

DIAMOND DRILLING



010

TOWNSHIP: Galna

REPORT No.: 12

WORK PERFORMED BY: Utah Mines Ltd.

<u>CLAIM No.</u>	<u>HOLE No.</u>	<u>FOOTAGE</u>	<u>DATE</u>	<u>NOTE</u>
L 610928 610919	JL-84-D-2	560	Mar/84	(1)

NOTES: (1) #117-84

HOLE NO. JL-84-22

PROJECT: JIM'S LAKE

PAGE NO: 1 OF 9

CASING COLLAR ELEV.: 4' above ground GROUND ELEV.:

DATE STARTED: MARCH 14, 1984

REF. TO CLAIM CORNER:

COORDINATES: 1272E, 1300N N. E.

DATE FINISHED: MARCH 16, 1984

SCALE: 1" = 10'

INCLINATION: -45° BEARING: 360°

TOTAL DEPTH: 560'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS: 'B' CASING IN HOLE TO 69' DIP TESTS (CORRECTED): @ 300: 35° @ 548: 30°	AVE CORE REC'Y / HOLE 100%	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTIMATED						
	CHLORITE	SERICITE	CARBONATE	OTHER																		
60'							0-69' OVERBURDEN						8W									
70'	MODERATE	WEAK	WEAK	PATCHY			69-91' MODERATELY CHLORITIZED ANDESITE TUFF rock pred. a lg. dark green, moderately chloritized, rel. soft andesite tuff, & weakly to moderately developed bd. @ 50° to c.a., as exhibited by alignment & preferred orientation of num. small white luffaceous spar frags & occ. larger chl. frags/blebs. - groundmass also wkly sericitized in places - small (1/32" to 1/16") white spar luff frags to 30% of rock (tuff becomes finer towards 91; i.e. from 69-80' frags from 1/32" to 1/16" & from 80-91', 1/64") & num. 1/8" to 1/4" chl. alk. frags w/ly fractured, @ no pref. orientation, & pred. calcite & chl. frag. fill. - few thin shrapnel appearing aphanitic chl-carb rich bands/veils in fol. - few irreg. diffuse appearing gray calcite (occ. & minor gts) vns @ no pref. or, usually & significant sulphide (Pb, Fe, Cu) contents - a few lapilli: to agglomerate size faintly outlined chl. andesite frags/bombs. - small 'spar' frags appear v. strange, corroded in places (almost like carb or gnt. blebs) - weakly carbonatized in places & light gray blebs & seams of calcite (diffuse) overprinting tuff but in groundmass (notably @ 73-73.5) - overall sulphide content: highly variable, averages 0.5% Pb-Py-Cpy (Pb = Py >> Cpy) & trace sph., occupying pred. as seams/blebs/diss min. in & around calcite: seams & as fac. fill & calcite, minor vly diss min. throughout rock (Cpy always & Pb) - @ 73: 1/2" calcite filled frac. @ 0" - from 75-75.5: numerous irreg. 1/4"-1/2" calcite & minor gts veins @ 50° to 90° to ca., & locally 3% sulph. (2.5% Pb, 0.5% Cpy) as blebs @ vn rims & minor diss min. - @ 76.5: 2" zone, & 5% diss sulph. (Pb, Fe, Cu) as thin blebs to 1/16" in fol. - from 82-85: locally strongly fractured, @ 85: a few 1/16" elongate (in bd.) Pb blebs - @ 87: 1" gray calc. seam @ 25° to ca. & 10% Pb-Py-Cpy as thin seams @ vn rims & diss in vn - from 89-89.5: a few 1/2" diffuse calc. chl rich bands @ 80-90° to c.a. & 1.75% Pb & 0.25% Cpy as thin seams & vly diss min. in bands - @ 90: 1/4" calc. seam @ 40° & 1/16" Pb enriched rims - arbitrary contact & underlying finer, lighter green andesite tuff.															
80'							ANDESITE TUFF - bd. @ 50° - a few large chl. and. bombs - mineralized calcite vns			0.5%	69-70'	100%	8A	75-76'	100%							
90'							91-131.5' LIGHT GREEN, WEAKLY CARBONATIZED ANDESITE TUFF vly. light green andesite tuff, well developed luffaceous tuff & v. granular appearing groundmass & 30% to small (1/16") white to pinkish white & corroded app. (gnt. carb appearing) spar frags & a few larger 1/4" chl. frags/blebs, w/ly dev. bedding @ 50° to c.a. (varies 40°-60°) as exhibited by preferred or. of tuff frags, groundmass is: wkly chl-ser alt. & wkly to moderately carbonatized & vly diss. calc. to 5-10% (to 20% in places) - numerous thick (to 1") gray, diffuse appearing, irreg. calcite (occ. & gts) vns @ no pref. orientation, usually enriched & Pb-Cpy, often light green (& vly ser.) to 5% of rock. - w/ly fractured @ random orientations, & pred. calcite, minor chl. ser. sulphide frag. fill - appears wkly lapilli to agglomerate fill in places, & faint larger (to 1") andesitic frags (may be only strangely fractured) - occasional thin & clearly silica & calcite stringers/seams to 1/16" both in to & out. fol. - overall sulphide content: av. 1% (0.5% Pb, 0.3% Py, 0.1% Cpy, 0.1% sph.), varies 4-2%, & most mineralization ass. & calcite-gts seams & frag. fill, minor vly diss min., a few larger sulph. blebs appear v. FRAGMENTAL - from 91.5-92.5: irreg. beanstems of gts-calc to 1" @ ind. or, to 50% rock, & 5% associated sulphides (2% Pb, 2% Py, 0.5% Cpy, 0.5% sph) @ vn rims & diss in host proximal to vns. - @ 95.3: 2" gts-calcite, minor hard yellow carb vn @ 70° to c.a. - @ 96.5: 1/2" calcite vn scale fol. @ 45°, locally 2% Pb, Fe, Cu, sph. - @ 98: 1" gray calcite vn in fol @ 50° & 1% diss sulph. (Pb, Fe, Cu, sph) @ vn rims - from 98-99.5: num. thin chert-carb seams/filled frags to 1/16" & 10% Pb-Cpy, sph @ vn rims - @ 99.5: 1/4" banded chert-calcite-chl zone wkly scale fol. @ 65° to c.a., & 3% sph as thin semi-massive seams & 2-3% Pb-Py-Cpy - @ 100.5: 1/2" calcite-sph-Py-Cpy seam @ 50° to ca. - from 101-101.5: numerous (to 5% of rock) 1/16"-1/2" chert-park blebs (fragments or bond. beds) in fol. & 2-3% vly diss sulph. (1% sph, 1% Pb, Fe, Cu, sph) & blebs @ vn rims. - @ 102.3: 1" cherty (sil. appearing) carb seam @ 0° to c.a. - @ 103.5: a few 1/4" bands @ 50° to ca. of diss Pb blebs to 1/16" & 5% rock over 6" & to sph. Cpy cont.															
100'	WEAK	WEAK	MODERATE				thin chert-carb seams - mineralized gts-calc vns - thin chert-carb seams - UNKLY CARBONATED ANDESITE TUFF - bd. @ 50° - calcite vning			1%	70-84'	100%		87-92'	100%							
110'														102-102.5'	100%							
120'														102.5-103.5'	100%							
														103.5-105'	100%							
														105-105.5'	100%							
														105.5-106'	100%							
														106-106.5'	100%							
														106.5-107'	100%							
														107-107.5'	100%							
														107.5-108'	100%							
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														111.5-112'	100%							
														112-112.5'	100%							
														112.5-113'	100%							
														113-113.5'	100%							
														113.5-114'	100%							
														114-114.5'	100%							
														114.5-115'	100%							
														115-115.5'	100%							
														115.5-116'	100%							

HOLE NO. 72-89-22

PROJECT: JIM'S LAKE

PAGE NO: 2 OF 9

CASING COLLAR ELEV.: 4' above ground GROUND ELEV.:

DATE STARTED: MARCH 14, 1984

REF. TO CLAIM CORNER:

COORDINATES: 2722E, 12+00N N. E.

DATE FINISHED: MARCH 16, 1984

SCALE: 1" = 10'

INCLINATION: -45° BEARING: 360°

TOTAL DEPTH: 560'

