2461: Andesite dyke cts 80° & irregular.
2482.5 - 2541.0	SILICEOUS DYKE	Very dark grey	f.g.		Massive. Weakly fract'd	Local chl dalm.	Odd speck & patch of cp.	Cts. 35 & 50°. Rhyo-dacite? Chl dalm in upper part of sect.
2541.0 - 2564.0	RHYOLITE Q.F.P.	Med. gry	f.g.	Porph, qtz eyes & vague fs phenos.	Massive. Weakly to mod. fract'd	Hematite-sauss filled frs.		75° frs. Hematite staining from frs.
2564.0 - 2664.0	RHYOLITE Q.F.P.	Med. gry	f.g.	Porph (qtz eyes, fs phenos)	Massive. Weakly to mod. fract'd	Local sauss, minor epid.	Local diss py, po.	2591-2641: Sauss, minor epid altn. 2601-2604: Andesite dyke cts 45° 2612-2616: Andesite dyke cts 20°.
2664.0 - 2670.5	SILICEOUS DYKE	Very dark grey	f.g.	Very weakly porph.	Massive.			Rhyo-dacite dyke cts 80°.
2670.5 - 2685.5	RHYOLITE Q.F.P. BRECCIA	Med. gry	f.g.		Weakly brecciated. Weakly to mod. fract'd		Sparse diss py.	Scattered cherty frags. Frs. 40°- 70°. 2675-2675.3: Massive tuff? Cts 50 & 70°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2685.5 - 2699.0	MASSIVE SULPHIDES	Brownish yellow	f.g.				Py-cp-sph-po Sample C,Z,A,A. 2685.5-2688.5 2688.5-2691.5 2691.5-2695.5 2695.5-2699	Upper ct 80° appears to be a cherty tuff band. Far ct ground. Pods diss & stgrs of sph-po-cp in fine crystals. Py. Estimated 4% Cu, 6% Zn.
2699.0 - 2701.5	CHERTY TUFF	Med. gry	f.g. to aphan.		Bedded & massive tuff.		Bands & stgrs of py. Minor cp, trace of Zn.	65° bedding (chert bands). Sample C,Z,A,A. 2699-2701.5
2701.5 - 2733.0	RHYOLITE BRECCIA	Buff, gry	f.g.	Odd cherty frag.	Weakly brecciated, weakly fract'd	Local dalm. Local sects with biotite altn.	8% py, patches & stgrs, & finely diss py. Minor cp.	Local sects of sulphide stgr bx. Samples C,Z,A,A. 2701.5-2707 2707-2712 2712-2717 2717-2722 2722-2727.5 2727.5-2733.
2733.0 - 2755.0	MASSIVE RHYOLITE	Buff, gry	f.g.	Odd cherty frag.	Massive. Weakly fract'd	Very strong blue chl dalm.	Py, cp patches stgrs & diss.	2736.5-2748 10% sulphides (py-cp) 2% Cu Samples C,Z,A,A 2733-2736.5 2736.5-2742.5 2742.5-2748 2748-2755
2755.0 - 2773.0	MASSIVE RHYOLITE	Buff, gry	f.g.		Massive. Weakly fract'd	Insipient dalm. Local weak sects of chl dalm.	Odd speck of py.	
2773.0 - 2785.0	RHYOLITE BRECCIA? TUFF?	Buff to dark gry		Heterogeneous texture. Fragmental?	Massive? Brecciated?	Strong chl dalm & insipient dalm.	Stgrs & diss py-cp.	Possible tuff. Heterogeneous texture could be due to altn. Sect. 2780-2781.5: Semi-massive sulphides cp-py-sph-po. 5% Cu. Samples C,Z,A,A 2773-2780 2780-2781.5 2781.5-2785.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2785.0 - 2830.0	MASSIVE RHYOLITE	Med. to dark gry	f.g.		Massive	Chl speck	Trace of py. Odd speck of cp.	2785-2793: Strong chl dalm.
2830.0 - 2860.0	ALTERED MASSIVE RHYOLITE	Brownish grey	Aph to f.g.		Massive.	Strong dalm & light coloured biotite. Odd 80° qtz-ca stgr.	Stgr & diss py.	2835.5-2857: 12% stgr & diss py. Sample C,Z,A,A 2835.5-2841 2841-2846 2846-2851 2851-2857 Dalm-cordierite spots alt to chl & pennite. Py stgrs cut the dalm spots.
2860.0 - 2907.0	MASSIVE RHYOLITE	Med. to dark grey	f.g.		Massive. Weakly fract'd	Ca-ser filled frs.		40° and 65° frs. 2888-2892: Highly fract'd. Frs. 45-80°.
2907.0 - 2919.0	ALT. MASSIVE RHYOLITE	Buff gry	f.g.		Massive. Weakly fract'd	Local dalm. Odd qtz- ca stgr. Weak biotite.	Scattered stgrs of py.	
2919.0 - 2940.0	MASSIVE RHYOLITE	Med. gry	f.g.		Massive.	Local light grey altn.	Local diss py.	2931.5-2936.5: Heterogeneous texture due to strong sauss-silic altn.
	END OF HOLE							

LAKE DUFALT MINES LTD.

Drill Hole Record

Hole No. N-356 Lat. 18,290.0		Dep. 20,160.0		Elev. 11,014.27		Dip -90°		Bearing -		Depth 2,586'								
Working Place (Pa)	Date Started June 6, 1966	Compass Tests				Acid Test			SAMPLED SECTIONS									
	Date Completed July 19, 1966																	
		Depth	Dip	M.Brng.	Depth	Read	Corr.	Depth	Read	Corr.	From	To	C.L.	Cu	Zn	Au	Ag	
					35'	89 3/4	89 1/2	2586'	89 1/2	89 1/4								
					500'	88 1/2	87 3/4											
					1000'	89 1/2	89 1/4											
					1500'	89	88 1/4											
					2000'	89 1/2	89 1/4											

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 14.0								Casing.
14.0 - 34.0	AMYG'L ANDESITE	Dark gry	f.g.=		Mod'ly amyg'l. Weakly crush fract'd	Mod. chl, biot. Mod qtz carb.	Scat. py, po.	
34.0 - 46.5	WEAKLY AMYG'L ANDSTE	Grn-gry	f.g.		Very weakly amyg'l.	Mod. chl-biot. Weak qtz-carb.		
46.5 - 85.0	AMYG'L ANDSTE. P.L.	Grn-gry	m.-f.g.		Mod'ly amyg'l. Well pil'd.	Mod. epid-chl. Albitite in pil. rims.	Scat. py, po. Tr cp.	Looks like V-106 but can't be??
85.0 - 109.5	FLOW BANDED ANDSTE	Dark grn-gry	m.-f.g.		Weakly amyg'l. Sugg. of pils.	Mod. chl. Minor biot.	Minor py, po.	91.5-94.5: Light grn andste dyke at 40°.
109.5 - 220.0	AMYG'L ANDSTE P.L.	Grn-gry	m.-f.g.		Mod'ly amyg'l. Well pil'd.	Mod. chl epid. Minor biot. Patches of albitite	Mod. scat. py. Minor po, cp.	Occas. qtz stringers. 175-177: Acid dyke at 45°.
220.0 - 275.0	ALTERED PHASE OF ABOVE	Grn-brn, gry	m.-f.g.		Weakly amyg'l and pil'd.	Mod.-strong chl (blue) and biotite.		Chocolate (biotite) dog (dalmatianite)
275.0 - 301.5	AMYG'L ANDESITE	Gry-grn	m.-f.g.		Mod'ly amyg'l. Sugg. of pil. rims.	Weak epid-sauss. Mod chl, biot & qtz-carb.		290': Hematite qtz fract.
301.5 - 358.5	AMYG'L ANDESITE P.L.	Gry-grn	m.-f.g.		Mod'ly amyg'l. Weakly pil'd.	Patches of epid-sauss. Mod.-strong biot. Mod. chl, qtz carb.	Tr cp.	

Hole No. N-356

Logged by D.H.R. & D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
358.5 - 364.0	SHEAR OR FAULT ZONE	Light gry	m.-f.g.			Strong qtz-carb. Minor hem.		Ctcs. at 20°.
364.0 - 393.0	AMYG'L ANDSTE P.L.	Gry to blu-gry	m.-f.g.		Weakly amyg'l & pil'd.	Minor epid-sauss. Mod chl and biot. Scat qtz carb.		364-383: Strong alt'n obscuring amyg's & pil. bdrs.
393.0 - 398.0	AMYG'L ANDSTE	Dark gry	m.-f.g.		Strongly amyg'l. Weakly fract'd.	Mod. chl, biot. Qtz-carb in fract's.		
398.0 - 409.0	ANDSTE FLOW BX	Grn-gry	m.-f.g.		Sections of flow bx in massive to flow-banded andste. Weakly amyg'l.	Mod. epid. Minor chl, biot. Scat. qtz-carb.		
409.0 - 463.0	AMYG'L FLOW BANDED ANDSTE	Gry to blu-gry	m.-f.g.		Weakly amyg'l. Sugg. of pil. rims.	Mod. biot. and silicification. Minor chl. Scat. qtz-carb.		
463.0 - 490.0	AMYG'L FLOW BANDED ANDSTE	Blu-gry	m.-f.g.		Weakly amyg'l & flow banded. Sugg. of pils.	Mod. chl, biot. Blu sil'n.		467: Qtz vein at 20° with minor cp. No,
490.0 - 511.5	AMYG'L ANDSTE	Gry	m.-f.g.		Weakly amyg'l. Mod'ly fract'd.	Mod. chl, epid. Minor biot and sil'n.		
511.5 - 512.5	FLOW BX	Gry	m.-f.g.		Rounded frags.	Patches of albitite. Tr. hem.		
512.5 - 574.5	AMYG'L ANDSTE P.L.	Gry	m.-f.g.		Weakly amyg'l and pil'd.	Minor chl biot. Strong biot. in pil. rims.	Tr. cp, py.	568-574.5: Prussian grn, chl.
574.5 - 587.0	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Weakly amyg. Sugg. of pils.	Mod. grn chl. Minor biot. Patches asuss & sil'n.		574.5-576.5: Flow bx. 584.5-587: Flow or fault bx.
587.0 - 602.5	MASSIVE ANDESITE	Grn-gry	m.g.		Massive. Weakly fract'd.	Qtz-carb in fract'g.		Bot. etc. irreg., chilled.
602.5 - 627.0	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Mod'ly amyg'l. Mostly rounded, few elongate.	Mod.-strong chl, biot & sauss.		Occas. steep qtz stringers.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
627.0 - 631.0	SHEARED ANDSTE	Putty gry	f.g.		Finely sheared	Strong sauss. Minor biot.		
631.0 - 652.0	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Mod'ly amyg'l. Sugg. of pils.	Mod. chl, biot. Minor albitite, saussurite.		629.5: Qtz shear at 20° with tr sph.
652.0 - 654.0	BEDDED TUFF.	Grn	m.-f.g.		Mod'ly bedded. Bedding at 70°.	Mod. sauss, chl. Minor biot.		Tr. sph.
654.0 - 689.0	AMYG'L ANDSTE P.L.	Grn-gry	m.-f.g.		Mod'ly amyg'l around pils. Weakly pil'd.	Patches of albitite, sauss.		Occas. qtz stringers at 20°.
689.0 - 711.0	PHASE OF ABOVE	Light gry	m.-f.g.		Flow struct. obscured by fine fract'g. at 10°-20°.	Mod. sauss, chl, biot. Ser in fault zones. Weak grid.		Tr. py, cp.
711.0 - 726.5	AMYG'L ANDSTE P.L.	Grn-gry	m.-f.g.		Mod'ly amyg'l. Weakly pil'd.	Patches of weak albitite sauss. Mod. chl, biot.		
726.5 - 787.8	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Weakly amyg'l. Sugg. of pils. Mod'ly fract'd.	Weaker chl, biot. Weak grid.		Occ. steep qtz stringers at 20°.
787.8 - 792.5	MASSIVE TUFF	Grn-gry	m.-f.g.	Tuffaceous	Massive	Weak chl, sauss.		
792.5 - 796.5	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Weakly amyg'l. Mod'ly fract'd.	Weak chl, biot. Weak grid.		Tr py.
796.5 - 841.0	AMYG'L ANDSTE P.L.	Grn-gry	m.-f.g.		Weakly amyg'l, well pil'd.	Minor epid, sauss. Mod. chl, biot.		
841.0 - 851.0	SHEARED ANDSTE	Grn	m.-f.g.		Strongly sheared at 20°.	Strong chl. Mod. biot.		
851.0 - 854.4	ALT'D ANDSTE	Brn'sh gry.	m.-f.g.		Sugg. of flow structure.	Strong biotite, dalmatianite.		Strong dalm!!
854.4 - 866.0	ALTERED ANDSTE	Grn-gry	m.g.		Massive	Mod. biot-chl, dalmatianite		Tr py, cp.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
866.0 - 878.0	SHEARED MASSIVE ANDSTE	Light grn-gry	m.g.		Mod'ly finely fract'd.	Mod. biot-chl.		Insip. dalm.
878.0 - 985.0	MASSIVE ANDSTE	Dark gry	f.g.		Massive, weakly fract'd.	Weak biot & siliceous spotting.	Finely dissem. py. Occas. py stgrs at 10°-20°.	
985.0 - 990.0	AMYGD ANDSTE	Brownish blu-gry	f.g.		Weakly amygd. Mod. fract'd.	Strong biotite, some ser.		
990.0 - 1057.0	ALT'D. ANDSTE	Brownish-gry	m.-f.g.		Weakly fract'd. Sugg. of flow struct.	Strong biotite, some ser. / Strong chl, cordierite(?) dalm.	Odd qtz-filled fr. with some cp.	Strong dalmatianite (chocolate dog) 1042.0-1057: Mod. fract'd.
1057.0 - 1071.0	SHEARED ANDSTE	Dark gry	f.g.		Strongly sheared @ 45 to 60°. Locally schistose.	Strong ser, some chl.		Mid Norbec thrust. 4.0' lost core.
1071.0 - 1099.0	ALT'D ANDSTE	Brownish-gry	f.g.		Weakly fract'd.	Strong biotite, some ser. Strong chl cordierite(?), dalm.	Odd qtz stgr with cp-py.	Strong dalm.
1099.0 - 1109.0	ALT'D ANDSTE	Dark gry	f.g.		Weakly fract'd.	Ser-chl. Weak dalm. Odd qtz stgr.	Cp-py in qtz stgrs.	Odd 1/2 to 1" 20° qtz-ca, ser shear.
1109.0 - 1117.0	ALT. ANDESITE	Light gry	f.g.		Strongly fract'd.	Intense carb. Numerous ca-filled frs.		1117-1118.5: 20° fault. Qtz-ca ser-chl bx.
1117.0 - 1214.0	DIORITE	Med. gry	m.g.	Granitic	Ct 55°. Slight grain gradation. Weakly fract'd.	Scattered 75° and 20° qtz stgrs.	Sparse cp, py in qtz stgrs.	
1214.0 - 1222.5	SHEARED DIORITE	Light grn-gry.	f.g.		Strongly schistose	Strong ca. Numerous qtz-ca stgrs.		Shearing 50°-55°. Ser-ca schist. Fault.
1222.5 - 1230.0	ALT. DIORITE	Grn-gry	m.g.			Strong ser, mod. ca.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1230.0 - 1234.5	SHEARED DIORITE	Dark gry	M.g.		Strongly schistose	Odd qtz stgr.		Shearing @ 65°. FAULT.
1234.5 - 1244.5	DIORITE	Dark gry	m.g.		Weakly sheared.	Ser. Scattered 65° qtz-ca frs.	Odd speck of py.	Weak shearing @ 65°.
1244.5 - 1260.0	SHEARED DIORITE	Med. gry	m.-f.g.		Strongly sheared. Locally schistose.	Strong ca, scattered ca-filled frs.		Shearing @ 30°. Fault.
1260.0 - 1284.0	ALT. DIORITE	Dark grey	m.g.		Highly fract'd.	Strong ca.		45 - 60° qtz-ca ser-filled frs. Far ct. 45°(?). Ca-ser schist.
1284.0 - 1301.0	SHEARED ALT. ANDSTE	Med. gry	f.g.		Strongly schistose	Intense ca altn.		Schistosity 0-10°. Steep angle fault.
1301.0 - 1340.0	SHEARED ANDSTE	Light grn- gry.	f.g.		Mod. sheared local small sects of bx.	Strong ca, some sauss epid.		Shearing 10°-35°.
1340.0 - 1384.5	MASSIVE ANDSTE	Dark gry	f.g.		Strongly fract'd.	Ca-sauss.		45-70°: Sauss ca filled frs. 1379.5-1384.5: Intense Ca altn.
1384.5 - 1389.5	QTZ-CA-SER SCHIST	Light grn gry	f.g.		Strongly schistose			Fault. Schistosity 45°-55°.
1389.5 - 1419.0	DIORITE	Dark gry	m.-f.g.	Sub-ophitic Weakly porph.	Mod. fract'd.			Far ct irreg (80°)(?), chilled over 5.0'. 1398.5-1399: Fault. Qtz-ca stgr with ser schist on both sides. Cts. 45°.
1419.0 - 1502.0	AMYGDAL ANDESITE	Dark grey green	Fine, med.		Moderately porphy- ritic	Biotite in sects. & carb. qtz in fractures.		Flow breccia sections 1419-1420, 1490-1492'. Chlorite & feldspar in phenocrysts.
1502.0 - 1598.0	SILICEOUS ANDESITE (RHYO Q.F.P.)	Med. gry	Fine, med.		Weakly porphyritic. Fractured.	Albitite section & chlorite carbonate in fractures.	Scattered pyrite, pyrr & minor chalco.	Shear zone 20° to core 1542-1544.
1598.0 - 1618.0	SILICEOUS BRECCIA	Med. gry	Fine		Brecciated. Weakly banded.	Qtz chlorite in fract.	Pyrite & pyrr.	Dynamic breccia. Odd 45° qtz stgr with Mo.S ₂ & cp.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1618.0 - 1627.5	AMYGD ANDESITE	Med. gry	f.g.		Weakly amygd & fract'd.	Qtz-ca in frs.		
1627.5 - 1668.0	SILIC. ANDESITE	Med. gry			Weakly amygd & porph & fract'd.	Patchy sauss, albitite- qtz.		Local sects. of flow bx.
1668.0 - 1713.0	MASSIVE ANDESITE	Med. to dark grey	M-f.g.	Weakly porph.	Mod. fract'd.	Sauss. Qtz-ca in frs.		Frs. 45°-65°.
1713.0 - 1763.5	MASSIVE ANDESITE	Med. grn gry	M-f.g.		Strongly fract'd.	Ca-qtz in frs. Patchy sauss. Local chl spot & rags.		Bleached andesite.
1763.5 - 1767.5	ANDESITE DYKE	Light grn-gry	f.g.		Weakly fract'd.	Strong ca.		Cts 50°.
1767.5 - 1783.5	MASSIVE ANDESITE	Light to med. grey	f.g.		Weakly fract'd.	Scattered qtz clots of stgrs.	Odd patch py.	
1783.5 - 1791.0	ANDESITE TUFF	Dark grey	f.g.		Massive.	Numerous 1/2" to 4" qtz stgrs (50-70°)	Odd speck py.	Cts not sharp.
1791.0 - 1804.0	TUFF	Med. grey	m-f.g.		Mod. fract'd	Qtz filled frs. Odd qtz stgr.		Bleached andesite. Strongly fract'd 1801-1084. 65° frs. Tuff?
1804.0 - 1815.0	ANDESITE DYKE	Grn-grey	m.-f.g.		Massive, weakly fract'd.	Mod. ca.		Near ct ground. Far ct irregular 2.0' grain gradation at both cts.
1815.0 - 1831.5	RHYOLITE QTZ FS PORPH.	Med. grey	m.g.	Porph (fs- qtz)	Weakly fract'd.	Odd cordierite spot (5 mm)	Diss. py.	
1831.5 - 1847.0	MASSIVE ANDESITE	Light grn- gry	m.-f.g.		Weakly fract'd.	Odd qtz stgr.	Odd patch sparse diss py.	Bleached andesite soaked by the qtz-fs porph.
1847.0 - 1915.0	RHYOLITE QTZ-FS PORPH (MIXTURE OF RHYOLITE & Q.F.P.)	Med. grey	m.g.	Porph (fs- qtz)	Weakly fract'd & sheared.	Mod. ca, qtz-ca in frs.	Odd patch & sparse diss. py. Minor po, cp. MoS ₂ in qtz stgrs.	Shearing 40-45° 1895.5-1898. Med. grn-grey andesite dyke with s. contacts at 65° (1835-1855'). 3" qtz-stgr with local flow features.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1915.0 - 1939.5	ANDESITE DYKE	Grn grey	m.g.		Massive. Mod. fract'd.	Intense ca. Ca-filled frs.	One patch py.	Frs. 45°-60°. Ca altn obliterates all structure. Could be a flow.
1939.5 - 1951.5	ANDESITE DYKE (CON- TINUATION OF ABOVE)	Med. grey	m.g.	Weakly porph./ (uneven fs phenos).	Weakly fract'd.	Dioritized	Odd speck py.	Fractured at 45°. Slight grain gradation. 1946 questionable pillow bdr.
1951.5 - 2009.0	RHYOLITE QTZ FS PORPH	Med. grey	m.g.	Porph (fs) qtz eyes	Weakly fract'd.		Cp-MoS ₂ in qtz stgrs	Odd 35° 1/4" to 1/2" qtz stgrs.
2009.0 - 2018.5	MASSIVE ANDESITE	Dark grey	m.-f.g.		Massive. Mod. fract'd.	Weak ser.	Diss. py.	Andesite dyke. 35-60': qtz-ca filled frs. Cts 35 & 75° fractured and chilled.
2018.5 - 2027.0	RHYOLITE QTZ-FS PORPH. AS ABOVE	Med. grey	m.g.					Cts 75° & ground. Broken.
2027.0 - 2067.0	ANDESITE DYKE	Dark grey	m.g.		Weakly fract'd. Massive.	Weak to mod. ser. Scat- tered 35° 1/4" to 2" qtz stgrs.	Sparse finely diss py. Odd stgr of py.	Grain gradation & in first 3.0'. Fac. at 30°. 2055-2060: Strongly fract'd with strong ca altn.
2067.0 - 2122.0	FRACT'D RHYOLITE QTZ-FS PORPHYRY	Light to med. grey	m.g.	Weakly porph (fs) qtz? eyes	Strongly fract'd. Some shearing.	Ca altn. Minor chl.	Odd py speck & stgr. One patch of cp noted.	Ca altn masking the phenos. 45-60°: ser plated joints.
2122.0 - 2145.0	RHYOLITE QTZ-FS PORPH	Light blue grey	m.g.	Weakly porph (fs) & qtz? eyes	Weakly fract'd.	Chl spot & some ca. Odd 1/2" 20° qtz stgr.	Odd speck py. Trace of cp in qtz stgrs.	Ca-filled frs. 45-60° ser plated joints.
2145.0 - 2211.0	QTZ-FS PORPH	Med. grey	m.g.	Strongly porph (fs) qtz? eyes	Weakly fract'd.	Ca in frs.	Odd patch of cp.	45-60° ser plated joints.
2211.0 - 2212.0	ANDESITE BX	Med. grey	m.-f.g.		Coarse breccia.	Strong sauss in matrix	Odd speck of cp.	1/4 to 2" angular frags. of qtz-fs porph. cts irregular & 60°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2212.0 - 2234.0	PORPH ANDESITE	Med. to dark grey	m.g.	Strongly porph (fs)	Weakly fract'd.	Weak sauss.		
2234.0 - 2252.0	ANDESITE P.L.	Med. blue grey	m.g.	Strongly porph (fs)	Strongly pillowed. Weakly fract'd.	Weak sauss.		Ca-filled frs.
2252.0 - 2275.0	ANDESITE DYKE	Med. grey	m.g.	Porph? Could be fragmental.	Weakly fract'd.	Ca-filled frs.		Upper ct 70°. Frs. 50-70°.
2275.0 - 2302.0	ALT. ANDSTE DYKE (CON- TINUATION OF ABOVE)	Buff to med. gry	f.g.		Mod. fract'd.	Intense ca altn. Qtz-ca filled frs.		Ca altn masking all structure. Frs. 45°-70° and 20°.
2302.0 - 2331.5	MASSIVE ANDESITE	Med. grey	m.g.		Weakly fract'd.	Dioritized qtz-ca filled frs.		Grain gradation towards end of sect. Frs. at 55°.
2331.5 - 2339.0	AMYGD ANDESITE	Med. grey	m.g.		Weakly amygd. Strongly fract'd.	Dioritized.		45-80° sauss filled frs.
2339.0 - 2346.0	AMYGD ANDESITE	Grn grey	f.g.		Mod. amygd. Strongly fract'd.		Minor po, trace cp.	2339.0-2339.4: Fault 60°. Trace cp, py, po.
2346.0 - 2586.0	AMYGD ANDESITE (WAITE)	Med. to dark grey	f.g.		Weakly amygd. Mod. to weakly fract. 2472-2486 strongly fract'd.	Ca-filled frs. Odd 35° qtz stgr. Sauss-epid especially in flow bx sects.	Minor cp, po.	Frs 45°-60° @ 2418 & 2472.5 1/4" qtz stgrs with po-sph. From 2402 on some sauss altn. Local small sects of flow bx. Moon shaped amygds (Waite type). 2572-2577: Strongly fract'd. 2577-2578.5: Fault. Qtz-ca bx cts 15°.
		END OF HOLE						

LAKE DFAULT MINES LTD.

Drill Hole Record

Hole No <u>N-366</u> Lat. <u>21,180.0</u>		Dep. <u>12,870.0</u>		Elev. <u>11,199.4</u>		Dip <u>-90°</u>		Bearing <u> </u>		Depth <u>1478'</u>			
Working Place (Bn)		Date Started <u>July 6, 1966</u>						SAMPLED SECTIONS					
Date Completed <u>August 3, 1966</u>		<u>Depth</u>		<u>Dip</u>		<u>M.Brng.</u>		<u>Depth</u>		<u>Read</u>		<u>Corr.</u>	
		<u>Depth</u>						<u>Read</u>		<u>Corr</u>			
		<u>30'</u>						<u>89 3/4°</u>		<u>89 1/2°</u>			
		<u>500'</u>						<u>89 1/2°</u>		<u>89 1/4°</u>			
		<u>1000'</u>						<u>89 1/2°</u>		<u>89 1/4°</u>			
		<u>1478'</u>						<u>89 1/2°</u>		<u>89 1/4°</u>			

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0 -12	No core.							Casing.
12.0-34.5-	Mass. andesite.	Dark grey.	M.f.g.			Ser speck altn.		
34.5-130.5	Amygd andesite. P.L. V-106	Med-grn grey.	M.f.g.		Strongly amygd. Mod. pillowed bx pil bdrs. WEakly fract'd.	Sauss-chl filled amygds. Sauss minor epid. Odd patch of qtz.		
130.5-145.0	Amygd andesite.	Med grey.	F.g.		Weakly amygd.	Sauss & ser speck.		
145.0-195.0	Mass andesite.	Med to dark grey.	F.g.		Weakly fract'd.	Dioritized.		
195.0-249.0	Amygd. Flow banded andesite.	Grn-grey.	M.f.g.		Flow banded. Weakly fract'd. Mod amygd.	Sauss minor epid. Chl filled amygds.	Odd patch po. Trace of cp.	Local sects of flow breccia. 205-210 Strong breccia. Epid-sauss frags in a qtz-ca matrix. Possible fault..
249.0-433.0	Mass andesite.	Med to dark grey.	M.g.	Weakly por ph(fs).		Weakly dioritized.	Odd speck py.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
433.0-489.0	Amygd andesite. P.L.	Light to med grey.	M.g.		Mod amygd & pillowed.	Sauss-minor epid. Some chl spot & rag.	Minor po.	
489.0-503.5	Mass andesite.	Med to dark grey.	F.g.		Mod fract'd.	Intense ca. Ca filled frs.		65° frs.
503.5-668.0	Bleached amygd andesite. P.L.	Light grn grey.	M.f.g.		Weakly amygd. Mod pil.	Strong sauss epid. Local ca & local chl.	Tr cp.	521-522.5 - Andesite dyke. Cts 55°. Far ct 60°.
668.0-738.0	Mass andesite.	Med grey.	M.g.		Massive.	Dioritized.		
738.0-744.0	Flow bx. andesite.	Dark grn grey.	Coarse to m.g.		Coarse angular frags with interstitial chl.	Interstitial chl. Rags & patches of albitite. Some sauss. Minor epid.	Minor po trace cp.	
744.0-758.5	Amygd andesite.	Grn grey.	M.f.g.		Strongly amygd.	Chl filled amygds. Some sauss-epid.		Cts gradational.
758.5-822.0	Mass andesite.	Med grn grey.	M.g.		Massive.	Dioritized.		804-805 Andesite dyke.
822.0-839.5	Amygd andesite.	Grn grey.	M.f.g.		Mod amygd.	Chl filled amygds. Minor sauss.	Odd patch po.	
839.5-846.5	Mass andesite.	Med grey.	F.g.		Massive.	Minor ca.		
846.5-852.5	Tuff.	Light to med grey.	M.f.g.		Bedded.	Strong ca.	Diss py & po.	
852.5-857.0	Sheared tuff.	Light to med grey.	F.g.		Sheared.	Strong ca.	Po-py trace cp.	854-854.5 Qtz vein. 856-856.5 Qtz vein. One patch of sph.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
857.0-863.0	Crystal tuff.	Med grey.	M.g.	Fragmental (fs frags)	Weakly fract'd.			Dyke? Far ct 60° 1" qtz-ca fault.
863.0-880.0	Rhyolite bx.	Light to med grey.	Coarse to m.g.		Brecciated. Weakly fract'd.		Sparse diss po.	
880.0-890.0	Mass rhyolite.	Blue grey.	Aphanitic.			Patchy sauss.	Diss po.	
890.0-901.0	Vague tuff.	Grn grey.	M.f.g.		Fragmental appearance (due to altn).	Patchy sauss some epid.		
901.0-939.0	Mass rhyolite.	Grn grey.	M.f.g. to aph.		Locally heterogeneous due to altn.	Sauss-epid. Local silic.	Odd patch po. One speck of cp noted.	
939.0-972.0	Andesite dyke.	Dark grey.	F.g.		Weakly amygd.	Ca filled frs.		Cts irregular. 961-972 Mod to strongly fract'd and sheared.
972.0-995.0	Mass rhyolite.	Dark grey.	M.f.g.		Weakly fract'd & sheared.	Strong sauss ca filled frs.		Shearing 35° to 45°.
995.0-999.0	Fault zone.	Grn grey.	F.g.		Strong fract'd and sheared. Highly broken.			D.H.B. Thrust. Shearing at 35°. Sheared rhyolite.
999.0-1173.0	Amygd andesite P.L.	Light grn grey.	M.f.g.		Weakly amygd and broadly pil. Weakly fract'd.	Strong sauss-epid. Local patches & stgrs chl. Chl filled amygds.	Minor po.	
1173.0-1201.5	Mass andesite.	Med grey.	M.g.		Massive. Weakly fract'd.	Dioritized.		1173-1180 Mod to strongly fract'd. Weakly sheared. Shearing at 65°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1201.5-1239.0	Amygd andesite P.L.	Light grn grey.	M.f.g.		Weakly amygd. Broadly pil. Weakly fract'd.	Strong sauss minor epid. chl.		
1239.0-1269.0	Mass andesite.	Med grey.	M.g.		Massive. Mod to weakly fract'd.	Dioritized.		1254-1255 Fault. 65° 65° frs.
1269.0-1346.0	Amygd andesite P.L.	Grn grey	M.f.g.		Mod amygd & pil. Weakly fract'd.	Chl filled amygd. Patchy sauss & minor epid.		1303-1311 Med grey diorite dyke.
1346.0-1351.0	Andesite dyke.	Light grey.	M.f.g.	Porph(fs).	Weakly fract'd.	Sauss minor ca.		Cts 65° chilled.
1351.0-1356.5	Fault zone.	Med grey.	F.g.		Highly sheared & fract'd.	Intense ca.		1353-1355 highly broken. Shearing 45°-60°.
1356.5-1360.5	Andesite dyke.	Med grey.	F.g.		Highly fract'd.	Ca filled frs.	Minor py.	45-60° frs.
1360.5-1367.5	Andesite tuff.	Med grey.	M.g.	Fragmental fs & purplish frags.	Weakly to mod fract'd.		Minor py.	
1367.5-1381.5	Amygd andesite.	Med grey.	F.g.		Weakly amygd. Highly fract'd & sheared.	Qtz ca-chl filled frs. Minor ca chl patches.	Minor py.	
1381.5-1395.0	Fault zone.	Med grey.	F.g.		Highly sheared & fract'd.	Strong ca.	Local py.	1383-1388 Andesite dyke. Highly fract'd & dioritized.
1395.0-1410.0	Andesite dyke.	Med grey.	M.f.g.		Weakly fract'd.	Dioritized.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1410.0- 1414.0	Fault zone (andesite)	Grn grey.	F.g.		Highly fract'd & some shearing.	Shot through with qtz-ca stgrs.		1411.5-1413 F.g. grn-grey andesite dyke with finely diss py. Shearing 45°-60°
1414.0- 1478.0	Rhyolite bx.	Blue grey.	F.g.		Brecciated. Weakly fract'd.	Blue silic sauss- chl.	Diss py-po.	1473-1476 Grn grey andesite dyke cts 60°. 1470-1478 Flow banded (50°).
END OF HOLE.								

