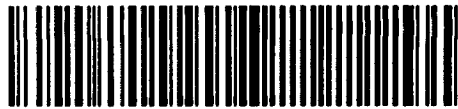


DIAMOND DRILLING



42A165W0002 15 KNOX

010

TOWNSHIP: Knox

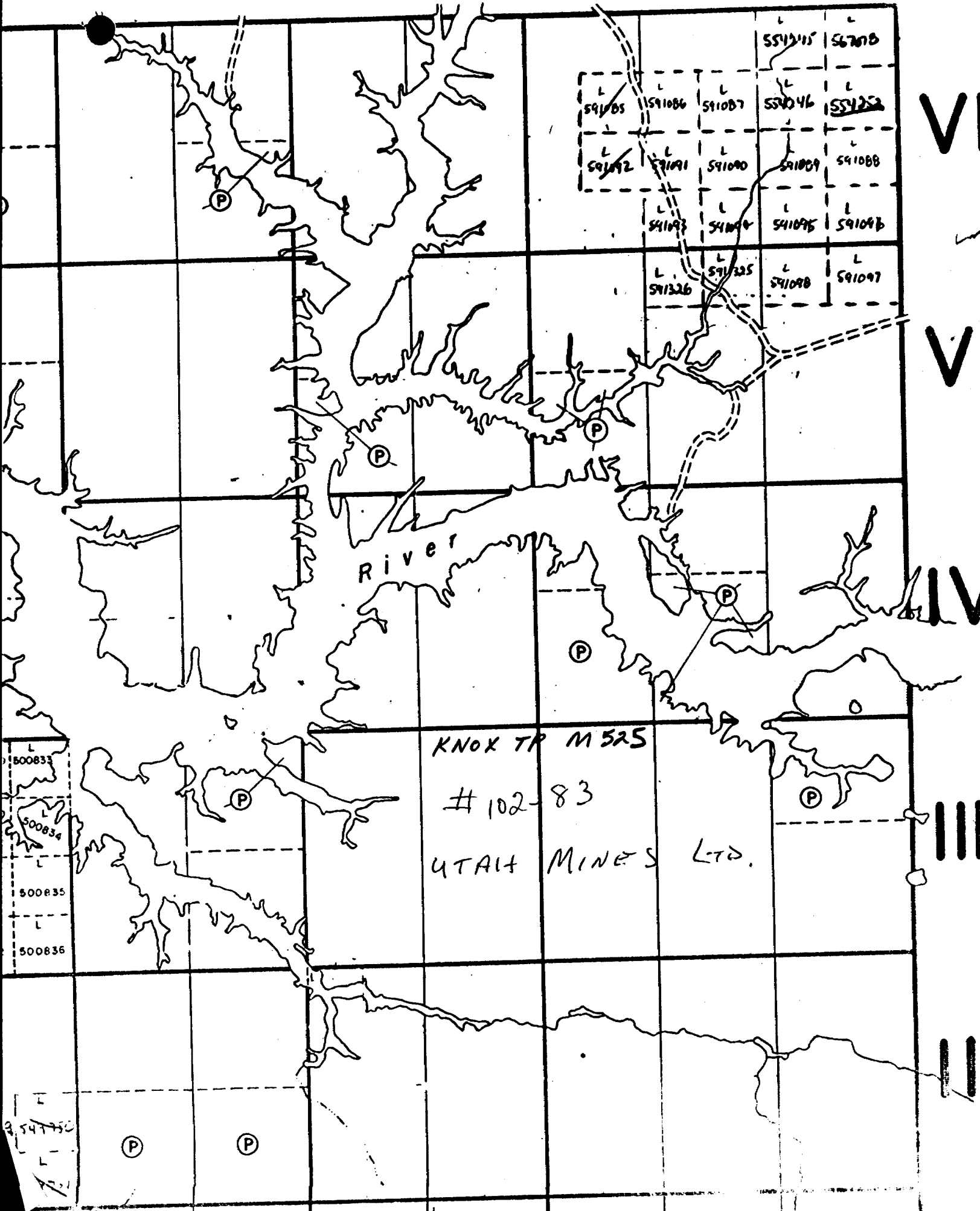
REPORT No.: 15

WORK PERFORMED BY: Utah Mines Ltd.