LOGGED BY: D. McEVOY

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
120'	WEAK	WEAK	WEAK TO MOD.				<p>91-131.8 CONT.</p> <p>① 105': 14" calcite - cherty gts v. bedded 11 fol. locally @ 65° to ca 2 minor diss. Cpy. sph. Py.</p> <p>① 107': 14" calc. seams @ 90° & thin 1/2" to 1" trace Cpy. Py. sph. seams</p> <p>① 109.5': 1/4" to 1/2" R. (C. tr. Py. sph) seams & calcite, scaly fol @ 80°, locally host is strongly sericitized from 108'-110'; 2 num. calc. seams filled frags.</p> <p>① 112'-115': numerous 1/4" to 1/2" gray to light green (2 sericite) calcite seams to 10% rock, locally show 1/2" ser. chl. alt. fragments appearing blebs. (host)</p> <p>① 114.5'-115': a few 1/16" to 1/8" Cpy. sph. seams 11 fol. & calcite-silica ass. seams.</p> <p>① 116': a few 1/4" to 1/2" Cpy. blebs along 1/4" calc. filled frags.</p> <p>① 119.2': 1/2" R. seam @ 35°, locally a few 1/4" agglomeratic chl. alt. fragments.</p> <p>① 122': 1/4" band around calc. seam of diss. to tr. Cpy. Py @ 55° (11 fol.)</p> <p>① 124': num. to 1/4" Cpy & calcite filled frags to 1/4"</p> <p>① 124.5'-125.5': gray calcite & chert-carb blebs - seams to 1/2" & 30% rock & locally 20% to 1/4" Cpy as thin seams 11 fol. @ 50° to 1/4" & v. fragmental appearing blebs to 1" - host rock intensely carb.</p> <p>① 128'-129': irreg. gray calc. blebs & seams to 1" & 20% rock.</p> <p>① 129.5'-130.5': 20% diffuse irreg. gray calcite seams & 10% R. tr. Cpy as thin seams 11 fol & v. diss. min. in calcite.</p> <p>① arbitrary contact & underlying dk green, strongly chloritized unit.</p> <p>131.5'-132.5' DARK GREEN, STRONGLY CHLORITIZED ANDESITE TUFF</p> <p>darker green, softer, v. strongly chl. alt. v. andesite tuff - only faintly buffaceous appearing, & a few small (1/4" to 1/2") white spar frags. - v. wk. fol. (bd. & ch) @ 45°-55° to c.a. (av 50°)</p> <p>① wkly fractured @ random orientations, & pred. calcite frac. fill.</p> <p>① numerous calcite & occ. quartz seams & irreg. blebs to 1/4" to 1/2" & 10% of rock. @ no pref. orientation, & associated sulphides to 3% (2.8% to .1% Cpy. - 1% sph) - minor v. diss. to Cpy. sph.</p> <p>① 131.5': 1" calc. v. @ 70° & 10% v. Py. tr. Cpy</p> <p>① 131.5'-132.5': rock is wkly brecciated by num. 1/4" to 1/2" gray calcite & cherty gray silica seams crudely or. @ 50° to c.a. to 30% of rock, & ass. 5% sulphides (4% to 1% Cpy) as thin seams @ v. rims & often fragmental appearing blebs to 1/4" - host locally is moderately carbonatized & 10% v. diss. calcite.</p> <p>① 133.5'-135': num. 1/4" gray calc. & cherty silica vns @ no pref. orientation, & 5% associated sulphides (4% to 1% Cpy, 0.5% sph) as blk & seams to 1/4" @ v. runs & some fragmental appearing blebs. - locally from 134'-134.5' rock strongly carb.</p> <p>① 134'-134.5': 1/2" diffuse calc. v. @ 30° to ca. & 10% to 1/4" Cpy as thin seams 11 v. & v. diss. min. around v.</p> <p>① 137.5'-138': sulph. to 5% (R. tr. Cpy. sph) as thin seams to 1/4" 11 fol. @ 50° & as diss. min. in & around num. 1-2" gray calcite-silica seams pred. 11 fol.</p> <p>① 138.5'-139': R. tr. Cpy. sph to 5% diss. & calcite-gte seams to 1/4" & 20% rock pred. 11 fol. @ 50°, minor v. diss. to sph in host.</p> <p>① 139.5': 3" zone @ 10% R. tr. Cpy as blebs to 1/4" ass. & calcite seams/blebs 11 fol. @ 50° occ. v. fragmental app. R. blebs.</p> <p>① arbitrary contact & underlying lighter, less chl. alt. more carb. alt. unit.</p> <p>140.5'-143' CARBONATIZED ANDESITE TUFF</p> <p>light green, lg to v. sph. lg from 140.5'-143', v. to sph. from 141'-143' and tuff. wkly dev. bd. @ av. or 50° to 70°</p> <p>① wkly to mod. fractured @ random orientations, & pred. calcite, chl. minor gte, sph. frac. fill</p> <p>① 140.5'-143' where lg, good buffaceous lit. & 20% small white spar fill frags elongate 11 fol. @ 50° - where v. from 142'-143', fill indicated by bedding.</p> <p>① occasionally appears 'agglomeratic' 2-1.2" light indistinct lighter gray-green carbonatized and fragments chert 11 fol. (may be strong patchy carbonatization)</p> <p>① groundmass is soft & weak to mod. pervasive sericite alt. patchy chl. alt. & mod. to intense perv. carb. alt. (intense from 143'-143') (v. diss. calc. to 15% rock)</p> <p>① numerous irreg. calcite (occ. & gte) blebs - seams @ random orientations to 5% of rock, usually sulphide enriched (to Cpy) - in places v. fragmental appearing 1/4" to 1/2" calcite-gte blebs</p> <p>① overall sulphate content - 0.25% to prod. to Py, tr. Cpy-sph, as blebs ass. & calcite seams, minor frac. fill, a few fragmental app. blebs</p> <p>① 147.5'-148': numerous 1/4"-1" gray, agglomeratic appearing carbonatized rock frags 11 fol.</p> <p>① 149': numerous (to 5-10%) small (1/4"-1/2") frags of calcite & tr. diss. to Cpy, sph.</p> <p>① 151': becomes intensely carbonatized, & to 2" agglomeratic carb frags to do 7% rk. & numerous smaller white calcite & tr. sph. to Cpy blebs frags along 11 fol. @ 50° to c.a.</p>									
130'	WEAK	WEAK	MOD. PATCHY				<p>mineralized calcite veins</p> <p>mineralized gte veining to 10%</p> <p>CHLORITIZED ANDESITE TUFF</p>		19%	125'	100%	BQ	120'	100%		
140'	WEAK	WEAK	MODERATE				<p>wkly dev. bd. @ 50° small buffaceous spar frags</p> <p>aggl. phase.</p> <p>CARBONATIZED ANDESITE TUFF</p> <p>calc. sulphide frags</p> <p>intensely carb & agglomeratic frags to 50%</p>		37%	135'	100%		124.5'	100%		
150'	WEAK	WEAK	MODERATE						0.25%	145'	100%		122.5'	100%		
160'	WEAK	WEAK	INTENSE							155'	100%		121.5'	100%		
170'	WEAK	WEAK	MODERATE				<p>min. calcite seams</p> <p>CHLOR- CARBON ANDESITE TUFF (TO AGGLOMERATE)</p> <p>'yellow' app. frags</p> <p>densely carb frags</p> <p>well dev bd @ 50°</p> <p>WEAK CARBON ANDESITE TUFF</p> <p>min. calcite seams</p>		0.5%	165'	100%		120.5'	100%		
180'	WEAK	WEAK	MODERATE						0.5%	176'	100%		119.5'	100%		

CONT.

HOLE NO. 76-84-D2

PROJECT: JIM'S LAKE

PAGE NO: 2A OF 9

CASING COLLAR ELEV.: 4' above ground GROUND ELEV.:

DATE STARTED: MARCH 14, 1984

REF. TO CLAIM CORNER:

COORDINATES: L272E, 13000N N. E.

DATE FINISHED: MARCH 16, 1984

SCALE: 1" = 10'

INCLINATION: -45° BEARING: 360°

TOTAL DEPTH: 560'

LOGGED BY: D. McJUR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
							<p>140.5' - 168' CONT.</p> <p>from 153.5' - 154', num. thin calcite seams to fol. & locally 1% sulph. (Po > sph > Cpy) as thin seams & blebs @ vn rims, & minor vlg diss min. locally host is intensely carbonatized.</p> <p>from 154' - 156', v. agglomeratic appearing, & faint grayish-green intensely carbonatized fragmental appearing blebs to 2" fol. @ 50°, numerous smaller 1/2" - 1/2" elong (to fol) calc. frags., locally strong patchy chl. alt. v. soft.</p> <p>from 159.5' - 160', v. soft, intensely chl-ser. carb alt., c. @ 159.7', thin calcite-sulphide (R-Cpy) seams brecciating rock</p> <p>arbitrary contact & underlying darker, more chloritized unit.</p> <p>163' - 172.5' STRONGLY ALTERED (CHLORITIZED CARBONATIZED) ANDESITE TUFF TO LAPILLI TUFF TO AGGLOMERATE</p> <p>rock predom. a dark green, strongly chloritized, carbonatized (in places & minor sericite) andesite to basalt, tuff to lapilli tuff - v. agglomeratic appearing in places, & large (1-2") lighter grayish green intensely carbonatized fragments fol. (may be frags or strange patchy carb. alt. - v. faint contacts between frags & groundmass) & large strongly chl. alt. frags.</p> <p>well developed bedding & moderate to strong schistosity @ 50° to c.a.</p> <p>numerous (to 10% of rock) thin (1/8" - 1/4") gray calcite & occ. gte seams pred. foliation (afew reworking) invariable sulphide (R > Py > Cpy > sph) enriched.</p> <p>strongly fractured, pred. sub foliation (although other sets present) & pred. calc. frac. fill. - rock is wtkly brecciated in places, by calcite seams, also appears wtkly subbrecciated in a few places.</p> <p>afew v. fragmental appearing gray calcite & sulphide blebs to 1/4"</p> <p>rock is v. soft, contains numerous thin, lighter green sericite rich seams</p> <p>OVERALL SULPHIDE CONTENT: 0.25% to 0.5%, pred. Po & trace Py, Cpy, sph, as blebs, seams, by diss. min. associated & calcite seams, some minor vlg diss. min. in host rock.</p> <p>from 163' - 164.5', locally thin calcite seams & infilled frac to 20% of rock, & 3% associated sulphides (pred. Po, trace R, Cpy, sph) as thin seams vn frac & vlg diss min.</p> <p>from 164' - 169', afew 1/2-1" fragments (), of mg. granular almost gabbroic appearing strongly chl-carb alt. rock.</p> <p>@ 167', 1/2" gte calc vn @ 50° to c.a. & thin to seams @ rims</p> <p>@ 169', 1/16" massive Po-Cpy seam fol. @ 50°, locally rock appears v. agglomeratic.</p> <p>from 169' - 172.5', lighter grayish-green intensely carbonatized, 'faint' fragmental appearing 'blebs' to 2", or 1/2-1", fol. to 50-60% of rock. (in places frags totally alt. to gray carbonate)</p> <p>arbitrary contact & underlying less altered, less agglomeratic appearing unit.</p> <p>172.5' - 180' WEAKLY CARBONATIZED ANDESITE TUFF</p> <p>medium green, by andesite tuff, well developed v. granular luffaceous texture, v. weakly developed foliation, bd. @ 50° to c.a. - weak (to moderate in places) pervasive carbonatization & vlg diss. calcite, weak perv. chl. alt.</p> <p>weakly fractured @ random orientations (one set to foliation @ 50°), & pred. calcite, minor sulphide (R, Py, tr. sph, Cpy) fracture filling</p> <p>numerous (to 5%) 1/4" - 1/2" irregular calcite blebs & seams pred. sub to bedding, usually sulphide bearing</p> <p>OVERALL SULPHIDE CONTENT: 0.5%, pred. R, trace Py, Cpy, sph as blebs & diss. min. in calcite seams & minor vlg diss. Po, Py, sph in host rock</p> <p>afew small 1/4" to 1/2" fragmental, appearing calcite, blebs, usually & minor vlg diss sulphides</p> <p>@ 173.8', 1/2" elongate Po (C, tr. Cpy) fragment</p> <p>from 174' - 174.3', sulphides to 10% (R, tr. 1.5% Cpy, tr. sph, Py) as thin (to 1/4") semi-massive to massive seams & blebs ass. & calc. to fol.</p> <p>arbitrary contact & underlying more alt. unit.</p> <p>180' - 186.5' INTENSELY ALTERED (CHLORITIZED, CARBONATIZED) ANDESITE TUFF (C LAPILLI - AGGLOMERATIC PHASES)</p> <p>rock predominantly a vlg. sph, dark green, very soft, intensely chloritized, carbonatized andesite tuff</p> <p>bd. & strong schistosity @ 50° to c.a., appears a lapilli tuff to agglomerate in places, & elongate (to foliation) lighter green, intensely carbonatized frags to 1" - v. indistinct, faint contacts between frags & groundmass</p> <p>numerous (to 10% of rock) thin irregular gray calcite seams & blebs to 1/4" pred. sub foliation, invariably sulph. bearing</p> <p>afew 1/4" - 1/4" fragmental, appearing calcite (minor vlg sulph. pred. R), blebs fol.</p> <p>wtkly to moderately fractured @ random orientations (one set to fol.) & calcite, minor sulphide fol.</p> <p>afew mg granular appearing almost gabbroic appearing chl-carb alt. frags to 1/2"</p> <p>OVERALL SULPHIDE CONTENT: = 3% (P. 5% R, minor Py, Cpy, sph), usually as thin (to 1/16") seams fol. associated & or proximal to calcite seams, afew 1/4" - 1/4" fragments, minor vlg diss min. & frac. fill. in places as thin veins to agglomeratic fragments.</p> <p>afew vlg biotite rich zones - carbonatization is pervasive (presumably vlg calcite to 20-30% rock)</p> <p>@ 184.3', 3" zone @ 50° to c.a. & 60% calcite, minor gte bands to 1/2" & 4% sulphides (35% to, 3% Py, 2% Cpy & several bands of dark brown alt. sulphide.)</p>								