18 NOV 52
 RECEIVED
 GEOLOGICAL SURVEY
 CANADA
 OTTAWA

LAKE DFAULT MINES LTD.

Drill Hole Record

Hole No. N-367	Lat. 19,995.45	Dep. 11,192.37	Elev. 11,119.70	Dip -90°	Bearing --	Depth 792'	
Working Place (Bg)	Date Started July 11, 1966	Compass Tests		Acid Test			
	Date Completed July 20, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.
		16'			89 3/4°	89 1/2°	
		500'			89 1/4°	89°	
		792'			89°	88 1/2°	

SAMPLED SECTIONS						
From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-6.0	No core							Casing.
6.0-30.0	Mass andesite.	Med grey	M.g.	Porph (fs)		Some sauss minor epid.		26-30 Highly broken. Odd 25° rust stained joint.
30.0-73.0	Amygd andesite.	Grn grey.	M.f.g.		Weakly amygd & fract'd.	Sauss minor epid.		
73.0-124.0	Mass andesite.	Grn grey.	F.g.		Massive. Weakly fract'd. Locally broken.	Patches & pods of sauss-epid.		73-75 Broken. 88-95 " 96-97 " 102-103 "
124.0-178.0	Mass andesite.	Dark grey	F.g.		Massive. Weakly fract'd.	Minor sauss.		
178.0-303.0	Mass andesite.	Med grey.	M.g.		Massive.	Dioritized.		178-180 Amygd Near ct 65°. Far ct 60°.
303.0-369.0	Mass andesite.	Dark grey.	F.g.		Massive.	Local sauss-epid.	Tr py.	
369.0-412.0	Amygd andesite	Grn grey.			Med amygd & pil.	Sauss minor epid.	Minor po.	Brecciated pil bdrs.

Hole No. **N-367** P.L.

Logged by **D.M.**

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
412.0-565.0	Mass andesite.	Grn grey.	M.g.		Massive.Weakly fract'd.	Dioritized. Some epid. Local pods of sauss-epid.		
565.0-599.0	Amygd andesite P.L.	Light to med grey	M.f.g.		Mod amygd & pil.	Local strong sauss-epid chl spot & rag altn.		
599.0-614.5	Flow bx andesite.	Grn grey	Coarse to f.g.		Amygd & brecciated.	Sauss-epid-chl.		
614.5-622.0	Mass andesite.	Dark grey.	F.g.		Massive.	Minor sauss.		
622.0-677.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Mod amygd. Broadly pil.	Sauss-epid. Odd chl patch & stgr chl filled amygds.		639.5-640 Ca-ser schist shearing at 80°.
677.0-688.5	Massive andesite.	Grn grey.	M.f.g.	Weakly porph (fs).	Massive.Weakly fract'd.	Sauss.		
688.5-696.5	Sheared tuff.	Med grey.	F.g.		Strongly sheared. (Bedded?)	Strong ca.	Minor py. Cp-sph in fault.	At 695 3" Qtz-ca-ser bx (fault) with heavy cp-sph. Cts 75° . Shearing parallel to bedding.
696.5-700.0	Basic crystal tuff.	Dark grey.	M.g.	Fragmental	Weakly fract'd.		Strong diss py.	Grain gradation.
700.0-756.5	Amygd andesite P.L. Dacite?	Brownish grey.	F.g.		Weakly amygd. Broadly pil. Weakly fract'd.	Weak sauss and biotite. Odd small albitite stgr.		Siliceous andesite or dacite. Strong ca altn in last 3.0'.
756.5-759.0	Fault	Light grn grey.	F.g.		Schistose.		Diss py minor sph.	Qtz-ca-ser schist. Schistosity 75°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
759.0-765.0	Andesite dyke?	Med grey	F.g.		Massive. Weakly fract'd.	Strong ca.	Minor py.	Alt rhyolite? Far ct ground.
765.0-773.0	Mass rhyolite.	Med to blue grey.	F.g. to aphanitic.	Porphoritic (fs).	Massive.	Blue silic.		
773.0-781.0	Rhyolite bx.	Light grn grey.	Coarse g.		Coarse breccia.	Sauss-chl.	Odd patch po.	
781.0-792.0	Mass rhyolite.	Light blue grey.	Aphanitic.	Porphoritic.		Silic. Patchy chl.	Sparse diss py po.	Locally flow banded.
END OF HOLE.								

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REC'D BY
YOUTH DIVISION
THE BRITISH MUSEUM
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LAKE DUFAULT MINES LTD.

Drill Hole Record

Hole No. N-368	Lat. 20,025.0	Dep. 16,140.0	Elev. 11,219.35	Dip -90°	Bearing --	Depth 1075'	
Working Place (Mp)	Date Started July 15, 1966	Compass Tests		Acid Test			
	Date Completed July 28, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.
		25'			89 1/2°	89 1/4°	0
		500'			89°	88 1/4°	0
		1070'			89 1/2°	89 1/4°	0

SAMPLED SECTIONS						
From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-4.0								Casing.
4.0-140.0	Amygd andesite.	Dark grey.	F.g.		Very weakly amygd & fract'd.	Chl & qtz filled amygds. Odd pod of sauss epid. Odd patch & stgr of albitite.	Odd speck cp.	51-52 Water seam. (Broken & rusty.)
140.0-249.0	Massive andesite.	Dark grey.	F.g.		Massive.	Scattered flecks of albitite. Odd sauss epid pod.		Odd 10°-20° hematite stained joint.
249.0-371.5	Amygd andesite.	Dark grey.	F.g.		Weakly amygd. Weakly fract'd.	Odd pod sauss-epid. Qtz filled amygds.	Odd patch po trace of cp.	
371.5-417.0	Amygd andesite P.L.	Dark grey	M.f.g.		Mod amygd. Very broadly pil. Weakly fract'd sheared.	Sauss epid. Qtz clots & stgrs.	Minor py-po tr cp.	Shearing at 45°.
417.0-548.0	Mass andesite.	Med to dark grey.	M.g.		Massive. Weak 30°-40° shearing.	Sauss speck. Local sauss epid.		510-512 Highly broken core.
548.0-549.5	Sheared andesite.	Med grey.	F.g.		Schistose.		Minor py.	Fault. Shearing at 40°. Minor hematite staining.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
549.5- 664.0	Amygd andesite.	Dark bleuish grey.	F.g.		Mod amygd. Weakly fract'd.	Qtz-sauss filled amygds. Patches of sauss albitite qtz. Local sects sauss epid.	Minor py tr cp.	
664.0- 733.0	Amygd andesite.	Dark bluish grey.	F.g.		Very weakly amygd.	Local sects sauss. Sauss speck & minor chl.	Minor cp & py.	
733.0- 874.0	Mass andesite.	Dark grey.	F.g.	Weakly porph.	Massive.	Minor sauss-chl.	Minor py.	830 ON weakly fract'd.
874.0- 908.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Mod amygd & pil. Weakly fract'd.	Sauss chl & minor epid.	Minor py.	
908.0- 925.0	Bleached mass andesite.	Light grey.	M.f.g.		Massive.	Sauss some ca. Chl speck & spot.		917-920 low angle qtz ca stgr. (Fault).
925.0- 937.0	Mass andesite.	Grn grey.	M.g.		Massive. Weakly fract'd.	Dioritized.		
937.0- 1023.0	Amygd andesite P.L.	Grn grey.	M.g.		Mod amygd & broadly pil.	Slightly dioritized. Patches of sauss- albitite. Odd patch & stgr of chl.		1018-1023 Bleached.
1023.0- 1029.0	Sheared tuff.	Med grey.	F.g.		Strongly sheared.	Intense ca.	Diss & bands of py.	Shearing at 75°.
1029.0- 1032.0	Massive & bedded. Tuff.	Med grey.	M.f.g.		Bedded & massive.	Minor ca.	Diss & bands of py.	Bedding 75°.
1032.0- 1075.0	Rhyolite Bx.	Med grey.	F.g.		Rounded light grey & chl frags. Weakly fract'd.	Sauss. Weak ser speck.	Minor py-po.	1064-1075 Mod ca altn mod fract'd.

END OF HOLE

LAKE DFAULT MINES LTD.

Drill Hole Record

Hole No. N-369	Lat. 18,122.0	Dep. 20,422.0	Elev. 11,000.5	Dip -90°	Bearing -	Depth 2,415												
Working Place (Fb)	Date Started July 21, 1966	Compass Tests		Acid Test		SAMPLED SECTIONS												
	Date Completed Aug. 27, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.	Depth	Read	Corr.	From	To	C.L.	Cu	Zn	Au	Ag	
					25'	89 1/2°	89 1/4°	1,500'	89 1/2°	89°								
					500'	88 1/4	87 1/2	2,000'	88	87								
					750'	88	87	2,344	88	87								
					950	87	86											
					1,990	89 1/2	89											
					1,200	88 3/4	88											

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 7.0								Casing.
7.0 - 63.0	QTZ-FS PORPH	Light grey	m.g.	Porph. (Fs & qtz eyes)	Weakly fract'd.	Minor epid.	Sparse, finely diss. py. Trace cp	16.0-17.5': Andesite dyke cts 45°.
63.0 - 69.0	ANDESITE DYKE	Grn grey	f.g.		Massive, weakly fract'd.	Sauss-epid		Cts. 45° & irregular.
69.0 - 129.0	QTZ-FS PORPH	Light grey	m.g.	Porph. (Fe & qtz eyes)	45° & 20° joints.	Minor epid.	Finely diss. py. Tr. cp.	
129.0 - 136.0	BEDDED TUFF	Light grey	f.g.		Bedded. Local sects. massive.	Intense ca.	Diss & stgrs py.	130-132: Sheared. Shearing 50°. Rhyolite tuff.
136.0 - 308.0	ALT. AMYGD ANDESITE	Brownish-grey	f.g.		Weakly amygd. Weakly to mod. fract'd.	Strong ca, biotite. Some sauss. epid.	Scattered patches & specks of ep-py.	
308.0 - 328.0	AMYGD ANDESITE P.L.	Dark blue-grey	f.g.		Weakly amygd & broadly pil'd.	Sauss-biotite.	Odd patch of cp.	
328.0 - 451.0	AMYGD ANDESITE	Grn-grey	m.-f.g.		Weakly amygd & fract'd. Scattered 45° jointing.	Sauss biotite, albitite stgrs & patches, some chl. Minor epid.	Minor py.	Local sects. of flow bx.
451.0 - 471.0	ANDESITE FLOW BX.	Grn-grey	m.-f.g.	Heterogeneous	Mod. fract'd.	Ca-hematite? sauss chl.		Ca-filled frs.

Hole No. N-369

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
471.0 - 506.0	ALT. AMYGD. ANDESITE	Light grn grey	M.-f.g.		Mod. to strongly fract'd. Weakly amygd.	Intense ca. Patches of albitite. Minor epid.	Tr. cp.	20° & 45° ca-filled frs.
506.0 - 508.0	FAULT (QTZ- CA BX)	Light gry						Cts. 25°.
508.0 - 586.5	ALT. AMYGD. ANDESITE	Light to med. grey	M.-f.g.		Mod. fract'd. Weakly amygd.	Intense ca. Minor chl. Sauss. Local biotite altn.		535.5-536.5: Fault (qtz-ca ser) cts 45°. 558.5-570.5: Qtz ca fault cts 10-15°.
586.5 - 676.0	AMYGD ANDESITE P.L.	Grn, buff, gry	F.g.		Weakly amygd. Broad- ly pil. Mod. to strongly fract'd.	Strong ca. Patches of sauss epid. Local bi- otite. Local patches chl.		Frs. 45° and 15°. Ca-filled. Bio- tite altn. at pil. bdrs.
676.0 - 693.0	BLEACHED ANDESITE	Med. grey	F.g.		Mod. fract'd. Weakly sheared.	Intense ca. Patches of biotite.		686-688: Fault. Qtz-ca ser-schist. Schistosity 35°-40°.
693.0 - 712.0	AMYGD ANDESITE P.L.	Med. to dark gry	F.g.		Mod. fract'd. Weakly amygd, broadly pil'd. Weakly shear'd/	Local strong ca, ca- filled frs. Some biotite. Local patches of albitite.		40-60° frs. Odd 30-35° qtz stgr with py-cp.
712.0 - 759.0	BLEACHED AMYGD ANDESITE	Med. gry	F.g.		Mod. fract'd & sheared	Intense ca.	Cp & MoS ₂ in stgrs.	30-40° shearing scattered 35° qtz- ca stgrs.
759.0 - 821.5	AMYGD ANDESITE P.L.	Med. to dark grey	F.g.		Weakly amygd & broadly pil, mod. to strongly fract'd.	Mod. to strong ca, ca- filled frs.	Minor py, cp.	790-807: Bleached, intense ca altn mod. fract'd & sheared. Odd qtz- ca stgr. Shearing at 35°.
821.5 - 831.5	SHEARED ANDESITE	Light grn- grey	F.g.		Strongly sheared	Intense ca	Odd patch	Fault zone 826-827: Qtz-ca bx. 40° shearing.
831.5 - 885.0	AMYGD ANDESITE P.L.	Grn-gry	F.g.		Mod. fract. Weakly amygd. Broadly pil.	Sauss. Local ca altn. Ca-filled frs. Minor chl.		Weakly sheared 40°.
885.0 - 934.0	AMYGD ANDESITE	Med. grey	F.g.		Mod. to strongly fract'd. Weakly amygd.	Minor sauss. Local strong ca, ca-filled frs./	Minor py-cp. Odd patch sph.	Frs. 45-60° @ 912" irregular qtz-ca stgr with sph.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
934.0 - 983.0	ALT. & SHEARED ANDESITE	Light gry	f.g.		Mod. to strongly sheared.	Intense ca.		Bleached. Fault zone. Shearing 10-35°.
983.0 - 998.0	AMYGD ANDESITE	Buff gry	f.g.		Mod. amygd & fract'd	Mod. ca, some biotite. Ca filled frs.		
998.0 - 1028.0	ANDESITE DYKE	Med. gry	f.g.	Weakly porph	Massive. Weakly fract'd.	Minor sauss.		Could be a weakly amygd flow.
1028.0 - 1085.0	AMYGD ANDESITE	Med. gry	f.g.		Weakly amygd.	Local blue-grey silic. Chl patches & spots sauss.		Siliceous andesite.
1085.0 - 1097.0	ALT. ANDESITE	Grn gry	f.g.	Heterogeneous		Strong blue silic & grn chl.	Diss. & odd stgr py.	
1097.0 - 1146.0	MASSIVE SILICEOUS ANDESITE	Med. grey	f.g.		Massive. Weakly to mod. fract'd.	Blue silic. Local purple silic spots. Some chl.	Minor py.	1129-1130: Highly broken.
1146.0 - 1154.0	MASSIVE ANDESITE	Med. grey	f.g.		Massive. Weakly fract'd.	Ca-filled frs. Weak sauss.		
1154.0 - 1183.0	SILIC ANDESITE	Med. grey	f.g.	Heterogeneous		Patches & spots of purple silic	Minor py.	Heterogeneous texture due to altn (silic).
1183.0 - 1209.0	SHEARED ANDESITE	Med. grey	f.g.		Highly fract'd, sheared & broken.	Qtz-ca ser.	Minor py.	4.0' lost core. Sheared silic andesite. Shearing @ 45°.
1209.0 - 1218.0	ALTERED ANDESITE	Med. grey	f.g.		Weakly sheared & fract'd & brecciated	Strong ca, some epid.	Local diss py.	
1218.0 - 1245.0	ALT. SILIC ANDESITE	Med. grey	f.g.	Blue qtz cyes.	Massive, weakly fract'd.	Silic, ser, some chl.	Sparse py, po.	
1245.0 - 1298.0	SILIC ANDESITE	Med. to dark grey	f.g.		Massive. Weakly fract'd & sheared	Silic, local biotite, local insipient dalm. Local chl.	Odd patch of py, po.	Insipient dalm. Weak shearing @ 20-35°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1298.0 - 1307.0	ANDESITE DYKE	Light to med. gry	f.g.		Massive, weakly fract'd.	Sauss & local weak biotite.		Cts 45° & ground.
1307.0 - 1371.0	SILIC ANDESITE	Med. to dark grey	f.g.		Massive, weakly fract'd.	Strong silic. Local insipient dalm. Local epid & local chl.	Scattered frs filled with py, po, cp.	Insipient dalm.
1371.0 - 1382.0	ALT. ANDESITE	Dark grn grey	f.g.		Massive.	Chl-ser, minor biotite. Odd qtz clot.		
1382.0 - 1471.0	DIORITE	Med. grey	m.g.	Weakly porph	Massive		Odd qtz cp-po filled/ fr.	Near ct 50°? Slight chilling. 1451: 50°3" qtz-ca stgr (small fault). Some cp-po.
1471.0 - 1477.0	ANDESITE DYKE	Dark grey	f.g.		Massive			Cts 45°.
1477.0 - 1495.0	DIORITE	Med grey	m.-f.g.					1488-1495: Strong ca altn. Far ct ground.
1495.0 - 1574.0	AMYGD ANDESITE	Dark grey	f.g.		Mod. amygd.	Sauss filled amygds. Some sauss, minor bio- tite.	Minor py, cp.	Odd 20° qtz stgr with py, cp, MoS ₂ .
1574.0 - 1615.0	AMYGD SILIC ANDESITE	Bluish grey	f.g.		Weakly amygd. Weakly fract'd.	Silic & sauss.	Sparse diss po, cp, py.	Dacite.
1615.0 - 1636.0	ANDESITE DYKE	Med. grey	f.g.	Weakly porph	Massive	White qtz in fractures		Near ct 45°. 2" qtz-ca fault.
1636.0 - 1649.0	BASIC TUFF	Med. grey	Fine Aphanitic		Weakly bedded.	White qtz in fractures. Sericitic near dyke contacts.	Minor chalco in qtz.	Inter andesite tuff with bleaching at the upper and lower contact.
1649.0 - 1692.0	FRACTURED AMYGDAL ANDESITE	Light grey grn.	Fine-med.		Weakly amygdal. Fractured.	White qtz & carb in fractures.	Minor pyrr in andesite.	Andesite dyke 1659-1670 1670-1685: Fractures at 60° to the core axis filled with qtz.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1692.0 - 1762.0	BLEACHED PORPHYRITIC ANDESITE	Grey grn	Fine, med.	Uneven, porphyritic	Massive. Fractures at 60° to core axis.	Qtz & carb in fractures	Minor pyrr.	1702.6-1708: Bleached section with qtz sericite. Weak amygdules in bottom section. Qtz veins with pyrr at 25° to core axis; 1743-1745 ft. 1760-1762 ft.
1762.0 - 1790.0	AMYGDAL ANDESITE P.L.	Med. grey green.	Fine, med.		Moderately amygdal. Pillowed.	Qtz carb in fractures. 2% albitite, bleaching,	Minor pyrr & chalco	Chlorite & feldspar in amygdules.
1790.0 - 1847.0	FLOW BANDED ANDESITE	Light gry, light grn	Fine		Weakly flow banded, weakly amygdal	Bleached patches with sericite & qtz.	Minor pyrite	Qtz vein 1811-1812. Cherty section 1825-1827. Qtz & chlorite fill amygdules.
1847.0 - 1876.2	AMYGDAL ANDESITE P.L.	Grey grn, mottled	Fine, med.		Moderately amygdal, pillowed.	3% albitite patches. Qtz & carbonate in fractures.	Scattered minor pyrite & chalco.	Chert sections 1847-1848 1859-1860
1876.2 - 1894.0	BASIC ASH & TUFF	Med.-lt grey	Fine		Weakly banded with alt. spots.	White qtz in fractures	Minor scattered py.	Banding at 40° to the core axis. Fragments with chlorite alt'n 2-5 mm in diameter.
1894.0 - 1978.6	AMYGDAL ANDESITE P.L.	Light grey green	Fine-med.		Moderately amygdal, pillowed.	Epidote in fractures, patches of albite.	Scattered minor pyrr/ & chalco.	Q.F.P. sills 1911-1912 ft. 1914-1924 ft. Rock is siliceous with phenocrysts of qtz & feld.
1978.6 - 2006.3	RHYOLITE Q.F.P.	Grey white	Med.	Uneven, porphyritic	Massive	Inclusions of altered andesite.		Phenocryst of white feldspar & qtz.
2006.3 - 2011.0	AMYGDAL ANDESITE	Grey grn	Fine-med.		Moderately amygdal	Chlorite alteration.		Phenocrysts of white feldspar up to 4mm. form around fractures.
2011.0 - 2039.0	RHYOLITE Q.F.P.	Grey white mottled	Med.	Uneven, porphyritic				Rock appears to be intrusive.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2039.0 - 2052.0	RHYOLITE BRECCIA	Grey, light grn	Fine, med.		Brecciated with acid fragments.	Chlorite around frag- ments. Phenocrysts of white feldspar are minor	Minor pyrrhotite	Foliation in section at 40° to core axis. Andesite Dyke 2050.6-2052 ft.
2052.0 - 2138.0	RHYOLITE Q.F.P.	Grey, grn, mottled.	Med.	Uneven, porphyritic	Massive with inclu- sions of basic breccia	White qtz in fractures		Phenocrysts of qtz & white feldspar up to 4 mm in a dense green matrix.
2138.0 - 2146.0	PORPHYRITIC RHYOLITE	Light gry	Fine, med.	Uneven, porphyritic	Massive, fractures similar to Waite Rhyolite.			Phenocrysts of white feldspar and qtz up to 3 mm long.
2146.0 - 2187.0	RHYOLITE Q.F.P.	Grey, grn	Fine, med.	Uneven, porphyritic	Massive, fractured.	Carbonate qtz in frac- tures.	Minor chalco & py	2164-2165: Shear at 50° to core axis.
2187.0 - 2211.0	PORPHYRITIC ANDESITE	Grey, grn	Fine, med.	Uneven, porphyritic	Weakly amygdal, frac- tured.	Chlorite alt'n general. Carbonate in fractures.	Minor chalco & py	2187-2195: Fractures at 45° to core axis. Phenocrysts are both qtz & white feldspar.
2211.0 - 2260.0	RHYOLITE Q.F.P.	Lt grey grn.	Fine, med.	Uneven, porphyritic	Massive, fractured	Carbonate in fractures. Chlorite alt'n general	Minor py.	Phenocrysts of white felds & blue qtz are common. Sections resemble rhyolite in fracture pattern & texture.
2260.0 - 2265.0	ANDESITE DYKE	Dark grn	Fine		Massive, weakly fractured.	Epidote & chlorite in fractures.	Minor py.	Upper & lower contacts are chilled.
2265.0 - 2308.0	RHYOLITE Q.F.P.	Grey grn, mottled	Fine, med.	Uneven, porphyritic	Massive, weakly fractured.	Carbonate & chlorite in slips.	Minor chalco in fractures.	Sections of the porphyry have rhyo- lite features. Some amygdule rem- nants with chlorite also occur.
2308.0 - 2330.5	PORPHYRITIC ANDESITE	Dull grey, grn	Fine, med.	Uneven, porphyritic	Massive. Weakly sheared.	Chlorite, carbonate alt.	Minor py	Phenocrysts of white felds & qtz
2330.5 - 2341.0	AMYGD ANDESITE	Grn grey	M.-f.g.		Weakly amygd. Mod fract'd.	Chl, sauss.	Minor py	Sauss, ca filled frs.
2341.0 - 2389.0	ANDESITE DYKE	Dark grn grey	M.g.	Uneven porph	Massive. Mod. fract'd	Odd qtz stgr. Sauss- filled frs. Tr. epid.	Diss & odd stgr of py. Minor cp.	Cts 35°. Frs 20°-80°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2389.0 - 2408.0	AMYGD ANDESITE	Grn grey	M.-f.g.	Weakly porph	Weakly to mod, amygd. Weakly fract'd.	Chl & sauss filled amygd. / Odd 40° qtz stgr. Sauss filled frs.	Minor po.	2398-2401: Med. grey f.g to aphanitic silic dyke. Cts 80°.
2408.0 - 2415.0	PORPH ANDESITE	Grn grey	M.-f.g.	Uneven porph.	Massive. Very weakly fract'd.	Sauss.		Near ct gradational. Phenos of white fs, odd qtz.
	END OF HOLE							

18 JUN 68

RECEIVED
ADMINISTRATION
GENERAL INVESTIGATION
DIVISION

LAKE DFAULT MINES LTD.

Drill Hole Record

Hole No. N-370	Lat. 19,692.0	Dep. 11,670.0	Elev. 11,135.65	Dip -90°	Bearing _	Depth 958'
Working Place (Dh)	Date Started July 22, 1966	Compass Tests		Acid Test		
	Date Completed August 2, 1966	Depth	Dip	M.Brng.	Depth	Read
		25'			89 1/2°	89 1/4°
		500'			89 1/2°	89 1/4°
		950'			88°	87°

SAMPLED SECTIONS						
From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-15.0								Casing.
15.0-41.0	Flow banded andesite.	Dark grey.	F.g.		Weakly amygd. Strongly flow banded.	Sauss.		
41.0-100.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Strongly amygd. Weakly fract'd. Very broadly pil.	Sauss minor epid. Sparse albitite & chl.		
100.0-192.0	Mass andesite.	Dark grey.	M.f.g.		Massive. Weakly fract'd.	Sauss speck.		45°-60° ca-sauss filled frs.
192.0-210.0	Amygd andesite.	Grey.	M.f.g.		Mod amygd.	Sauss minor epid. Sauss-chl filled amygds.		
210.0-343.0	Mass andesite.	Dark grey.	M.g.		Massive. Weakly fract'd.	Dioritized.		303-306 Sheared hematite stained. Shearing at 60°.
343.0-378.0	Amygd andesite.	Med grey.	F.g.		Weakly amygd.	Minor sauss.		Near ct 75°

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
378.0-472.0	Amygd andesite P.L.	Dark grey.	F.g.	Weakly porph (fs).	Weakly amygd & broadly pil. Weakly fract'd.	Odd patch albitite.		
472.0-542.5	Amygd andesite.	Dark grey.	M.f.g.		Weakly amygd & fract'd.	Odd sect of sauss epid. Weakly dioritized.		50°-60° frs.
542.5-560.0	Amygd andesite.	Light grn grey to dark grey.	M.f.g.		Mod amygd.	Sauss-epid chl filled amygds.		
560.0-590.0	Mass andesite.	Med grey	M.g.		Massive.	Dioritized.		
590.0-608.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Weakly amygd & broadly pil.	Sauss-epid chl.		
608.0-618.0	Mass andesite.	Med grey.	M.g.		Massive.	Dioritized.		
618.0-628.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Mod amygd & broadly pil.	Sauss-epid chl.		
628.0-679.0	Amygd andesite.	Grn grey.	M.f.g.		Mod amygd.	Sauss-epid chl.		656-661 Flow bx.
679.0-723.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Weakly amygd mod pil.	Albitite chl.		
723.0-839.0	Mass andesite.	Med to dark grey.	M.g.		Massive.	Dioritized.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
839.0-887.0	Amygd andesite.	Med grey.	F.g.		Mod amygd. Weakly fract'd.	Sauss. Chl filled amygds.	Diss py.	841-842 some dusty sph noted.
887.0-896.5	Sheared tuff.	Light grey.	F.g.		Schistose.	Ser-qtz schist minor ca.	Minor py.	887-892.5 Very strongly sheared. Schistosity-60°. 892.5-896.5 Mod to weakly sheared.
896.5-910.0	Rhyolite bx.	Med grey.	F.g.	Heterogeneous.	Mod brecciated.	Sauss minor chl.	Diss py throughout.	
910.0-944.0	Mass rhyolite.	Med grey	F.g. to aph.	Pseudo porph.		Blue silic minor sauss & chl.	Diss py minor po.	928-938 Rhyolite bx.
944.0-958.0	Rhyolite bx.	Med grey.	F.g.	Heterogeneous.		Sauss.		
END OF HOLE.								

18 NOV 82
 REGISTRATION
 ADMINISTRATION
 MINISTRE DE L'ENERGIE

LAKE DUFALT MINES LTD.

Drill Hole Record

Hole No. N-371	Lat. 49° 67' 63"	Dep. 14 211-39	Elev. 11,197.26	Dip -90°	Bearing	Depth 1962'	
Working Place (Am)	Date Started July 29, 1966	Compass Tests		ACID TEST			
	Date Completed Sept 2, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.
		Depth	Read	Corr	Depth	Read	Corr
		25'	90°	90°	1220'	88 1/4°	87 3/4°
		500'	88°	87°	1300'	87 3/4°	87°
		970'	87 1/2°	86 1/2°	1500'	87 1/2°	86 1/2°
		1190'	86°	84 1/2°			

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-12.0								Casing.
12.0-134.0	Mass andesite.	Dark grey.	F.g.	Locally weakly porph.	Massive. Weakly fract'd & sheared.	Ca filled frs. Minor sauss.	Minor py-cp.	30°-40° shearing.
134.0-136.0	Fault zone.	Light grn grey.	F.g.		Brecciated.		Odd patch py.	Qtz-ca-ser bx. Cts 40°
136.0-257.5	Sheared andesite.	Dark grey.	F.g.		Mod fract'd & sheared. Massive.	Mod to strong ca altn. Ca filled frs.		Shearing 30°-60°. Ser & hematite plated slips.
257.5-263.0	Fault zone.	Med grey.	F.g.	Schistose.				Qtz-ca-ser schist. Schistosity 45°.
263.0-278.0	Alt diorite.	Med grey.	M.f.g.		Strongly fract'd. Mod sheared.	Intense ca.		
278.0-525.0	Diorite.	Med grey.	M.g.		Weakly fract'd.	Minor epid. Odd 45° qtz stgr.		
525.0-527.0	Sheared diorite.	Med grey.	F.g.		Weakly schistose.	Strong ca.		Fault 50°
527.0-567.0	Diorite.	Med grey.	M.g.		Weakly fract'd.	Minor epid.		