<u>CLAIM No.</u>	<u>HOLE No.</u>	<u>FOOTAGE</u>	<u>DATE</u>	<u>NOTE</u>
L 554252	JL83- ^I K	1495	Feb/83	(1)
	JL-83-J	1200	Mar/83	(2)
		<u>2695'</u>		

NOTES: (1) #102-83
(2) #117-83 (Moody Twp.)

Moody Twp.



L	L	L	L	L
591085	591086	591087	591088	591089
591090	591091	591092	591093	591094
591095	591096	591097	591098	591099
591100	591101	591102	591103	591104

KNOX TR M 525
#102-83
UTAH MINES LTD.

500833
500834
500835
500836

547750

V
V
IV
III
II

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	SILICIFICATION	CARBONATE														
180'							<p>HOLE COLLARED @ 116E, 4140 S. 'SOUTH GRID'</p> <p>DIP TESTS (CORRECTED)</p> <p>@ 800' - 51° @ 1200' - 51°</p> <p>@ 600' - 51° @ 1495' - 51°</p> <p>@ 900' - 52°</p> <p>- DROPPED 60' 2W CASING IN HOLE. NO PLASTIC PIPE.</p> <p>≈ 100%</p>											
190'							<p>0-196' OVERBURDEN</p>											
200'	FR. FINE	W. N. S.	S. S. S.	5%			<p>196'-208' V. STRONGLY BRECCIATED DACITE</p> <p>v. intense cataclastic brecciation of a vlg-aph. light green massive dacite (or possibly a strongly altered, silicified-sericitized more mafic volc.)</p> <p>rock consists of 20-70% 'dacite' fragments, ranging in size from < 1/16" to 6"</p> <p>to 1/2" set in a dark green to black breccia matrix</p> <p>larger frags pred. v. ang., smaller frags exhibit some rounding</p> <p>matrix pred. a hard black 'mylonite' but is v. chl. talc rich in places</p> <p>pred. frag supported, occasional more matrix rich zones</p> <p>no preferred orientation - foliation</p> <p>numerous cross cutting 2nd generation calcite & glz-calcite stringers, veins & irregular blebs, to 1/2". @ random orientations - in places re-brecciated rock</p> <p>glz-carb also present as frac. fill in places (overall carb. content ≈ 5%)</p> <p>few small blebs of fuchsite?</p> <p>v. strong shearing - slickensides along sev. frags, & smears of chl. talc</p> <p>SULPHIDE CONTENT: tr. vlg diss. py. cop. ass. & glz-carb seams & breccia matrix.</p> <p>from 204.5' - 205' 1" thin glz-carb vn @ 0° to cba</p> <p>@ 205.2' 2" glz-calcite in @ 50° to cba. prev. gray glz & calc. blebs & seams @ rims.</p> <p>@ 205.7' 1" glz-carb 'bleb'</p> <p>@ 206.2' 1/2" milk white glz vn @ 90° to cba. strongly frac & calc frac fill, num. small fuchsite blebs, seams.</p> <p>@ 206.5' num. thin glz (white to translucent) vns breccia, & minor ass. calc.</p> <p>@ 207' thin 1/32" py seam @ 90° to cba</p> <p>from 208' - 207.5' strong ser alt of both frags & matrix, v. irreg sch.</p>											
210'	FR. FINE	W. N. S.	S. S. S.	5%			<p>DACITE</p> <p>glz-carb & talc seams</p> <p>wk sch @ 65° to cba</p> <p>matrix youngs chl-graph mylonite to talc-carbonate</p> <p>BRECCIATED DACITE</p> <p>chlorite-graphite 'matrix'</p> <p>cbl sch @ 25° to cba</p> <p>sericitized to silicified dacite 'frags'</p> <p>num. glz calc seams.</p> <p>matrix to 60%. becomes chl-talc-ser rich</p>											
220'	BR. GREEN	W. N. S.	S. S. S.	5%			<p>208'-211' DACITE - SILICIFIED ANDESITE</p> <p>vlg-aph. light green, amorphous appearing dacite or silicified andesite</p> <p>v. wkly schistose @ 45° orientation of 65° to cba</p> <p>numerous thin seams of talc, chlorite, and glz-calcite (fracture filling)</p> <p>intense microfractured, @ random orientations</p> <p>subgoes to 1% as vlg diss py blebs throughout rock & py frac. fill ass & talc & glz-carb</p>											
230'	BR. GREEN	W. N. S.	S. S. S.	5%			<p>211'-222.5' V. STRONGLY BRECCIATED DACITE (OR SIL. AND. BAS)</p> <p>rock composed pred. of light green vlg-aph. sericite rich dacite or sil. and frags, to 3" set in a dk green to black, occasionally chlorite-talc rich mylonite matrix</p> <p>no distinct preferred orientation</p> <p>frags often anophanous, silicified appearing</p> <p>frags have strong ill. rims of lighter gray-green</p> <p>numerous thin actinolite-glz-calcite seams @ random on, often re-brecciated rock</p> <p>occ. red chem staining? discoloration of carb. glz seams</p> <p>from 211'-211.5' matrix to 40% of rock, hard, dk black chlorite & wkly carbonaceous mylonite (thin graphitic slips) - wk sch @ 45° to cba. v. strong slickensides along frags.</p>											