HOLE NO. JL-84-02

PROJECT: JIM'S LAKE

PAGE NO: 3 OF 9

CASING COLLAR ELEV.: 4' above ground GROUND ELEV.:

DATE STARTED: MARCH 14, 1984

REF. TO CLAIM CORNER:

COORDINATES: 4272E, 13100N N. E.

DATE FINISHED: MARCH 16, 1984

SCALE: 1" = 10'

INCLINATION: -45° BEARING: 360°

TOTAL DEPTH: 560'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
180'	K	K	K				<p>10% calcite v. to v. strong INTENSELY CHL' ANDESITE TUFF TO AGGLOM. faint carb frags</p> <p>186.5-207.5' INTENSELY CARBONATED ANDESITE TUFF</p> <p>rock pred. a v. to lg. granular appearing andesite tuff, relatively soft, & wk pervasive chl, alt. minor patchy sericite alt. & intense pervasive carbonization, & approx 30% v. to v. diss calcite. - colour varies from light green to gray, depending on intensity of carbonization.</p> <p>- moderate to well developed lenticular bedding @ 50° to c.a.</p> <p>- weakly fractured @ random orientations, & pred. calcite, minor sulphide frac. fill.</p> <p>- minor biotite in places.</p> <p>- a few 1/4" calcite-sulphide seams pred. 11 fol. (afew reworking)</p> <p>- a few larger fragments of mg chl-carb p.t. v. "gabbroic" appearing rock.</p> <p>- a few v. fragmental appearing 1/4" calcite (c. fr. v. to v. diss sulph) blebs.</p> <p>- a few 1/4"-1/2" intensely chloritized fragments.</p> <p>- OVERALL SULPHIDE CONTENT: - variable.</p> <p>- from 186.5-191': 2% pred. P. to tr. Cpy. by ass. pred. & calcite seams, minor frac fill & v. to v. diss min.</p> <p>- from 191'-207.5': trace fill & v. minor by diss min.</p> <p>- from 207.5'-212': 2% pred. P. to tr. Cpy. by ass. & calcite seams & frag. blebs, minor diss. & ff min.</p> <p>- @ 186.5': a few 1/4" calcite seams & diss. P. to 5%, & a few 1" fragmental appearing harder carb. blebs & 2-5% v. to v. diss P. 11 to fol. @ 50°.</p> <p>- @ 187.5': a few 1/4" P. to tr. Cpy seams/blebs 11 fol. @ 50° to ca, locally num. thin P. bearing calcite stringers.</p> <p>- @ 188.5': a few 1/4" massive P. (c. minor Cpy. calcite) seams @ 50° to ca.</p> <p>- from 189'-189.5': P. to 5% (c. tr. Cpy) as thin seams to 1/8" 11 fol. & a few small diss. blebs in bands 11 fol.</p> <p>- @ 190': 1/4" gray calcite v. to 40° to c.a. & 10% v. to v. diss P. & thin P. seams @ rims.</p> <p>- @ 190.7': 1/2" zone & num. thin P. calcite seams 11 fol. @ 50°, locally from 190.5'-191', a few 1/2-1" frags of mg chl-carb alt. "gabbroic" appearing rock.</p> <p>- from 201'-207': large (1/2-1") mg chl-carb alt. "gabbroic" appearing frags to 10% of rock.</p> <p>- v. agglomeratic appearing.</p> <p>- @ 201.5': a few 1/4" P. stringers 11 fol. @ 202.5': a few 1/4" P. calc seams 11 fol.</p> <p>- @ 204': a 1/4" fragmental appearing P. to Cpy bleb, locally a few 1/4" P. to Cpy calcite seams 11 fol.</p> <p>- from 205'-205.5': numerous 1" v. fragmental appearing hard gray carbonate blebs & seams 11 fol. & 5% P. (tr. Cpy) as large elongate blebs to 1/2"</p> <p>- from 206'-207.5': fragmental hard gray carb. & soft calc. blebs to 1" to 10% of rock & by diss P., a few 1" chert fragments (often rimmed by P. to Cpy), v. agglomeratic app. - arbitrary contact & underlying more strongly chloritized unit.</p> <p>207.5'-212' STRONGLY CHLORITIZED ANDESITE TUFF</p> <p>becomes very soft, darker green, v. strongly chloritized, v. to v. andesite tuff, & only weak, patchy carbonization. - weakly developed foliation (bedding) @ 50° to c.a.</p> <p>- numerous (to 15% of rock) gray calcite seams pred. 11 sub 11 foliation.</p> <p>- weakly fractured @ random orientations, & calcite, minor, P. by frac. fill.</p> <p>- OVERALL SULPHIDE CONTENT: 2% P. to tr. Cpy, ass. & calcite seams as blebs & seams to 1/4", some minor v. to v. diss. min.</p> <p>- appears agglomeratic in places. & a few andesitic fragments to 1", a few mg 'granular' chl-carb alt. rock frags.</p> <p>- @ 207.5': a few 1/4"-1/2" semi-massive P. to tr. Cpy seams 11 fol., num. thin calcite seams, & a few v. fragmental appearing 1/2" P. blebs.</p> <p>- from 208'-208.5': calcite seams to 1/2" to 30% rock, pred. 11 fol. & 5% P. (c. tr. P. to Cpy), locally a few hard gray fragmental appearing carb-silica blebs & seams.</p> <p>- @ 211.2': 1" granular, c. calc. 9% v. to 40°</p> <p>- from 211.2'-212': biotite bearing, & 5% v. to v. diss bio.</p> <p>- arbitrary contact & less chl alt. more carb. alt. underlying unit.</p> <p>212'-226.7' CARBONATED ANDESITE TUFF</p> <p>light grayish green, lg. v. granular appearing andesite tuff, & mod. dev. fol. (bd.) @ 50° to ca (well dev. thin bed from 220'-228.7'), wk pervasive chl alt. strong but patchy carbonization.</p> <p>- weakly fractured, pred. 11 fol., & pred. calcite frac. fill.</p> <p>- a few thin (to 1/2") gray calcite veins pred. 11 fol., often & strong chl alt @ rims & thin chl. seams</p> <p>- v. homogeneous, gray app (could be slightly reworked - elastic)</p> <p>SULPHIDE CONTENT: trace to 0-25%, pred. P. to tr. Cpy, sph. as thin seams & calc. & min. v. to v. diss.</p>	37%	186'	100%	80	180'	100%			
190'	W	W	W				<p>mod. dev. bd. @ 50° min. calc. seams frags</p> <p>CARBONATED ANDESITE TUFF</p>	27%	183'	100%		191'	100%			
200'	W	W	W				<p>agglomeratic app. & 1/2-1" chl-carb alt. mg 'gabbroic' app frags of P. to Cpy carb frags</p> <p>v. agglomeratic appearing.</p> <p>- @ 201.5': a few 1/4" P. stringers 11 fol. @ 202.5': a few 1/4" P. calc seams 11 fol.</p> <p>- @ 204': a 1/4" fragmental appearing P. to Cpy bleb, locally a few 1/4" P. to Cpy calcite seams 11 fol.</p> <p>- from 205'-205.5': numerous 1" v. fragmental appearing hard gray carbonate blebs & seams 11 fol. & 5% P. (tr. Cpy) as large elongate blebs to 1/2"</p> <p>- from 206'-207.5': fragmental hard gray carb. & soft calc. blebs to 1" to 10% of rock & by diss P., a few 1" chert fragments (often rimmed by P. to Cpy), v. agglomeratic app. - arbitrary contact & underlying more strongly chloritized unit.</p>	27%	206'	100%		201.5'	100%			
210'	W	W	W				<p>CHLORITIZED ANDESITE TUFF</p> <p>min. calcite v. to 15%</p> <p>min. gray calc. v. s</p> <p>CARBONATED ANDESITE TUFF</p>	27%		100%		212'	100%			
220'	W	W	W				<p>well dev. bd @ 50° slightly coarser "lapilli" fill</p> <p>agglomeratic and. qc vein frags</p>	0.25%	326'	100%		220'	100%			
230'	W	W	W				<p>agglom. chl-carb alt. CHLORITIZED, CARBONATED ANDESITE TUFF TO AGGLOMERATE INTENSELY CARB frags</p> <p>aggl. and frags rimmed by P. to Cpy</p>	37%	236'	100%		226.7'	100%			
240'	W	W	W				<p>light grayish green, lg. v. granular appearing andesite tuff, & mod. dev. fol. (bd.) @ 50° to ca (well dev. thin bed from 220'-228.7'), wk pervasive chl alt. strong but patchy carbonization.</p> <p>- weakly fractured, pred. 11 fol., & pred. calcite frac. fill.</p> <p>- a few thin (to 1/2") gray calcite veins pred. 11 fol., often & strong chl alt @ rims & thin chl. seams</p> <p>- v. homogeneous, gray app (could be slightly reworked - elastic)</p> <p>SULPHIDE CONTENT: trace to 0-25%, pred. P. to tr. Cpy, sph. as thin seams & calc. & min. v. to v. diss.</p>					232.5'	100%			
													233.5'	100%		
													236'	100%		
													239'	100%		
													244'	100%		