Hole No.
N-371

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
567.0-578.0	Andesite dyke.	Dark grey	F.g.		Weakly fract'd.			Cts 50°
578.0-693.0	Diorite.	Med grey.	M.g.			Minor epid.		599-599.8 Fault. 40° Far ct 60°
693.0-721.5	Amygd andesite.	Med grey.	F.g.		Mod fract'd. Weakly amygd.	Ca-sauss filled frs.		Frs 60° & 20°
721.5-761.0	Amygd andesite.	Med to dark grey	F.g.	Porph(fs)	Weakly amygd. Mod fract'd.	Sauss chl filled amygds. Sauss-ca filled frs. Patches of sauss-epid.	Minor py.	Frs 45°-60° Far ct 60°. Very small white fs phenos.
761.0-884.0	Massive andesite.	Dark grey.		Porph(fs)	Weakly fract'd.	Patches of sauss epid.		
884.0-909.0	Amygd andesite.	Dark grey.			Weakly amygd. Weakly to med fract'd.	Ca-sauss filled frs. patches of albitite.	Minor py.	
909.0-982.0	Diorite.	Med grey.	M.f.g.		Mod fract'd.	Epid. Ca filled frs.		Odd 1" to 2" 60° qtz-ca stgrs. (faults). 971-982 F.g. & strongly fract'd (DHB Thrust)?
982.0-1006.0	Amygd andesite.	Med grey	F.g.		Weakly amygd. Mod to strongly fract'd.	Weak sauss. Odd patch of sauss epid.		Ca-sauss filled frs.
1006.0-1014.5	Sheared andesite.	Med grey	F.g.		Highly fract'd & sheared. Locally schistose.			Fault zone. Shearing at 40° 1013-1014.5 Qtz ca-ser schist
1014.5-1032.0	Amygd andesite.	Med grey	F.g.		Mod fract'd. Weakly amygd & sheared.	Ca-sauss filled frs.		Frs 60°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1032.0-1037.0	Fault zone.	Med grey	F.g.		Strongly sheared.	Hematite in fractures along with qtz & carbonate.		Shearing 20-35° (West Valley Thrust).
1037.0-1043.5	Andesite dyke.	Med grey	F.g.		Strongly fract'd weakly sheared. Massive.	Qtz-ca filled frs.		
1043.5-1060.0	Sheared andesite.	Grey green.	Fine med.		Sheared & fractured at 45° to core axis.	Chlorite & saussureite patches carbonate in fractures.		Red hematite fills fractures at the base of the section.
1060.0-1065.0	Andesite dyke.	Med grey green.	Fine med.		Massive fractured.	Epidote. Alteration of fractures		Green needles of amphibole 1/4 long in dyke rock.
1065.0-1090.0	Massive andesite.	Med grey green.	Fine med.		Massive. Weakly fractured.	Carbonate. Qtz in fine fractures. Hematite in fault.		1067-1072 Shear zone at 60° to core axis.
1090.0-1156.0	Massive andesite.	Grey green mottled.	Fine med.		Massive. Strongly fractured.	Qtz carbonate & epidote in fractures.	Minor pyrite in fractures.	Fault zone 1130-1134 ft at 30° to core axis. Mauve silic in fractures 1133 ft. Most fractures at 80° to the core axis.
1156.0-1185.6	Sheared massive andesite.	Grey green.	Fine med.		Massive. Strongly sheared and fractured.	Buff carbonate & qtz in fractures.		Fractures 50-60° to core axis. 1183-1885.6 Strong shear at 50° to core axis. 1175-1177 Fl breccia.
1185.6-1205.0	Amygdul andesite P.L.	Grey green mottled.	Fine med.		Weakly amygdul pillowed fractured.	Albitite carbonate alteration near fractures.		1187-1192 andesite dyke.
1205.0-1270.0	Amygdul andesite.	Grey green.	Fine med.		Weakly amygdular weakly fractured.	Carbonate & qtz in fractures.		1217.6-1219 Qtz-albitite vein. Feldspar & chlorite in amygdules.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1270.0-1307.5	Dioritized andesite.	Dark grey-green mottled.	Fine med.		Amygdular andesite with micro diorite sills.	Albitite & sericite alteration at sill margins.		Section 60% micro-diorite & 40% andesite remnants.
1307.5-1368.0	Amygdular andesite P.L.	Grey green mottled.	Fine med.		Moderately amygdular pillowed.	Albitite patches & epidote at pillow borders.		Fractures at 60° to core axis filled with carbonate qtz. Flow breccia. 1063-1066
1368.0-1379.0	Amygdular andesite.	Light grey.	Fine med.		Strongly amygdular.	Qtz carbonate in fractures.		Rounded amygdules between 3-8mm contain chlorite.
1379.0-1382.6	Basic tuff.	Med grey	Fine.		Weakly bedded with qtz shurds.		Minor pyrite	Inter flow tuff.
1382.6-1413.0	Massive andesite.	Med grey	Fine		Massive fractured.	Qtz carbonate in fractures.		Hair-like fractures at 50° to the core axis. Small shears 30° to core axis. 1391-1393 ft.
1413.0-1473.0	Fractures massive andesite.	Med grey green.			Massive strongly fractured.	Carbonate in fractures.		Shear zone at 50° to core axis 1430-1435.5 Core below section is broken & ground.
1473.0-1584.0	Massive andesite.	Med grey	Fine med.		Massive moderately fractured.	Carbonate in fractures.		1549-1564 Weakly flow banded section 1564-1584 Fractures with white carbonate at 50° to core axis. 1571-1572- Shear zone at 45° to axis.
1584.0-1606.0	Amygdular andesite P.L.	Grey green mottled	Fine med.		Moderately amygdular pillowed.	Carbonate in fractures.		Chlorite in amygdules.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1606.0-1691.6	Amygdul andesite P.L.	Light grey green mottled.	Fine med.		Weakly amygdul pillowed.	Bleached grey with sericite & chlorite in shears. Qtz & carb in fractures.		1620-1621-Fractures 50° to core axis. 1658-1669-Shear zone 45° to core axis. 1675-1684 Porphyrific andesite dyke.
1691.6-1697.0	Andesite flow breccia.	Grey green mottled.	Fine med.		Brecciated & weakly fractured.	Chlorite alteration around fragments Carbonate in fractures.	Massive pyrrhotite & minor chalco.	Assay 1691.6-1693.0 2)1693-1695.6 Estimated-10-15% pyrrhotite.
1697.0-1727.6	Amygdul andesite P.L.	Med grey green.	Fine med.		Moderately amygdul pillowed weakly fractured.	Bleached with chlorite alteration in dark sections.	Scattered pyrrhotite & chalco in breccia sections.	1719.6-1729.6 Flow breccia with scattered pyrrhotite. Fractures at 45-50° to core axis.
1727.6-1745.0	Amygdul andesite.	Med grey	Fine med.		Moderately amygdul fractured.	Weak biotite alt. Carbonate in fractures & amygdules.		1643.6-1644.6 Shear zone at 40° to core axis.
1745.0-1816.0	Amygdul andesite.	Dark grey green mottled.	Fine med.		Moderately amygdul.	Bleached patches with albitite & sericite qtz carbonate in fractures.	Minor pyrite & pyrr. Odd patch of py-po.	1775-1776 Fractures at 35° to the core axis. 1780-1783.6 Fractures at 10° to core axis. (Steep fault)
1816.0-1900.5	Amygd andesite P.L.	Dark grey green.	M.f.g.		Weakly to mod amygd. Broadly pil. Weakly fract	Patchy sauss and rags & patches of chl. Chl-sauss filled amygds. Odd sauss pod.	Scattered patches of py-po.	Upper ct gradational. Questionable pillows.
1900.5-1909.0	Bedded tuff.	Buff grey.	M.f.g.	Chl & white fs frags in a buff grey ground-mass.	Locally strongly bedded.		Finely diss py throughout. Trace of sph?	Bedding 65°. 1900.5-1903 Sample for Cu Zn.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1909.0- 1912.0	Fault zone.	Med grey.	F.g.		Schistose.		Py with minor cp.	Qtz-ca-ser schist. Schistosity 60°
1912.0- 1919.0	Rhyolite breccia	Light green grey.	F.g.		Brecciated.	Blue silic sauss and minor epid.	Diss py-po. Some cp at start of sect.	
1919.0- 1954.0	Massive rhyolite.	Bluish grey.	F.g.		Massive. Mod blocky.	Minor sauss epid altn.	Finely diss py throughout minor po.	Locally flow banded. 1931.5-1933.5 brecciated.
1954.0- 1962.0	Rhyolite bx.	Light to med grey.	F.g.		Brecciated.	Minor sauss.	Finely diss py.	
END OF HOLE.								

18 NOV 66
 DEPT OF
 MINING AND
 TECHNICAL
 SURVEY

LAKE DFAULT MINES LTD.

Drill Hole Record

Hole No. N-372		Lat. 19,970.0	Dep. 16,580.0	Elev. 11,160.8	Dip -90°	Bearing	Depth 1,164 ft.
Working Place	Date Started	SAMPLED SECTIONS					
	Aug. 1, 1966	Compass Tests		Acid Test		From	To
(No)	Date Completed	Depth	Dip	M.Brng.	Depth	Read	Corr.
	Aug. 18, 1966				36'	89 3/4	89 1/2
					500	89	88 1/2
					1000	88 1/2	87 1/2
					1160	88 3/4	88

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 36.0								Casing.
36.0 - 96.0	AMYGD ANDESITE P.L.	Med. grey	F.g.		Weakly amygd & mod. pil. Weakly fract'd.	Sauss. patches & stgrs. Chl & sauss-filled amygs		
96.0 - 112.0	FLOW BX ANDESITE	Dark grey	F.g. to aph.		Strong fl bx.	Odd patch sauss-epid.	Minor py.	
112.0 - 129.0	AMYGD ANDESITE	Dark grey			Mod. amygd.	Qtz-sauss filled amygds. Patches of sauss - minor epid.		Elongated amygd.
129.0 - 388.0	AMYGD ANDESITE	Dark grey	F.g.	Very weakly porph.	Very weakly amygd. Weakly fract'd.	Minor sauss.		286-301: Odd 45° hematite plated joint.
388.0 - 430.0	AMYGD ANDESITE P.L.	Dark grey	F.g.		Mod. amygd. Cooling frs. Questionable pil. bdrs.	Qtz-sauss filled amygds. Local sauss-epid patches.		
430.0 - 497.0	AMYGD ANDESITE	Med. to dark grey	F.g.	Very weakly porph.	Mod. amygd.	Pods of sauss-epid. Qtz-sauss filled amygds.		484-485: Qtz-fs-ca cts 65 & 40°.
497.0 - 649.0	AMYGD ANDESITE	Med. grey	F.g.	Very weakly porph.	Very weakly amygd. Weakly fract'd.	Weakly dioritized. Local patches of sauss-epid.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
649.0 - 652.5	AMYGD ANDESITE P.L.	Grn-grey	F.g.		Weak amygd. Mod. pil.	Odd sauss epid pod.	Minor py.	
652.5 - 722.0	AMYGD ANDESITE	Mod. to dark grey	F.g.	Very weakly porph.	Very weakly amygd.	Weakly dioritized. Minor sauss epid.	Trace of py.	
722.0 - 769.0	ANDESITE DYKE	Dark grey	F.g.	Uneven, porphyritic	Massive	Qtz carb in fractures. Bleached with sericite lower 10 ft.		White phenocrysts of feldspar up to 3 mm in a fine matrix.
769.0 - 795.0	SHEARED FLOW BRECCIA	Grey-grn mottled	Fine-med.		Brecciated & sheared	Sericite epidote alt'n in shear.	Scattered pyrr.	Shear, 769-795 ft. at 55° to core axis. Sericite epidote in shear.
795.0 - 887.0	AMYGDAL ANDESITE	Dark grey	Fine-med.		Moderately amygd'l. Flow breccia sects.	Epidote, qtz carbonate in minor fractures.	Minor chalco & py- rite. Breccia.	817-825: Andesite dyke. Flow breccia sections: 885-887, 848.6-850.6, 855-857 ft. Amygdular & rounded fragments in a fine matrix.
887.0 - 937.0	PORPHYRITIC ANDESITE	Med. grey grn	Fine-med.	Uneven, porphyritic	Massive, weakly fractured.	Bleached patches. Epidote & carbonate in fractures.		Phenocrysts of white feldspar 1-3 mm long.
937.0 - 939.0	BASIC TUFF	Dark grey green	Fine		Weakly banded.	Qtz vein upper 3 inches	Buds of pyrrhotite lower 4 inches.	Interflow tuff with a cherty top.
939.0 - 1085.8	AMYGDAL ANDESITE P.L.	Grey green L./mottled	Fine- med.		Moderately amygdal. Pillowed.	Epidote & albitite patches make up 15% of core.		
1085.8 - 1093.6	ACID TUFF & ASH	Light gry	Fine		Weakly banded with acid fragments.	Vein qtz & chlorite in fractures	Scattered pyrite & pyrr with minor chalco & sphal.	1085.8-1088.3: Volcanic ash 1088.3-1093.6: Acid tuff with chert. in upper 2 inches.
1093.6 - 1106.0	RHYOLITE BRECCIA	Light grey green, mottled.	Fine-med.		Brecciated. Basic & acid fragments in altered matrix	Epidote & chlorite alt. of fragments.	Minor pyrite & pyrr.	Appears to be an explosive breccia.
1106.0 - 1117.0	MASSIVE RHYOLITE	Lead grey	Fine-med.		Massive, fractured.	Qtz & chlorite in fractures.		Lower 2 ft. shows chlorite-sericite bleaching.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1117.0 - 1164.0	RHYOLITE BRECCIA END OF HOLE	Grey grn. Mottled	Fine-med.		Brecciated & fractured.	Chlorite-sericite alt'n at the margin of frags.	Scattered minor pyrrhotite	Fragments are rounded to angular 1/4-1 inch in diameter.

18 NOV 82
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LAKE DUFALT MINES LTD.

Drill Hole Record

Hole No. N-373 Lat. 19,062.0		Dep. 12,869.0		Elev. 11,050.0		Dip -90°		Bearing -		Depth 1,772 ft.				
Working Place	Date Started	Compass Tests			Acid Test			SAMPLED SECTIONS						
	Aug. 3, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.	From	To	C.L.	Cu	Zn	Au	Ag
(Dn)	Date Completed													
	Sept. 1/ 1966				47'	89 1/2°	89°							
					225'	88 1/4°	87 1/2°							
					500'	88°	87 1/2°							
					1000'	88°	87 1/2°							
					1770'	87 1/2°	86 1/2°							

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 108.0								Casing. 0-42' BX, 42-108' AX
108.0 - 188.0	AMYGD ANDESITE	Med. to dark grey	F.g.		Strongly amygd. Weakly fract'd.	Sauss-filled amygds. Local particles of sauss, epid.		
188.0 - 194.0	FL. BX ANDESITE	Dark grey	F.g.	Sauss & qtz frags.	Locally brecciated. Weakly fract'd.			Flow top bx.
194.0 - 289.0	AMYGD ANDESITE	Dark grey	F.g.		Weakly amygd.	Patches of sauss. Local patches of qtz epid.	Odd speck of cp.	
289.0 - 330.0	AMYGD ANDESITE P.L.	Med. grey	F.g.		Weakly amygd & broadly pil. Weakly fract'd.	Weakly dioritized. Odd patches of sauss.		Fractures filled with qtz & carb at 55° to core axis.
330.0 - 461.0	MASSIVE ANDESITE	Med. grey- green	Fine-med.	Crystalline	Massive. Weakly fractured.	Carbonate, qtz in frac- tures.		344-354': Fractures with carb & qtz 50° to core axis.
461.0 - 533.0	MASSIVE ANDESITE	Med. grey- green	Fine-med.	Finely crystalline	Massive, minor fractures.	Epidote, carbonate in fractures.		Section is a massive flow.
533.0 - 542.0	FLOW BRECCIATED ANDESITE	Grey, white mottled.	Fine-med.		Brecciated & fractures	Carbonate, epidote in fractures. Feldspar patches.		534-536: Steep fracture 30° to core axis.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
542.0 - 602.0	ANDESITE DYKE	Grey, cream, mottled	Fine, med. grd.	Crystalline	Massive with in- clusions of andesite.	Feldspathic alteration in andesite fragment.		544-554: Altered amygdal andesite included in andesite dyke.
602.0 - 647.0	AMYGDAL ANDESITE P.L.	Med. grey	Fine, med.		Weakly amygdal, pillowed.	Carbonate in fractures. Patches of qtz feld near pillow bdrs.		Lower 20 ft. bleached white cream.
647.0 - 667.0	BASIC TUFF	Dark grey	Fine		Weakly banded with breccia.	Sericite qtz section 655-656 ft.		Inter andesite tuff. Andesite dyke 667.5-668.
667.0 - 728.5	AMYGDAL ANDESITE P.L.	Grey, cream, mottled	Fine, med.		Moderately amygdal, pillowed.	Saussurite. Epidote patches. Chlorite in amygdules.		Heavily bleached. Pillowed andesite.
728.5 - 829.0	MICRO- DIORITE	Dark grey green	Med.	Crystalline	Massive, weakly fractured.	Qtz & carb in fractures		Andesite at the upper contact is bleached. Lower contact is brec- ciated. Steep fracture 842-844.
829.0 - 883.0	AMYGDAL ANDESITE	Light gry green	Fine, med.		Moderately amygda- loidal. Fractured.	Carbonate qtz in fractures.		
883.0 - 916.0	AMYGDAL ANDESITE P.L.	Med. gry green	Fine, med.		Moderately amygda- loidal. Pillowed.	Albite bleaching, minor carbonate in fractures.	Minor pyrrhotite	Pillowed flow section.
916.0 - 938.0	BASIC TUFF & ASH	Dark gry	Fine		Weakly bedded with breccia fragments.	Carbonate in fractures.	Minor pyrite, pyrrho- tite & sphalerite in bands.	Assay section 934.8-937.4.
938.0 - 953.0	ASH & BRECCIA	Med. gry	Fine		Weakly bedded, brecciated	Carbonate in fractures.		Porphyritic rhyolite 938-941.6.
953.0 - 1105.0	MASSIVE ANDESITE	Med. gry	Fine, med.		Massive, weakly fractured & sheared	Carbonate & qtz in fractures.		Sheared & bleached sections at 50° to axis, 1014-1015 1017-1020 1043-1045
1105.0 - 1121.0	ANDESITE DYKE	Dark gry green	Fine, med.	Crystalline	Massive, weakly fractured.			Lower margin chilled,

N-373

Hole No. _____

Page 2

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1121.0 - 1170.0	AMYGDAL ANDESITE P.L.	Grey grn	Fine, med.		Weakly amygdal. Pillowed.	Carbonate in fractures	Minor pyrr & pyrite in breccia.	Flow breccia 1147-1167 ft. Pyrr around breccia fragments.
1170.0 - 1202.0	ACID TUFF	Light gry	Fine		Weakly bedded.	Qtz carb in fractures	Scattered pyrite.	Shear at 50° to core axis 1175-1176.
1202.0 - 1217.0	ACID BRECCIA	Lead gry	Fine, med.		Brecciated. Altered fragments in a fine matrix.	Biotite alteration. Scattered epidote patches.	Scattered pyrite around breccia fragments.	Mineralized breccia.
1217.0 - 1264.0	AMYGDAL ANDESITE	Grey grn	Fine, med.		Moderately amygdal.	Epidote sericite patches. Carbonate in fractures.		Andesite dyke (1230-1245) with white carbonate in fractures.
1264.0 - 1326.0	MASSIVE ANDESITE	Dark grey grn	Fine, med.		Massive, fractured.	Patches of epidote alt. carbonate in fractures.		1297-1311: Fractures with carbonate at 50° to core axis. 1323-1324: Andesite dyke.
1326.0 - 1372.6	FL. BANDED ANDESITE	Med. grey grn	Fine, med.		Weakly flow banded to massive.	Patches of epidote. White carbonate in fractures.		1326-1332: Andesite flow breccia. 1329-1330: Andesite dyke.
1372.6 - 1376.0	SHEARED TUFF	Dark grey	Fine, med.		Sheared & weakly banded.	Carbonate in fractures.	Minor pyrite in bands.	Shears at 50° to core axis. Chert fragments in lower 2 ft.
1376.0 - 1396.0	RHYOLITE BRECCIA	Dark grey	Fine, med.		Brecciated. Weakly fractured.	Chlorite alteration around fragments.	Scattered minor pyrite.	1390.6-1393.0: Andesite dyke.
1396.0 - 1527.5	RHYOLITE BX	Med. grey	F.g.	Fragmental chl & sauss frags.	Brecciated. Weakly fractured.	Patchy albitite sauss, some epid.	Minor diss. py. Odd patch po.	1502.5-1507.5: Alt. rhyolite bx. Strong sauss altn, garnets (alman- dine?) odd patch po, minor sph. Sample for zn.
1527.5 - 1540.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive			1538-1540: 20° shearing.
1540.0 - 1568.0	RHYOLITE BX	Med. grey	F.g.	Fragmental chl & sauss frags.	Brecciated.	Sauss, patchy sauss epid. Odd patch of garnet.	Minor py.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1568.0 - 1574.0	LAMPROPHYRE DYKE	Dark grey	F.g.		Massive			Cts ground & 65°.
1574.0 - 1583.0	RHYOLITE BX	Grn grey	F.g.		Brecciated	Strong sauss epid-garnet chl.	Minor py.	
1583.0 - 1705.0	RHYOLITE BX	Med. dark grey.	F.g.	Fragmental	Brecciated	Sauss-epid	Minor py.	1620-1634: Strong sauss, some epid & garnet altn. 1697-1701: Lamprophyre dyke cts 80 & 65'.
1705.0 - 1772.0	AMYGD ANDESITE (WAITE) END OF HOLE	Dark grey	F.g.		Mod. amygd.	Some biotite altn in upper 25' of sect. Chl & odd fs filled amygds.		Near ct 50°. Amygds ovoid in shape, 1753.5-1756: Sauss-epid, minor hematite pod.

18 NOV 1962
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N-373

LAKE DUFAULT MINES LTD.

Drill Hole Record

Hole No. <u>N-374</u> Lat. <u>20,780.00</u>		Dep. <u>12,625.0</u>		Elev. <u>11,203.23</u>		Dip <u>-90°</u>		Bearing <u>---</u>		Depth <u>1416'</u>	
Working Place (Bo)		Date Started		Compass Tests		Acid Test		SAMPLED SECTIONS			
		Aug 6, 1966						From To C.L. Cu Zn Au Ag			
		Date Completed		Depth		Depth					
		Aug 27, 1966		Dip		M.Brng.					
				Depth		Read					
				20'		90°					
				500'		89°		88 1/2°			
				1000'		90°					
				1400'		89 1/2°		89 1/4°			
Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks			
0-6.0								Casing.			
6.0-22.5	Diorite.	Med grey.	F.g.		Weakly fract'd. Blocky.			Rust plated joints.			
22.5-27.5	Flow bx andesite.	Light to med grey.	M.g.	Sauss & frags.	Strongly brecciated.	Strong sauss. Mod albitite & chl.		Odd patch py.			
27.5-76.0	Amygd andesite.	Med grey	M.f.g.		Weakly amygd & weakly fract'd.	Weakly dioritized. Odd pod of sauss epid.		Odd patch py. 27.5-36.0 Strongly amygd. 46.5-59.0 Numerous 10° hematite plated slips.			
76.0-163.0	Mass andesite.	Med grey	M.f.g.		Weakly fract'd.	Dioritized.		Odd 30° hematite plated joint. Scattered 45°-60° joints.			
163.0-188.0	Amygd andesite.	Med to dark grey.	M.f.g.		Weakly to mod amygd. Weakly fract'd.	Weakly dioritized some sauss.		170-174 Andesite flow bx.			
188.0-348.0	Mass andesite.	Med grey.	F.g.		Mod fract'd.	Dioritized some sauss.		240-244 Weak fault zone. Highly fract'd locally sheared. 45°-60° 45°-60° ca-sauss-filled frs. Odd 30° hematite plated joint.			

Hole No. N-374

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
348.0-355.0	Sheared andesite.	Med grey.	F.g.		Highly sheared.	Strong ca.		Shearing 35°-45°
355.0-390.0	Massive andesite.	Med grey.	F.g.		Highly fract'd. Massive.	Ca-sauss filled frs. Some ea.		60° frs.
390.0-402.0	Sheared andesite.	Grn grey.	F.g.		Highly sheared locally schistose.	Intense ca.		Shearing 40°-45°. Locally ca-ser schist.
402.0-415.0	Andesite dyke.	Med grey.	F.g.		Strongly fract'd. Weakly sheared.	Strong ca. Ca-sauss filled frs.		405-408 Strongly sheared.
415.0-477.0	Andesite dyke.	Med grey.	F.g.		Weakly fract'd.			439-440.5 Strong 45° shearing. Odd 20° hematite plated joint.
477.0-521.0	Andesite dyke.	Dark grey.	Fine med.	Crystalline	Massive fractured.	Carbonate in small fracture.		Lower portion has a fine chilled margin.
521.0-526.0	Andesite flow breccia.	Grey green mottled.	Fine med.		Breccia fragments bombs & lapilli in fine matrix.	Qtz carb in fractures.	Minor pyrite near top of breccia.	2-3 inch fragments in fine matrix.
526.0-552.0	Amygdul andesite.	Med grey green.	Fine med.		Weakly amygdul fractured.	Epidote carbonate alt in fractures.		Patches of epidote and jet black bands of carbon ??
552.0-575.0	Sheared & fractured andesite.	Mottled grey green.	Fine med grained.		Sheared & fractured.	Carbonate qtz, chlorite & hematite in fractured.	Minor pyrite.	561-563 Shear at 55° to core axis. 570-575 Steep fractures 12° to core axis hematite stain (DHB?)
575.0-610.0	Amygdul andesite.	Med grey green.	Fine med.		Weakly amygdul with minor fractures & flow breccia.	Epidote pods & saussenite near fractures.	Minor pyrite.	Flow breccia. 580-583 ft. Amygdules up to 1/2 inch filled with chlorite.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
610.0-617.0	Fractured amygdul andesite.	Med grey green.	Fine med.		Weakly amygdul fractures.	Qtz & carb in fractures hematite stain.		610-614 Fault zone 35° to core axis.
617.0-712.0	Porphyritic andesite.	Med grey-green.	Fine med.	Uneven porphyritic.	Massive minor fractures.	Qtz carbonate & hematite in fractures.		Section appears to be a massive flow. 638-640 Fractures at 20° to core axis.
712.0-802.0	Massive andesite.	Med grey green.	Fine med.	Crystalline	Massive weakly fractured.	Chlorite & epidote in fractures.		Massive flow. 1782-1785 shear at 10° to core axis filled with carbonate qtz.
802.0-819.0	Amygdul andesite.	Light grey green.	Fine med.		Moderately amygdul.	Chlorite filling in amygdules.		Andesite dyke in lower section 816-819.
819.0-850.0	Massive andesite.	Med grey green.	Fine med.		Massive moderately fractured.	Carbonate in fractures albitite patches.		
850.0-854.6	Sheared andesite.	Med grey	Fine.		Sheared & banded at 50° to core axis.	Vein qtz 851-852.	Minor pyrite.	Black patches at the margin of qtz vein may be carbon. (West Valley Thrust).
854.6-948.0	Amygdul andesite P.L.	Grey green mottled.	Fine med.		Moderately amygdul pillowed.	Bleached patches chlorite alteration of breccia.		Flow breccia section 854.6-879. Minor shearing 942-943.
948.0-1072.0	Amygdul andesite P.L.	Grey green mottled.	Fine med.		Moderately amygdul pillowed & fractured.	Bleached with patches of albitite.	Minor Pyrr.	1009-1014 Fractured at 50° to axis. 1049-1052 Sheared & fractured 40° to axis. 1048-1049 Andesite dyke.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1072.0-1273.0	Amygdul andesite P.L.	Light grey green Mottled.	Fine med.		Moderately amygdul pillowed & fractured.	Bleached with albitite patches carbonate in fractures.	Minor chalco & pyrr.	1095-1101 Light grey aplite dyke. 1176-1209 Andesite flow breccia. 1269-1271 Shear zone 45° to core axis.
1273.0-1309.0	Massive andesite.	Grey green	Fine med.	Crystalline.	Massive. Weakly fractured.	Qtz carbonate in fractures.		Massive flow.
1309.0-1324.0	Fractured andesite dyke.	Light grey.	Fine med.	Uneven porphyritic.	Massive sheared & fractured.	Chlorite & carbonate in fractures.	Minor pyrr. & pyrite in fractures.	1310-1312 Shear at 50° to core axis. 1318-1319 Shear at 60° to core axis.
1324.0-1337.0	Rhy tuff & breccia.	Lead grey.	Fine med.		Brecciated & weakly banded.	Chlorite around fragments.	Minor sphal & chalco with scattered pyrr.	Assay 1324-1327 ft 1324-1325 Tuff section.
1337.0-1416.0	Rhyolite breccia.	Lead grey.	Fine med.		Brecciated acid fragments in a fine matrix.	Chlorite alteration around fragments.	Scattered minor pyrr & pyrite.	1347-1351 Massive rhyolite section. 1394-1416 Porph. (white fs phenos).
END OF HOLE.								

18 NOV 1962
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OTTAWA, ONTARIO

LAKE DUFAULT MINES LTD.