CONT.

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	SILICIFICATION	CARBONATE												
240'	STR	SMS	NIL	SMS			<p><u>241.5 - 246' INT.</u></p> <p>241.5 - 246' <u>INT.</u> @ 246' 1/2" black sh. slickensided chl & minor graph? matrix seam @ 25° to cba by seams @ 10° to 15° few thin glz seams</p> <p>chl. graph matrix seam num glz calc vns @ 40° cba</p> <p>wk fol @ 40° cba <u>Wkly Brecc. Alt. Maf. Volc.?</u></p> <p>glz vn snowflake txt tremolite? rich brecc by chl-talc seams</p> <p>pred. tal-chl seams tal-chl brecc rock</p> <p>calcite vn @ 30° sh. tal. chl alt. qc vein & tuchsite?</p> <p><u>Wkly Brecc Alt Maf. Volc.</u></p> <p>strong sil. patches glz vn tremolite rich numerous glz-calc. blbs.</p> <p>spherical silicification blbs</p> <p>silicified quartz appearing frags.</p> <p>glz vn</p>	2%	241'	100%	BQ	240'	100%			
250'	STR	SMS	NIL	SMS			<p><u>246 - 259.5' Wkly Brecciated, Altered Maf. Volc. (Tremolite Rich)</u></p> <p>pred. v. relatively soft, light yellowish green, sericite - tremolite & small clusters - books of radiating acicular yellowish green xstals - minimal snowflake txt in places) rich rock, weakly brecciated by thin seams - filled fractures of pred. chl-talc, occasionally by black magnetite, glz-calcite-sericite fragment matrix tang. & 90°/10° numerous cross cutting (often 2nd gen brecciation) calcite, glz-calcite seams, facies filling. v. wk foliation, & slight preferred frac-frag orientation of 40° to cba</p> <p>@ 246' 1/2" glz vn rimmed by calcite, @ 40° to cba num. tal. 246.5' numerous glz blbs to 1/4" (brecc vein). num. 247-249', num. glz-calcite veins & blbs to 2" @ wk. or. of 40° to cba. minor diss Cpy, strong yellow silicification hilos @ 255.5' 1/2" glz vn & minor calcite (filled fracs) @ 60° to cba @ 258.5' 6" lg. mg snowflake txt d' v. vn. num. 262.5-259.5' atew glz filled fracs & red min. (hem?) @ 264.5-259.5' atew glz filled fracs & red min. (hem?) SULPHIDE CONTENT: trace, atew diss specs Py-Cpy & glz-carb seams.</p> <p><u>259.5 - 287' Wkly Brecciated, Altered Maf. Volc. (Tremolite Rich)</u></p> <p>pred. v. weakly brecciated, light greenish gray (dacitic appearing) silicified altered int. maf. volc. rock (may be glz vn) frags to 3-4" & breccia matrix (frac fill) pred. chl & talc frags strongly silicified in places & yellowish green, hard amorphous appearance numerous thin glz & calcite blbs & seams to 1/2" occur throughout rock num. 259.5-260.5' pred. tal. chl alt. maf-volc. & atew small yellow silicified-sericitized frags, v. intensely frag. & calcite & talc & blood red (sub-metallic lustric, scallot spher) mix - HgS? AsS? sph., fracture filling. num. 262-264' num. fracs & blood red min. & atew tuchsite? talc blbs @ 264' 1" calcite seam @ 30° to cba & 1/4" red min. num. 264.5-265' pred massive tal-chl alt. rock, & num thin qc. ser seams @ 266' 1/2" calcite vn @ 50° to cba, & cross-cutting red min. filled fracs, & thin tuchsite talc seams @ 40° to cba, vlg diss Py num. 266-267' numerous calcite & red min filled fracs to 1/4" num. 268-270' patches to 6" of v. intense silicification - yellowish gray, hard amorphous zones per spherical blbs around larger sil. frags. @ 271' 1/2" (unfilled) (filled) glz vn num. 271-272' locally hem. rich (look txt) @ 274' 6" zone of spherical