CONT.

HOLE NO. JL-84-D2

PROJECT: VIM'S LAKE

PAGE NO: 4 OF 9

CASING COLLAR ELEV.: 4' above ground GROUND ELEV.:

DATE STARTED: MARCH 14, 84

REF. TO CLAIM CORNER:

COORDINATES: 1272 E, 13000 N E

DATE FINISHED: MARCH 16, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 340°

TOTAL DEPTH: 560'

LOGGED BY: D McEVOY

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
240'	↑	↑	↑				<p>aggl. and frags in calc. Po. Cpy groundmass.</p> <p>212-222.7 CONT.</p> <p>219.6: 1/8" (C.H. Cpy spl) calcite seam @ 50' to c.a.</p> <p>from 220-222: becomes coarser buff. & elongate blebs to 1/8" in well dev. fol. of gray kspar? a few 1/8"-1/2" chl. alt. frags</p> <p>221.5: 1/8" gts calcite va. cuts fol. @ 60° & a 1" bleached appearing alt. halo ± 1% small acicular silvery to Pt colored sulphide mineral(?) diss. throughout halo.</p> <p>223: a few 1/8" Po (C.H. Cpy) blebs elongate 11 fol. (frags?)</p> <p>223.5: 1/2" gts va 11 fol. stained bright yellow.</p> <p>from 225-226: a few 1/2" v. chl. carb alt. agglomeratic appearing andesitic fragments</p> <p>225.8: 1" mg granular calcite gts yellow hard carb. va. 65° ca.</p> <p>from 226-226.7: 2" gts & hard v. fine pink carb va @ 60° to ca. & a few 1/8" Po. Cpy blebs @ rims.</p> <p>226.7-229: CHLORITIZED, CARBONATIZED ANDESITE TUFF (AGGLOMERATIC IN PLACES)</p> <p>rock predominantly a medium to light green, soft, strongly chloritized, moderate to strongly carbonatized v. v. apl. andesite tuff. - carb. alt. as v. diss. calcite to 20% of rock (highly variable, patchy)</p> <p>well developed foliation - bedding & mod. schistosity @ 50 to 65° to ca. (pred. @ 55°)</p> <p>numerous irregular 1/4"-1" calcite veins - bands pred. 11 fol. usually of sulphide (to Pt Cpy) enrichment.</p> <p>wk to mod. fractured, pred. 11 fol (although often or present) & calcite, minor sulphide frac. fill.</p> <p>contains indistinct agglomeratic phases & alt. andesitic frags from 1/2" to 2-3" comprising rock, often rimmed by calcite sulphide seams - blecciated appearing in places</p> <p>elsewhere, more of a v. buff. & small white kspar buff frags & numerous 1/8"-1/2" chl. alt. frags to 5-10% of rock. - a few mg v. granular appearing chl. carb gts 'gabbroic' frags.</p> <p>a few v. fragmental appearing calcite (& minor Po. Cpy) blebs to 1/8"</p> <p>OVERALL SULPHIDE CONTENT: from 226.7-229: 3%, & from 240-249: 2%, predominantly Po & H. Cpy. usually as thin seams & blebs 11 fol. ass. & calcite seams, some frac. fill & calcite, & minor v. diss. min.</p> <p>250.5: 1/2" yellow mg silice hard carb & calcite va @ 50° ca. locally num. small fragmental app. calcite blebs</p> <p>from 231-232: v. agglomeratic appearing & elongate thin (1/2") chl. carb alt. andesitic frags' to 80% of rock, & 15% thin calcite & 5% Po. Cpy seams as 'matrix' for fragments (well dev. @ 55°)</p> <p>from 232.5: 234.5: v. agglomeratic to blecciated appearing & both large (to 2") strongly chl. alt. of fine v. bio rich andesitic fragments & smaller white to pale green intensely carbonate alt. frags (or primary carb frags?) (ang. to 1/2"), set in a chl. carb. sulphide matrix groundmass. frag:matrix ratio 80/20, Po to 5% (C.H. Cpy) as seams & blebs to 1/8" in matrix groundmass.</p> <p>234.8' & 235: @ 50' to ca. a few 1/8"-1/4" massive Po & H. Cpy seams & minor calcite</p> <p>236: a few 1/2" carb. fragmental appearing blebs 2-1/8" Po. Cpy blebs</p> <p>237: a few 2" fragmental appearing andesitic frags rimmed by 1/8" calc. Po seams</p> <p>239.5' & 240.2: 1/8" calc. Po (C.H. Cpy) seams @ 40°</p> <p>from 240.5-241: v. agglomeratic to blecciated appearing, & strongly chl. carb alt. andesite frags to 2" (90% 1/2") elongate 11 fol. @ 50° ca. in a calcite sulphide matrix (seams) - frag:matrix ratio 95/5 - sulphides locally to 10% (9% to 1% Cpy) as seams & rock & v. diss. min around (halo's) calc. sulph. seams.</p> <p>241.6: @ 50', a few 1/8" massive Po (C.H. Cpy) blebs. seams</p> <p>244: 1/8" semi-massive Po. Cpy calcite seams 11 fol appear as a 'groundmass' for 1/2" chl. carb alt. andesitic fragments.</p> <p>246.5: 1" blecciated/agglomeratic appearing zone & carb frags to 1/8" in chl. matrix, & Po seams to 1/8" fol. @ 65°</p> <p>248.3: 2" calcite (& minor chl., cherty silica & Po) yn @ 60° to c.a.</p> <p>from 252-252.5: 1/2" calcite seam @ 0° & 10° to diss.</p> <p>255: @ 50' to c.a., a few 1/4" semi-massive Po & H. Cpy seams, locally & numerous irreg. calcite seams & stringers carrying v. diss. Po. H. Cpy.</p> <p>256.5: 3" zone & 10% Po. H. Cpy as thin massive seams 11 fol. @ 40°, v. contorted, locally host is strongly chloritized & num. 1/8"-1/2" irreg. mg carb-chl alt. frags.</p> <p>258.5-257: a few 1/2"-1" mg granular hard yellow carb & lesser calc. gts chl. Po vns @ 40°.</p> <p>from 250: carbonatization only patchy.</p> <p>259: 1" intensely chloritized band @ 55° ± 5% diss. Po, H. Cpy.</p> <p>261: 3" zone & irreg. gts calc. chl. seams to 1/4" weakly blecciate rock, & 3% Po, H. Cpy CONT.</p>	3%			239'	100%				
250'	↑	↑	↑				<p>carb. frags</p> <p>calcite va</p> <p>min. calcite va</p> <p>CHLORITIZED, CARBONATIZED ANDESITE TUFF (TO AGGLOMERATE)</p> <p>gts calc. hd. carb vns</p> <p>chl. band</p> <p>aply trace by gts calc. chl. seams</p> <p>num. v. diss. bio.</p> <p>aggl. and frags in chl. sulphide groundmass.</p> <p>calcite va</p> <p>aggl. and frags in chl. sulph. groundmass</p> <p>locally bio rich</p> <p>agglomeratic zones</p> <p>agglom. and frags in chl. calc. sulph. groundmass</p> <p>chert frags.</p> <p>hard bd. @ 40° ANDESITE TUFF</p> <p>a few Po. Cpy bearing calc. vns.</p>		246'	100%		250'	100%			
260'	↑	↑	↑					2%					256'	100%		
270'	↑	↑	↑										266'	100%		
280'	↑	↑	↑										276'	100%		
290'	↑	↑	↑										286'	100%		
300'	↑	↑	↑										296'	100%		

HOLE NO. VL-84-D2

PROJECT: JIM'S LAKE

PAGE NO: 4A OF 9

CASING COLLAR ELEV.: 4' above gr.

GROUND ELEV.:

DATE STARTED: MARCH 14, 84

REF. TO CLAIM CORNER:

COORDINATES: 1272E, 13+00N N.

E.