Drill Hole Record

Hole No. N-375	Lat. 19,654.51	Dep. 16,269.01	Elev. 11,138.61	Dip -90°	Bearing	Depth 1,931'	
Working Place	Date Started Aug. 20, 1966	Compass Tests		Acid Test			SAMPLED SECTIONS
(In)	Date Completed Sept. 22, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.
					24'	90°	90°
					500	89 3/4	89 1/2
					1000	89 3/4	89 1/2
					1500	89	88 1/2
					1931	89 1/2	89

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0 - 22.0								Casing.
22.0 - 134.0	MASSIVE ANDESITE	Dark grey	F.g.	Weakly porph.	Massive. Weakly fract'd.	Minor sauss, chl.		Blocky to 45°.
134.0 - 230.0	AMYGD ANDESITE	Dark grey	F.g.	Weakly porph.	Weakly to mod. amygd. / Weakly fract'd.	Chl & minor sauss. Odd qtz clot.	Stgrs & diss po-py. Tr of cp.	Upper ct 65°. Sulphides mainly in upper 25'.
230.0 - 399.0	MASSIVE ANDESITE	Med. to dark grey	M.-f.g.	Uneven porph.	Massive. Weakly fract'd.	Weak sauss.		Upper ct gradational. Local 70° flow banding.
399.0 - 487.0	AMYGD ANDESITE P.L.	Grn-grey	M.-f.g.		Mod. amygd, strongly pil.	Sauss-filled amygds. Mod. sauss & some chl.	Patches & odd stgr of po. Minor py.	Upper ct 50°. Lower ct irregular.
487.0 - 787.0	AMYGD ANDESITE	Dark grey	M.-f.g.		Weakly amygd. Weakly fract'd.	Weak sauss. Odd pod epid-sauss.	Odd speck py.	576.5-577.5: 45° qtz-ca fault 780-787: Mod. fract'd, strong biotite altn.
787.0 - 740.5	AMYGD ANDESITE P.L.	Grn-grey	M.g.		Mod. amygd & pil.	Chl sauss-filled amygds. Strong patch sauss, some epid, mod. chl.	Minor po.	
740.5 - 743.0	CA-SER SCHIST	Med. grey	F.g.		Schistose			Schistosity 50° (fault zone)
743.0 - 764.0	ANDESITE DYKE	Dark grey	M.-f.g.		Massive. Mod. fract'd. & sheared.	Chl rags & stgrs.	Minor po-py	Shearing 50°. Far ct 50°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
764.0 - 845.0	AMYGD ANDESITE P.L.	Grn-grey	M.-fg.		Mod. amygd & broadly pil.	Patchy sauss, some chl. Minor biotite.		
845.0 - 890.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive, weakly fract'd.	Dioritized.	Minor po.	845-864 sects bleached andesite.
890.0 - 902.0	AMYGD ANDESITE P.L.	Grn-grey	M.-f.g.		Mod. amygd & pil.	Strong sauss, some chl.	Minor po.	
902.0 - 906.5	BEDDED TUFF	Med. grey	F.g.		Locally bedded.	Local chert bands.	Band & diss py-po. Minor cp in first 1.0' of sect.	Bedding 75°. 907.0 - 907.3: Intrusion of overlying andesite.
906.5 - 920.5	SHEARED RHYOLITE	Med. grey	F.g.		Massive. Sheared locally, schistose	Local ca.	Diss. py-po.	Shearing 40°-60°.
920.5 - 925.0	ANDESITE DYKE	Med. grey	M.g.		Massive, weakly fract'd.	Dioritized.		Cts. irregular & 50°.
925.0 - 932.0	MASSIVE RHYOLITE	Light buff/ grey	F.g. to aph.		Massive, blocky	Blue silic.		
932.0 - 1004.0	RHYOLITE BX	Med. grey	F.g.	Fragmental chl & sauss frags.	Brecciated, weakly fract'd.	Local patches of sauss- epid-qtz.	Odd speck py.	974-979: Dynamic bx. Local 45° flow banding.
1004.0 - 1017.0	FLOW BANDED RHYOLITE	Light bluish-grey	F.g. to aph.		Massive. Locally strongly flowbanded.	Strong blue silic. Patches of sauss-epid and some garnet.		
1017.0 - 1045.0	RHYOLITE BX	Med. grey	F.g.	Fragmental	Brecciated.	Local patches of sauss- epid-qtz.	Trace of py.	
1045.0 - 1065.0	RHYOLITE BRECCIA?	Light to med. gry		Heterogene- ous	Massive. Brecciated?	Patches of albitite, epid chl, minor garnets. Local sects. silic.		Heterogeneous texture due to altn.
1065.0 - 1115.5	RHYOLITE BX.	Med. gry	F.g.		Brecciated.	Patches of sauss-epid chl.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1115.5 - 1123.5	FLOW BANDED RHYOLITE	Med. grey	F.g.		Massive. Mod. flow banded. Weakly brecciated.			Flow banding 35°.
1123.5 - 1157.0	MASSIVE RHYOLITE	Light to dark grey	F.g.	Heterogene- ous	Massive.	Local sects. silic. Patchy & sects of sauss- epid.		Heterogeneous texture due to altn. 1123-1124: some po & minor sph noted.
1157.0 - 1382.0	RHYOLITE BX	Med. grn- grey.	F.g.	Chl frags in a light grey grndmass	Brecciated.	Minor patchy sauss-epid, minor chl. Odd small sect. of light blue silic.	Odd speck of py.	Fracture breccia.
1382.0 - 1417.5	MASSIVE RHYOLITE	Med. grey	F.g.	Heterogene- ous.	Massive.	Patchy albitite. Minor epid chl-garnet.		
1417.5 - 1419.0	ANDESITE DYKE	Grn grey	F.g.		Massive	Strong ca.		Cts. 45° & ground.
1419.0 - 1432.0	SHEARED RHYOLITE	Med. grey	F.g.		Mod. sheared & fract'd. Massive.	Strong ca.	Finely diss. py.	Shearing 45°-60°.
1432.0 - 1457.0	MASSIVE RHYOLITE	Med. to dark grey	F.g.		Massive. Locally flow banded.	Scattered patches sauss- epid. Some chl. Local sects. of blue silic.	Minor py.	
1457.0 - 1462.0	ANDESITE DYKE	Med. grey	M.-f.g.	Porph (fs)	Massive.	Dioritized.		Cts 50°.
1462.0 - 1475.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive. Highly broken. Locally flow banded.	Local patchy sauss-epid.		
1475.0 - 1496.0	RHYOLITE FRACTURE BRECCIA	Med. grey	M.-f.g.		Brecciated, granular	Odd patch qtz.	One patch of dusty sph?	Sample for Zn 1476-1477'.
1496.0 - 1504.0	ANDESITE DYKE	Dark grey	F.g.		Massive.			Upper ct 40°. Lower ct 50°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1504.0 - 1613.0	RHYOLITE BRECCIA	Med. to dark grey	F.g.	Chl frags.	Brecciated. Weakly fract'd.	Grey silic. Local chl.	Sparse diss. py.	
1613.0 - 1719.0	MASSIVE RHYOLITE	Dark grey	F.g.		Massive. Weakly fract'd.	Minor patchy sauss.	Sparse diss py.	35-40° jointing 1699-1704 Andesite dyke.
1719.0 - 1834.0	RHYOLITE BRECCIA	Dark grey	F.g.	Sauss-chl frags in a dark grey matrix.	Brecciated. Weakly to mod. fract'd.	Weak sauss.	Sparse diss. py.	1831-1834: Sheared silic & ser altn. 50° fault.
1834.0 - 1865.0	DIORITE DYKE	Med. grey	M.-f.g.		Massive, weakly fract'd.			Cts. 40°. 1834-1840: Strongly fract'd.
1865.0 - 1931.0	MASSIVE ANDESITE	Grn-grey	M.-f.g.		Massive. Mod. to strongly fract.	Ser speck. Ca-ser filled frs.		1867-1869: Siliceous dyke cts. 10°. 45-75° frs.
	END OF HOLE							

18 NOV 1958

RECORDS
ADMINISTRATIVE
DIVISION
MINING DEPT

LAKE DFAULT MINES LTD.

Drill Hole Record

Hole No. <u>N-376</u>	Lat. <u>21,195.0</u>	Dep. <u>13,265.0</u>	Elev. <u>11,160.1</u>	Dip <u>-90°</u>	Bearing <u>-</u>	Depth <u>1,608'</u>	
Working Place <u>(AP)</u>	Date Started <u>Aug. 30/66</u>	Compass Tests		Acid Test			SAMPLED SECTIONS
	Date Completed <u>Sept. 27/66</u>	Depth	Dip	M.Brng.	Depth	Read	Corr.
					<u>25'</u>	<u>90°</u>	<u>90°</u>
					<u>500'</u>	<u>90°</u>	<u>90°</u>
					<u>1000'</u>	<u>89½°</u>	<u>89°</u>
					<u>1500'</u>	<u>88°</u>	<u>87°</u>
		From	To	C.L.	Cu	Zn	Au

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 16.0								Casing.
16.0 - 51.0	DIORITE	Med. grey	m.g.		Massive. Mod. blocky, weakly fract'd	Rust-plated joints.		
51.0 - 135.5	AMYGD ANDESITE	Med. grey	m.-f.g.		Weakly amygd & fract'd	Minor sauss chl.		
135.5 - 181.0	MASSIVE ANDESITE	Med. to dark grey	m.-f.g.	Weakly porph (fs)	Massive	Slightly dioritized.		
181.0 - 305.0	AMYGD ANDESITE P.L.	Grn grey	m.-f.g.		Mod. amygd & pil. Weakly fract'd.	Chl & sauss-filled amygds. Odd qtz clot.	Odd patch of cp.	@ 216' 3" 75° qtz-ser stgr (fault).
305.0 - 308.0	ANDESITE DIKE	Med. grey	f.g.	Weakly porph (fs)	Massive	Dioritized.		Cts ground & 75°.
308.0 - 393.0	AMYGD ANDESITE P.L.	Dark bluish grey	f.g.		Mod. to strongly amygd. Broadly pillowed.	Chl & sauss-filled amygd. Odd qtz clot. Mod. sauss & some chl spot & rag.	Odd cp filled amygd. Odd patch of cp.	
393.0 - 463.0	AMYGD ANDESITE P.L.	Med. to dark grey	M.-f.g.		Weakly amygd & broadly pil.	Dioritized.		

Hole No. N-376

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
463.0 582.0	AMYGD ANDESITE	Dark grey	M.-f.g.	Uneven porph (fs)	Very weakly amygd.	Dioritized	Odd speck of cp.	Weakly porph.
582.0 - 742.0	AMYGD ANDESITE P.L.	Grn grey	M.-f.g.		Weakly amygd. Mod. pillowed.	Strong sauss. Some chl.	Minor py-po.	
742.0 - 868.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive.	Dioritized.		Cts gradational & 65°.
868.0 - 894.0	AMYGD ANDESITE P.L.	Grn grey	M.-f.g.		Weakly amygd. Strongly pil.	Strong sauss, minor epid. Chl rags & stgrs. Chl filled amygds.	Minor po-py, trace of cp.	Far ct gradational.
894.0 - 944.0	MASSIVE ANDESITE	Med. to dark grey	M.-f.g.		Massive.	Dioritized		Cts. gradational.
944.0 - 955.0	AMYGD ANDESITE P.L./	Dark blue grey	M.-f.g.		Mod. to strongly smygd & pillowed.	Sauss speck, chl-sauss filled amygds. Minor albitite.	Scattered patches of po-py, trace cp.	Cts gradational.
955.0 - 977.0	AMYGD ANDESITE	Grn grey	M.-f.g.		Weakly amygd.	Chl & sauss filled amygds. Sauss speck. Odd patch of sauss-epid.		Cts gradational.
977.0 - 997.0	AMYGD ANDESITE P.L.	Grn grey	M.-f.g.		Mod. amygd & pillowed./	Chl & sauss-filled amygds. Sauss speck & some chl.		
997.0 - 999.0	BEDDED TUFF (ANDESITIC)	Med. grey	F.g.		Strongly bedded.		Minor po.	Upper ct 55°, bedding 65°.
999.0 - 1002.0	ANDESITE CRYSTAL TUFF	Med. grey	m.g.	Fragmental	Massive.			
1002.0 - 1006.0	MASSIVE & BEDDED TUFF	Lt. grn grey	F.g.		Massive & bedded.		Minor py.	Bedding 60° 1004.0 3" qtz-ca bx. Fault.
1006.0 - 1026.0	ANDESITE DYKE	Med. grey	M.-f.g.		Massive. Weakly fract'd			Cts 80° @ 1020, 3" 80° qtz-ca fault.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1026.0 - 1050.0	RHYOLITE BRECCIA	Bluish grey.	F.g.		Weakly brecciated.	Minor sauss-ser.		
1050.0 - 1076.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive.	Ser specks.		
1076.0 - 1257.0	RHYOLITE BRECCIA	Med. grey to bluish grey.	F.g.	Scattered sauss frags.	Brecciated. Weakly fract'd		Odd speck py.	Local flow banding 1191-1260: Blocky.
1257.0 - 1283.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive. Weakly fract'd	Some ser speck. Minor chl.		
1283.0 - 1325.5	ALT RHYOLITE	Med. to bluish grey.	F.g.		Massive. Mod. to highly fract'd	Ca altn. Chl & ca- filled frs.	Odd speck py.	Increasing fracturing toward end of section.
1325.5 - 1331.0	SHEARED ANDESITE	Grn-grey	F.g.		Schistose			D.H.B. thrust. Schistosity 40-45°. Ser-ca schist.
1331.0 - 1340.0	MASSIVE ANDESITE	Grn-grey	F.g.		Highly fractured and sheared.	Ca, ca-filled frs. Hematite plated slips.		Shearing 40-45°.
1340.0 - 1373.5	MASSIVE ANDESITE	Grn-grey	M.-f.g.		Massive. Weakly fract'd.	Weakly dioritized.		@ 1371', 1' cave. Lost water.
1373.5 - 1444.0	AMYGD ANDESITE P+L	Grn-gry	M.-f.g.		Weakly amygd. Broadly pillowed.	Sauss. Odd patch al- bitite. Rags of chl. Chl-filled amygds.	Odd po filled, amygd.	1434-1439: Qtz-epid altn with patches of po.
1444.0 - 1513.0	MASSIVE ANDESITE	Med. grey	M.-g.		Massive. Weakly fract'd.	Dioritized.		1502-1513: Mod. fract'd. Ca altn.
1513.0 - 1518.0	FAULT ZONE	Light grn grey.	F.g.		Schistose			1514-1515.5: Qtz veins. Qtz-ser schist. Schistosity 80°.
1518.0 - 1541.0	AMYGD ANDESITE	Med. grey	M.-f,g.	Weakly porph (fs)	Mod. amygd. Odd questionable pillow bdr. Weakly fract'd	Minor sauss, albitite, chl-filled amygds.	Minor py-po.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1541.0 - 1564.0	MASSIVE ANDESITE	Med. grey	m.-f.g.	Weakly porph.	Massive.	Sauss. Odd patch of chl.		
1564.0 - 1570.5	AMYGD ANDESITE	Med. grey	m.-f.g.		Weakly amygd.	Sauss.		
1570.5 - 1577.0	CRYSTAL TUFF	Light to med grey		Fs crystals in a med. grey groundmass	Massive		Minor po.	Cts 75 & 45° 1575-1575.5: Inclusion of the above amygd andesite.
1577.0 - 1579.0	SHEARED TUFF? RHYOLITE	Med. grey	F.g.		Schistose.		Stgrs of po, minor cp. Trace sph?	Schistosity 50°. Ser schist. 1577-1579: Sample for C.Z.A.A.
1579.0 - 1587.0	RHYOLITE BRECCIA	Med. grey	F.G.		Brecciated. Weakly fract'd.	Weak sauss.	Diss. py, po.	
1587.0 - 1608.0	MASSIVE RHYOLITE	Med. to dark grey	F.g. to aphanitic.		Massive.	Patchy sauss. Local sects. silic. Local minor epid.	Sparse diss py.	Local sects. silic & weakly porph.
	END OF HOLE							

18 NOV 1966

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LAKE DUFALT MINES LTD.

Drill Hole Record

Hole No. N-377 Lat. 18,425.0		Dep. 20,537.0		Elev. 10,998.28		Dip -90°		Bearing ---		Depth 1963'			
Working Place (Fc)		Date Started Sept. 1/66		Date Completed Oct. 5/66		Compass Tests			Acid Test				
		Depth		Dip		M.Brng.		Depth		Read		Corr.	
		15'		89		1/4°		89°		89°			
		500'		89		1/4°		89°		89°			
		1000'		89		1/2°		89°		89°			
		1500'		88°				87°		87°			
		1950'		89°				88		1/2°			

SAMPLED SECTIONS						
From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0-8.0								Casing.
8.0-190.0	Qtz Fs Porph.	Med bluish grey	M.g.	Porph. Fs phenos & qtz eyes.	Massive. Mod blocky.	Patchy chl. Minor sauss.	Diss py. Odd py stgr. One cp stgr noted at 78.5'.	Qtz eyes not well developed. 43'-47': dark grn-grey f.g. andesite dykes. Cts 35. 54'-59': dark grn-gry f.g. andesite dykes. Cts 65°. 73.5': 2", 40° qtz-ser fault with py-cp. 126'-131.5': dark grn-gry andesite dyke. Cts 65° & irregular. 157'-162': dark grey f.g. andesite dyke. Cts 55 & 65°.
190.0-192.0	Andesite Dyke	Dark grey	F.g.		Massive.			Cts 30° and 60°.
192.0-207.5	Qtz-Fs Porph	Med grey.	M.g.	Porph. Fs phenos & qtz eyes.	Massive. Weakly fract'd.		Diss and patches of py-cp.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
207.5-209.0	Bedded Cherty Tuff.	Med grey.	F.g.		Strongly bedded.		Bands of py and minor cp.	Bedding 50°.
209.0-224.0	Massive Tuff (Andesite)	Light to med-grn-gry.	F.g.		Massive. Mod fract locally sheared.	Ca altn. Scattered 1/4" to 1" 20° and 65° qtz-ca stgr.	Minor py, trace of cp.	Py-cp mainly in qtz-ca stgrs.
224.0-252.0	Massive Andesite	Dark grn-gry.	F.g.		Massive.	Chl and patchy albitite, Local biotite. Odd qtz stgr.	Minor py associated with qtz.	Flow andesite.
252.0-274.0	Amygd Andesite	Grn-gry	F.g.		Weakly amygd and fract'd.	Patches of qtz-albitite and sauss. Some chl, local biotite.	Minor py, trace of cp.	259'-264': flow bx. 264'-270': massive.
274.0-280.0	Massive Andesite	Dark grey	F.g.	Porph fs.	Massive.	Dioritized.		
280.0-385.0	Amygd Andesite P.L.	Dark grey	F.g.		Weakly amygd. Broadly pillowed. Weakly fract'd.	Patchy albitite-sauss-chl. Biotite and minor epid.	Odd patch py-po, trace of cp.	
385.0-454.0	Amygd Andesite	Brownish grey	F.g.		Weakly amygd.	Biotite-chl. Strong sauss-epid in upper 8.0' of sect. Odd qtz clot.		385'-391': flow top bx. Siliceous andesite.
454.0'-547.0	Amygd Andesite	Dark grey	F.g.		Weakly amygd and fract'd.	Mod sauss-epid. Local trace of biotite. Odd small qtz stgr.	Trace of py.	
547.0-559.0	Andesite Dyke	Med grey	F.g.	Weakly porph (fs)	Massive.	Dioritized.		Cts 55°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
559.0-570.0	Amygd Andesite	Dark grey	M.f.g.		Mod amygd. Weakly fract'd.	Patchy sauss-epid. Minor chl.		
570.0-577.0	Andesite Dyke	Med grey	F.g.	Weakly porph (fs).	Massive.	Dioritized.		Cts 65°.
577.0-624.0	Amygd Andesite P.L.	Dark bluish grey.	F.g.		Weakly amygd and broadly pil'd.	Sauss speck and patch. Minor biotite.	Trace py-cp.	
624.0-646.0	Flow Breccia Andesite.	Grn-gry	M.f.g.	Fragmental	Brecciated.	Sauss-ser-ehl. Minor biotite.		
646.0-667.5	Massive Andesite	Med grey	M.f.g.		Massive. Weakly fract'd.	Dioritized. Odd 35° qtz stgr.		
667.5-693.0	Amygd Andesite P.L.	Dark grey	M.f.g.		Weakly amygd and broadly pillowed.	Sauss patch and speck.	Trace of py-cp.	
693.0-705.0	Alt Amygd Andesite.	Light grn-gry	F.g.		Weakly amygd. Mod fract'd.	Strong ca. Qtz-ca filled frs.		695-697: fault zone. Highly broken; shearing 40°?
705.0-768.0	Amygd Andesite	Grn-gry	M.f.g.		Weakly amygd and fract'd.	Patchy sauss, minor epid and albitite. Odd 40° qtz stgr.	Minor po-py.	
768.0-787.0	Andesite Dyke	Med grey	F.g.	Weakly porph.	Massive. Mod fract'd.	Dioritized.		Frs 80° and 35°.
787.0-838.0	Amygd Andesite	Dark grn-gry		Heterogeneous.	Weakly amygd.	Chl and strong patchy sauss. Minor epid.		Texture due to altn.
838.0-860.0	Amygd Andesite P.L.	Dark grn-gry	M.f.g.		Weakly amygd and broadly pillowed. Weakly fract'd.	Strong chl and some patchy sauss and albitite. Minor epid.		Cts gradational and 65°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
860.0-867.0	Massive Andesite	Med to dark gry	M.f.g.		Massive. Weakly fract'd.	Dioritized.		
867.0-946.0	Amygd Andesite P.L.	Grn-gry	M.f.g.		Mod amygd and pillowed. Weakly fract'd.	Chl-sauss. Sauss filled amygds. Minor patchy albitite-chl.	Minor py.	
946.0-965.0	Sheared Andesite.	Bluish to grn-gry	F.g.		Strongly sheared, locally schistose.	Strong ca. Odd qtz stgr.	Scattered small stgrs of po-cp.	Shearing 40°-45°.
965.0-981.0	Amygd Andesite P.L.	Grn-gry	M.f.g.		Mod amygd. Weakly pillowed.	Patchy chl-albitite-sauss, minor epid.		
981.0-1011.0	Sheared Andesite	Grn-gry	F.g.		Strong fract'd & sheared. Locally schistose.	Ca filled frs. Odd small qtz stgr.	Minor py.	Fault zone. Shearing 45°.
1011.0-1021.0	Andesite Dyke	Med gry	M.f.g.		Massive.			1011.0-1015.0': sheared and some ca altn. Cts 55.
1021.0-1119.0	Amygd Andesite P.L.	Dark grey	M.f.g.		Weakly amygd and broadly pillowed. Weakly fract'd.	Patches of sauss and chl. Local biotite and light blue silic.	Odd speck of cp-po.	
1119.0-1182.0	Silic Andesite	Med gry	F.g.		Very weakly amygd. strongly fract'd. Blocky.	Silic, Minor chl. Qtz ca filled frs. Chl filled amygds.		Frs 40-80°. 1153-1155': Lost core, possible fault. 40° and low angle jointing.
1182.0-1187.0	Andesite Dyke	Grn grey	F.g.		Massive. Weakly to med fract'd.			Cts ? at 40°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1187.0-1245.0	Silic Andesite	Med grey.	F.g.		Massive. Weakly fract.	Silic. Some chl and ser.	Minor py.	1215'-1237': intense light bluish grey silic; cts gradational.
1245.0'-1286.0	Silic Andesite	Med to dark grey.	F.g.		Massive? (Resembles a fr-bx).	Silic-ser chl.		Resembles rhyolite fr-bx with chl frags in a f.g. med grey groundmass. Cts gradational.
1286.0-1312.0	Massive Andesite	Grn m grey.	F.g.		Massive. Weakly fract'd.	Strong chl altn.	Local diss py po.	
1312.0-1363.0	Diorite	Med grey	M.g.		Massive. Weakly fract'd.	Odd small qtz stgr.	Odd stgr of py-po trace of cp.	
1363.0-1370.0	Fault zone.	Med grey.	F.g.		Locally schistose.	Shot through with qtz-ca.	Odd stgr of py with minor cp.	40-45° Fault.
1370.0-1457.0	Diorite	Med grey.	M.g.		Massive. Weakly fract'd.	Odd low angle qtz stgr.	Minor cp in qtz stgrs.	1444'-1454': strong ca altn. Odd 40° qtz stgr. 1450'-1451': 40° shearing (Small fault).
1457.0-1470.0	Alt Diorite.	Grn grey.	M.f.g.		Massive. Locally schistose.	Strong ca. Odd 35°-40° qtz stgr.	Minor cp in qtz stgrs.	45° shearing. Weak fault.
1470.0-1492.0	Diorite.	Med grey.	M.f.g.	Weakly porph.(fs)	Massive.	Scattered. 35°-40° qtz stgrs.	Cp-po. Most in qtz stgrs.	
1492.0-1690.0	Amygd Andesite.	Grn grey.	M.f.g.	Weakly porph.	Massive with odd amygd. Weakly fract'd.	Odd 35° qtz-vein. Ser and chl speck. Local silic. Sauss-chl qtz filled amygds.	Py-cp-po in qtz stgrs.	65° frs. 1590': 0.5' qtz vein cts 45°. Local shorts sects mod amygd.
1690.0-1744.0	Amygd Andesite P.L.	Grn grey.	M.f.g.		Weakly amygd. Very broadly pillowed. Weakly fract'd.	Weak sauss-ser. Odd small sauss epid pod.	Minor po-cp.	Local sections of flow bx.
1744.0-1751.0	Massive Andesite.	Med grey.	M.f.g.		Massive. Weakly to med fract'd.	Dioritized. Odd qtz stgr.	Minor py-cp in qtz stgrs.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1751.0-1771.0	Fault Zone.	Grn grey.	M.g.		Weakly schistose.	Odd qtz stgr.	Diss py throughout minor cp.	Schistosity 45°. Ser-qtz-schist.
1771.0-1789.0	Basic Tuff.	Buff grey.	F.g.	Fragmental. Odd chl frag.	Massive.		Minor diss py.	Andesite tuff at 1789'. 50° bedding.
1789.0-1889.0	Flow Brecciated Andesite.	Grn grey.	M.f.g.	Heterogeneous.	Locally amygd. Strongly flow brecciated. Weakly fract'd.	Sauss. Scattered pod of sauss-epid.	Odd stgr of py-po.	1826'-1827': qtz-fs porph dyke. Cts 75° and 60°.
1889.0-1892.0	Silic Andesite.	Med grey.	F.g.		Amygdular.	Qtz filled amygds.		Looks like a tuff. Cts ground at 1889' 1" qtz vein with cp-po.
1892.0-1942.0	Rhyolite Qtz-porph Breccia.	Med grey.	M.g.	Porph. Qtz phenos. Heterogeneous.	Brecciated.	Sauss and minor epid. Odd qtz stgr.	Sparse diss py.	Fragmental appearance could be due to altn.
1942.0-1963.0	Rhyolite Qtz-porph.	Med grey.	M.g.		Massive. Weakly fract'd.	Sauss. Odd stgr of qtz.	Odd speck py. Odd stgr of py. Some cp in qtz stgrs.	
					END OF HOLE.			

18 NOV 52

SECRET
 ADMINISTRATION
 TIRE & HYDRATES
 MINISTRY OF

LAKE DUFALT MINES LTD.

Drill Hole Record

Hole No. N-378 Lat. 18,978.0		Dep. 13,213.0		Elev. 11,031.30		Dip -90°		Bearing -		Depth 1,539'													
Working Place (Do)		Date Started Sept 3/66		Date Completed Oct. 3/66		Compass Tests		Acid Test		SAMPLED SECTIONS													
		Depth		Dip		M.Brng.		Depth		Read		Corr.											
		134'		88 3/4°		88°		500'		88 1/2°		88°											
		1000'		89°		88 1/4°		1492		88 1/2°		87 3/4°											
										From		To		C.L.		Cu		Zn		Au		Ag	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 101.0								Casing.
101.0 - 119.0	BROKEN VUGGY ANDESITE	Light grn grey	F.g.					84-119': 10' of very highly broken core.
119.0 - 155.0	AMYGD ANDESITE	Med. to dark grey	M.-f.g.		Weakly to mod. amygd. Weakly fract'd	Sauss filled amygd.		
155.0 - 193.0	MASSIVE ANDESITE	Med. to dark grey	F.g.		Massive. Weakly to mod. fract'd	Qtz-ca-sauss filled frs.		
193.0 - 260.0	AMYGD ANDESITE	Med. to dark grey	F.g.		Very weakly amygd. Weakly fract'd.	Ser speck. Scattered patches of sauss & minor epid. Odd qtz stgr.	Odd small patch py.	Gradational ct.
260.0 - 336.0	MASSIVE ANDESITE	Med. to dark grey	F.g.		Massive. Weakly fract'd.	Ser speck. Odd patch of sauss epid.		280.5-281: 40°. Qtz-ca stgr.
336.0 - 497.0	DIORITE	Med. to dark grey	F.g.		Massive. Weakly fract'd	Sauss filled frs.		Cts 80° @ 363', 5° 1" qtz-ca fault.
497.0 - 571.0	MASSIVE ANDESITE	Med. to dark grey	F.g.		Massive. Weakly to mod. fract'd	Ser speck. Odd pod of sauss-epid.		Frs. 45-80° & 20°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
571.0 - 610.0	AMYGD ANDESITE	Dark grey	F.g.	Weakly porph.	Weakly amygd.	Ser. Minor biotite albitite-sauss.	Odd speck of cp.	
610.0 - 810.0	AMYGD ANDESITE P.L.	Bleached to med. grey.	M.-f.g.		Weakly amygd. Weakly to mod. pil'd	Dioritized. Rags of chl. Sects intense sauss, minor epid.	Minor diss & odd patch of py-po.	Sects. strongly bleached. 775-780: Some biotite altn. 714-810: Some patchy albitite altn.
810.0 - 887.0	AMYGD ANDESITE	Med. to dark grey	F.g.		Weakly amygd.	Rags & strgs of chl. Some sauss ser alt'n.	Odd stgr & patch po, minor cp.	
887.0 - 996.0	AMYGD ANDESITE P.L.	Med. grey	F.g.	Weakly porph (fs)	Weakly amygd & pillowed. Weakly fract'd	Chl spot & rags. Local sects of strong sauss.	Odd patch po-py.	916-923: Strongly fract'd 80° Strong ca altn.
996.0 - 1079.0	MASSIVE ANDESITE	Med. grey	F.g.		Massive. Weakly fract'd.	Minor sauss.	Scattered patches of py.	
1079.0 - 1091.0	ANDESITE DYKE	Med. grey	M.-f.g.		Massive	Dioritized.		Cts ground & 55°.
1091.0 - 1203.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive. Weakly fract'd.	Weakly dioritized.		60° frs.
1203.0 - 1345.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive. Mod fract'd. Blocky & broken.	Sauss. Scattered chl strgrs. Ser-ca qtz filled frs. Minor hematite.		Highly broken. 1203-1318: 11.0' lost core. Joints 60° & low angle. Local cave.
1345.0 - 1420.0	AMYGD ANDESITE	Med. to dark grey	M.-f.g.	Weakly porph.	Weakly amygd & weakly fract'd.	Sauss-epid pods. Ser speck. Sauss filled amygd.		
1420.0 - 1462.0	MASSIVE ANDESITE	Med. grey	M.-f.g.	Weakly porph (fs)	Massive.	Ser speck & chl speck & spot.		Far ct ground. 1455-1462: Blocky sauss & chl stgr altn.
1462.0 - 1539.0	RHYOLITE BRECCIA	Med. grey	F.g.		Brecciated. Very weakly fract'd.	Chl speck & spot. Minor epid.	Odd speck py.	1462-1476: 3' lost core. Upper ct ground. 1491-1491.5: 55° grano-diorite stgr. 1535-1539: Some garnet altn.

END OF HOLE

Note pour monsieur Adélard Fortin

Lake DuFauté Mines Limited

Canton Dufrenoy

Sondages au diamant

Je recommande que les sondages au diamant faits de juin à octobre 1966 et représentés par les trous numéros LD-73 (approfondissement), D-134, N-356, N-366 à N-378 incl., pour une profondeur totale de 26,137 pieds, soient portés au crédit des claims de cette compagnie.

Les sondages ont été exécutés de la façon suivante:

<u>Trou no</u>	<u>Profondeur</u>	<u>Localisation</u>
LD-73 (approf.), D-134	3,478 pieds	C.M. no 177, bloc 55
N-356, N-369, N-377	6,964 "	C.M. no 165, bloc 8
N-366, N-367, N-370 N-373, N-374, N-378	7,955 "	C.M. no 517, bloc 186
N-368, N-372	2,239 "	O-494 cl. 1
N-371, N-375	3,893 "	O-494 cl. 2
N-376	1,608 "	R-33243
Total:	26,137 pieds	

MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC
Bureau du géologue résident
ROUYN-NORANDA

La localisation de ces trous est indiquée sur deux (2) cartes, à l'échelle de 500 pieds au pouce, et deux (2) cartes, à l'échelle de 200 pieds au pouce. Ces quatre (4) cartes accompagnent les journaux de sondages.