sil. frags @ 274.5' atew thin red min. filled fracs @ 276' spherical sil. blbs/frags @ 280' 2" qc vein @ 50° to cba SULPHIDE CONTENT: tr vlg diss Py</p> <p><u>282-290' Intensely Brecciated, Silicified, Int. Maf. Volcanic</u></p> <p>pred. soft, light green (wkly ser-trem. alt) & hard amorphous yellowish green (strongly silicified) int. maf. volc. frags to 3-5" & 40° to cba in a dr. green, often v. sheared, sch. (inner br.) talc-chlorite rich breccia matrix v. wk fol @ 30° to cba num thin glz-calc seams (brecciated) in places frags v. bright green - tuchsite coloured in places @ 282' 1/8" Py seam in sch. matrix surm @ 30° to cba num. 282-284' intense sil. of frags, spherical appearing in places @ 284.5' 2" zone of small spherical sil. blbs overprinting breccia txt. num. 285-286' num. thin red min (HgS, sph) filled fracs</p>	1%	245'	100%		246'	100%			
260'	STR	SMS	NIL	SMS			<p><u>269 - 279' Wkly Brecciated, Altered Maf. Volc. (Tremolite Rich)</u></p> <p>pred. v. weakly brecciated, light greenish gray (dacitic appearing) silicified altered int. maf. volc. rock (may be glz vn) frags to 3-4" & breccia matrix (frac fill) pred. chl & talc frags strongly silicified in places & yellowish green, hard amorphous appearance numerous thin glz & calcite blbs & seams to 1/2" occur throughout rock num. 269.5-270.5' pred. tal. chl alt. maf-volc. & atew small yellow silicified-sericitized frags, v. intensely frag. & calcite & talc & blood red (sub-metallic lustric, scallot spher) mix - HgS? AsS? sph., fracture filling. num. 272-274' num. fracs & blood red min. & atew tuchsite? talc blbs @ 274' 1" calcite seam @ 30° to cba & 1/4" red min. num. 274.5-275' pred massive tal-chl alt. rock, & num thin qc. ser seams @ 276' 1/2" calcite vn @ 50° to cba, & cross-cutting red min. filled fracs, & thin tuchsite talc seams @ 40° to cba, vlg diss Py num. 276-277' numerous calcite & red min filled fracs to 1/4" num. 278-280' patches to 6" of v. intense silicification - yellowish gray, hard amorphous zones per spherical blbs around larger sil. frags. @ 281' 1/2" (unfilled) (filled) glz vn num. 281-282' locally hem. rich (look txt) @ 284' 6" zone of spherical sil. frags @ 284.5' atew thin red min. filled fracs @ 286' spherical sil. blbs/frags @ 290' 2" qc vein @ 50° to cba SULPHIDE CONTENT: tr vlg diss Py</p>	TRAC E	254'	100%		249'	100%			
270'	STR	SMS	NIL	SMS			<p><u>279 - 283' Wkly Brecciated, Altered Maf. Volc. (Tremolite Rich)</u></p> <p>pred. v. weakly brecciated, light greenish gray (dacitic appearing) silicified altered int. maf. volc. rock (may be glz vn) frags to 3-4" & breccia matrix (frac fill) pred. chl & talc frags strongly silicified in places & yellowish green, hard amorphous appearance numerous thin glz & calcite blbs & seams to 1/2" occur throughout rock num. 279.5-280.5' pred. tal. chl alt. maf-volc. & atew small yellow silicified-sericitized frags, v. intensely frag. & calcite & talc & blood red (sub-metallic lustric, scallot spher) mix - HgS? AsS? sph., fracture filling. num. 282-284' num. fracs & blood red min. & atew tuchsite? talc blbs @ 284' 1" calcite seam @ 30° to cba & 1/4" red min. num. 284.5-285' pred massive tal-chl alt. rock, & num thin qc. ser seams @ 286' 1/2" calcite vn @ 50° to cba, & cross-cutting