DATE FINISHED: MARCH 16, 84

SCALE: 1" = 10'

INCLINATION: -45°

BEARING: 360°

TOTAL DEPTH: 560'

LOGGED BY: D. McEVOY

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
							<p>226.9-298' CONT.</p> <ul style="list-style-type: none"> - From 242-262.5: numerous "1/2" yellow mg silice carb-calcite minor qtz vns/seams @ random orientations & 3% Po. tr. Cpy. - @ 243.7: 3" zone & irreg. intensely chloritized P-Cpy bearing bands to 1/2" weakly brecciated rock, locally from 248-265: minor diss. bio in host andesite. - From 266-266.5: P & tr. Cpy to 5% as thin seams & blebs to 1/8" in fol. in what appears to be a v. agglomeratic rock, & light green and frags to 1" in chl-sulph groundmass. - (could be brecciated as opposed agglom. qua 1/4 transitional type chl. filled tracs). - similar zone @ 267.5-268: & 5% to Po. 0.5% Cpy. - @ 269: 2" calcite bleb, & sharp chl. alt. @ rims, & 5% to Po. 1% Cpy over 3" in strongly chloritized seams that brecciate rock (or are groundmass in agglomerate) - @ 271: 1/8" Po-Cpy seam @ 45° - From 272-279: v. agglomeratic or brecciated appearing, & light green soft chl-sericite alt. andesite frags to 2" set in (or brecciated by) dark green intensely chloritized seams 1/4" fol. @ 50° & 5% to Po. 0.5% Cpy. also mg silice pink hard carb. & minor qtz vns to 1/2" along mg 'gabroic' appearing granular chl-carb alt. frags, frags often & vly diss bio. - From 274-281: locally bio rich (vly diss min) - @ 276: 1/4" chl-calc - Po band @ 60° to ca. - From 277-277.5: agglomeratic appearing, & 60° @ 55° & large v. chloritized frags (e.g. 2" chert frag) elongate 1/4" fol. in a darker green intensely chloritic matrix/groundmass & 10% to Po as 1/4" massive bands 1/4" fol & vly diss min & blebs in matrix (e.g. ass. Cpy to 0.5%) - From 278-279.5: brecciated or agglomeratic appearing, & dk green intensely chloritic seams to 1/4" & 20% irregular light green ser-bio rich frags to 1" @ 55° to ca. - From 281-281.5: along chl-sulph-calcite vns to 1/2" @ variable orientations, rock locally is brecciated by chl-sulph (R. to 3% & ass. 0.25% Cpy) seams to 1/4" frags locally v. carbonatized. - From 286-291: wily brecciated to agglomeratic appearing, & num. chl-calc seams & 3% to Po. 0.25% Cpy @ 50° to ca., as matrix to large frags (or thin brecciating seams) - locally num. irreg yellow carb. blebs to 1/2" - From 291-292: numerous 1/2" gray calcite & qtz seams & vns & minor lg silice hard yellow carb. blebs. to 30% of rock, @ 40-60° to ca. - From 292-294: gray to cherty, siliceous & v. carb. rich fragments to 2" to 20% rock, & 35% to Po, & 7% epidides (6% Po. 1% Cpy) as bands & seams @ chert-carb frag boundaries & pos. & calc. seams - rather arbitrary contact & underlying less chl. alt. unit. <p><u>294-311: WEAKLY CHLORITIZED, CARBONATIZED, ANDESITE (TUFF)</u></p> <ul style="list-style-type: none"> - lg. & granular appearing, dark grayish-green, wily chloritized, moderately carbonatized, (punchy, & zones & 10% vly diss calcite) andesite tuff - v. faint, poorly dev. bd. @ 40° to ca. - wily fractured, @ random orientations, & pred. calcite, minor chl. qtz, P-Cpy, R. trac. fill. - also thin Po-Cpy bearing calcite seams. <p>OVERALL SULPHIDE CONTENT: varies, from 294-301: trace Po ass. & calcite seams & minor vly diss min., from 301-304: 2% Po. tr. Cpy, as blebs & seams 1/4" fol. ass. & calcite seams, minor trachill & vly diss min., - from 306-308: 10% pred. Po. as above, & from 308-311: 0.25% as above</p> <ul style="list-style-type: none"> - @ 296: 1/4" Po-calc seam @ 40° (e.g. tr. P-Cpy) - from 298: 298.5: 1/2" calc seam @ 30° to ca & strong chl. alt. @ rims & 2-3% vly diss Po. - @ 300: 1/2" calcite bleb @ 0° & minor diss Po-Py - @ 302: 2" chert (e.g. diss calc & 1% to Po. tr. Cpy-Py) band (frag?) @ 50° to ca., & strong chl alt @ rims & calc. to veining. - from 308.5-309: 1/4" to 5% thin seams & blebs to 1/4" & vly diss min in calcite seams & vns, tr. Cpy-Py - from 301-311: strongly carbonatized. - from 306-308.1: sulphides to 10% (9% B. 1% Cpy) as thin 1/4" seams 1/4" fol. & vly diss min. in locally more chloritoid, more strongly fractured rock. - from 307.6-308: chert frags to 3" @ 50° to ca., & diss calc & Po-Py-Cpy-sph to 1%. - sharp, distinct contact @ 311 & underlying more siliceous rock (contact @ 70°) 								

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
300'	WEAK	WEAK	MODERATE				<p>chest band (frag) 311-321' DACTE TUFF (OR SILICIFIED ANDESITE TUFF)</p> <p>rock pred a dark gray, relatively hard, siliceous, v. granular appearing dacite or silicified andesite tuff, weakly carbonatized; 2 v. diss calcite blebs (1/16") to 10% of rock, leads v. mottled appearance to rock</p> <p>wkly fractured, @ random orientations, 2 qtz, calcite, minor sulphide, chlorite, frac. fill.</p> <p>afew thin qtz-calcite veins - fragmental appearing in places, 2 afew 1/4-1/2" chlorite all. blebs very crude, weak fol. (bd.) @ 40° to c.a.</p> <p>afew less siliceous, more chloritized andesitic appearing 'windows'</p> <p>SULPHIDE CONTENT: 0.5%, pred. Po, tr. Py, Cpy, as seams & blebs ass. 2 qc veins, frac fill & v. minor lg. diss min.</p> <p>from 311-312; afew thin qtz-calc filled fracs to 1/4" 2, Po-Py-Cpy locally to 1% (pred. Po)</p> <p>from 313-314; 1" qtz-chl. hard, white to yellow carb. v. @ 20°, 2 strong 2" silicified all. halo 2 1/2" diss Po-Py, tr. Cpy, 2 afew thin (1/4") scuffing qtz-Po-Cpy seams @ 45°</p> <p>arbitrary contact @ 321'; 2 more andesitic appearing lithology.</p> <p>321'-331' ANDESITE TUFF</p> <p>1/4" to 1/2" dark gray, siliceous andesite tuff, 2 wk. mod. dev. fol. (bd.) @ 50° to c.a. as exhibited by preferred orientation of numerous (to 15-20% of rock) very small (1/16") white spar frags</p> <p>wkly chloritized, wkly carbonatized, 2 10% v. diss calcite</p> <p>afew lapilli size chl. all. fragments to 1/2" average 1/4", afew irreg large (1/2-1") granular mg chl. carb. all. 'gabbric' appearing fragments.</p> <p>weakly fractured, @ random orientations, 2 calcite, chlorite, minor Po-Cpy-Py fracture filling coarsens towards 331'; 2 more lapilli size fragments</p> <p>SULPHIDE CONTENT: 1% Po, tr. Py, Cpy, as lg. diss min. (locally from 329-331', to 2%)</p>	2%		100%	80	301'	100%			
310'	WEAK	WEAK	MODERATE				<p>wk dev. fol @ 40°</p> <p>qtz carb in DACTE TUFF</p>	10%		100%		306'	100%	306'	100%	
320'	WEAK	WEAK	MODERATE				<p>chl. frags</p> <p>small spar frags</p> <p>ANDESITE TUFF</p> <p>wk dev. fol @ 50°</p>	0.25%		100%		316'	100%	316'	100%	
330'	WEAK	WEAK	MODERATE				<p>chl. frags</p> <p>MIN. ANDESITIC AGGLOMERATE</p> <p>ANDESITE TUFF</p> <p>chl. frags rimmed by B-Cpy</p> <p>chest seams</p> <p>MIN. CHERTY SIL. ANDESITE</p> <p>64' @ 50° white spar lft frags</p> <p>wkly green by chl. carb. chert seams</p> <p>ANDESITE TUFF</p> <p>carb qtz 2 sil. all. halo</p>	1%		100%		326'	100%	331'	100%	
340'	WEAK	WEAK	MODERATE				<p>chl. frags</p> <p>MIN. CHERTY SIL. ANDESITE</p> <p>64' @ 50° white spar lft frags</p> <p>wkly green by chl. carb. chert seams</p> <p>ANDESITE TUFF</p> <p>carb qtz 2 sil. all. halo</p>	8%		100%		336'	100%	336'	100%	
350'	WEAK	WEAK	MODERATE				<p>chl. frags</p> <p>MIN. CHERTY SIL. ANDESITE</p> <p>64' @ 50° white spar lft frags</p> <p>wkly green by chl. carb. chert seams</p> <p>ANDESITE TUFF</p> <p>carb qtz 2 sil. all. halo</p>	3%		100%		346'	100%	346'	100%	
360'	WEAK	WEAK	MODERATE				<p>chl. frags</p> <p>MIN. CHERTY SIL. ANDESITE</p> <p>64' @ 50° white spar lft frags</p> <p>wkly green by chl. carb. chert seams</p> <p>ANDESITE TUFF</p> <p>carb qtz 2 sil. all. halo</p> <p>locally bleached appearing</p>	1%		100%		356'	100%	356'	100%	