Remarque:

Il y aurait lieu d'envisager cette société qu'en vertu des dispositions de l'article 79 de la nouvelle loi des mines les travaux faits sur toute concession minière ne sont applicables qu'à une superficie, adjacente à la concession minière, sous peine de mise en valeur n'excédant pas 1200 acres.

JT/er

Québec, le 2 février 1967

Ministère des Richesses Naturelles, Québec, Commissaire Tribunal

6 FÉV 1967

SERVICE DES GITES MINÉRAUX

No GM-

19019

PUBLIC

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LAKE DUFAULT MINES LTD.

Drill Hole Record

5M-19019

MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC

Bureau du géologue résident

BOUYN-NORANDA

Hole No. N-356 Lat. 18,290.0

Dep. 20,160.0

Elev. 11,014.27

Dip -90°

Bearing Depth

Working Place (Fa)
Date Started June 6, 1966
Date Completed July 19, 1966

Compass Tests

Acid Test

Depth Dip M.Brng.

Depth Read Corr.
35' 89 3/4 89 1/2
500' 88 1/2 87 3/4
1000' 89 1/2 89 1/4
1500' 89 88 1/4
2000' 89 1/2 89 1/4

Depth Read Corr.
2586' 89 1/2 89 1/4

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 14.0								Casing.
14.0 - 34.0	AMYG'L ANDESITE	Dark gry	f.g.=		Mod'ly amyg'l. Weakly crush fract'd	Mod. chl, biot. Mod qtz carb.	Scat. py, po.	
34.0 - 46.5	WEAKLY AMYG'L ANDSTE	Grn-gry	f.g.		Very weakly amyg'l.	Mod. chl-biot. Weak qtz-carb.		
46.5 - 85.0	AMYG'L ANDSTE. P.L.	Grn-gry	m.-f.g.		Mod'ly amyg'l. Well pil'd.	Mod. epid-chl. Albitite in pil. rims.	Scat. py, po. Tr cp.	Looks like V-106 but can't be??
85.0 - 109.5	FLOW BANDED ANDSTE	Dark grn-gry	m.-f.g.		Weakly amyg'l. Sugg. of pils.	Mod. chl. Minor biot.	Minor py, po.	91.5-94.5: Light grn andste dyke at 40°.
109.5 - 220.0	AMYG'L ANDSTE P.L.	Grn-gry	m.-f.g.		Mod'ly amyg'l. Well pil'd.	Mod. chl epid. Minor biot. Patches of albitite	Mod. scat. py. Minor po, cp.	Occas. qtz stringers. 175-177: Acid dyke at 45°.
220.0 - 275.0	ALTERED PHASE OF ABOVE/	Grn-brn, gry	m.-f.g.		Weakly amyg'l and pil'd.	Mod.-strong chl (blue) and biotite.		Chocolate (biotite) dog (dalmatian-ite)
275.0 - 301.5	AMYG'L ANDESITE	Gry-grn	m.-f.g.		Mod'ly amyg'l. Sugg. of pil. rims.	Weak epid-sauss. Mod chl, biot & qtz-carb.		290': Hematite qtz fract.
301.5 - 358.5	AMYG'L ANDESITE P.L.	Gry-grn	m.-f.g.		Mod'ly amyg'l. Weakly pil'd.	Patches of epid-sauss. Mod.-strong biot. Mod. chl, qtz-carb.	Tr cp.	

Hole No. N-356

Logged by D.H.R. & D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
358.5 - 364.0	SHEAR OR FAULT ZONE	Light gry	m.-f.g.			Strong qtz-carb. Minor hem.		Ctes. at 20°.
364.0 - 393.0	AMYG'L ANDSTE P.L.	Gry to blu-gry	m.-f.g.		Weakly amyg'l & pil'd.	Minor epid-sauss. Mod chl and biot. Scat qtz carb.		364-383: Strong alt'n obscuring amyg's & pil. bdrs.
393.0 - 398.0	AMYG'L ANDSTE	Dark gry	m.-f.g.		Strongly amyg'l. Weakly fract'd.	Mod. chl, biot. Qtz-carb in fract's.		
398.0 - 409.0	ANDSTE FLOW BX	Grn-gry	m.-f.g.		Sections of flow bx in massive to flow-banded andste. Weakly amyg'l.	Mod. epid. Minor chl, biot. Scat. qtz-carb.		
409.0 - 463.0	AMYG'L FLOW BANDED ANDSTE	Gry to blu-gry	m.-f.g.		Weakly amyg'l. Sugg. of pil. rims.	Mod. biot. and silicification. Minor chl. Scat. qtz-carb.		
463.0 - 490.0	AMYG'L FLOW BANDED ANDSTE	Blu-gry	m.-f.g.		Weakly amyg'l & flow banded. Sugg. of pils.	Mod. chl, biot. Blu sil'n.		467: Qtz vein at 20° with minor No. cp.
490.0 - 511.5	AMYG'L ANDSTE	Gry	m.-f.g.		Weakly amyg'l. Mod'ly fract'd.	Mod. chl, epid. Minor biot and sil'n.		
511.5 - 512.5	FLOW BX	Gry	m.-f.g.		Rounded frags.	Patches of albitite. Tr. hem.		
512.5 - 574.5	AMYG'L ANDSTE P.L.	Gry	m.-f.g.		Weakly amyg'l and pil'd.	Minor chl biot. Strong biot. in pil. rims.	Tr. cp, py.	568-574.5: Prussian grn, chl.
574.5 - 587.0	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Weakly amyg. Sugg. of pils.	Mod. grn chl. Minor biot. Patches asuss & sil'n.		574.5-576.5: Flow bx. 584.5-587: Flow or fault bx.
587.0 - 602.5	MASSIVE ANDESITE	Grn-gry	m.g.		Massive. Weakly fract'd.	Qtz-carb in fract'g.		Bot. etc. irreg., chilled.
602.5 - 627.0	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Mod'ly amyg'l. Mostly rounded, few elongate.	Mod.-strong chl, biot & sauss.		Occas. steep qtz stringers.

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ROUYN-NORANDA

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
627.0 - 631.0	SHEARED ANDSTE	Putty gry	f.g.		Finely sheared	Strong sauss. Minor biot.	629.5: Qtz shear at 20° with tr sph.	
631.0 - 652.0	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Mod'ly amyg'l. Sugg. of pils.	Mod. chl, biot. Minor albitite, saussurite.		
652.0 - 654.0	BEDDED TUFF.	Grn	m.-f.g.		Mod'ly bedded. Bedding at 70°.	Mod. sauss, chl. Minor biot.	Tr. sph.	
654.0 - 689.0	AMYG'L ANDSTE P.L.	Grn-gry	m.-f.g.		Mod'ly amyg'l around pils. Weakly pil'd.	Patches of albitite, sauss.		Occas. Qtz stringers at 20°.
689.0 - 711.0	PHASE OF ABOVE	Light gry	m.-f.g.		Flow struct. obscured by fine fract'g. at 10°-20°.	Mod. sauss, chl, biot. Ser in fault zones. Weak grid.	Tr. py, cp.	
711.0 - 726.5	AMYG'L ANDSTE P.L.	Grn-gry	m.-f.g.		Mod'ly amyg'l. Weakly pil'd.	Patches of weak albitite sauss. Mod. chl, biot.		
726.5 - 787.8	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Weakly amyg'l. Sugg. of pils. Mod'ly fract'd.	Weaker chl, biot. Weak grid.		Occ. steep Qtz stringers at 20°.
787.8 - 792.5	MASSIVE TUFF	Grn-gry	m.-f.g.	Tuffaceous	Massive	Weak chl, sauss.		
792.5 - 796.5	AMYG'L ANDSTE	Grn-gry	m.-f.g.		Weakly amyg'l. Mod'ly fract'd.	Weak chl, biot. Weak grid.	Tr py.	
796.5 - 841.0	AMYG'L ANDSTE P.L.	Grn-gry	m.-f.g.		Weakly amyg'l, well pil'd.	Minor epid, sauss. Mod. chl, biot.		
841.0 - 851.0	SHEARED ANDSTE	Grn	m.-f.g.		Strongly sheared at 20°.	Strong chl. Mod. biot.		
851.0 - 854.4	ALT'D ANDSTE	Brn'sh gry.	m.-f.g.		Sugg. of flow structure.	Strong biotite, dalmatianite.		Strong dalm!!
854.4 - 866.0	ALTERED ANDSTE	Grn-gry	m.g.		Massive	Mod. biot-chl, dalmatianite	Tr py, cp.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
866.0 - 878.0	SHEARED MASSIVE ANDSTE	Light grn-gry	m.g.		Mod'ly finely fract'd.	Mod. biot-chl.		Insip. dalm.
878.0 - 985.0	MASSIVE ANDSTE	Dark gry	f.g.		Massive, weakly fract'd.	Weak biot & siliceous spotting.	Finely dissem. py. Occas. py stgrs at 10°-20°.	
985.0 - 990.0	AMYGD ANDSTE	Brownish blu-gry	f.g.		Weakly amygd. Mod. fract'd.	Strong biotite, some ser.		
990.0 - 1057.0	ALT'D. ANDSTE	Brownish-gry	m.-f.g.		Weakly fract'd. Sugg. of flow struct.	Strong biotite, some ser. / Strong chl, cordierite(?) dalm.	Odd qtz-filled fr. with some cp.	Strong dalmatianite (chocolate dog) 1042.0-1057; Mod. fract'd.
1057.0 - 1071.0	SHEARED ANDSTE	Dark gry	f.g.		Strongly sheared @ 45 to 60°. Locally schistose.	Strong ser, some chl.		Mid Norbec thrust. 4.0' lost core.
1071.0 - 1099.0	ALT'D ANDSTE	Brownish-gry	f.g.		Weakly fract'd.	Strong biotite, some ser. Strong chl cordierite(?), dalm.	Odd qtz stgr with cp-py.	Strong dalm.
1099.0 - 1109.0	ALT'D ANDSTE	Dark gry	f.g.		Weakly fract'd.	Ser-chl. Weak dalm. Odd qtz stgr.	Cp-py in qtz stgrs.	Odd 1/2 to 1" 20° qtz-ca, ser shear.
1109.0 - 1117.0	ALT. ANDESITE	Light gry	f.g.		Strongly fract'd.	Intense carb. Numerous ca-filled frs.		1117-1118.5; 20° fault. Qtz-ca ser-chl bx.
1117.0 - 1214.0	DIORITE	Med. gry	m.g.	Granitic	Ct 55°. Slight grain gradation. Weakly fract'd.	Scattered 75° and 20° qtz stgrs.	Sparse cp, py in qtz stgrs.	
1214.0 - 1222.5	SHEARED DIORITE	Light grn-gry.	f.g.		Strongly schistose	Strong ca. Numerous qtz-ca stgrs.		Shearing 50°-55°. Ser-ca schist. Fault.
1222.5 - 1230.0	ALT. DIORITE	Grn-gry	m.g.			Strong ser, mod. ca.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1230.0 - 1234.5	SHEARED DIORITE	Dark gry	M.G.		Strongly schistose	Odd qtz stgr.		Shearing @ 65°. FAULT.
1234.5 - 1244.5	DIORITE	Dark gry	m.g.		Weakly sheared.	Ser. Scattered 65° qtz-ca frs.	Odd speck of py.	Weak shearing @ 65°.
1244.5 - 1260.0	SHEARED DIORITE	Med. gry	m.-f.g.		Strongly sheared. Locally schistose.	Strong ca, scattered ca-filled frs.		Shearing @ 30°. Fault.
1260.0 - 1284.0	ALT. DIORITE	Dark grey	m.g.		Highly fract'd.	Strong ca.		45 - 60° qtz-ca ser-filled frs. Far ct. 45(?). Ca-ser schist.
1284.0 - 1301.0	SHEARED ALT. ANDSTE	Med. gry	f.g.		Strongly schistose	Intense ca altn.		Schistosity 0-10°. Steep angle fault.
1301.0 - 1340.0	SHEARED ANDSTE	Light gra- gry.	f.g.		Mod. sheared local small sects of bx.	Strong ca, some sauss epid.		Shearing 10°-35°.
1340.0 - 1384.5	MASSIVE ANDSTE	Dark gry	f.g.		Strongly fract'd.	Ca-sauss.		45-70°; Sauss ca filled frs. 1379.5-1384.5; Intense Ca altn.
1384.5 - 1389.5	QTZ-CA-SER SCHIST	Light grn gry	f.g.		Strongly schistose			Fault. Schistosity 45°-55°.
1389.5 - 1419.0	DIORITE	Dark gry	m.-f.g.	Sub-ophitic Weakly porph.	Mod. fract'd.			Far ct irreg (80°)(?), chilled over 5.0'. 1398.5-1399: Fault. Qtz-ca stgr with ser schist on both sides. Cts. 45°.
1419.0 - 1502.0	AMYGDAL ANDESITE	Dark grey green	Fine, med.		Moderately porphy- ritic	Biotite in sects. & carb. qtz in fractures.		Flow breccia sections 1419-1420, 1490-1492'. Chlorite & feldspar in phenocrysts.
1502.0 - 1598.0	SILICEOUS ANDESITE (RHYO Q.F.P.)	Med. gry	Fine, med.		Weakly porphyritic. Fractured.	Albitite section & chlorite carbonate in fractures.	Scattered pyrite, pyrr & minor chalco.	Shear zone 20° to core 1542-1544.
1598.0 - 1618.0	SILICEOUS BRECCIA	Med. gry	Fine		Brecciated. Weakly banded.	Qtz chlorite in fract.	Pyrite & pyrr.	Dynamic breccia. Odd 45° qtz stgr with Ho. S ₂ & cp.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1618.0 - 1627.5	AMYGD ANDESITE	Med. gry	f.g.		Weakly amygd & fract'd.	Qtz-ca in frs.		
1627.5 - 1668.0	SILIC. ANDESITE	Med. gry			Weakly amygd & porph & fract'd.	Patchy sauss, albitite- qtz.		Local sects. of flow bx.
1668.0 - 1713.0	MASSIVE ANDESITE	Med. to dark grey	M-f.g.	Weakly porph.	Mod. fract'd.	Sauss. Qtz-ca in frs.		Frs. 45°-65°.
1713.0 - 1763.5	MASSIVE ANDESITE	Med. grn gry	M-f.g.		Strongly fract'd.	Ca-qtz in frs. Patchy sauss. Local chl spot & rags.		Bleached andesite.
1763.5 - 1767.5	ANDESITE DYKE	Light grn-gry	f.g.		Weakly fract'd.	Strong ca.		Cts 50°.
1767.5 - 1783.5	MASSIVE ANDESITE	Light to med. grey	f.g.		Weakly fract'd.	Scattered qtz clots of stgrs.	Odd patch py.	
1783.5 - 1791.0	ANDESITE TUFF	Dark grey	f.g.		Massive.	Numerous 1/2" to 4" qtz stgrs (50-70°)	Odd speck py.	Cts not sharp.
1791.0 - 1804.0	TUFF	Med. grey	m-f.g.		Mod. fract'd	Qtz filled frs. Odd qtz stgr.		Bleached andesite. Strongly fract'd 1801-1884. 65° frs. Tuff?
1804.0 - 1815.0	ANDESITE DYKE	Grn-grey	m.-f.g.		Massive, weakly fract'd.	Mod. ca.		Near ct ground. Far ct irregular 2.0' grain gradation at both cts.
1815.0 - 1831.5	RHYOLITE QTZ FS PORPH.	Med. grey	m.g.	Porph (fs- qtz)	Weakly fract'd.	Odd cordierite spot (5 mm)	Diss. py.	
1831.5 - 1847.0	MASSIVE ANDESITE	Light grn- gry	m.-f.g.		Weakly fract'd.	Odd qtz stgr.	Odd patch sparse diss py.	Bleached andesite soaked by the qtz-fs porph.
1847.0 - 1915.0	RHYOLITE QTZ-FS PORPH (MIXTURE OF RHYOLITE & Q.F.P.)	Med. grey	m.g.	Porph (fs- qtz)	Weakly fract'd & sheared.	Mod. ca, qtz-ca in frs.	Odd patch & sparse diss. py. Minor po, cp. MoS ₂ in qtz stgrs	Shearing 40-45° 1895.5-1898. Med. grn-grey andesite dyke with s. contacts at 65°(1835-1855'). 3" qtz-stgr with local flow features.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1915.0 - 1939.5	ANDESITE DYKE	Gra grey	m.g.		Massive. Mod. fract'd.	Intense ca. Ca-filled frs.	One patch py.	Frs. 45°-60°. Ca altn obliterates all structure. Could be a flow.
1939.5 - 1951.5	ANDESITE DYKE (CON- TINUATION OF ABOVE)	Hed. grey	m.g.	Weakly porph./ (uneven fs phenos).	Weakly fract'd.	Dioritized	Odd speck py.	Fractured at 45°. Slight grain gradation. 1946 questionable pillow bdr.
1951.5 - 2009.0	RHYOLITE QTZ FS PORPH	Hed. grey	m.g.	Porph (fs) qtz eyes	Weakly fract'd.		Cp-MoS ₂ in qtz stgrs	Odd 35° 1/4" to 1/2" qtz stgrs.
2009.0 - 2018.5	MASSIVE ANDESITE	Dark grey	m.-f.g.		Massive. Mod. fract'd.	Weak ser.	Diss. py.	Andesite dyke. 35-60': qtz-ca filled frs. Cts 35 & 75° fractured and chilled.
2018.5 - 2027.0	RHYOLITE QTZ-FS PORPH. AS ABOVE	Hed. grey	m.g.					Cts 75° & ground. Broken.
2027.0 - 2067.0	ANDESITE DYKE	Dark grey	m.g.		Weakly fract'd. Massive.	Weak to mod. ser. Scat- tered 35° 1/4" to 2" qtz stgrs.	Sparse finely diss py. Odd stgr of py.	Grain gradation & in first 3.0'. Fac. at 30°. 2055-2060: Strongly fract'd with strong ca altn.
2067.0 - 2122.0	FRACT'D RHYOLITE QTZ-FS PORPHYRY	Light to med. grey	m.g.	Weakly porph (fs) qtz? eyes	Strongly fract'd. Some shearing.	Ca altn. Minor chl.	Odd py speck & stgr. One patch of cp noted.	Ca altn masking the phenos. 45-60°: ser plated joints.
2122.0 - 2145.0	RHYOLITE QTZ-FS PORPH	Light blue grey	m.g.	Weakly porph (fs) & qtz? eyes	Weakly fract'd.	Chl spot & some ca. Odd 1/2" 20° qtz stgr.	Odd speck py. Trace of cp in qtz stgrs.	Ca-filled frs. 45-60° ser plated joints.
2145.0 - 2211.0	QTZ-FS PORPH	Hed. grey	m.g.	Strongly porph (fs) qtz? eyes	Weakly fract'd.	Ca in frs.	Odd patch of cp.	45-60° ser plated joints.
2211.0 - 2212.0	ANDESITE BX	Hed. grey	m.-f.g.		Coarse breccia.	Strong sauss in matrix	Odd speck of cp.	1/4 to 2" angular frags. of qtz-fs porph. cts irregular & 60°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2212.0 - 2234.0	PORPH ANDESITE	Med. to dark grey	m.g.	Strongly porph (fs)	Weakly fract'd.	Weak sauss.		
2234.0 - 2252.0	ANDESITE P.L.	Med. blue grey	m.g.	Strongly porph (fs)	Strongly pillowed. Weakly fract'd.	Weak sauss.		Ca-filled frs.
2252.0 - 2275.0	ANDESITE DYKE	Med. grey	m.g.	Porph? Could be fragmental.	Weakly fract'd.	Ca-filled frs.		Upper ct 70°. Frs. 50-70°.
2275.0 - 2302.0	ALT. ANDESITE DYKE (CON- TINUATION OF ABOVE)	Buff to med. gry	f.g.		Mod. fract'd.	Intense ca altn. Qtz-ca filled frs.		Ca altn masking all structure. Frs. 45°-70° and 20°.
2302.0 - 2331.5	MASSIVE ANDESITE	Med. grey	m.g.		Weakly fract'd.	Dioritized qtz-ca filled frs.		Grain gradation towards end of sect. Frs. at 55°.
2331.5 - 2339.0	AMYGD ANDESITE	Med. grey	m.g.		Weakly amygd. Strongly fract'd.	Dioritized.		45-80° sauss filled frs.
2339.0 - 2346.0	AMYGD ANDESITE	Grn grey	f.g.		Mod. amygd. Strongly fract'd.		Minor po, trace cp.	2339.0-2339.4: Fault 60°. Trace cp, py, po.
2346.0 - 2586.0	AMYGD ANDESITE (WAITE)	Med. to dark grey	f.g.		Weakly amygd. Mod. to weakly fract. 2472-2486 strongly fract'd.	Ca-filled frs. Odd 35° qtz str. Sauss-epid especially in flow bx sects.	Minor cp, po.	Frs 45°-60° 2418 & 2472.5 1/4" qtz strgs with po-sph. From 2402 on some sauss altn. Local small sects of flow bx. Moon shaped amygds (Waite type). 2572-2577: Strongly fract'd. 2577-2578.5: Fault. Qtz-ca bx cts 15°.

MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC

Bureau du géologue résident

ROUYN-NORANDA

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Drill Hole Record

SM-19019

MINISTÈRE DES RICHESSES NATURELLES, QUEBEC
 Bureau du géologue résident
ROUYN-NORANDA
 SAMPLÉES SECTIONS

Hole No. N-366 Lat. 21,180.0 Dep. 12,870.0 Elev. 11,199.4 Dip -90°

Working Date Started
 Place (Bn) July 6, 1966

Date Completed

August 3, 1966

Compass Tests Acid Test
 Depth Dip M.Brng. Depth Read Corr.

Depth	Read	Corr
30'	89 3/4°	89 1/2°
500'	89 1/2°	89 1/4°
1000'	89 1/2°	89 1/4°
1478'	89 1/2°	89 1/4°

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0 -12	No core.							Casing.
12.0-34.5-	Mass. andesite.	Dark grey.	M.f.g.			Ser speck altn.		
34.5-130.5	Amygd andesite. P.L. V-106	Med-grn grey.	M.f.g.		Strongly amygd. Mod. pillowed bx pil bdrs. WEakly fract'd.	Sauss-chl filled amygds. Sauss minor epid. Odd patch of qtz.		
130.5-145.0	Amygd andesite.	Med grey.	F.g.		Weakly amygd.	Sauss & ser speck.		
145.0-195.0	Mass andesite.	Med to dark grey.	F.g.		Weakly fract'd.	Dioritized.		
195.0-249.0	Amygd. Flow banded andesite.	Grn-grey.	M.f.g.		Flow banded. Weakly fract'd. Mod amygd.	Sauss minor epid. Chl filled amygds.	Odd patch po. Trace of cp.	Local sects of flow breccia. 205-210 Strong breccia. Epid-sauss frags in a qtz-ca matrix. Possible fault..
249.0-433.0	Mass andesite.	Med to dark grey.	M.g.		Weakly por ph(fs).	Weakly dioritized.	Odd speck py.	

MINISTÈRE DES RICHESSES NATURELLES, QUEBEC
 Bureau du géologue résident
ROUYN-NORANDA

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
433.0- 489.0	Amygd andesite. P.L.	Light to med grey.	M.g.		Mod amygd & pillowed.	Sauss-minor epid. Some chl spot & rag.	Minor po.	
489.0- 503.5	Mass andesite.	Med to dark grey.	F.g.		Mod fract'd.	Intense ca. Ca filled frs.		65° frs.
503.5- 668.0	Bleached amygd andesite. P.L.	Light grn grey.	M.f.g.		Weakly amygd. Mod pil.	Strong sauss epid. Local ca & local chl.	Tr cp.	521-522.5 - Andesite dyke. Cts 55° Far ct 60°.
668.0- 738.0	Mass andesite.	Med grey.	M.g.		Massive.	Dioritized.		
738.0- 744.0	Flow bx. andesite.	Dark grn grey.	Coarse to m.g.		Coarse angular frags with inters- tial chl.	Interstitial chl. - Rags & patches of albitite. Some sauss. Minor epid.	Minor po trace cp.	
744.0 - 758.5	Amygd andesite.	Grn grey.	M.f.g.		Strongly amygd.	Chl filled amygds. Some sauss-epid.		Cts gradational.
758.5- 822.0	Mass andesite.	Med grn grey.	M.g.		Massive.	Dioritized.		804-805 Andesite dyke.
822.0- 839.5	Amygd andesite.	Grn grey	M.f.g.		Mod amygd.	Chl filled amygds. Minor sauss.	Odd patch po.	
839.5- 846.5	Mass andesite.	Med grey	F.g.		Massive.	Minor ca.		
846.5- 852.5	Tuff.	Light to med grey	M.f.g.		Bedded.	Strong ca.	Diss py & po.	
852.5- 857.0	Sheared tuff.	Light to med grey	F.g.		Sheared.	Strong ca.	Po-py trace cp.	854-854.5 Qtz vein. 856-856.5 Qtz vein. One patch of sph.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
857.0-863.0	Crystal tuff.	Med grey.	M.g.	Fragmental (fs frags)	Weakly fract'd.			Dyke? Far ct 60° 1" qtz-ca fault.
863.0-880.0	Rhyolite bx.	Light to med grey.	Coarse to m.g.		Brecciated. Weakly fract'd.		Sparse diss po.	
880.0-890.0	Mass rhyolite.	Blue grey.	Aphanitic.			Patchy sauss.	Diss po.	
890.0-901.0	Vague tuff.	Grn grey.	M.f.g.		Fragmental appearance (due to altn).	Patchy sauss some epid.		
901.0-939.0	Mass rhyolite.	Grn grey.	M.f.g. to aph.		Locally heterogeneous due to altn.	Sauss-epid. Local silic.	Odd patch po. One speck of cp noted.	
939.0-972.0	Andesite dyke.	Dark grey.	F.g.		Weakly amygd.	Ca filled frs.		Cts irregular. 961-972 Mod to strongly fract'd and sheared.
972.0-995.0	Mass rhyolite.	Dark grey.	M.f.g.		Weakly fract'd & sheared.	Strong sauss ca filled frs.		Shearing 35° to 45°.
995.0-999.0	Fault zone.	Grn grey.	F.g.		Strong fract'd and sheared. Highly broken.			D.H.B. Thrust. Shearing at 35°. Sheared rhyolite.
999.0-1173.0	Amygd andesite P.L.	Light grn grey.	M.f.g.		Weakly amygd and broadly pil. Weakly fract'd.	Strong sauss-epid. Local patches & stgrs chl. Chl filled amygd.	Minor po.	
1173.0-1201.5	Mass andesite.	Med grey.	M.g.		Massive. Weakly fract'd.	Dioritized.		1173-1180 Mod to strongly fract'd. Weakly sheared. Shearing at 65°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1201.5-1239.0	Amygd andesite P.L.	Light grn grey.	M.f.g.		Weakly amygd. Broadly pil. Weakly fract'd.	Strong sauss minor epid. chl.		
1239.0-1269.0	Mass andesite.	Med grey.	M.g.		Massive. Mod to weakly fract'd.	Dioritized.		1254-1255 Fault. 65° 65° frs.
1269.0-1346.0	Amygd andesite P.L.	Grn grey	M.f.g.		Mod amygd & pil. Weakly fract'd.	Chl filled amygd. Patchy sauss & minor epid.		1303-1311 Med grey diorite dyke.
1346.0-1351.0	Andesite dyke.	Light grey.	M.f.g.	Porph(fs).	Weakly fract'd.	Sauss minor ca.		Cts 65° chilled.
1351.0-1356.5	Fault zone.	Med grey.	F.g.		Highly sheared & fract'd.	Intense ca.		1353-1355 highly broken. Shearing 45°-60°.
1356.5-1360.5	Andesite dyke.	Med grey.	F.g.		Highly fract'd.	Ca filled frs.	Minor py.	45-60° frs.
1360.5-1367.5	Andesite tuff.	Med grey.	M.g.	Fragmental fs & purplish frags.	Weakly to mod fract'd.		Minor py.	
1367.5-1381.5	Amygd andesite.	Med grey.	F.g.		Weakly amygd. Highly fract'd & sheared.	Qtz ca-chl filled frs. Minor ca chl patches.	Minor py.	
1381.5-1395.0	Fault zone.	Med grey.	F.g.		Highly sheared & fract'd.	Strong ca.	Local py.	1383-1388 Andesite dyke. Highly fract'd & dioritized.
1395.0-1410.0	Andesite dyke.	Med grey.	M.f.g.		Weakly fract'd.	Dioritized.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1410.0- 1414.0	Fault zone (andesite)	Grn grey.	F.g.		Highly fract'd & some shearing.	Shot through with qtz-ca stgrs.		1411.5-1413 F.g. grn-grey andesite dyke with finely diss py. Shearing 45°-60°
1414.0- 1478.0	Rhyolite bx.	Blue grey.	F.g.		Brecciated. Weakly fract'd.	Blue silic sauss- chl.	Diss py-po.	1473-1476 Grn grey andesite dyke cts 60°. 1470-1478 Flow banded (50°).
END OF HOLE.								

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MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC

Bureau du géologue résident

ROUYN-NORANDA

SAMPLED SECTIONS

Hole No. N-367	Lat. 19,995.45	Dep. 11,192.37	Elev. 11,119.70	Dip -90°	
Working Place (Bg)	Date Started July 11, 1966	Compass Tests		Acid Test	
	Date Completed July 20, 1966	Depth	Dip	M.Brng.	Depth
		16'			Read
		500'			89 3/4°
		792'			89 1/4°
					89°
					88 1/2°
					Corr.

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-6.0	No core							Casing.
6.0-30.0	Mass andesite.	Med grey	M.g.	Porph (fs)		Some sauss minor epid.		26-30 Highly broken. Odd 25° rust stained joint.
30.0-73.0	Amygd andesite.	Grn grey.	M.f.g.		Weakly amygd & fract'd.	Sauss minor epid.		
73.0-124.0	Mass andesite.	Grn grey.	F.g.		Massive. Weakly fract'd. Locally broken.	Patches & pods of sauss-epid.		73-75 Broken. 88-95 " 96-97 " 102-103 "
124.0-178.0	Mass andesite.	Dark grey	F.g.		Massive. Weakly fract'd.	Minor sauss.		
178.0-303.0	Mass andesite.	Med grey.	M.g.		Massive.	Dioritized.		178-180 Amygd Near ct 65°. Far ct 60°.
303.0-369.0	Mass andesite.	Dark grey.	F.g.		Massive.	Local sauss-epid.	Tr py.	
369.0-412.0	Amygd andesite	Grn grey.			Mod amygd & pil.	Sauss minor epid.	Minor po.	Brecciated pil bdrs.

Hole No. N-367 P.L.