red min. filled fracs, & thin tuchsite talc seams @ 40° to cba, vlg diss Py num. 286-287' numerous calcite & red min filled fracs to 1/4" num. 288-290' patches to 6" of v. intense silicification - yellowish gray, hard amorphous zones per spherical blbs around larger sil. frags. @ 291' 1/2" (unfilled) (filled) glz vn num. 291-292' locally hem. rich (look txt) @ 294' 6" zone of spherical sil. frags @ 294.5' atew thin red min. filled fracs @ 296' spherical sil. blbs/frags @ 300' 2" qc vein @ 50° to cba SULPHIDE CONTENT: tr vlg diss Py</p>	TRAC E	258'	100%		259.5'	100%			
280'	STR	SMS	NIL	SMS			<p><u>283 - 287' Wkly Brecciated, Altered Maf. Volc. (Tremolite Rich)</u></p> <p>pred. v. weakly brecciated, light greenish gray (dacitic appearing) silicified altered int. maf. volc. rock (may be glz vn) frags to 3-4" & breccia matrix (frac fill) pred. chl & talc frags strongly silicified in places & yellowish green, hard amorphous appearance numerous thin glz & calcite blbs & seams to 1/2" occur throughout rock num. 283.5-284.5' pred. tal. chl alt. maf-volc. & atew small yellow silicified-sericitized frags, v. intensely frag. & calcite & talc & blood red (sub-metallic lustric, scallot spher) mix - HgS? AsS? sph., fracture filling. num. 286-288' num. fracs & blood red min. & atew tuchsite? talc blbs @ 288' 1" calcite seam @ 30° to cba & 1/4" red min. num. 288.5-289.5' pred massive tal-chl alt. rock, & num thin qc. ser seams @ 290' 1/2" calcite vn @ 50° to cba, & cross-cutting red min. filled fracs, & thin tuchsite talc seams @ 40° to cba, vlg diss Py num. 290-291' numerous calcite & red min filled fracs to 1/4" num. 292-294' patches to 6" of v. intense silicification - yellowish gray, hard amorphous zones per spherical blbs around larger sil. frags. @ 295' 1/2" (unfilled) (filled) glz vn num. 295-296' locally hem. rich (look txt) @ 298' 6" zone of spherical sil. frags @ 298.5' atew thin red min. filled fracs @ 300' spherical sil. blbs/frags @ 304' 2" qc vein @ 50° to cba SULPHIDE CONTENT: tr vlg diss Py</p>	TRAC E	279'	100%		267'	100%			
290'	STR	SMS	NIL	SMS			<p><u>287 - 290' Wkly Brecciated, Altered Maf. Volc. (Tremolite Rich)</u></p> <p>pred. v. weakly brecciated, light greenish gray (dacitic appearing) silicified altered int. maf. volc. rock (may be glz vn) frags to 3-4" & breccia matrix (frac fill) pred. chl & talc frags strongly silicified in places & yellowish green, hard amorphous appearance numerous thin glz & calcite blbs & seams to 1/2" occur throughout rock num. 287.5-288.5' pred. tal. chl alt. maf-volc. & atew small yellow silicified-sericitized frags, v. intensely frag. & calcite & talc & blood red (sub-metallic lustric, scallot spher) mix - HgS? AsS? sph., fracture filling. num. 290-292' num. fracs & blood red min. & atew tuchsite? talc blbs @ 292' 1" calcite seam @ 30° to cba & 1/4" red min. num. 292.5-293.5' pred massive tal-chl alt. rock, & num thin qc. ser seams @ 294' 1/2" calcite vn @ 50° to cba, & cross-cutting red min. filled fracs, & thin tuchsite talc seams @ 40° to cba, vlg diss Py num. 294-295' numerous calcite & red min filled fracs to 1/4" num. 296-298' patches to 6" of v. intense silicification - yellowish gray, hard amorphous zones per spherical blbs around larger sil. frags. @ 299' 1/2" (unfilled) (filled) glz vn num. 299-300' locally hem. rich (look txt) @ 302' 6" zone of spherical sil. frags @ 302.5' atew thin red min. filled fracs @ 304' spherical sil. blbs/frags @ 308' 2" qc vein @ 50° to cba SULPHIDE CONTENT: tr vlg diss Py</p>	TRAC E	283'	100%		274'	100%			