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED								
	CHLORITE	SERICITE	CARBONATE	OTHER																				
DESCRIPTIVE GEOLOGY																								
360'	↑	↑	↑	↑	↑	Po	ch. spar frags to 1/4"	342.0 - 345.5' CONT. of numerous small (<1/16") white spar luff frags & occasional larger (1/4-1/2") lapilli size chloritized and frags, no vitric appearing luff frags, f. occ. carb. sulphide frags. v. wk pervasive chl. all. but relatively fresh, hard. - wky fractured, & random orientations, & calcite, chlorite, minor sulphide Res. luff. - also thin (to 1") qtz. calcite vns & random orientations. - appears 'clastic' in places (may be slightly reworked) & good bd. contacts & a few v. conglomeratic appearing clasts (could be aggl. frags) of andesitic to gabbroic appearing lithologies, but 2 indistinct contacts & groundmass/matrix. - also lighter green bleached appearing zones. OVERALL SULPHIDE CONTENT: 1% prod. to tr. Cpy. by. as thin seams & elongate blebs 11 tol. (v. fragmental appearing in places), some minor fine luff, vly diss min. & min. ass. & calcite seams. (content highly variable, from tr. to 2-3% depending on degree of carb vining & fracturing). - 344: 1" light green silicified band @ 50" to ca. - indistinct contacts & host. - from 344: 344.2: appears wky brecciated by dark green, thin (1/16") chl. seams & diss. Po. & tr. Cpy. - from 350: 351: numerous dark green aphanitic v. spst chl. seams to 1/2" & minor calcite & darkly silica & diss to tr. Cpy. weakly brecciated rock, & andesite frags to 8" frag/matrix ratio 98/2 (may be groundmass to large andesitic 'bombs' - sulphides (Po. tr. Cpy. by) to 3% one 1/2" chert fragmental appearing blob. - locally from 349: 357: v. granular appearing. - 352.7: 1/4" B. (tr. Cpy) - chl. seam cuts fol. @ 90° to ca. & locally num. thin calcite stringers - 358.2: 1" fq string. hard creamy white carb vns cuts fol. @ 70°. & Po-Cpy blebs to 1/4" & a 2" bleached silicified all. halo - 357: distinct contact @ 50" to ca. between similar lithologies (bedding plane). locally from 357: 360.5: appears lighter green, bleached, v. luffaceous appearing & occ. small carb-Po fragmental appearing blebs. (to 1/4") - 352: 1/4" vly to seam @ 90° to ca, locally rock v. clastic/luff: luff appearing, & chl. & luff 'frags' to 1/4" - 363: 1/2" semi-massive to tr. Cpy band & minor chl. calc. @ 50" to ca. - from 368: 368.8: appears v. bleached, lighter green, brecciated by num. thin (1/16-1/8") v. soft chl. (bd. plane) vly diss R. tr. Cpy. seams to 25% of rock, - distinct contact (bd. plane) - 369.8: 2 lbs all. rock, @ 50" to ca. - from 365: 366.5: rock appears wky brecciated by 1/8" v. distinct bands of wly Po & minor Cpy to 10% of rock. @ 365.5: distinct contact (bd. plane) @ 50" ca & lighter green bleached app. and luff containing a few 1/8" R. fragments. - from 367: appears clastic, may be reworked, & a few qtz. fapar. chl. blebs (clasts/frags) to 1/8" - 370: 1/4" R. Cpy. calcite filled fac @ 35" - @ 378: 1" gray silicified band @ 35" to ca. - from 375.5: 385.5: numerous 1/2" v. strange pg blebs of white fapar/hard carb & chl. resemble pperox. clasts, 3/8" to 5/8" rock. - 378: 1" qtz. minor calcite vns cuts fol. @ 45° & 2-3% R. tr. Cpy as thin seams in vns. & luff. - from 381: 385.5: begins to appear agglomeratic/conglomeratic, with increasing number of large (1-2") slightly coarser & andesite frags, some elongate 11 bd, others relatively rounded, indistinct contacts & groundmass/matrix, locally numerous calcite seams, sulphides increase to 2-3% to (tr. Cpy) as thin seams & calcite & 1/8" fragments - distinct contact @ 385.5: & harder, silicified unit. 385.5 - 431.5' ALTERED (SILICIFIED) MINERALIZED DACITIC-ANDESITIC AGGLOMERATE (OR CLASTIC EQUIVALENT - CONGLOMERATE) - rock highly variable in composition & appearance, & varying degrees of alteration. - consists predominantly of a vly. dark gray to green in places, moderately silicified (to intensely silicified in places) dacitic to andesitic appearing lithology - a few less silicified 'windows', where chlorite all. predominant - occasional sericite-carbonate altered zones - contains numerous 'fragments' ranging from 1/16"-1/2" of - (i) light green, chloritized to strongly sericitized-carbonatized andesitic rock			100%	80	363'	100%										
370'	↑	↑	↑	↑	↑	Po	silicified band			17%	100%													
380'	↑	↑	↑	↑	↑	Po	frag. carb. chl. frags: fclasts - qc vns becomes agglomeratic				100%													
390'	↑	↑	↑	↑	↑	Po	frags to 1" 10% dfrk. of chl-ser-carb all. and, app. fapar. carb carb. veins carb. frags SILICIFIED, MINERALIZED DACITIC-ANDESITIC AGGLOMERATE - qc vns my app. luff frags to 50% locally ser-chl. carb all. intensely silicified groundmass				100%													
400'	↑	↑	↑	↑	↑	Po				10%	100%													
410'	↑	↑	↑	↑	↑	Po					100%													
420'	↑	↑	↑	↑	↑	Po					100%													

CASING COLLAR ELEV.: 4' above gr.

GROUND ELEV.:

DATE STARTED: MARCH 14, 84

REF. TO CLAIM CORNER:

COORDINATES: 2212 E. 13000 N.

E.

DATE FINISHED: MARCH 16, 84

SCALE: 1" = 10'

INCLINATION: -45°

BEARING: 360°

TOTAL DEPTH: 560'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
48'	PATENT. MOD.	PATENT. WEAK	PATENT. WEAK	M. TO S. STR.			<p>386.5' - 431.5' CONT.</p> <p>1) white to light green fipar. often v.og. stline 2) mg-cg porphyry appearing frags of fipar. qtz-chl 4) white hard carbonate (altered/replaced fipar?) 5) sulphides (pred. Po, minor Py, Cpy) fragments are both angular, elongate foliation @ 50-55° to c.a., & more rounded (agglomeratic vs conglomeratic appearing) - comprise ~ 10% of rock. - for the most part, a vfg granular appearing dac. and. fill or clastic equivalent rock. - moderate to strongly fractured. @ no preferred orientation (one set 's fol.). & calcite, chlorite, qtz. sulphide frac. fill - weakly brecciated in places by thin chl/sulphide/calcite seams - overall SULPHIDE content: ~ 10%, but highly variable, pred. Po (9%), minor Cpy (0.5%), Py (0.5%) & trace sphalerite. - occurs as blebs to 1" often v. fragmental appearing, seams to 1" fol., some minor frac fill & vfg diss. min. - @ 392.5': 1" hard white carbonate band/ve fol. locally @ 45° to ca. - @ 397': numerous 1" hard white carb frags/blebs - @ 399': 1/4" calcite seam @ 45° & 2% vfg diss sph. - @ 402.5': 1/2" qtz-calcite-sulphide vein @ 30° to ca. & massive seams Po-Cpy to 1/4" (Cpy to 1% locally over 6") - from 405.5' - 409': light green, wily sericitized, mg-cg 'fipar-qtz porphyry' type frags to 1" & 50% rock - locally from 409' - 416': groundmass gray, softer, less silicified, more wily ser-carb alt. - intensely silicified from 416' - 422' (most frags are alt or ser-carb alt. and. type, a few sulphide frags. in what appears to be a good agglomeratic - well dev. bd. @ 50° to c.a.)</p> <p>431.5' - 444' BANDED CHEAT-SULPHIDE IRON FORMATION (EXHALITE)</p> <p>very thin banded-bedded (1/8" - 1") cheat - (80% of rock - both dark gray & light green) - sulphide (10% - 8% Po, 1.5% Py, 0.35% Cpy, 0.15% sph) - iron fin type exhalative, & 10% softer dark green chloritized andesitic fill type interbeds to 1/4" bedding very well developed @ 50° to core axis rock is moderate to strongly microfractured @ no preferred orientation, & pred. calcite & sulphide frac. fill. - SULPHIDES, at 10%, as thin bands 1/8" to 1/4", more commonly 1/8" - 1/16", both massive semi-massive & comprised of vfg diss min., some vfg diss min. within cheat bands, abundant fracture filling, many of the sulphide blebs appear fragmental, elongate bd. - some cheater bands contain minor vfg diss calcite. - from 431.5' - 432' sulphides to 80% & thin bands to 1/16" of vfg massive to semi-massive sulphides, distinctly zoned, & separate bands of Po (60%) Py (29%) & Cpy (1%), with thin vuggy chl-calc-ser seams, & blebs comprising rest of rock. 4. sph. ass. & calcite - some v. minor ssd-silencing features - places, some bedding offset by fractures. - also thin (1/16") rattling hard white carb. yns. - from 424.3' - 428.5': 2" semi-massive sulphide band & 80% Py, 15% Po, minor sph. Cpy, & gray cubic galena. & small calcite. Cheat blebs lending granular app. rock, locally string sulphide rombs, along fractures to 1/4" - @ 426.5': 1/16" sph. filled fracture - @ 428.5': 2" intensely microfractured zone - @ 442.3': 1" zone wily brecciated by 1/8" chl. seams - @ 442.5': a few 1/8" Cpy blebs in Py bands - from 443' - 444': lutaceous interbeds to 1/4" become 50% rock.</p> <p>444' - 490' INTENSELY ALTERED (TALC-CHLORITE-CARBONATE) ULTRAMAFIC ROCK rock pred. a dark greenish gray to bluish gray, intensely altered ultramafic lithology. - pred. alt. to chlorite & talc, & 15% (although highly variable) small (to 1/8") diss. calcite blebs (all vshals?) - rock is v.v. soft - remnant lg. mg crystalline (cumulate?) fol., & presumably once olivine grains now totally altered to talc-chlorite - pred. mg. - predominantly massive appearing, & a few moderately (to v. strongly in places) schistose zones (sch @ 50° to ca.) - moderately fractured @ random orientations, & pred. calcite, tlc, some chlorite frag. fill. SULPHIDE CONTENT: 0.25 - 0.5%, pred. Py, to Cpy, Po, as diss. cubic Py blebs to 1/4", some frac fill, & vfg diss min.</p>				420'					
430'							thinly banded-bedded @ 50° 80% cheat, 10% sph, 10% and. fill BANDED CHEAT-SULPHIDE LF.		10%	426'	100%	80	426'	100%		
440'	ALT. INT. BEDS						lutaceous interbeds to 50%		10%	436'	100%		436'	100%		
450'	INTENSE PERVASIVE						only wk chl alt. appears more basaltic-gabbroic		0.25 to 0.5%	443'	100%		443'	100%		
460'	ALTERATION						INTENSELY ALTERED ULTRAMAFIC locally sch @ 50° becomes strongly magmatic			443'	100%		443'	100%		
470'										443'	100%		443'	100%		
480'										443'	100%		443'	100%		

HOLE NO. JL-84-D2

PROJECT: JIM'S LAKE

PAGE NO: 8 OF 9

CASING COLLAR ELEV.: 4' above gr. GROUND ELEV.:

DATE STARTED: MARCH 14.84

REF. TO CLAIM CORNER:

COORDINATES: 2272E. 13100N N. E.