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
412.0-565.0	Mass andesite.	Grn grey.	M.g.		Massive. Weakly fract'd.	Dioritized. Some epid. Local pods of sauss-epid.		
565.0-599.0	Amygd andesite P.L.	Light to med grey	M.f.g.		Mod amygd & pil.	Local strong sauss-epid chl spot & rag altn.		
599.0-614.5	Flow bx andesite.	Grn grey	Coarse to f.g.		Amygd & brecciated.	Sauss-epid-chl.		
614.5-622.0	Mass andesite.	Dark grey.	F.g.		Massive.	Minor sauss.		
622.0-677.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Mod amygd. Broadly pil.	Sauss-epid. Odd chl patch & stgr chl filled amygds.		639.5-640 Ca-ser schist shearing at 80°.
677.0-688.5	Massive andesite.	Grn grey.	M.f.g.	Weakly porph (fs).	Massive. Weakly fract'd.	Sauss.		
688.5-696.5	Sheared tuff.	Med grey.	F.g.		Strongly sheared. (Bedded?)	Strong ca.	Minor py. Cp-sph in fault.	At 695 3" Qtz-ca-ser bx (fault) with heavy cp-sph. Cts 75°. Shearing parallel to bedding.
696.5-700.0	Basic crystal tuff.	Dark grey.	M.g.	Fragmental	Weakly fract'd.		Strong diss py.	Grain gradation.
700.0-756.5	Amygd andesite P.L. Dacite?	Brownish grey.	F.g.		Weakly amygd. Broadly pil. Weakly fract'd.	Weak sauss and biotite. Odd small albitite stgr.		Siliceous andesite or dacite. Strong ca altn in last 3.0'.
756.5-759.0	Fault	Light grn grey.	F.g.		Schistose.		Diss py minor sph.	Qtz-ca-ser schist. Schistosity 75°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
759.0- 765.0	Andesite dyke?	Med grey	F.g.		Massive. Weakly fract'd.	Strong ca.	Minor py.	Alt rhyolite? Far ct ground.
765.0- 773.0	Mass rhyolite.	Med to blue grey.	F.g. to aphani- tic.		Porphyritic Massive. (fs).	Blue silic.		
773.0- 781.0	Rhyolite bx.	Light grn grey.	Coarse g.		Coarse breccia.	Sauss-chl.	Odd patch po.	
781.0- 792.0	Mass rhyolite.	Light blue grey.	Aphanitic.		Porphyritic.	Silic. Patchy chl.	Sparse diss py po.	Locally flow banded.
END OF HOLE.								

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LM-19019

MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC

Bureau du géologue résident

ROLYV NORANDA

SAMPLING SECTIONS

Hole No. N-368	Lat. 20,025.0	Dep. 16,140.0	Elev. 11,219.35	Dip -90°	Bearing --	Depth 1075'	
Working Place (Mp)	Date Started July 15, 1966	Compass Tests		Acid Test			
	Date Completed July 28, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.
		25'			89 1/2°	89 1/4°	
		500'			89°	88 1/4°	
		1070'			89 1/2°	89 1/4°	

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-4.0								Casing.
4.0-140.0	Amygd andesite.	Dark grey.	F.g.		Very weakly amygd & fract'd.	Chl & qtz filled amygd. Odd pod of sauss epid. Odd patch & stgr of albitite.	Odd speck cp.	51-52 Water seam. (Broken & rusty.)
140.0-249.0	Massive andesite.	Dark grey.	F.g.		Massive.	Scattered flecks of albitite. Odd sauss epid pod.		Odd 10°-20° hematite stained joint.
249.0-371.5	Amygd andesite.	Dark grey.	F.g.		Weakly amygd. Weakly fract'd.	Odd pod sauss-epid. Qtz filled amygd.	Odd patch po trace of cp.	
371.5-417.0	Amygd andesite P.L.	Dark grey	M.f.g.		Mod amygd. Very broadly pil. Weakly fract'd sheared.	Sauss epid. Qtz clots & stgrs.	Minor py-po tr cp.	Shearing at 45°.
417.0-548.0	Mass andesite.	Med to dark grey.	M.g.		Massive. Weak 30°-40° shearing.	Sauss speck. Local sauss epid.		510-512 Highly broken core.
548.0-549.5	Sheared andesite.	Med grey.	F.g.		Schistose.		Minor py.	Fault. Shearing at 40°. Minor hematite staining.

Hole No. N-368

Logged by D.M.

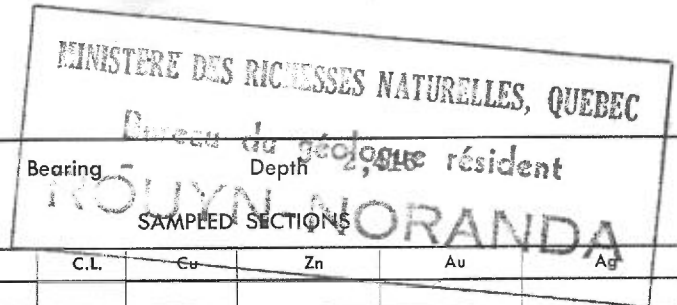
Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
549.5- 664.0	Amygd andesite.	Dark bleuish grey.	F.g.		Mod amygd. Weakly fract'd.	Qtz-sauss filled amygds. Patches of sauss albitite qtz. Local sects sauss epid.	Minor py tr cp.	
664.0- 733.0	Amygd andesite.	Dark bluish grey.	F.g.		Very weakly amygd.	Local sects sauss. Sauss speck & minor chl.	Minor cp & py.	
733.0- 874.0	Mass andesite.	Dark grey.	F.g.	Weakly porph.	Massive.	Minor sauss-chl.	Minor py.	830 ON weakly fract'd.
874.0- 908.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Mod amygd & pil. Weakly fract'd.	Sauss chl & minor epid.	Minor py.	
908.0- 925.0	Bleached mass andesite.	Light grey.	M.f.g.		Massive.	Sauss some ca. Chl speck & spot.		917-920 low angle qtz ca stgr. (Fault).
925.0- 937.0	Mass andesite.	Grn grey.	M.g.		Massive. Weakly fract'd.	Dioritized.		
937.0- 1023.0	Amygd andesite P.L.	Grn grey.	M.g.		Mod amygd & broadly pil.	Slightly dioritized. Patches of sauss- albitite. Odd patch & stgr of chl.		1018-1023 Bleached.
1023.0- 1029.0	Sheared tuff.	Med grey.	F.g.		Strongly sheared.	Intense ca.	Diss & bands of py.	Shearing at 75°.
1029.0- 1032.0	Massive & bedded. Tuff.	Med grey.	M.f.g.		Bedded & massive.	Minor ca.	Diss & bands of py.	Bedding 75°.
1032.0- 1075.0	Rhyolite Bx.	Med grey.	F.g.		Rounded light grey & chl frags. Weakly fract'd.	Sauss. Weak ser speck.	Minor py-po.	1064-1075 Mod ca altn mod fract'd.

END OF HOLE

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Drill Hole Record

DM-19019



Hole No. N-369	Lat. 18,122.0	Dep. 20,422.0	Elev. 11,000.5	Dip -90°	Bearing 91° Depth 91°					
Working Place (Fb)	Date Started July 21, 1966	Compass Tests		Acid Test						
	Date Completed Aug. 27, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.	Depth	Read	Corr.
					25'	89 1/2°	89 1/4°	1,500'	89 1/2°	89°
					500'	88 1/4	87 1/2	2,000'	88	87
					750'	88	87	2,344	88	87
					950	87	86			
					990	89 1/2	89			
					1,200	88 3/4	88			

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 7.0								Casing.
7.0 - 63.0	QTZ-FS PORPH	Light grey	m.g.	Porph. (Fs & qtz eyes)	Weakly fract'd.	Minor epid.	Sparse, finely diss. py. Trace cp	16.0-17.5': Andesite dyke cts 45°.
63.0 - 69.0	ANDESITE DYKE	Grn grey	f.g.		Massive, weakly fract'd.	Sauss-epid		Cts. 45° & irregular.
69.0 - 129.0	QTZ-FS PORPH	Light grey	m.g.	Porph. (Fe & qtz eyes)	45° & 20° joints.	Minor epid.	Finely diss. py. Tr. cp.	
129.0 - 136.0	BEDDED TUFF	Light grey	f.g.		Bedded. Local sects. massive.	Intense ca.	Diss & stgrs py.	130-132: Sheared. Shearing 50°. Rhyolite tuff.
136.0 - 308.0	ALT. AMYGD ANDESITE	Brownish-grey	f.g.		Weakly amygd. Weakly to mod. fract'd.	Strong ca, biotite. Some sauss. epid.	Scattered patches & specks of ep-py.	
308.0 - 328.0	AMYGD ANDESITE P.L.	Dark blue-grey	f.g.		Weakly amygd & broadly pil'd.	Sauss-biotite.	Odd patch of cp.	
328.0 - 451.0	AMYGD ANDESITE	Grn-grey	m.-f.g.		Weakly amygd & fract'd. Scattered 45° jointing.	Sauss biotite, albitite stgrs & patches, some chl. Minor epid.	Minor py.	Local sects. of flow bx.
451.0 - 471.0	ANDESITE FLOW BX.	Grn-grey	m.-f.g.	Heterogeneous	Mod. fract'd.	Ca-hematite? sauss chl.		Ca-filled frs.

Hole No. N-369

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
471.0 - 506.0	ALT. AMYGD. ANDESITE	Light grn grey	M.-f.g.		Mod. to strongly fract'd. Weakly amygd.	Intense ca. Patches of albitite. Minor epid.	Tr. cp.	20° & 45° ca-filled frs.
506.0 - 508.0	FAULT (QTZ- CA BX)	Light gry						Cts. 25°.
508.0 - 586.5	ALT. AMYGD. ANDESITE	Light to med. grey	M.-f.g.		Mod. fract'd. Weakly amygd.	Intense ca. Minor chl. Sauss. Local biotite altn.		535.5-536.5: Fault (qtz-ca ser) cts 45°. 558.5-570.5: Qtz ca fault cts 10-15°.
586.5 - 676.0	AMYGD ANDESITE P.L./	Grn, buff, gry	F.g.		Weakly amygd. Broad- ly pil. Mod. to strongly fract'd.	Strong ca. Patches of sauss epid. Local bi- otite. Local patches chl.		Frs. 45° and 15°. Ca-filled. Bio- tite altn. at pil. bdrs.
676.0 - 693.0	BLEACHED ANDESITE	Med. grey	F.g.		Mod. fract'd. Weakly sheared.	Intense ca. Patches of biotite.		686-688: Fault. Qtz-ca ser-schist. Schistosity 35°-40°.
693.0 - 712.0	AMYGD ANDESITE P.L.	Med. to dark gry	F.g.		Mod. fract'd. Weakly amygd, broadly pil'd. Weakly shear'd/	Local strong ca, ca- filled frs. Some biotite. Local patches of albitite.		40-60° frs. Odd 30-35° qtz stgr with py-cp.
712.0 - 759.0	BLEACHED AMYGD ANDESITE	Med. gry	F.g.		Mod. fract'd & sheared	Intense ca.	Cp & MoS ₂ in stgrs.	30-40° shearing scattered 35° qtz- ca stgrs.
759.0 - 821.5	AMYGD ANDESITE P.L.	Med. to dark grey	F.g.		Weakly amygd & broadly pil, mod. to strongly fract'd.	Mod. to strong ca, ca- filled frs.	Minor py, cp.	790-807: Bleached, intense ca altn mod. fract'd & sheared. Odd qtz- ca stgr. Shearing at 35°.
821.5 - 831.5	SHEARED ANDESITE	Light grn- grey	F.g.		Strongly sheared	Intense ca	Odd patch	Fault zone 826-827: Qtz-ca bx. 40° shearing.
831.5 - 885.0	AMYGD ANDESITE P.L.	Grn-gry	F.g.		Mod. fract. Weakly amygd. Broadly pil.	Sauss. Local ca altn. Ca-filled frs. Minor chl.		Weakly sheared 40°.
885.0 - 934.0	AMYGD ANDESITE	Med. grey	F.g.		Mod. to strongly fract'd. Weakly amygd.	Minor sauss. Local strong ca, ca-filled frs./	Minor py-cp. Odd patch sph.	Frs. 45-60° @ 912" irregular qtz-ca stgr with sph.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
934.0 - 983.0	ALT. & SHEARED ANDESITE	Light gry	f.g.		Mod. to strongly sheared.	Intense ca.		Bleached. Fault zone. Shearing 10-35°.
983.0 - 998.0	ANYGD ANDESITE	Buff gry	f.g.		Mod. amygd & fract'd	Mod. ca, some biotite. Ca filled frs.		
998.0 - 1028.0	ANDESITE DYKE	Med. gry	f.g.	Weakly porph	Massive. Weakly fract'd.	Minor sauss.		Could be a weakly amygd flow.
1028.0 - 1085.0	ANYGD ANDESITE	Med. gry	f.g.		Weakly amygd.	Local blue-grey silic. Chl patches & spots sauss.		Siliceous andesite.
1085.0 - 1097.0	ALT. ANDESITE	Grn gry	f.g.	Heterogeneous		Strong blue silic & grn chl.	Diss. & odd stgr py.	
1097.0 - 1146.0	MASSIVE SILICEOUS ANDESITE	Med. grey	f.g.		Massive. Weakly to mod. fract'd.	Blue silic. Local purple silic spots. Some chl.	Minor py.	1129-1130: Highly broken.
1146.0 - 1154.0	MASSIVE ANDESITE	Med. grey	f.g.		Massive. Weakly fract'd.	Ca-filled frs. Weak sauss.		
1154.0 - 1183.0	SILIC ANDESITE	Med. grey	f.g.	Heterogeneous		Patches & spots of purple silic	Minor py.	Heterogeneous texture due to altn (silic).
1183.0 - 1209.0	SHEARED ANDESITE	Med. grey	f.g.		Highly fract'd, sheared & broken.	Qtz-ca ser.	Minor py.	4.0' lost core. Sheared silic andesite. Shearing @ 45°.
1209.0 - 1218.0	ALTERED ANDESITE	Med. grey	f.g.		Weakly sheared & fract'd & brecciated	Strong ca, some epid.	Local diss py.	
1218.0 - 1245.0	ALT. SILIC ANDESITE	Med. grey	f.g.	Blue qtz cys.	Massive, weakly fract'd.	Silic, ser, some chl.	Sparse py, po.	
1245.0 - 1298.0	SILIC ANDESITE	Med. to dark grey	f.g.		Massive. Weakly fract'd & sheared	Silic, local biotite, local insipient dalm. Local chl.	Odd patch of py, po.	Insipient dalm. Weak shearing @ 20-35°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1298.0 - 1307.0	ANDESITE DYKE	Light to med. gry	f.g.		Massive, weakly fract'd.	Sauss & local weak biotite.		Cts 45° & ground.
1307.0 - 1371.0	SILIC ANDESITE	Med. to dark grey	f.g.		Massive, weakly fract'd.	Strong silic. Local insipient dalm. Local epid & local chl.	Scattered frs filled with py, po, cp.	Insipient dalm.
1371.0 - 1382.0	ALT. ANDESITE	Dark grn grey	f.g.		Massive.	Chl-ser, minor biotite. Odd qtz clot.		
1382.0 - 1471.0	DIORITE	Med. grey	m.g.	Weakly porph	Massive		Odd qtz cp-po filled/ fr.	Near ct 50°? Slight chilling. 1451: 50°3" qtz-ca stgr (small fault). Some cp-po.
1471.0 - 1477.0	ANDESITE DYKE	Dark grey	f.g.		Massive			Cts 45°.
1477.0 - 1495.0	DIORITE	Med grey	m.-f.g.					1488-1495: Strong ca altn. Far ct ground.
1495.0 - 1574.0	AMYGD ANDESITE	Dark grey	f.g.		Mod. amygd.	Sauss filled amygds. Some sauss, minor bio- tite.	Minor py, cp.	Odd 20° qtz stgr with py, cp, MoS ₂ .
1574.0 - 1615.0	AMYGD SILIC ANDESITE	Bluish grey	f.g.		Weakly amygd. Weakly fract'd.	Silic & sauss.	Sparse diss po, cp, py.	Dacite.
1615.0 - 1636.0	ANDESITE DYKE	Med. grey	f.g.	Weakly porph	Massive	White qtz in fractures		Near ct 45°. 2" qtz-ca fault.
1636.0 - 1649.0	BASIC TUFF	Med. grey	Fine Aphanitic		Weakly bedded.	White qtz in fractures. Sericitic near dyke contacts.	Minor chalco in qtz.	Inter andesite tuff with bleaching at the upper and lower contact.
1649.0 - 1692.0	FRACTURED AMYGDAL ANDESITE	Light grey grn.	Fine-med.		Weakly amygdal. Fractured.	White qtz & carb in fractures.	Minor pyrr in andesite.	Andesite dyke 1659-1670 1670-1685: Fractures at 60° to the core axis filled with qtz.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1692.0 - 1762.0	BLEACHED PORPHYRITIC ANDESITE	Grey grn	Fine, med.	Uneven, porphyritic	Massive. Fractures at 60° to core axis.	Qtz & carb in fractures	Minor pyrr.	1702.6-1708: Bleached section with qtz sericite. Weak amygdules in bottom section. Qtz veins with pyrr at 25° to core axis: 1743-1745 ft. 1760-1762 ft.
1762.0 - 1790.0	AMYGDAL ANDESITE P.L.	Med. grey green.	Fine, med.		Moderately amygdal. Pillowed.	Qtz carb in fractures. 2% albitite, bleaching,	Minor pyrr & chalco	Chlorite & feldspar in amygdules.
1790.0 - 1847.0	FLOW BANDED ANDESITE	Light gry, light grn	Fine		Weakly flow banded, weakly amygdal	Bleached patches with sericite & qtz.	Minor pyrite	Qtz vein 1811-1812. Cherty section 1825-1827. Qtz & chlorite fill amygdules.
1847.0 - 1876.2	AMYGDAL ANDESITE P.L.	Grey grn, mottled	Fine, med.		Moderately amygdal, pillowed.	3% albitite patches. Qtz & carbonate in fractures.	Scattered minor pyrite & chalco.	Chert sections 1847-1848 1859-1860
1876.2 - 1894.0	BASIC ASH & TUFF	Med.-lt grey	Fine		Weakly banded with alt. spots.	White qtz in fractures	Minor scattered py.	Banding at 40° to the core axis. Fragments with chlorite alt'n 2-5 mm in diameter.
1894.0 - 1978.6	AMYGDAL ANDESITE P.L.	Light grey green	Fine-med.		Moderately amygdal, pillowed.	Epidote in fractures, patches of albite.	Scattered minor pyrr/ & chalco.	Q.F.P. sills 1911-1912 ft. 1914-1924 ft. Rock is siliceous with phenocrysts of qtz & feld.
1978.6 - 2006.3	RHYOLITE Q.F.P.	Grey white	Med.	Uneven, porphyritic	Massive	Inclusions of altered andesite.		Phenocryst of white feldspar & qtz.
2006.3 - 2011.0	AMYGDAL ANDESITE	Grey grn	Fine-med.		Moderately amygdal	Chlorite alteration.		Phenocrysts of white feldspar up to 4mm. form around fractures.
2011.0 - 2039.0	RHYOLITE Q.F.P.	Grey white mottled	Med.	Uneven, porphyritic				Rock appears to be intrusive.

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Hole No.

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Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2039.0 - 2052.0	RHYOLITE BRECCIA	Grey, light grn	Fine, med.		Brecciated with acid fragments.	Chlorite around frag- ments. Phenocrysts of white feldspar are minor	Minor pyrrhotite	Foliation in section at 40° to core axis. Andesite Dyke 2050.6-2052 ft.
2052.0 - 2138.0	RHYOLITE Q.F.P.	Grey, grn, mottled.	Med.	Uneven, porphyritic	Massive with inclu- sions of basic breccia	White qtz in fractures		Phenocrysts of qtz & white feldspar up to 4 mm in a dense green matrix.
2138.0 - 2146.0	PORPHYRITIC RHYOLITE	Light gry	Fine, med.	Uneven, porphyritic	Massive, fractures similar to Waite Rhyolite.			Phenocrysts of white feldspar and qtz up to 3 mm long.
2146.0 - 2187.0	RHYOLITE Q.F.P.	Grey, grn	Fine, med.	Uneven, porphyritic	Massive, fractured.	Carbonate qtz in frac- tures.	Minor chalco & py	2164-2165: Shear at 50° to core axis.
2187.0 - 2211.0	PORPHYRITIC ANDESITE	Grey, grn	Fine, med.	Uneven, porphyritic	Weakly amygdal, frac- tured.	Chlorite alt'n general. Carbonate in fractures.	Minor chalco & py	2187-2195: Fractures at 45° to core axis. Phenocrysts are both qtz & white feldspar.
2211.0 - 2260.0	RHYOLITE Q.F.P.	Lt grey grn.	Fine, med.	Uneven, porphyritic	Massive, fractured	Carbonate in fractures. Chlorite alt'n general	Minor py.	Phenocrysts of white felds & blue qtz are common. Sections resemble rhyolite in fracture pattern & texture.
2260.0 - 2265.0	ANDESITE DYKE	Dark grn	Fine		Massive, weakly fractured.	Epidote & chlorite in fractures.	Minor py.	Upper & lower contacts are chilled.
2265.0 - 2308.0	RHYOLITE Q.F.P.	Grey grn, mottled	Fine, med.	Uneven, porphyritic	Massive, weakly fractured.	Carbonate & chlorite in slips.	Minor chalco in fractures.	Sections of the porphyry have rhyo- lite features. Some amygdale rem- nants with chlorite also occur.
2308.0 - 2330.5	PORPHYRITIC ANDESITE	Dull grey, grn	Fine, med.	Uneven, porphyritic	Massive. Weakly sheared.	Chlorite, carbonate alt.	Minor py	Phenocrysts of white felds & qtz
2330.5 - 2341.0	AMYGD ANDESITE	Grn grey	M.-f.g.		Weakly amygd. Mod fract'd.	Chl, sauss.	Minor py	Sauss, ca filled frs.
2341.0 - 2389.0	ANDESITE DYKE	Dark grn grey	M.g.	Uneven porph	Massive. Mod. fract'd	Odd qtz stgr. Sauss- filled frs. Tr. epid.	Diss & odd stgr of py. Minor cp.	Cts 35°. Frs 20°-80°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
2389.0 - 2408.0	AMYGD ANDESITE	Grn grey	M.-f.g.	Weakly porph	Weakly to mod. amygd. Weakly fract'd.	Chl & sauss filled amygds./ Odd 40° qtz stgr. Sauss filled frs.	Minor po.	2398-2401: Med. grey f.g to aphanitic silic dyke. Cts 80°.
2408.0 - 2415.0	PORPH ANDESITE	Grn grey	M.-f.g.	Uneven porph.	Massive. Very weakly fract'd.	Sauss.		Near ct gradational. Phenos of white fs, odd qtz.
	END OF HOLE							

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Drill Hole Record

DM-19019

MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC
Bureau du géologue résident
GRAND-GRAND

Hole No. N-370	Lat. 19,692.0	Dep. 11,670.0	Elev. 11,135.65	Dip -90°	Bearing 958°	Depth 958'
Working Place (Dh)	Date Started July 22, 1966	Date Completed August 2, 1966	Compass Tests		Acid Test	
	<u>Depth</u>	<u>Dip</u>	<u>M.Brng.</u>	<u>Depth</u>	<u>Read</u>	<u>Corr.</u>
	25'			89 1/2°	89 1/4°	
	500'			89 1/2°	89 1/4°	
	950'			88°	87°	

SAMPLED SECTIONS						
From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-15.0								Casing.
15.0-41.0	Flow banded andesite.	Dark grey.	F.g.		Weakly amygd. Strongly flow banded.	Sauss.		
41.0-100.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Strongly amygd. Weakly fract'd. Very broadly pil.	Sauss minor epid. Sparse albitite & chl.		
100.0-192.0	Mass andesite.	Dark grey.	M.f.g.		Massive. Weakly fract'd.	Sauss speck.		45°-60° ca-sauss filled frs.
192.0-210.0	Amygd andesite.	Grey.	M.f.g.		Mod amygd.	Sauss minor epid. Sauss-chl filled amygd.		
210.0-343.0	Mass andesite.	Dark grey.	M.g.		Massive. Weakly fract'd.	Dioritized.		303-306 Sheared hematite stained. Shearing at 60°.
343.0-378.0	Amygd andesite.	Med grey.	F.g.		Weakly amygd.	Minor sauss.		Near ct 75°

Hole No. N-370

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
378.0-472.0	Amygd andesite P.L.	Dark grey.	F.g.	Weakly porph (fs).	Weakly amygd & broadly pil. Weakly fract'd.	Odd patch albitite.		
472.0-542.5	Amygd andesite.	Dark grey.	M.f.g.		Weakly amygd & fract'd.	Odd sect of sauss epid. Weakly dioritized.		50°-60° frs.
542.5-560.0	Amygd andesite.	Light grn grey to dark grey.	M.f.g.		Mod amygd.	Sauss-epid chl filled amygds.		
560.0-590.0	Mass andesite.	Med grey	M.g.		Massive.	Dioritized.		
590.0-608.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Weakly amygd & broadly pil.	Sauss-epid chl.		
608.0-618.0	Mass andesite.	Med grey.	M.g.		Massive.	Dioritized.		
618.0-628.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Mod amygd & broadly pil.	Sauss-epid chl.		
628.0-679.0	Amygd andesite.	Grn grey.	M.f.g.		Mod amygd.	Sauss-epid chl.		656-661 Flow bx.
679.0-723.0	Amygd andesite P.L.	Grn grey.	M.f.g.		Weakly amygd mod pil.	Albitite chl.		
723.0-839.0	Mass andesite.	Med to dark grey.	M.g.		Massive.	Dioritized.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
839.0-887.0	Amygd andesite.	Med grey.	F.g.		Mod amygd. Weakly fract'd.	Sauss. Chl filled amygds.	Diss py.	841-842 some dusty sph noted.
887.0-896.5	Sheared tuff.	Light grey.	F.g.		Schistose.	Ser-qtz schist minor ca.	Minor py.	887-892.5 Very strongly sheared. Schistosity-60°. 892.5-896.5 Mod to weakly sheared.
896.5-910.0	Rhyolite bx.	Med grey.	F.g.	Heterogeneous.	Mod brecciated.	Sauss minor chl.	Diss py throughout.	
910.0-944.0	Mass rhyolite.	Med grey	F.g. to aph.	Pseudo porph.		Blue silic minor sauss & chl.	Diss py minor po.	928-938 Rhyolite bx.
944.0-958.0	Rhyolite bx.	Med grey.	F.g.	Heterogeneous.		Sauss.		
END OF HOLE.								

18 NOV 88
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Drill Hole Record

GM-19019

Hole No. N-371	Lat. 49° 66' 7.63"	Dep. 14. 211. 39	Elev. 11, 197. 26	Dip -90°	MINISTÈRE DES RESSOURCES NATURELLES, QUEBEC BUREAU DU GÉOLOGUE RÉSIDENT ROUYN-NORANDA			
Working Place (Am)	Date Started	Compass Tests		Acid Test	SAMPLED SECTIONS Bureau du géologue résident From To C.L. Cu Zn Au Ag			
	Date Completed	Depth	Dip	M.Brng.		Depth	Read	Corr.
		Depth	Head	Corr		Depth	Read	Corr
		25'	90°	90°		1220'	88 1/4°	87 3/4°
		500'	88°	87°	1300'	87 3/4°	87°	
		970'	87 1/2°	86 1/2°	1500'	87 1/2°	86 1/2°	
		1190'	86°	84 1/2°				

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-12.0								Casing.
12.0-134.0	Mass andesite.	Dark grey.	F.g.	Locally weakly porph.	Massive. Weakly fract'd & sheared.	Ca filled frs. Minor sauss.	Minor py-cp.	30°-40° shearing.
134.0-136.0	Fault zone e.	Light grn grey.	F.g.		Brecciated.		Odd patch py.	Qtz-ca-ser bx. Cts 40°
136.0-257.5	Sheared andesite.	Dark grey.	F.g.		Mod fract'd & sheared. Massive.	Mod to strong ca altn. Ca filled frs.		Shearing 30°-60°. Ser & hematite plated slips.
257.5-263.0	Fault zone.	Med grey.	F.g.	Schistose.				Qtz-ca-ser schist. Schistosity 45°.
263.0-278.0	Alt diorite.	Med grey.	M.f.g.		Strongly fract'd. Mod sheared.	Intense ca.		
278.0-525.0	Diorite.	Med grey.	M.g.		Weakly fract'd.	Minor epid. Odd 45° qtz stgr.		
525.0-527.0	Sheared diorite.	Med grey.	F.g.		Weakly schistose.	Strong ca.		Fault 50°
527.0-567.0	Diorite.	Med grey.	M.g.		Weakly fract'd.	Minor epid.		