300'	STR	SMS	NIL	SMS			<p><u>290 - 300' Wkly Brecciated, Altered Maf. Volc. (Tremolite Rich)</u></p> <p>pred. v. weakly brecciated, light greenish gray (dacitic appearing) silicified altered int. maf. volc. rock (may be glz vn) frags to 3-4" & breccia matrix (frac fill) pred. chl & talc frags strongly silicified in places & yellowish green, hard amorphous appearance numerous thin glz & calcite blbs & seams to 1/2" occur throughout rock num. 290.5-291.5' pred. tal. chl alt. maf-volc. & atew small yellow silicified-sericitized frags, v. intensely frag. & calcite & talc & blood red (sub-metallic lustric, scallot spher) mix - HgS? AsS? sph., fracture filling. num. 294-296' num. fracs & blood red min. & atew tuchsite? talc blbs @ 296' 1" calcite seam @ 30° to cba & 1/4" red min. num. 296.5-297.5' pred massive tal-chl alt. rock, & num thin qc. ser seams @ 298' 1/2" calcite vn @ 50° to cba, & cross-cutting red min. filled fracs, & thin tuchsite talc seams @ 40° to cba, vlg diss Py num. 298-299' numerous calcite & red min filled fracs to 1/4" num. 300-302' patches to 6" of v. intense silicification - yellowish gray, hard amorphous zones per spherical blbs around larger sil. frags. @ 303' 1/2" (unfilled) (filled) glz vn num. 303-304' locally hem. rich (look txt) @ 306' 6" zone of spherical sil. frags @ 306.5' atew thin red min. filled fracs @ 308' spherical sil. blbs/frags @ 312' 2" qc vein @ 50° to cba SULPHIDE CONTENT: tr vlg diss Py</p>	TRAC E	290'	100%		282'	100%			
310'	STR	SMS	NIL	SMS			<p><u>290 - 300' Wkly Brecciated, Altered Maf. Volc. (Tremolite Rich)</u></p> <p>pred. v. weakly brecciated, light greenish gray (dacitic appearing) silicified altered int. maf. volc. rock (may be glz vn) frags to 3-4" & breccia matrix (frac fill) pred. chl & talc frags strongly silicified in places & yellowish green, hard amorphous appearance numerous thin glz & calcite blbs & seams to 1/2" occur throughout rock num. 290.5-291.5' pred. tal. chl alt. maf-volc. & atew small yellow silicified-sericitized frags, v. intensely frag. & calcite & talc & blood red (sub-metallic lustric, scallot spher) mix - HgS? AsS? sph., fracture filling. num. 294-296' num. fracs & blood red min. & atew tuchsite? talc blbs @ 296' 1" calcite seam @ 30° to cba & 1/4" red min. num. 296.5-297.5' pred massive tal-chl alt. rock, & num thin qc. ser seams @ 298' 1/2" calcite vn @ 50° to cba, & cross-cutting red min. filled fracs, & thin tuchsite talc seams @ 40° to cba, vlg diss Py num. 298-299' numerous calcite & red min filled fracs to 1/4" num. 300-302' patches to 6" of v. intense silicification - yellowish gray, hard amorphous zones per spherical blbs around larger sil. frags. @ 303' 1/2" (unfilled) (filled) glz vn num. 303-304' locally hem. rich (look txt) @ 306' 6" zone of spherical sil. frags @ 306.5' atew thin red min. filled fracs @ 308' spherical sil. blbs/frags @ 312' 2" qc vein @ 50° to cba SULPHIDE CONTENT: tr vlg diss Py</p>	TRAC E	290'	100%		288'	100%			