DATE FINISHED: MARCH 16.84

SCALE: 1"=10'

INCLINATION: -45° BEARING: 360°

TOTAL DEPTH: 560'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
480'	INTENSELY ALTERED						<p>488-490 CONT.</p> <p>alteration intensity variable, from 488-490' only wk, pred chl alt, rock appears more a mg, siliceous basalt-gabbro, but gradually intensifies, from 450-490', pred intense, becoming less so towards 490' @ 490', arbitrary contact & less alt um lithology</p> <p>from 444-460: non-magnetic, from 460-465: only wkly magnetic, from 465-490': strongly magnetic</p> <p>from 441-444.5': a few thin P-Cpy filled fractures</p> <p>@ 441: a few thin qtz-calcite seams & qtz-calc filled frags & minor diss. P-Py-Cpy.</p> <p>@ 451: Py blebs to 1" & 20% of rock over 3"</p> <p>locally from 450-463: becomes strongly 'carbonatized' - calcite blebs to 30% of rock.</p> <p>at least biotite rich zones (bio to 70% over 2-3") from 444-490'</p> <p>from 456.5' - 456', 6" zone & thin calcite seams @ 50° to 80% of rock, locally v. strongly sch. @ 50° to c.a.</p> <p>from 456-463: intensely altered to talc-carbonate-chl, strongly sheared appearing, sch. @ 50°-90° to c.a. from 459-460: num 1/4" hard white magnesite vns 11 bd</p> <p>@ 460.5: 3" 'green clay' seam (intensely altered)</p> <p>@ 463: 2" zone wkly brecciated by calcite-magnesite seams to 1/4" @ 50°</p> <p>from 467-468: remnant of txt. & 80% mtc-chl alt. blebs. 20% calcite alt. blebs</p>	0.25 to 0.5%	483'	100%	8Q	483'	100%			
490'	NEARLY WEAKLY SERPENTINIZED ZONES						<p>490-560' SERPENTINIZED PERIDOTITE</p> <p>rock becomes gradually a fine grained, dark gray to bluish gray wkly to moderately serp. um (peridotite), v. strongly magnetic, & disp. mte blebs to 1/8" & mte seams/fracs fill to 1/8" to 10% of rock</p> <p>pred massive, wkly foliated-sch in places @ 50° to c.a.</p> <p>strongly fractured, wkly pref. or. of 50° to c.a., although other orientations present, & calcite, chl, magnesite, talc, magnetite, & serpentine line fill</p> <p>appears wkly brecciated in places by calcite-magnetite seams (polytoured appearing)</p> <p>few lighter gray 'bleached' appearing zones that are strongly fractured, appearing almost like a flow-top breccia in places</p> <p>few softer talc-phlorite-minor serp. alt. zones.</p> <p>numerous magnesite, calcite & talc-chl mte veins/seams to 1/8" 11 wk fol. @ 50° to c.a. to 15% rock.</p> <p>in places, mte blebs to 1/8" to 30-40% of rock, appearing cumulate txt.</p> <p>SULPHIDE CONTENT: fr-0.25% Py, Cpy as frac fill & ass. & carbonate-magnetite seams</p> <p>from 490-512: still relatively soft, wkly talc-chl alt. gradually harder, transition to 512:</p> <p>from 508.5-509.5: numerous 1/8" talc-calcite seams 11 fol. @ 50° to c.a. to 30% of rock, locally host is more chl talc than serp. alt.</p> <p>from 511-511.5: numerous 1/8" talc-calcite seams brecciate rock.</p> <p>from 511.5-512: bleached appearing zone, & diss magnesite to 25% rock</p> <p>from 512.5-514: 1/2" magnetite vnl filled frac @ 0° to c.a. (comprised of 1/8" mte, estals) & minor diss Cpy, Py, locally & numerous scuttling mte filled frags, trending wkly brecciated app. to rock, mte locally 30%.</p> <p>@ 517: 4" carbonatized (diss magnesite) talc around talc-calc vn @ 45° ca.</p> <p>from 517-519.5: mte to 25% as 1/4-1/8" filled frags @ 0° & 70-90° to ca, wkly brecciate rock</p> <p>@ 519.5: 1/4" talc-calcite vn @ 50°</p> <p>from 523-523.5: thin magnesite vns @ 50° to c.a. & bright green intense talc alt. halos to 30% of rock, surrounding host is strongly carbonatized.</p> <p>from 527.5-528.5: rock intensely brecciated by thin 1/8" magnetite, & talc-calcite-magnesite seams, host locally contains 20% diss. mte cubes, & gray, carbonatized.</p> <p>@ 528.5: 1/2" massive mte band @ 40° & minor diss Py-Cpy</p> <p>from 533-533.5: wkly brecciated by thin mte-magnesite-serp. seams @ 50° to 20% of rock, surrounding host is gray, carbonatized.</p> <p>@ 534.5: 2" carbonatized talc around 1/4" talc-talc vn @ 50° to c.a.</p> <p>from 535-537.5: numerous carbonatized alt. halos around chl-calc-talc vn @ 50° to ca & randomly or. infilled fractures, affects 25% of rock, which locally contains 15% mte as diss. 1/8" blebs.</p> <p>from 539-539.5: massive calcite (60%), talc (40%) vn crudely or. @ 60° & 1" brecciated host rock (mte rich) frags to 20%</p> <p>from 539.5-541: num talc-calc seams to 1/4" wkly brecc rock, & strong carb. alt halos, & 20% diss mte blebs locally in host.</p> <p>from 545-560: becomes v. sph. harder, only wkly serp. - numerous thin mte & chl-talc-calc seams wkly brecc. rock in places, often & thin carb. alt halos - minor hem sh. 558-560</p>		494'	100%		490'	100%			
500'	WEAKLY SERPENTINIZED ZONES															
510'	WEAKLY SERPENTINIZED ZONES															
520'	WEAKLY SERPENTINIZED ZONES															
530'	WEAKLY SERPENTINIZED ZONES															
540'	WEAKLY SERPENTINIZED ZONES															

To 541'

HOLE NO. JL-84-D2

PROJECT: JIM'S LAKE

PAGE NO: 9 OF 9

CASING COLLAR ELEV.: 4' above gr.

GROUND ELEV.:

DATE STARTED: MARCH 18, 84

REF. TO CLAIM CORNER:

COORDINATES: 1272E, 13+00N N. E.

DATE FINISHED: MARCH 16, 84

SCALE: 1" = 10'