Hole No. N-371

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
567.0-578.0	Andesite dyke.	Dark grey	F.g.		Weakly fract'd.			Cts 50°
578.0-693.0	Diorite.	Med grey.	M.g.			Minor epid.		599-599.8 Fault. 40° Far ct 60°
693.0-721.5	Amygd andesite.	Med grey.	F.g.		Mod fract'd. Weakly amygd.	Ca-sauss filled frs.		Frs 60° & 20°
721.5-761.0	Amygd andesite.	Med to dark grey	F.g.	Porph(fs)	Weakly amygd. Mod fract'd.	Sauss chl filled amygd. Sauss-ca filled frs. Patches of sauss-epid.	Minor py.	Frs 45°-60° Far ct 60° Very small white fs phenos.
761.0-884.0	Massive andesite.	Dark grey.		Porph(fs)	Weakly fract'd.	Patches of sauss epid.		
884.0-909.0	Amygd andesite.	Dark grey.			Weakly amygd. Weakly to med fract'd.	Ca-sauss filled frs. patches of albitite.	Minor py.	
909.0-982.0	Diorite.	Med grey.	M.f.g.		Mod fract'd.	Epid. Ca filled frs.		Odd 1" to 2" 60° qtz-ca stgrs. (faults). 971-982 F.g. & strongly fract'd (DHB Thrust)?
982.0-1006.0	Amygd andesite.	Med grey	F.g.		Weakly amygd. Mod to strongly fract'd.	Weak sauss. Odd patch of sauss epid.		Ca-sauss filled frs.
1006.0-1014.5	Sheared andesite.	Med grey	F.g.		Highly fract'd & sheared. Locally schistose.			Fault zone. Shearing at 40° 1013-1014.5 Qtz ca-ser schist
1014.5-1032.0	Amygd andesite.	Med grey	F.g.		Mod fract'd. Weakly amygd & sheared.	Ca-sauss filled frs.		Frs 60°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1032.0-1037.0	Fault zone.	Med grey	F.g.		Strongly sheared.	Hematite in fractures along with qtz & carbonate.		Shearing 20-35° (West Valley Thrust).
1037.0-1043.5	Andesite dyke.	Med grey	F.g.		Strongly fract'd weakly sheared. Massive.	Qtz-ca filled frs.		
1043.5-1060.0	Sheared andesite.	Grey green.	Fine med.		Sheared & fractured at 45° to core axis.	Chlorite & saussureite patches carbonate in fractures.		Red hematite fills fractures at the base of the section.
1060.0-1065.0	Andesite dyke.	Med grey green.	Fine med.		Massive fractured.	Epidote alteration of fractures		Green needles of amphibole 1/4 long in dyke rock.
1065.0-1090.0	Massive andesite.	Med grey green.	Fine med.		Massive. Weakly fractured.	Carbonate. qtz in fine fractures. Hematite in fault.		1067-1072 Shear zone at 60° to core axis.
1090.0-1156.0	Massive andesite.	Grey green mottled.	Fine med.		Massive. Strongly fractured.	Qtz carbonate & epidote in fractures.	Minor pyrite in fractures.	Fault zone 1130-1134 ft at 30° to core axis. Mauve silic in fractures 1133 ft. Most fractures at 80° to the core axis.
1156.0-1185.6	Sheared massive andesite.	Grey green.	Fine med.		Massive. Strongly sheared and fractured.	Buff carbonate & qtz in fractures.		Fractures 50-60° to core axis. 1183-1885.6 Strong shear at 50° to core axis. 1175-1177 Fl breccia.
1185.6-1205.0	Amygdul andesite P.L.	Grey green mottled.	Fine med.		Weakly amygdul pillowed fractured.	Albitite carbonate alteration near fractures.		1187-1192 andesite dyke.
1205.0-1270.0	Amygdul andesite.	Grey green.	Fine med.		Weakly amygdular weakly fractured.	Carbonate & qtz in fractures.		1217.6-1219 Qtz-albitite vein. Feldspar & chlorite in amygdules.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1270.0-1307.5	Dioritized andesite.	Dark grey-green mottled.	Fine med.		Amygdular andesite with micro diorite sills.	Albitite & sericite alteration at sill margins.		Section 60% micro-diorite & 40% andesite remnants.
1307.5-1368.0	Amygdular andesite P.L.	Grey green mottled.	Fine med.		Moderatly amygdular pillowed.	Albitite patches & epidote at pillow borders.		Fractures at 60° to core axis filled with carbonate Qtz. Flow breccia. 1063-1066
1368.0-1379.0	Amygdul andesite.	Light grey.	Fine med.		Strongly amygdular.	Qtz carbonate in fractures.		Rounded amygdules between 3-8mm contain chlorite.
1379.0-1382.6	Basic tuff.	Med grey	Fine.		Weakly bedded with Qtz shurds.		Minor pyrite.	Inter flow tuff.
1382.6-1413.0	Massive andesite.	Med grey	Fine		Massive fractured.	Qtz carbonate in fractures.		Hair-like fractures at 50° to the core axis. Small shears 30° to core axis. 1391-1393 ft.
1413.0-1473.0	Fractures massive andesite.	Med grey green.			Massive strongly fractured.	Carbonate in fractures.		Shear zone at 50° to core axis 1430-1435.5. Core below section is broken. & ground.
1473.0-1584.0	Massive andesite.	Med grey	Fine med.		Massive moderatly fractured.	Carbonate in fractures.		1549-1564 Weakly flow banded section 1564-1584 Fractures with white carbonate at 50° to core axis. 1571-1572- Shear zone at 45° to axis.
1584.0-1606.0	Amygdular andesite P.L.	Grey green mottled	Fine med.		Moderatly amygdular pillowed.	Carbonate in fractures.		Chlorite in amygdules.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1606.0-1691.6	Amygdul andesite P.L.	Light grey green mottled.	Fine med.		Weakly amygdul pillowed.	Bleached grey with sericite & chlorite in shears. Qtz & carb in fractures.		1620-1621-Fractures 50° to core axis. 1658-1669-Shear zone 45° to core axis. 1675-1684 Porphyritic andesite dyke.
1691.6-1697.0	Andesite flow breccia.	Grey green mottled.	Fine med.		Brecciated & weakly fractured.	Chlorite alteration around fragments Carbonate in fractures.	Massive pyrrhotite & minor chalco.	Assay 1691.6-1693.0 2)1693-1695.6 Estimated-10-15% pyrrhotite.
1697.0-1727.6	Amygdul andesite P.L.	Med grey green.	Fine med.		Moderately amygdul pillowed weakly fractured.	Bleached with chlorite alteration in dark sections.	Scattered pyrrhotite & chalco in breccia sections.	1719.6-1729.6 Flow breccia with scattered pyrrhotite. Fractures at 45-50° to core axis.
1727.6-1745.0	Amygdul andesite.	Med grey	Fine med.		Moderately amygdul fractured.	Weak biotite alt. Carbonate in fractures & amygdules.		1643.6-1644.6 Shear zone at 40° to core axis.
1745.0-1816.0	Amygdul andesite.	Dark grey green mottled.	Fine med.		Moderately amygdul.	Bleached patches with albitite & sericite qtz carbonate in fractures.	Minor pyrite & pyrr. Odd patch of py-po.	1775-1776 Fractures at 35° to the core axis. 1780-1783.6 Fractures at 10° to core axis. (Steep fault)
1816.0-1900.5	Amygd andesite P.L.	Dark grey green.	M.f.g.		Weakly to mod amygd. Broadly pil. Weakly fract	Patchy sauss and rags & patches of chl. Chl-sauss filled amygd. Odd sauss pod.	Scattered patches of py-po.	Upper ct gradational. Questionable pillows.
1900.5-1909.0	Bedded tuff.	Buff grey.	M.f.g.	Chl & white fs frags in a buff grey groundmass.	Locally strongly bedded.		Finely diss py throughout. Trace of sph?	Bedding 65°. 1900.5-1903 Sample for Cu Zn.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1909.0- 1912.0	Fault zone.	Med grey,	F.g.		Schistose.		Py with minor cp.	Qtz-ca-ser schist. Schistosity 60°
1912.0- 1919.0	Rhyolite breccia	Light green grey.	F.g.		Brecciated.	Blue silic sauss and minor epid.	Diss py-po. Some cp at start of sect.	
1919.0- 1954.0	Massive rhyolite.	Bluish grey.	F.g.		Massive. Mod blocky.	Minor sauss epid altn.	Finely diss py throughout minor po.	Locally flow banded. 1931.5-1933.5 brecciated.
1954.0- 1962.0	Rhyolite bx.	Light to med grey.	F.g.		Brecciated.	Minor sauss.	Finely diss py.	
END OF HOLE.								

18 NOV 68
 RECEIVED
 ADMINISTRATION
 SERVICE DIVISION
 NUMBER 100

LAKE DUFALT MINES LTD.

Drill Hole Record

LM-19019

MINISTÈRE DES RICHESSES NATURELLES, QUEBEC

Bureau du géologue résident

Depth 1,164 ft.

ROUYN-NORANDA

SAMPLED SECTIONS

Hole No. N-372	Lat. 19,970.0	Dep. 16,580.0	Elev. 11,160.8	Dip -90°
Working Place	Date Started	Compass Tests		Acid Test
	Aug. 1, 1966			
(No)	Date Completed	Depth	Dip	M.Brng.
	Aug. 18, 1966			
		Depth	Read	Corr.
		36'	89 3/4	89 1/2
		500	89	88 1/2
		1000	88 1/2	87 1/2
		1160	88 3/4	88

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 36.0								Casing.
36.0 - 96.0	AMYGD ANDESITE P.L.	Med. grey	F.g.		Weakly amygd & mod. pil. Weakly fract'd.	Sauss. patches & strgs. Chl & sauss-filled amygs		
96.0 - 112.0	FLOW BX ANDESITE	Dark grey	F.g. to aph.		Strong fl bx.	Odd patch sauss-epid.	Minor py.	
112.0 - 129.0	AMYGD ANDESITE	Dark grey			Mod. amygd.	Qtz-sauss filled amygds. Patches of sauss - minor epid.		Elongated amygd.
129.0 - 388.0	AMYGD ANDESITE	Dark grey	F.g.	Very weakly porph.	Very weakly amygd. Weakly fract'd.	Minor sauss.		286-301: Odd 45° hematite plated joint.
388.0 - 430.0	AMYGD ANDESITE P.L.	Dark grey	F.g.		Mod. amygd. Cooling frs. Questionable pil. bdrs.	Qtz-sauss filled amygds. Local sauss-epid patches.		
430.0 - 497.0	AMYGD ANDESITE	Med. to dark grey	F.g.	Very weakly porph.	Mod. amygd.	Pods of sauss-epid. Qtz-sauss filled amygds.		484-485: Qtz-fs-ca cts 65 & 40°.
497.0 - 649.0	AMYGD ANDESITE	Med. grey	F.g.	Very weakly porph.	Very weakly amygd. Weakly fract'd.	Weakly dioritized. Local patches of sauss-epid.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
649.0 - 652.5	AMYGD ANDESITE P.L.	Grn-grey	F.g.		Weak amyg. Mod. pil.	Odd sauss epid pod.	Minor py.	
652.5 - 722.0	AMYGD ANDESITE	Mod. to dark grey	F.g.	Very weakly porph.	Very weakly amyg.	Weakly dioritized. Minor sauss epid.	Trace of py.	
722.0 - 769.0	ANDESITE DYKE	Dark grey	F.g.	Uneven, porphyritic	Massive	Qtz carb in fractures. Bleached with sericite lower 10 ft.		White phenocrysts of feldspar up to 3 mm in a fine matrix.
769.0 - 795.0	SHEARED FLOW BRECCIA	Grey-grn mottled	Fine-med.		Brecciated & sheared	Sericite epidote alt'n in shear.	Scattered pyrr.	Shear, 789-795 ft. at 55° to core axis. Sericite epidote in shear.
795.0 - 887.0	AMYGDAL ANDESITE	Dark grey	Fine-med.		Moderately amyg'd'l. Flow breccia sects.	Epidote, qtz carbonate in minor fractures.	Minor chalco & py- rite. Breccia.	817-825: Andesite dyke. Flow breccia sections: 885-887, 848.6-850.6, 855-857 ft. Amygdular & rounded fragments in a fine matrix.
887.0 - 937.0	PORPHYRITIC ANDESITE	Med. grey grn	Fine-med.	Uneven, porphyritic	Massive, weakly fractured.	Bleached patches. Epidote & carbonate in fractures.		Phenocrysts of white feldspar 1-3 mm long.
937.0 - 939.0	BASIC TUFF	Dark grey green	Fine		Weakly banded.	Qtz vein upper 3 inches	Buds of pyrrhotite lower 4 inches.	Interflow tuff with a cherty top.
939.0 - 1085.8	AMYGDAL ANDESITE P.L.	Grey green L./mottled	Fine- med.		Moderately amygdal. Pillowed.	Epidote & albitite patches make up 15% of core.		
1085.8 - 1093.6	ACID TUFF & ASH	Light gry	Fine		Weakly banded with acid fragments.	Vein qtz & chlorite in fractures	Scattered pyrite & pyrr with minor chalco & sphal.	1085.8-1088.3: Volcanic ash 1088.3-1093.6: Acid tuff with chert. in upper 2 inches.
1093.6 - 1106.0	RHYOLITE BRECCIA	Light grey green, mottled.	Fine-med.		Brecciated. Basic & acid fragments in altered matrix	Epidote & chlorite alt. of fragments.	Minor pyrite & pyrr.	Appears to be an explosive breccia.
1106.0 - 1117.0	MASSIVE RHYOLITE	Lead grey	Fine-med.		Massive, fractured.	Qtz & chlorite in fractures.		Lower 2 ft. shows chlorite-sericite bleaching.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1117.0 - 1164.0	RHYOLITE BRECCIA END OF HOLE	Grey grn. Mottled	Fine-med.		Brecciated & fractured.	Chlorite-sericite alt'n at the margin of frags.	Scattered minor pyrrhotite	Fragments are rounded to angular 1/4-1 inch in diameter.

18 NOV 68
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LAKE DUFALT MINES LTD.

Drill Hole Record

DM - 19019

MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC

Bureau du géologue résident

Depth

ROLYN - NORANDA

SAMPLED SECTIONS

Hole No. N-373	Lat. 19,062.0	Dep. 12,869.0	Elev. 11,050.0	Dip -90°	Bearing
Working Place	Date Started Aug. 3, 1966	Compass Tests		Acid Test	
(Dn)	Date Completed Sept. 1/ 1966	Depth	Dip	M.Brng.	Depth
					Read
					Corr.
					47' 89 1/2° 89°
					225' 88 1/4° 87 1/2°
					500' 88° 87 1/2°
					1000' 88° 87 1/2°
					1770' 87 1/2° 86 1/2°

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 108.0								Casing. 0-42' BX, 42-108' AX
108.0 - 188.0	AMYGD ANDESITE	Med. to dark grey	F.g.		Strongly amygd. Weakly fract'd.	Sauss-filled amygds. Local particles of sauss, epid.		
188.0 - 194.0	FL. BX ANDESITE	Dark grey	F.g.	Sauss & qtz frags.	Locally brecciated. Weakly fract'd.			Flow top bx.
194.0 - 289.0	AMYGD ANDESITE	Dark grey	F.g.		Weakly amygd.	Patches of sauss. Local patches of qtz epid.	Odd speck of cp.	
289.0 - 330.0	AMYGD ANDESITE P.L.	Med. grey	F.g.		Weakly amygd & broadly pil. Weakly fract'd.	Weakly dioritized. Odd patches of sauss.		Fractures filled with qtz & carb at 55° to core axis.
330.0 - 461.0	MASSIVE ANDESITE	Med. grey-green	Fine-med.	Crystalline	Massive. Weakly fractured.	Carbonate, qtz in fractures.		344-354': Fractures with carb & qtz 50° to core axis.
461.0 - 533.0	MASSIVE ANDESITE	Med. grey-green	Fine-med.	Finely crystalline	Massive, minor fractures.	Epidote, carbonate in fractures.		Section is a massive flow.
533.0 - 542.0	FLOW BRECCIATED ANDESITE	Grey, white mottled.	Fine-med.		Brecciated & fractures	Carbonate, epidote in fractures. Feldspar patches.		534-536: Steep fracture 30° to core axis.

Hole No. N-373

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
542.0 - 602.0	ANDESITE DYKE	Grey, cream, mottled	Fine, med. grd.	Crystalline	Massive with in- clusions of andesite.	Feldspathic alteration in andesite fragment.		544-554: Altered amygdal andesite included in andesite dyke.
602.0 - 647.0	AMYGDAL ANDESITE P.L.	Med. grey	Fine, med.		Weakly amygdal, pillowed.	Carbonate in fractures. Patches of qtz feld near pillow bdrs.		Lower 20 ft. bleached white cream.
647.0 - 667.0	BASIC TUFF	Dark grey	Fine		Weakly banded with breccia.	Sericite qtz section 655-656 ft.		Inter andesite tuff. Andesite dyke 667.5-668.
667.0 - 728.5	AMYGDAL ANDESITE P.L.	Grey, cream, mottled	Fine, med.		Moderately amygdal, pillowed.	Saussurite. Epidote patches. Chlorite in amygdules.		Heavily bleached. Pillowed andesite.
728.5 - 829.0	MICRO- DIORITE	Dark grey green	Med.	Crystalline	Massive, weakly fractured.	Qtz & carb in fractures		Andesite at the upper contact is bleached. Lower contact is brec- ciated. Steep fracture 842-844.
829.0 - 883.0	AMYGDAL ANDESITE	Light gry green	Fine, med.		Moderately amygda- loidal. Fractured.	Carbonate qtz in fractures.		
883.0 - 916.0	AMYGDAL ANDESITE P.L.	Med. gry green	Fine, med.		Moderately amygda- loidal. Pillowed.	Albite bleaching, minor carbonate in fractures.	Minor pyrrhotite	Pillowed flow section.
916.0 - 938.0	BASIC TUFF & ASH	Dark gry	Fine		Weakly bedded with breccia fragments.	Carbonate in fractures.	Minor pyrite, pyrrho- tite & sphalerite in bands.	Assay section 934.8-937.4.
938.0 - 953.0	ASH & BRECCIA	Med. gry	Fine		Weakly bedded, brecciated	Carbonate in fractures.		Porphyritic rhyolite 938-941.6.
953.0 - 1105.0	MASSIVE ANDESITE	Med. gry	Fine, med.		Massive, weakly fractured & sheared	Carbonate & qtz in fractures.		Sheared & bleached sections at 50° to axis, 1014-1015 1017-1020 1043-1045
1105.0 - 1121.0	ANDESITE DYKE	Dark gry green	Fine, med.	Crystalline	Massive, weakly fractured.			Lower margin chilled.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1121.0 - 1170.0	AMYGDAL ANDESITE P.L.	Grey grn	Fine, med.		Weakly amygdal. Pillowed.	Carbonate in fractures	Minor pyrr & pyrite in breccia.	Flow breccia 1147-1167 ft. Pyrr around breccia fragments.
1170.0 - 1202.0	ACID TUFF	Light gry	Fine		Weakly bedded.	Qtz carb in fractures	Scattered pyrite.	Shear at 50° to core axis 1175-1176.
1202.0 - 1217.0	ACID BRECCIA	Lead gry	Fine, med.		Brecciated. Altered fragments in a fine matrix.	Biotite alteration. Scattered epidote patches.	Scattered pyrite around breccia fragments.	Mineralized breccia.
1217.0 - 1264.0	AMYGDAL ANDESITE	Grey grn	Fine, med.		Moderately amygdal.	Epidote sericite patches. Carbonate in fractures.		Andesite dyke (1230-1245) with white carbonate in fractures.
1264.0 - 1326.0	MASSIVE ANDESITE	Dark grey grn	Fine, med.		Massive, fractured.	Patches of epidote alt. carbonate in fractures.		1297-1311: Fractures with carbonate at 50° to core axis. 1323-1324: Andesite dyke.
1326.0 - 1372.6	FL. BANDED ANDESITE	Med. grey grn	Fine, med.		Weakly flow banded to massive.	Patches of epidote. White carbonate in fractures.		1326-1332: Andesite flow breccia. 1329-1330: Andesite dyke.
1372.6 - 1376.0	SHEARED TUFF	Dark grey	Fine, med.		Sheared & weakly banded.	Carbonate in fractures.	Minor pyrite in bands.	Shears at 50° to core axis. Chert fragments in lower 2 ft.
1376.0 - 1396.0	RHYOLITE BRECCIA	Dark grey	Fine, med.		Brecciated. Weakly fractured.	Chlorite alteration around fragments.	Scattered minor pyrite.	1390.6-1393.0: Andesite dyke.
1396.0 - 1527.5	RHYOLITE BX	Med. grey	F.g.	Fragmental chl & sauss frags.	Brecciated. Weakly fractured.	Patchy albitite sauss, some epid.	Minor diss. py. Odd patch po.	1502.5-1507.5: Alt. rhyolite bx. Strong sauss altn, garnets (alman- dine?) odd patch po, minor sph. Sample for zn.
1527.5 - 1540.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive			1538-1540: 20° shearing.
1540.0 - 1568.0	RHYOLITE BX	Med. grey	F.g.	Fragmental chl & sauss frags.	Brecciated.	Sauss, patchy sauss epid. Odd patch of garnet.	Minor py.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1568.0 - 1574.0	LAMPROPHYRE DYKE	Dark grey	F.g.		Massive			Cts ground & 65°.
1574.0 - 1583.0	RHYOLITE BX	Grn grey	F.g.		Brecciated	Strong sauss epid-garnet chl.	Minor py.	
1583.0 - 1705.0	RHYOLITE BX	Med. dark grey.	F.g.	Fragmental	Brecciated	Sauss-epid	Minor py.	1620-1634: Strong sauss, some epid & garnet altn. 1697-1701: Lamprophyre dyke cts 80 & 65'.
1705.0 - 1772.0	AMYGD ANDESITE (WAITE) END OF HOLE	Dark grey	F.g.		Mod. amygd.	Some biotite altn in upper 25' of sect. Chl & odd fs filled amygds.		Near ct 50°. Amygds ovoid in shape, 1753.5-1756: Sauss-epid, minor hematite pod.

N-373

LAKE DUFAULT MINES LTD.

Drill Hole Record

Jan 19019

MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC
Bureau du géologue résident
SAMPLED SECTIONS
ROYAL NORANDA

Hole No. N-374	Lat. 20,780.00	Dep. 12,625.0	Elev. 11,203.23	Dip -90°	Bearing	Depth 1416'	
Working Place (Bo)	Date Started Aug 6, 1966	Compass Tests		Acid Test			
	Date Completed Aug 27, 1966	Depth	Dip	M.Brng.	Depth	Read	Corr.
		Depth	head	Corr			
		20'	90°	90°			
		500'	89°	88 1/2°			
		1000'	90°	90°			
		1400'	89 1/2°	89 1/4°			

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0-6.0								Casing.
6.0-22.5	Diorite.	Med grey.	F.g.		Weakly fract'd. Blocky.			Rust plated joints.
22.5-27.5	Flow bx andesite.	Light to med grey.	M.g.	Sauss & andesitic frags.	Strongly brecciated.	Strong sauss. Mod albitite & chl.		Odd patch py.
27.5-76.0	Amygd andesite.	Med grey	M.f.g.		Weakly amygd & weakly fract'd.	Weakly dioritized. Odd pod of sauss epid.		Odd patch py. 27.5-36.0 Strongly amygd. 46.5-59.0 Numerous 10° hematite plated slips.
76.0-163.0	Mass andesite.	Med grey	M.f.g.		Weakly fract'd.	Dioritized.		Odd 30° hematite plated joint. Scattered 45°-60° joints.
163.0-188.0	Amygd andesite.	Med to dark grey.	M.f.g.		Weakly to mod amygd. Weakly fract'd.	Weakly dioritized some sauss.		170-174 Andesite flow bx.
188.0-348.0	Mass andesite.	Med grey.	F.g.		Mod fract'd.	Dioritized some sauss.		240-244 Weak fault zone. Highly fract'd locally sheared. 45°-60° ca-sauss filled frs. 45°-60° Odd 30° hematite plated joint.

Hole No. N-374

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
348.0-355.0	Sheared andesite.	Med grey.	F.g.		Highly sheared.	Strong ca.		Shearing 35°-45°
355.0-390.0	Massive andesite.	Med grey.	F.g.		Highly fract'd. Massive.	Ca-sauss filled frs. Some ea.		60° frs.
390.0-402.0	Sheared andesite.	Grn grey.	F.g.		Highly sheared locally schistose.	Intense ca.		Shearing 40°-45°. Locally ca-ser schist.
402.0-415.0	Andesite dyke.	Med grey.	F.g.		Strongly fract'd. Weakly sheared.	Strong ca. Ca-sauss filled frs.		405-408 Strongly sheared.
415.0-477.0	Andesite dyke.	Med grey.	F.g.		Weakly fract'd.			439-440.5 Strong 45° shearing. Odd 20° hematite plated joint.
477.0-521.0	Andesite dyke.	Dark grey.	Fine med.	Crystalline	Massive fractured.	Carbonate in small fracture.		Lower portion has a fine chilled margin.
521.0-526.0	Andesite flow breccia.	Grey green mottled.	Fine med.		Breccia fragments in fine matrix.	Qtz carb in fractures.	Minor pyrite near top of breccia.	2-3 inch fragments in fine matrix.
526.0-552.0	Amygdul andesite.	Med grey green.	Fine med.		Weakly amygdul fractured.	Epidote carbonate alt in fractures.		Patches of epidote and jet black bands of carbon ??
552.0-575.0	Sheared & fractured andesite.	Mottled grey green.	Fine med grained.		Sheared & fractured.	Carbonate qtz, chlorite & hematite in fractured.	Minor pyrite.	561-563 Shear at 55° to core axis. 570-575 Steep fractures 12° to core axis hematite stain (DHB?)
575.0-610.0	Amygdul andesite.	Med grey green.	Fine med.		Weakly amygdul with minor fractures & flow breccia.	Epidote pods & saussenite near fractures.	Minor pyrite.	Flow breccia. 580-583 ft. Amygdules up to 1/2 inch filled with chlorite.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
610.0-617.0	Fractured amygdul andesite.	Med grey green.	Fine med.		Weakly amygdul fractures.	Qtz & carb in fractures hematite stain.		610-614 Fault zone 35° to core axis.
617.0-712.0	Porphyritic andesite.	Med grey green.	Fine med.	Uneven porphyritic.	Massive minor fractures.	Qtz carbonate & hematite in fractures.		Section appears to be a massive flow. 638-640 Fractures at 20° to core axis.
712.0-802.0	Massive andesite.	Med grey green.	Fine med.	Crystalline	Massive weakly fractured.	Chlorite & epidote in fractures.		Massive flow. 1782-1785 shear at 10° to core axis filled with carbonate qtz.
802.0-819.0	Amygdul andesite.	Light grey green.	Fine med.		Moderatly amygdul.	Chlorite filling in amygdules.		Andesite dyke in lower section 816-819.
819.0-850.0	Massive andesite.	Med grey green.	Fine med.		Massive moderatly fractured.	Carbonate in fractures albitite patches.		
850.0-854.6	Sheared andesite.	Med grey	Fine.		Sheared & banded at 50° to core axis.	Vein qtz 851-852.	Minor pyrite.	Black patches at the margin of qtz vein may be carbon. (West Valley Thrust).
854.6-948.0	Amygdul andesite P.L.	Grey green mottled.	Fine med.		Moderatly amygdul pillowed.	Bleached patches chlorite alteration of breccia.		Flow breccia section 854.6-879. Minor shearing 942-943.
948.0-1072.0	Amygdul andesite P.L.	Grey green mottled.	Fine med.		Moderatly amygdul pillowed & fractured.	Bleached with patches of albitite.	Minor Pyrr.	1009-1014 Fractured at 50° to axis. 1049-1052 Sheared & fractured 40° to axis. 1048-1049 Andesite dyke.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1072.0-1273.0	Amygdul andesite P.L.	Light grey green Mottled.	Fine med.		Moderately amygdul pillowed & fractured.	Bleached with albitite patches carbonate in fractures.	Minor chalco & pyrr.	1095-1101 Light grey aplite dyke. 1176-1209 Andesite flow breccia. 1269-1271 Shear zone 45° to core axis.
1273.0-1309.0	Massive andesite.	Grey green	Fine med.	Crystalline.	Massive. Weakly fractured.	Qtz carbonate in fractures.		Massive flow.
1309.0-1324.0	Fractured andesite dyke.	Light grey.	Fine med.	Uneven porphyritic.	Massive sheared & fractured.	Chlorite & carbonate in fractures.	Minor pyrr. & pyrite in fractures.	1310-1312 Shear at 50° to core axis. 1318-1319 Shear at 60° to core axis.
1324.0-1337.0	Rhy tuff & breccia.	Lead grey.	Fine med.		Brecciated & weakly banded.	Chlorite around fragments.	Minor sphal & chalco with scattered pyrr.	Assay 1324-1327 ft 1324-1325 Tuff section.
1337.0-1416.0	Rhyolite breccia.	Lead grey.	Fine med.		Brecciated acid fragments in a fine matrix.	Chlorite alteration around fragments.	Scattered minor pyrr & pyrite.	1347-1351 Massive rhyolite section. 1394-1416 Porph. (white fs phenos).
END OF HOLE.								

LAKE DUFALT MINES LTD.

Drill Hole Record

Am 19019

Hole No. <u>N-375</u>		Lat. <u>19,654.51</u>		Dep. <u>16,269.01</u>		Elev. <u>11,138.61</u>		Dip <u>-90°</u>		Bearing		Depth <u>1,931'</u>																	
Working Place		Date Started		Compass Tests				Acid Test		SAMPLED SECTIONS																			
		<u>Aug. 20, 1966</u>		<u>Dip</u>		<u>Dip</u>		<u>M.Brng.</u>		<u>Depth</u>		<u>Read</u>		<u>Corr.</u>		From		To		Ct.		Cu		Zn		Au		Ag	
(Mn)		<u>Sept. 22, 1966</u>								<u>24'</u>		<u>90°</u>		<u>90°</u>															
										<u>500</u>		<u>89 3/4</u>		<u>89 1/2</u>															
										<u>1000</u>		<u>89 3/4</u>		<u>89 1/2</u>															
										<u>1500</u>		<u>89</u>		<u>88 1/2</u>															
										<u>1931</u>		<u>89 1/2</u>		<u>89</u>															

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0 - 22.0								Casing.
22.0 - 134.0	MASSIVE ANDESITE	Dark grey	F.g.	Weakly porph.	Massive. Weakly fract'd.	Minor sauss, chl.		Blocky to 45°.
134.0 - 230.0	AMYGD ANDESITE	Dark grey	F.g.	Weakly porph.	Weakly to mod. amygd. Weakly fract'd.	Chl & minor sauss. Odd qtz clot.	Stgrs & diss po-py. Tr of cp.	Upper ct 65°. Sulphides mainly in upper 25'.
230.0 - 399.0	MASSIVE ANDESITE	Med. to dark grey	M.-f.g.	Uneven porph.	Massive. Weakly fract'd.	Weak sauss.		Upper ct gradational. Local 70° flow banding.
399.0 - 487.0	AMYGD ANDESITE P.L.	Grn-grey	M.-f.g.		Mod. amygd, strongly pil.	Sauss-filled amygds. Mod. sauss & some chl.	Patches & odd stgr of po. Minor py.	Upper ct 50°. Lower ct irregular.
487.0 - 787.0	AMYGD ANDESITE	Dark grey	M.-f.g.		Weakly amygd. Weakly fract'd.	Weak sauss. Odd pod epid-sauss.	Odd speck py.	576.5-577.5: 45° qtz-ca fault 780-787: Mod. fract'd, strong bio-tite altn.
787.0 - 740.5	AMYGD ANDESITE P.L.	Grn-grey	M.g.		Mod. amygd & pil.	Chl sauss-filled amygds. Strong patch sauss, some epid, mod. chl.	Minor po.	
740.5 - 743.0	CA-SER SCHIST	Med. grey	F.g.		Schistose			Schistosity 50° (fault zone)
743.0 - 764.0	ANDESITE DYKE	Dark grey	M.-f.g.		Massive. Mod. fract'd. & sheared.	Chl rags & stgrs.	Minor po-py	Shearing 50°. Far ct 50°.

MINISTÈRE DES RICHESSES NATURELLES, QUEBEC
 Bureau du géologue résident
ROUYN-NORANDA

Hole No. N-375

Logged by D.H.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
764.0 - 845.0	ANYGD ANDESITE P.L.	Grn-grey	M.-fg.		Mod. amygd & broadly pil.	Patchy sauss, some chl. Minor biotite.		
845.0 - 890.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive, weakly fract'd.	Dioritized.	Minor po.	845-864 sects bleached andesite.
890.0 - 902.0	ANYGD ANDESITE P.L.	Grn-grey	M.-f.g.		Mod. amygd & pil.	Strong sauss, some chl.	Minor po.	
902.0 - 906.5	BEDDED TUFF	Med. grey	F.g.		Locally bedded.	Local chert bands.	Band & diss py-po. Minor cp in first 1.0' of sect.	Bedding 75°. 907.0 - 907.3: Intrusion of overlying andesite.
906.5 - 920.5	SHEARED RHYOLITE	Med. grey	F.g.		Massive. Sheared locally, schistose	Local ca.	Diss. py-po.	Shearing 40°-60°.
920.5 - 925.0	ANDESITE DYKE	Med. grey	M.g.		Massive, weakly fract'd.	Dioritized.		Cts. irregular & 50°.
925.0 - 932.0	MASSIVE RHYOLITE	Light buff/ grey	F.g. to aph.		Massive, blocky	Blue silic.		
932.0 - 1004.0	RHYOLITE BX	Med. grey	F.g.	Fragmental chl & sauss frags.	Brecciated, weakly fract'd.	Local patches of sauss- epid-qtz.	Odd speck py.	974-979: Dynamic bx. Local 45° flow banding.
1004.0 - 1017.0	FLOW BANDED RHYOLITE	Light bluish-grey	F.g. to aph.		Massive. Locally strongly flowbanded.	Strong blue silic. Patches of sauss-epid and some garnet.		
1017.0 - 1045.0	RHYOLITE BX	Med. grey	F.g.	Fragmental	Brecciated.	Local patches of sauss- epid-qtz.	Trace of py.	
1045.0 - 1065.0	RHYOLITE BRECCIA?	Light to med. gry		Heterogene- ous	Massive. Brecciated?	Patches of albitite, epid chl, minor garnets. Local sects. silic.		Heterogeneous texture due to altn.
1065.0 - 1115.5	RHYOLITE BX.	Med. gry	F.g.		Brecciated.	Patches of sauss-epid chl.		