HOLE NO. I

CASING COLLAR ELEV.: 3' above gr. GROUND ELEV.:

COORDINATES: N. E.

INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE

DATE STARTED: FEB. 24. 83

DATE FINISHED: MARCH 8. 83

TOTAL DEPTH: 1995'

PAGE NO: 3 OF 22

REF. TO CLAIM CORNER:

SCALE: 1" = 10'

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					
	CLAUDE	SEPIOLITE	SILICIFICATION	CARBONATE																	
300'	UNWEAKENED SEAM OF BRECCIATE APPARENTLY TALL	WEAKENED SEAM OF BRECCIATE APPARENTLY TALL	STRONG	NUMEROUS	Py	Py	talc band frags shungly sil. 2" calc seam @ 0° cba snowflake tal. tremolite	285'-290' CONT. - from 285'-286' num. thin calc. blebs to 1" @ 35° to cba (brecc. vn) - from 285'-286' num. thin calc. minor calc. blebs to 1" @ 35° to cba (brecc. vn) - from 288'-288.5' alcw small Py blebs, wk. calc. gtt. of frags. - from 288.5'-289' alcw small Py blebs, wk. calc. gtt. of frags. - from 289'-290' 2" zone of small spherical silicification blebs - from 290'-290.5' 1/4" Py seam - SULPHIDE CONTENT: 0.25%. vfg diss Py. Py blebs. seams also 2 gc or talc-chl.	301'	100%	80	300'									
310'							griz. carb vn gc vein	290'-315' WK-MOD. ALTERATED, MAFK-UM VOLCANIC ROCK (STRONGLY ALTERED) - pred. a light grayish green, lg. often amorphous appearing strongly altered, weakly bleached matrix (to ultramafic) volcanic - wk. hard, appears dacitic, but, where slightly coarser grained appears to be - tremolite rich, (small radiating books, prominent SNOWFLAKE txt. - weak to mod. biocrustation of talc-chl filled traces & seams, 2 v. weak. - highly variable foliation 30° to 40° to cba - cut by numerous thin calcite & grz. calcite, magnesite, seams - veins & filled fracs. 2 wk preferred 30° to 40° to cba. - occ. zones to 2" of talc-chl rich matrix, predominant rock alt. frags. - patchy, intense silicification in places, 2 hard yellow-green alt. frags. - clay/matrix ratio 2 90%/10% 2 20% frags size 1/2" to 2-2" - occasional 'red min' (sph: HgS) filled fracs - occasional carb present 2 talc-chl in matrix - OVERALL SULPHIDE CONTENT: 0.25%, as vfg diss Py, occ. blebs & thin seams. - from 299'-299.5', 8" mass. talc-chl band 2 lg diss Py to .25% - from 300.5'-301', 2" talc rich zone - from 300.5'-301', frags strongly silicified - from 301.5'-302', irreg 2" calcite seam @ 0° to cba - from 301.5'-302', well dev. snowflake txt in tremolite - from 302'-303', 4" talc rich band 2 num. calcite seams @ 60° to cba - from 307'-308', talc-chl rich zone, sch. @ 0° to cba, 2 alcw 'snowflakes' of tremolite - from 310'-311' brecc. grz-carb vn, 2 frags-blebs to 2" & 30% of rock - from 312.7', 1" gc vein @ 45° to cba - from 316'-317' num. irreg grz-carb (calcite & magnesite) seams, blebs to 1" - from 319'-321' 4" talc rich zone - from 321'-321.7' large irreg grz-carb-magnesite vn, 2 strong talc alt @ 11ms. - from 321.7'-324' v. intense biocrustation, 2 talc, chl, matrix to 30% - frags exhibit PINIFEX type txt. 2 all blades to 1/2" - from 324'-325.3' irreg grz-carb blebs to 2", 30%, 2 strong sil. of surrounding rock - minor pink discoloration of grz in places - from 326.3'-326' v. strongly bleached, 2 matrix to 40%, frags 2 spinifer type txt. num thin vfg diss to seams, alcw Py blebs, 2 sulph. to 1% - from 326'-326.5' irreg talc-calcite ser. rich seam 2 pink chem? discoloration - from 327.6'-328.5' irreg grz vn 2 calcite & yellow ser rich seams, strong pink discoloration along sev. fracs (hem), some minor red min. (HgS?) filled fracs. - intensely blecc. from 329.5'-330 - v. soft, soft from 326'-335, 2 snowflake to spinifer type txt's, num hem stained calc. seams - from 333' alcw small Cpy blebs - from 338.5'-340' 2" irreg grz-carb vn @ 0° to cba, minor hem. staining, alcw seams of dk gray calc. (magnesite) - from 343'-345' med. bleached coarse carb (white calcite, gray magnesite) vn to 2" @ 30° to cba, many diss Cpy - rock v. wily brecc. from 335'-345' v. soft.	315'	100%		310' 31'	100%								
320'							gc blebs talc rich							0.25%		100%			321' 32'	100%	
330'							gc blebs shung breccia grz-carb vn intense breccia							0.25%		100%			327' 330'	100%	
340'							gray carb seams calcite-magnesite vn.									100%			338' 345'	100%	
350'							spherical silicification gla blebs wk. tal @ 40° cba grz-carb-magnesite vn.									100%			347' 352'	100%	
360'							chl. ser alt frags in chl talc matrix spherical sil. blebs v. strong sil. of frags									100%			356'	100%	