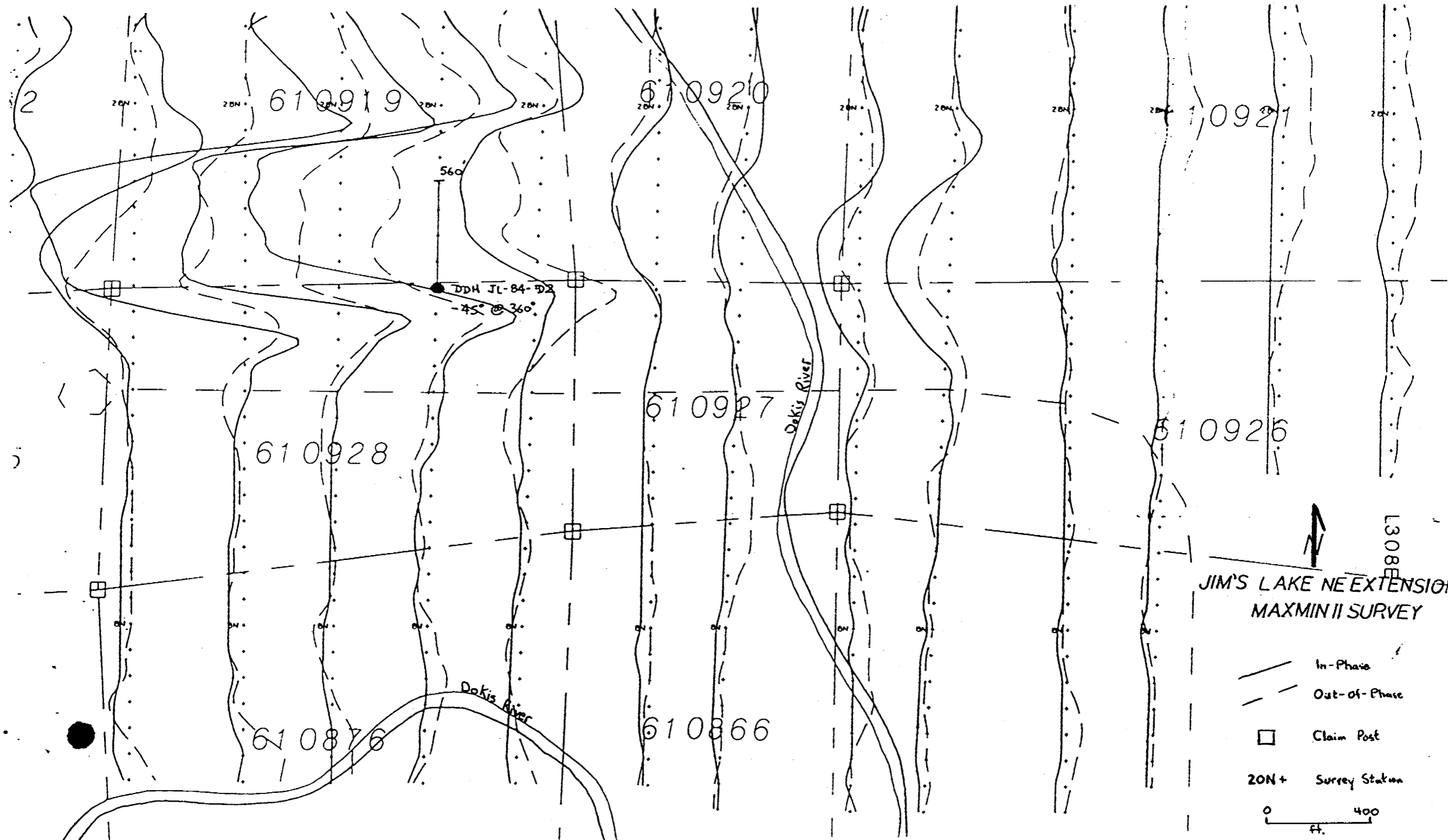
INCLINATION: - 95°

BEARING: 360°

TOTAL DEPTH: 560'

LOGGED BY: D McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERPICITE	CARBONATE	OTHER												
540'																
	FE	FE	FE	HE	✓		likely brecc. by talc-calc. seams						BQ	541'	100%	
	ALT	THIN	HEAVY	AK	✓		num. thin ortho-talc-calc seams				100%					
	ROCK	SEAMS	TEXTURE	QUARTZ	✓		SERPENTINIZED PERIDOTITE				100%					
550'					✓		diss into to m% rock.				100%			555'		
					✓						100%					
560'					✓		minor hem. frac bit locally				100%			560'	100%	
<p>HOLE ENDS @ 560' APRIL 3, 1984 Duncan McIVOR - 89 SAMPLES SPLIT FOR ASSAY -</p>																



610919

610920

610921

610927

610928

610926

610876

610866





Dakis River

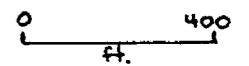
Dakis River

DDH JL-84-D2
-45° @ 360'

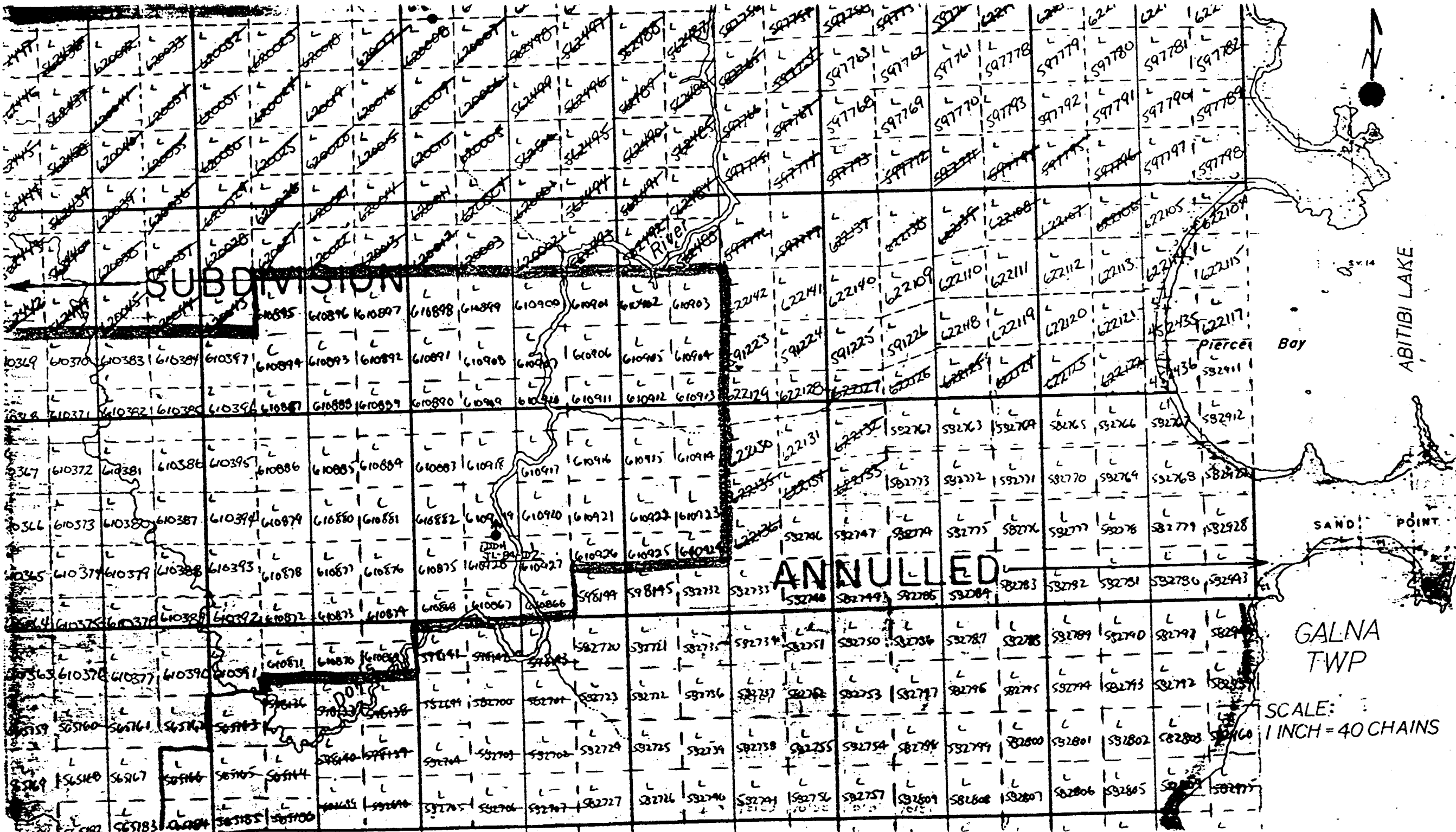
560'

JIM'S LAKE NE EXTENSION
MAXMIN II SURVEY

-  In-Phase
-  Out-of-Phase
-  Claim Post
-  Survey Station



L308



SUBDIVISION

ANNULLED

ABITIBI LAKE

SAND POINT

GALNA TWP

SCALE: 1 INCH = 40 CHAINS

Pierce Bay

Abitibi River

Table of land parcels with lot numbers ranging from 60369 to 62217 and 58243 to 58292. The map shows a grid of sections with individual lots within each section. Some sections are marked as 'ANNULLED'. Geographical features like the Abitibi River, Abitibi Lake, and Sand Point are also depicted.



Report of Work

Kenns, Mood. #117 twps



42A16SE0025 12 GALNA

900

Name and Postal Address of Recorded Holder

UTAH MINES LTD

T-793

1238 Riverside Drive, Timmins, Ontario, P4R 1A4

Summary of Work Performance and Distribution of Credits

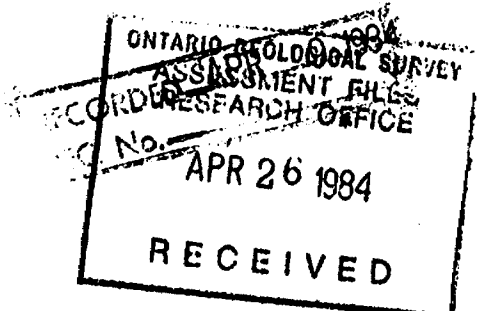
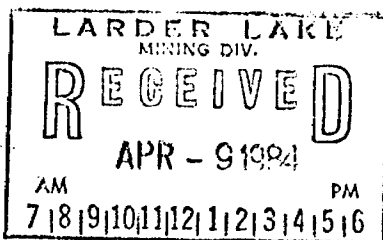
Total Work Days Cr. claimed 560	Mining Claim			Mining Claim			Mining Claim		
	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.
for Performance of the following work. (Check one only) <input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey	L	565033	32	L	565171	40			
		565034	40		565153	40			
		565035	40		565154	40			
		565221	39		565156	40			
		565202	39		565157	40			
		565195	39		565158	40			
		565224	40		565159	11			
		565178	40						

All the work was performed on Mining Claim(s): L 610928, 610919

Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below)

1 Hole, DDH JL-84-D-2 (see enclosed log) drilled with 'BQ' Totalling 560'

Drilled by Heath & Sherwood Drilling, 34 Duncan Ave., Kirkland Lake, Ont.



Date of Report April 4, 1984	Recorded Holder or Agent (Signature) <i>Duncan McIvor</i>
---------------------------------	--

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying

Duncan McIvor, 1238 Riverside Dr., Timmins, Ont. P4R 1A4

Date Certified April 4, 1984	Certified by (Signature) <i>Duncan McIvor</i>
---------------------------------	--

Table of Information/Attachments Required by the Mining Recorder

Type of Work	Specific information per type	Other information (Common to 2 or more types)	Attachments
Manual Work	Nil	Names and addresses of men who performed manual work/operated equipment, together with dates and hours of employment.	Work Sketch: these are required to show the location and extent of work in relation to the nearest claim post.
Shaft Sinking, Drifting or other Lateral Work			
Compressed air, other power driven or mechanical equip.	Type of equipment	Names and addresses of owner or operator together with dates when drilling/stripping done.	Work Sketch (as above) in duplicate
Power Stripping	Type of equipment and amount expended. Note: Proof of actual cost must be submitted within 30 days of recording.		
Diamond or other core drilling	Signed core log showing; footage, diameter of core, number and angles of holes.	Nil	Nil
Land Survey	Name and address of Ontario land surveyer.		