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1115.5 - 1123.5	FLOW BANDED RHYOLITE	Med. grey	F.g.		Massive. Mod. flow banded. Weakly brecciated.			Flow banding 35°.
1123.5 - 1157.0	MASSIVE RHYOLITE	Light to dark grey	F.g.	Heterogene- ous	Massive.	Local sects. silic. Patchy & sects of sauss- epid.		Heterogeneous texture due to altn. 1123-1124: some po & minor sph noted.
1157.0 - 1382.0	RHYOLITE BX	Med. grn- grey.	F.g.	Chl frags in a light grey grndmass	Brecciated.	Minor patchy sauss-epid, minor chl. Odd small sect. of light blue silic.	Odd speck of py.	Fracture breccia.
1382.0 - 1417.5	MASSIVE RHYOLITE	Med. grey	F.g.	Heterogene- ous.	Massive.	Patchy albitite. Minor epid chl-garnet.		
1417.5 - 1419.0	ANDESITE DYKE	Grn grey	F.g.		Massive	Strong ca.		Cts. 45° & ground.
1419.0 - 1432.0	SHEARED RHYOLITE	Med. grey	F.g.		Mod. sheared & fract'd. Massive.	Strong ca.	Finely diss. py.	Shearing 45°-60°.
1432.0 - 1457.0	MASSIVE RHYOLITE	Med. to dark grey	F.g.		Massive. Locally flow banded.	Scattered patches sauss- epid. Some chl. Local sects. of blue silic.	Minor py.	
1457.0 - 1462.0	ANDESITE DYKE	Med. grey	M.-f.g.	Porph (fs)	Massive.	Dioritized.		Cts 50°.
1462.0 - 1475.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive. Highly broken. Locally flow banded.	Local patchy sauss-epid.		
1475.0 - 1496.0	RHYOLITE FRACTURE BRECCIA	Med. grey	M.-f.g.		Brecciated, granular	Odd patch qtz.	One patch of dusty sph?	Sample for Zn 1476-1477'.
1496.0 - 1504.0	ANDESITE DYKE	Dark grey	F.g.		Massive.			Upper ct 40°. Lower ct 50°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1504.0 - 1613.0	RHYOLITE BRECCIA	Med. to dark grey	F.g.	Chl frags.	Brecciated. Weakly fract'd.	Grey silic. Local chl.	Sparse diss. py.	
1613.0 - 1719.0	MASSIVE RHYOLITE	Dark grey	F.g.		Massive. Weakly fract'd.	Minor patchy sauss.	Sparse diss py.	35-40° jointing 1699-1704 Andesite dyke.
1719.0 - 1834.0	RHYOLITE BRECCIA	Dark grey	F.g.	Sauss-chl frags in a dark grey matrix.	Brecciated. Weakly to mod. fract'd.	Weak sauss.	Sparse diss. py.	1831-1834: Sheared silic & ser altn. 50° fault.
1834.0 - 1865.0	DIORITE DYKE	Med. grey	M.-f.g.		Massive, weakly fract'd.			Cts. 40°. 1834-1840: Strongly fract'd.
1865.0 - 1931.0	MASSIVE ANDESITE	Grn-grey	M.-f.g.		Massive. Mod. to strongly fract.	Ser speck. Ca-ser filled frs.		1867-1869: Siliceous dyke cts. 10°. 45-75° frs.
	END OF HOLE							

LAKE DUFALD MINES LTD.

Drill Hole Record

Jm 19019

Hole No. N-376	Lat. 21,195.0	Dep. 13,265.0	Elev. 11,160.1	Dip -90°	Bearing -	Depth 1,608'	
Working Place (Af)	Date Started Aug. 30/66	Compass Tests		Acid Test			SAMPLED SECTIONS
	Date Completed Sept. 27/66	Depth	Dip	M.Brng.	Depth	Read	Corr.
					25'	90°	90°
					500'	90°	90°
					1000'	89½°	89°
					1500'	88°	87°

From	To	C.L.	Cu	Zn	Au	Ag

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
0.0 - 16.0	DIORITE	Med. grey	m.g.		Massive. Mod. blocky, weakly fract'd	Rust-plated joints.		
16.0 - 51.0	DIORITE	Med. grey	m.g.		Massive. Mod. blocky, weakly fract'd	Rust-plated joints.		
51.0 - 135.5	AMYGD ANDESITE	Med. grey	m.-f.g.		Weakly amygd & fract'd	Minor sauss chl.		
135.5 - 181.0	MASSIVE ANDESITE	Med. to dark grey	m.-f.g.	Weakly porph (fs)	Massive	Slightly dioritized.		
181.0 - 305.0	AMYGD ANDESITE P.L.	Grn grey	m.-f.g.		Mod. amygd & pil. Weakly fract'd.	Chl & sauss-filled amygds. Odd qtz clot.	Odd patch of cp.	@ 216' 3" 75° qtz-ser stgr (fault).
305.0 - 308.0	ANDESITE DIKE	Med. grey	f.g.	Weakly porph (fs)	Massive	Dioritized.		Cts ground & 75°.
308.0 - 393.0	AMYGD ANDESITE P.L.	Dark bluish grey	f.g.		Mod. to strongly amygd. Broadly pillowed.	Chl & sauss-filled amygd. Odd qtz clot. Mod. sauss & some chl spot & rag.	Odd cp filled amygd.	Odd patch of cp.
393.0 - 463.0	AMYGD ANDESITE P.L.	Med. to dark grey	M.-f.g.		Weakly amygd & broadly pil.	Dioritized.		

MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC

Bureau du géologue résident

ROUYN-NORANDA

Casing.

Hole No. N-376

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
463.0 582.0	AMYGD ANDESITE	Dark grey	M.-f.g.	Uneven porph (fs)	Very weakly amygd.	Dioritized	Odd speck of cp.	Weakly porph.
582.0 - 742.0	AMYGD ANDESITE P.L.	Grn grey	M.-f.g.		Weakly amygd. Mod. pillowed.	Strong sauss. Some chl.	Minor py-po.	
742.0 - 868.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive.	Dioritized.		Cts gradational & 65°.
868.0 - 894.0	AMYGD ANDESITE P.L.	Grn grey	M.-f.g.		Weakly amygd. Strongly pil.	Strong sauss, minor epid. Chl rags & stgrs. Chl filled amygds.	Minor po-py, trace of cp.	Far ct gradational.
894.0 - 944.0	MASSIVE ANDESITE	Med. to dark grey	M.-f.g.		Massive.	Dioritized		Cts. gradational.
944.0 - 955.0	AMYGD ANDESITE P.L./	Dark blue grey	M.-f.g.		Mod. to strongly amygd & pillowed.	Sauss speck, chl-sauss filled amygds. Minor albitite.	Scattered patches of po-py, trace cp.	Cts gradational.
955.0 - 977.0	AMYGD ANDESITE	Grn grey	M.-f.g.		Weakly amygd.	Chl & sauss filled amygds. Sauss speck. Odd patch of sauss-epid.		Cts gradational.
977.0 - 997.0	AMYGD ANDESITE P.L.	Grn grey	M.-f.g.		Mod. amygd & pillowed./	Chl & sauss-filled amygds. Sauss speck & some chl.		
997.0 - 999.0	BEDDED TUFF (ANDESITIC)	Med. grey	F.g.		Strongly bedded.		Minor po.	Upper ct 55°, bedding 65°.
999.0 - 1002.0	ANDESITE CRYSTAL TUFF	Med. grey	m.g.	Fragmental	Massive.			
1002.0 - 1006.0	MASSIVE & BEDDED TUFF	Lt. grn grey	F.g.		Massive & bedded.		Minor py.	Bedding 60° 1004.0 3" qtz-ca bx. Fault.
1006.0 - 1026.0	ANDESITE DYKE	Med. grey	M.-f.g.		Massive. Weakly fract'd			Cts 80° @ 1020, 3" 80° qtz-ca fault.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1026.0 - 1050.0	RHYOLITE BRECCIA	Bluish grey.	F.g.		Weakly brecciated.	Minor sauss-ser.		
1050.0 - 1076.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive.	Ser specks.		
1076.0 - 1257.0	RHYOLITE BRECCIA	Med. grey to bluish grey.	F.g.	Scattered sauss frags.	Brecciated. Weakly fract'd		Odd speck py.	Local flow banding 1191-1260: Blocky.
1257.0 - 1283.0	MASSIVE RHYOLITE	Med. grey	F.g.		Massive. Weakly fract'd	Some ser speck. Minor chl.		
1283.0 - 1325.5	ALT RHYOLITE	Med. to bluish grey.	F.g.		Massive. Mod. to highly fract'd	Ca altn. Chl & ca- filled frs.	Odd speck py.	Increasing fracturing toward end of section.
1325.5 - 1331.0	SHEARED ANDESITE	Grn-grey	F.g.		Schistose			D.H.B. thrust. Schistosity 40-45°. Ser-ca schist.
1331.0 - 1340.0	MASSIVE ANDESITE	Grn-grey	F.g.		Highly fractured and sheared.	Ca, ca-filled frs. Hematite plated slips.		Shearing 40-45°.
1340.0 - 1373.5	MASSIVE ANDESITE	Grn-grey	M.-f.g.		Massive. Weakly fract'd.	Weakly dioritized.		@ 1371', 1' cave. Lost water.
1373.5 - 1444.0	AMYGD ANDESITE P+L	Grn-gry	M.-f.g.		Weakly amygd. Broadly pillowed.	Sauss. Odd patch al- bitite. Rags of chl. Chl-filled amygd.	Odd po filled amygd.	1434-1439: Qtz-epid altn with patches of po.
1444.0 - 1513.0	MASSIVE ANDESITE	Med. grey	M.-g.		Massive. Weakly fract'd.	Dioritized.		1502-1513: Mod. fract'd. Ca altn.
1513.0 - 1518.0	FAULT ZONE	Light grn grey.	F.g.		Schistose			1514-1515.5: Qtz veins. Qtz-ser schist. Schistosity 80°.
1518.0 - 1541.0	AMYGD ANDESITE	Med. grey	M.-f,g.	Weakly porph (fs)	Mod. amygd. Odd questionable pillow bdr. Weakly fract'd	Minor sauss, albitite, chl-filled amygd.	Minor py-po.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1541.0 - 1564.0	MASSIVE ANDESITE	Med. grey	m.-f.g.	Weakly porph.	Massive.	Sauss. Odd patch of chl.		
1564.0 - 1570.5	AMYGD ANDESITE	Med. grey	m.-f.g.		Weakly amygd.	Sauss.		
1570.5 - 1577.0	CRYSTAL TUFF	Light to med grey		Fs crystals in a med. grey groundmass	Massive		Minor po.	Cts 75 & 45° 1575-1575.5: Inclusion of the above amygd andesite.
1577.0 - 1579.0	SHEARED TUFF? RHYOLITE	Med. grey	F.g.		Schistose.		Stgrs of po, minor cp. Trace sph?	Schistosity 50°. Ser schist. 1577-1579: Sample for C.Z.A.A.
1579.0 - 1587.0	RHYOLITE BRECCIA	Med. grey	F.G.		Brecciated. Weakly fract'd.	Weak sauss.	Diss. py, po.	
1587.0 - 1608.0	MASSIVE RHYOLITE	Med. to dark grey	F.g. to aphanitic.		Massive.	Patchy sauss. Local sects. silic. Local minor epid.	Sparse diss py.	Local sects. silic & weakly porph.
	END OF HOLE							

LAKE DUFAULT MINES LTD.

Drill Hole Record

Am 19019.

Hole No. N-377		Lat. 18,425.0		Dep. 20,537.0		Elev. 10,998.28		Dip -90°		Bearing ---		Depth 1963'	
Working Place (Fc)		Date Started Sept. 1/66		Date Completed Oct. 5/66		Compass Tests		Acid Test		SAMPLED SECTIONS			
		Depth		Dip		M.Brng.		Depth		Read		Corr.	
		15'		89°		1/4°		89°		89°			
		500'		89°		1/4°		89°		89°			
		1000'		89°		1/2°		89°		89°			
		1500'		88°				87°		87°			
		1950'		89°				88°		88°		1/2°	

From	To	C.L.	Cu	Zn	Au	Ag		
<div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 80%;"> <p style="text-align: center; margin: 0;">MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC</p> <p style="text-align: center; margin: 0;">Bureau du géologue résident</p> <p style="text-align: center; margin: 0;">ROUYN-NORANDA</p> </div>								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Samples</td> <td style="width: 50%; text-align: center;">Remarks</td> </tr> </table>							Samples	Remarks
Samples	Remarks							

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Samples	Remarks
0.0-8.0								Casing.
8.0-190.0	Qtz Fs Porph.	Med bluish grey	M.g.	Porph. Fs phenos & qtz eyes.	Massive. Mod blocky.	Patchy chl. Minor sauss.	Diss py. Odd py str. One cp str noted at 78.5'.	Qtz eyes not well developed. 43'-47': dark grn-grey f.g. andesite dykes. Cts 35°. 54'-59': dark grn-gry f.g. andesite dykes. Cts 65°. 73.5': 2", 40° qtz-ser fault with py-cp. 126'-131.5': dark grn-gry andesite dyke. Cts 65° & irregular. 157'-162': dark grey f.g. andesite dyke. Cts 55 & 65°.
190.0-192.0	Andesite Dyke	Dark grey	F.g.		Massive.			Cts 30° and 60°.
192.0-207.5	Qtz-Fs Porph	Med grey.	M.g.	Porph. Fs phenos & qtz eyes.	Massive. Weakly fract'd.		Diss and patches of py-cp.	

Hole No. N-377

Logged by D.M.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
207.5-209.0	Bedded Cherty Tuff.	Med grey.	F.g.		Strongly bedded.		Bands of py and minor cp.	Bedding 50°.
209.0-224.0	Massive Tuff (Andesite)	Light to med-grn-gry.	F.g.		Massive. Mod fract locally sheared.	Ca altn. Scattered 1/4" to 1" 20° and 65° qtz-ca stgr.	Minor py, trace of cp.	Py-cp mainly in qtz-ca stgrs.
224.0-252.0	Massive Andesite	Dark grn-gry.	F.g.		Massive.	Chl and patchy albitite. Local biotite. Odd qtz stgr.	Minor py associated with qtz.	Flow andesite.
252.0-274.0	Amygd Andesite	Grn-gry	F.g.		Weakly amygd and fract'd.	Patches of qtz-albitite and sauss. Some chl, local biotite.	Minor py, trace of cp.	259'-264': flow bx. 264'-270': massive.
274.0-280.0	Massive Andesite	Dark grey	F.g.	Porph fs.	Massive.	Dioritized.		
280.0-385.0	Amygd Andesite P.L.	Dark grey	F.g.		Weakly amygd. Broadly pillowed. Weakly fract'd.	Patchy albitite-sauss-chl. Biotite and minor epid.	Odd patch py-po, trace of cp.	
385.0-454.0	Amygd Andesite	Brownish grey	F.g.		Weakly amygd.	Biotite-chl. Strong sauss-epid in upper 8.0' of sect. Odd qtz clot.		385'-391': flow top bx. Siliceous andesite.
454.0-547.0	Amygd Andesite	Dark grey	F.g.		Weakly amygd and fract'd.	Mod sauss-epid. Local trace of biotite. Odd small qtz stgr.	Trace of py.	
547.0-559.0	Andesite Dyke	Med grey	F.g.	Weakly porph (fs)	Massive.	Dioritized.		Cts 55°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
559.0-570.0	Amygd Andesite	Dark grey	M.f.g.		Mod amygd. Weakly fract'd.	Patchy sauss-epid. Minor chl.		
570.0-577.0	Andesite Dyke	Med grey	F.g.	Weakly porph (fs).	Massive.	Dioritized.		Cts 65°.
577.0-624.0	Amygd Andesite P.L.	Dark bluish grey.	F.g.		Weakly amygd and broadly pill'd.	Sauss speck and patch. Minor biotite.	Trace py-cp.	
624.0-646.0	Flow Breccia Andesite.	Grn-gry	M.f.g.	Fragmental	Brecciated.	Sauss-ser-chl. Minor biotite.		
646.0-667.5	Massive Andesite	Med grey	M.f.g.		Massive. Weakly fract'd.	Dioritized. Odd 35° qtz stgr.		
667.5-693.0	Amygd Andesite P.L.	Dark grey	M.f.g.		Weakly amygd and broadly pillowed.	Sauss patch and speck.	Trace of py-cp.	
693.0-705.0	Alt Amygd Andesite.	Light grn-gry	F.g.		Weakly amygd. Mod fract'd.	Strong ca. Qtz-ca filled frs.		695-697: fault zone. Highly broken; shearing 40°?
705.0-768.0	Amygd Andesite	Grn-gry	M.f.g.		Weakly amygd and fract'd.	Patchy sauss, minor epid and albitite. Odd 40° qtz stgr.	Minor po-py.	
768.0-787.0	Andesite Dyke	Med grey	F.g.	Weakly porph.	Massive. Mod fract'd.	Dioritized.		Frs 80° and 35°.
787.0-838.0	Amygd Andesite	Dark grn-gry		Heterogeneous.	Weakly amygd.	Chl and strong patchy sauss. Minor epid.		Texture due to altn.
838.0-860.0	Amygd Andesite P.L.	Dark grn-gry	M.f.g.		Weakly amygd and broadly pillowed. Weakly fract'd.	Strong chl and some patchy sauss and albitite. Minor epid.		Cts gradational and 65°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
860.0-867.0	Massive Andesite	Med to dark gry	M.f.g.		Massive. Weakly fract'd.	Dioritized.		
867.0-946.0	Amygd Andesite P.L.	Grn-gry	M.f.g.		Mod amygd and pillowed. Weakly fract'd.	Chl-sauss. Sauss filled amygds. Minor patchy albitite-chl.	Minor py.	
946.0-965.0	Sheared Andesite.	Bluish to grn-gry	F.g.		Strongly sheared, locally schistose.	Strong ca. Odd qtz stgr.	Scattered small stgrs of po-cp.	Shearing 40°-45°.
965.0-981.0	Amygd Andesite P.L.	Grn-gry	M.f.g.		Mod amygd. Weakly pillowed.	Patchy chl-albitite-sauss, minor epid.		
981.0-1011.0	Sheared Andesite	Grn-gry	F.g.		Strong fract'd & sheared. Locally schistose.	Ca filled frs. Odd small qtz stgr.	Minor py.	Fault zone. Shearing 45°.
1011.0-1021.0	Andesite Dyke	Med gry	M.f.g.		Massive.			1011.0-1015.0': sheared and some ca altn. Cts 55.
1021.0-1119.0	Amygd Andesite P.L.	Dark grey	M.f.g.		Weakly amygd and broadly pillowed. Weakly fract'd.	Patches of sauss and chl. Local biotite and light blue silic.	Odd speck of cp-po.	
1119.0-1182.0	Silic Andesite	Med gry	F.g.		Very weakly amygd. strongly fract'd. Blocky.	Silic, Minor chl. Qtz ca filled frs. Chl filled amygds.		Frs 40-80°. 1153-1155': Lost core, possible fault. 40° and low angle jointing.
1182.0-1187.0	Andesite Dyke	Grn grey	F.g.		Massive. Weakly to med fract'd.			Cts ? at 40°.

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1187.0-1245.0	Silic Andesite	Med grey.	F.g.		Massive. Weakly fract.	Silic. Some chl and ser.	Minor py.	1215'-1237': intense light bluish grey silic; cts gradational.
1245.0'-1286.0	Silic Andesite	Med to dark grey.	F.g.		Massive? (resembles a fr-bx).	Silic-ser chl.		Resembles rhyolite fr-bx with chl frags in a f.g. med grey groundmass. Cts gradational.
1286.0-1312.0	Massive Andesite	Grn m grey.	F.g.		Massive. Weakly fract'd.	Strong chl altn.	Local diss py po.	
1312.0-1363.0	Diorite	Med grey	M.g.		Massive. Weakly fract'd.	Odd small qtz stgr.	Odd stgr of py-po trace of cp.	
1363.0-1370.0	Fault zone.	Med grey.	F.g.		Locally schistose.	Shot through with qtz-ca.	Odd stgr of py with minor cp.	40-45° Fault.
1370.0-1457.0	Diorite	Med grey.	M.g.		Massive. Weakly fract'd.	Odd low angle qtz stgr.	Minor cp in qtz stgrs.	1444'-1454': strong ca altn. Odd 40° qtz stgr. 1450'-1451': 40° shearing (Small fault).
1457.0-1470.0	Alt Diorite.	Grn grey.	M.f.g.		Massive. Locally schistose.	Strong ca. Odd 35°-40° qtz stgr.	Minor cp in qtz stgrs.	45° shearing. Weak fault.
1470.0-1492.0	Diorite.	Med grey.	M.f.g.	Weakly porph.(fs)	Massive.	Scattered. 35°-40° qtz stgrs.	Cp-po. Most in qtz stgrs.	
1492.0-1690.0	Amygd Andesite.	Grn grey.	M.f.g.	Weakly porph.	Massive with odd amygd. Weakly fract'd.	Odd 35° qtz-vein. Ser and chl speck. Local silic. Sauss-chl qtz filled amygd.	Py-cp-po in qtz stgrs.	65° frs. 1590': 0.5' qtz vein cts 45°. Local shorts sects mod amygd.
1690.0-1744.0	Amygd Andesite P.L.	Grn grey.	M.f.g.		Weakly amygd. Very broadly pillowed. Weakly fract'd.	Weakly sauss-ser. Odd small sauss epid pod.	Minor po-cp.	Local sections of flow bx.
1744.0-1751.0	Massive Andesite.	Med grey.	M.f.g.		Massive. Weakly to mod fract'd.	Dioritized. Odd qtz stgr.	Minor py-cp in qtz stgrs.	

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
1751.0- 1771.0	Fault Zone.	Grn grey.	M.g.		Weakly schistose.	Odd qtz stgr.	Diss py throughout minor cp.	Schistosity 45°. Ser-qtz- schist.
1771.0- 1789.0	Basic Tuff.	Buff grey.	F.g.	Fragmental. Odd chl frag.	Massive.		Minor diss py.	Andesite tuff at 1789'. 50° bedding.
1789.0- 1889.0	Flow Brecciated Andesite.	Grn grey.	M.f.g.	Heteroge- neous.	Locally amygd. Strongly flow brecciated. Weakly fract'd.	Sauss. Scattered pod of sauss-epid.	Odd stgr of py-po	1826'-1827': qtz-fs porph dyke. Cts 75° and 60°.
1889.0- 1892.0	Silic Andesite.	Med grey.	F.g.		Amygdular.	Qtz filled amygds.		Looks like a tuff. Cts ground at 1889' 1" qtz vein with cp-po.
1892.0- 1942.0	Rhyolite Qtz-porph Breccia.	Med grey.	M.g.	Porph. Qtz phenos. Heteroge- neous.	Brecciated.	Sauss and minor epid. Odd qtz stgr.	Sparse diss py.	Fragmental appearance could be due to altn.
1942.0- 1963.0	Rhyolite Qtz-porph.	Med grey.	M.g.		Massive. Weakly fract'd.	Sauss. Odd stgr of qtz.	Odd speck py. Odd stgr of py. Some cp in qtz stgrs.	
END OF HOLE.								

18 NOV 1962
 RECEIVED
 GEOLOGICAL SURVEY
 WASHINGTON, D.C.

LAKE DFAULT MINES LTD.

Drill Hole Record

Im 19019.

Hole No. N-378 Lat. 18,978.0		Dep. 13,213.0		Elev. 11,031.30		Dip -90°		Bearing -		Depth 1,539'																													
Working Place (Do)		Date Started Sept 3/66		Date Completed Oct. 3/66		Compass Tests		Acid Test		SAMPLED SECTIONS																													
		Depth		Dip		M.Brng.		Depth		Read																													
								134'		88 3/4° 88°																													
								500'		88 1/2° 88°																													
								1000'		89° 88 1/4°																													
								1492		88 1/2° 87 3/4°																													
										<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>From</td> <td>To</td> <td>C.L.</td> <td>Cu</td> <td>Zn</td> <td>Au</td> <td>Ag</td> </tr> <tr> <td colspan="7" style="text-align: center;"> MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC Bureau du géologue résident ROUYN-NORANDA </td> </tr> <tr> <td colspan="3"></td> <td colspan="4" style="text-align: center;">Sulphides</td> </tr> <tr> <td colspan="6"></td> <td style="text-align: center;">Remarks</td> </tr> </table>		From	To	C.L.	Cu	Zn	Au	Ag	MINISTÈRE DES RICHESSES NATURELLES, QUÉBEC Bureau du géologue résident ROUYN-NORANDA										Sulphides										Remarks
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0.0 - 101.0								Casing.																															
101.0 - 119.0	BROKEN VUGGY ANDESITE	Light grn grey	F.g.					84-119': 10' of very highly broken core.																															
119.0 - 155.0	AMYGD ANDESITE	Med. to dark grey	M.-f.g.		Weakly to mod. amygd. Weakly fract'd	Sauss filled amygd.																																	
155.0 - 193.0	MASSIVE ANDESITE	Med. to dark grey	F.g.		Massive. Weakly to mod. fract'd	Qtz-ca-sauss filled frs.																																	
193.0 - 260.0	AMYGD ANDESITE	Med. to dark grey	F.g.		Very weakly amygd. Weakly fract'd.	Ser speck. Scattered patches of sauss & minor epid. Odd qtz stgr.		Odd small patch py. Gradational ct.																															
260.0 - 336.0	MASSIVE ANDESITE	Med. to dark grey	F.g.		Massive. Weakly fract'd.	Ser speck. Odd patch of sauss epid.		280.5-281: 40°. Qtz-ca stgr.																															
336.0 - 497.0	DIORITE	Med. to dark grey	F.g.		Massive. Weakly fract'd	Sauss filled frs.		Cts 80° @ 363', 5° 1" qtz-ca fault.																															
497.0 - 571.0	MASSIVE ANDESITE	Med. to dark grey	F.g.		Massive. Weakly to mod. fract'd	Ser speck. Odd pod of sauss-epid.		Frs. 45-80° & 20°.																															

		Color	Size	Texture	Structure	Alteration	Sulphides	Remarks
571.0 - 610.0	AMYGD ANDESITE	Dark grey	F.g.	Weakly porph.	Weakly amygd.	Ser. Minor biotite albitite-sauss.	Odd speck of cp.	
610.0 - 810.0	AMYGD ANDESITE P+L.	Bleached to med. grey.	M.-f.g.		Weakly amygd. Weakly to mod. pil'd	Dioritized. Rags of chl. Sects intense sauss, minor epid.	Minor diss & odd patch of py-po.	Sects. strongly bleached. 775-780: Some biotite altn. 714-810: Some patchy albitite altn.
810.0 - 887.0	AMYGD ANDESITE	Med. to dark grey	F.g.		Weakly amygd.	Rags & stgrs of chl. Some sauss ser alt'n.	Odd stgr & patch po, minor cp.	
887.0 - 996.0	AMYGD ANDESITE P+L.	Med. grey	F.g.	Weakly porph (fs)	Weakly amygd & pillowed. Weakly fract'd	Chl spot & rags. Local sects of strong sauss.	Odd patch po-py.	916-923: Strongly fract'd 80°. Strong ca altn.
996.0 - 1079.0	MASSIVE ANDESITE	Med. grey	F.g.		Massive. Weakly fract'd.	Minor sauss.	Scattered patches of py.	
1079.0 - 1091.0	ANDESITE DYKE	Med. grey	M.-f.g.		Massive	Dioritized.		Cts ground & 55°.
1091.0 - 1203.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive. Weakly fract'd.	Weakly dioritized.		60° frs.
1203.0 - 1345.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive. Mod fract'd. Blocky & broken.	Sauss. Scattered chl strgrs. Ser-ca qtz filled frs. Minor hematite.		Highly broken. 1203-1318: 11.0' lost core. Joints 60° & low angle. Local cave.
1345.0 - 1420.0	AMYGD ANDESITE	Med. to dark grey	M.-f.g.	Weakly porph.	Weakly amygd & weakly fract'd.	Sauss-epid pods. Ser speck. Sauss filled amygds.		
1420.0 - 1462.0	MASSIVE ANDESITE	Med. grey	M.-f.g.	Weakly porph (fs)	Massive.	Ser speck & chl speck & spot. 18 MON, 22		Far ct ground. 1455-1462: Blocky sauss & chl stgr altn.
1462.0 - 1539.0	RHYOLITE BRECCIA	Med. grey	F.g.		Brecciated. Very weakly fract'd.	Chl speck & spot Minor epid. 18 MON, 22	Odd speck py.	1462-1476: 3' lost core. Upper ct ground. 1491-1491.5: 55° grano-diorite stgr. 1535-1539: Some garnet altn.
	END OF HOLE							

Depth	Rock Type	Colour & % Felsic	Grain Size	Texture	Structure	Alteration	Sulphides	Remarks
571.0 - 610.0	AMYGD ANDESITE	Dark grey	F.g.	Weakly porph.	Weakly amygd.	Ser. Minor biotite albitite-sauss.	Odd speck of cp.	
610.0 - 810.0	AMYGD ANDESITE P+L.	Bleached to med. grey.	M.-f.g.		Weakly amygd. Weakly to mod. pil'd	Dioritized. Rags of chl. Sects intense sauss, minor epid.	Minor diss & odd patch of py-po.	Sects. strongly bleached. 775-780: Some biotite altn. 714-810: Some patchy albitite altn.
810.0 - 887.0	AMYGD ANDESITE	Med. to dark grey	F.g.		Weakly amygd.	Rags & strgs of chl. Some sauss ser alt'n.	Odd stgr & patch po, minor cp.	
887.0 - 996.0	AMYGD ANDESITE P+L	Med. grey	F.g.	Weakly porph (fs)	Weakly amygd & pillowed. Weakly fract'd	Chl spot & rags. Local sects of strong sauss.	Odd patch po-py.	916-923: Strongly fract'd 80% Strong ca altn.
996.0 - 1079.0	MASSIVE ANDESITE	Med. grey	F.g.		Massive. Weakly fract'd.	Minor sauss.	Scattered patches of py.	
1079.0 - 1091.0	ANDESITE DYKE	Med. grey	M.-f.g.		Massive	Dioritized.		Cts ground & 55°.
1091.0 - 1203.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive. Weakly fract'd.	Weakly dioritized.		60° frs.
1203.0 - 1345.0	MASSIVE ANDESITE	Med. grey	M.-f.g.		Massive. Mod fract'd. Blocky & broken.	Sauss. Scattered chl strgrs. Ser-ca qtz filled frs. Minor hematite.		Highly broken. 1203-1318: 11.0' lost core. Joints 60° & low angle. Local cave.
1345.0 - 1420.0	AMYGD ANDESITE	Med. to dark grey	M.-f.g.	Weakly porph.	Weakly amygd & weakly fract'd.	Sauss-epid pods. Ser speck. Sauss filled amygds.		
1420.0 - 1462.0	MASSIVE ANDESITE	Med. grey	M.-f.g.	Weakly porph (fs)	Massive.	Ser speck & chl speck & spot. 18 Nov '66		Far ct ground. 1455-1462: Blocky sauss & chl stgr altn.
1462.0 - 1539.0	RHYOLITE BRECCIA	Med. grey	F.g.		Brecciated. Very weakly fract'd.	Chl speck & spot. Minor epid.	Odd speck py.	1462-1476: 3' lost core. Upper ct ground. 1491-1491.5: 55° grano-diorite stgr. 1535-1539: Some garnet altn.
	END OF HOLE							