HOLE NO. I
 CASING COLLAR ELEV.: 3' above ground GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: - 55° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: FEB. 24. 82
 DATE FINISHED: MARCH 8. 83
 TOTAL DEPTH: 1495'

PAGE NO: 4 OF 22
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 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	SILICIFICATION	CARBONATE												
36'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			355'	100%	8Q	361'	100%	
37'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			365'	100%				
38'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			371'	100%				
39'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			380'	100%				
40'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			385'	100%				
41'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			390'	100%				
42'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			400'	100%				
43'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			403'	100%				
44'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			413'	100%				
45'								light to dk green, ser. to chl to sil. mat. un vol. brecc. by talc-chl seams.			423'	100%				

345'-360' MOD. BRECCIATED, ALTERED, MAF-UM VOLCANIC ROCK
 v. altered, brecciated matrix to ultramafic rock, comprised of light to dark green, often chl. trans. serp? altered frags set in a light green chl-talc rich breccia matrix. numerous talc-chl-carb. frags. also present (appears autobrecciated in places) patchy, intense silicification in places. numerous thin calcite veins, blebs, filled fractures throughout rock. v. strongly brecc. in places. weak fld. - pref. frac. frag. or. @ 40° to cba, although highly variable from 346.2-346.6' irreg. brecc. frags vn, 2 blebs, frags to 3", minor ass carb. minor blood red min. frac fill. Strong sil. of surrounding rock? spherical yellow-green sil. blebs from 349'-350' num. thin rd. brown sph? filled frags. from 350'-350.6' irreg. brecc. frags calc-mgn. vn & tr. diss py, cpy, strong talc alt. @ rims. from 356'-359', patchy sil. 2 num. spherical sil. blebs to 1/8" from 359'-360.5' v. strong sil. of frags, local well dev. tal. @ 60° to cba. 2 num. gtz-calc. magnesite seams, br. py, red min. mod. sil. from 362'-368' from 367.5'-368' v. talc-carb rich zone. OVERALL SULPH. CONTENT: trace, fg diss py, few specs cpy, sph.

368'-372' WILLY BRECCIATED DACITE
 vlg. sph. light green, rel. hard, massive dacite (silicified andesite?) v. willy brecc. by num. randomly oriented chl, gtz & calcite seams & filled frags. 20" frag size 1/4"

372'-401.5' STRONGLY BRECCIATED, ALT. (SIL., TALL-CHI-SER) MAF-UM VOLC.
 pred v. irreg frags. sets of light green, soft, chl-ser-feld altered & yellowish green, hard silicified matrix (to ultramafic) rock set in a dark green chl-talc rich breccia matrix - autobrecciated - frag-matrix ratio @ 70:30, but highly variable. numerous thin gtz, calcite & gtz-calc vns-seams (frac fill) cut rock @ rnd or. numerous bands of v. talcose rock patchy intense silicification in places & sil of frags & zones to 6" of total sil - often as spherical blebs - characterized by amorphous yellow green appearance. v. hard highly irreg or., strong schistosity in places, strong slip-sensities along ser. frags. from 372'-374' num. frags filled 2 red min. sub met., strong carb. ass. (sph. HgS) @ 375'-376' calcite vein @ 25° to cba, py blebs @ rims to 1/4" from 375'-376.5' intense sil. of rock, yellow-green, hard, amorph. app. 2 tr. fg diss py, few thin py stringers. 376.5'-379', intensely sil. 2 spherical blebs to 1/2" (all frags?) & bands to 6", tr. fg diss py from 379.5'-380', intense sil. from 381'-383', light green ser. rich? all frags brecc. by hard, gray magnesite seams. from 383'-384', num. calc. blebs to 1", strong irreg sch. diss py 1/2" 1% from 385.5'-386' 6" gtz-calcite vn @ 30° to cba, 2 a few brecc. frags of talc-chl all mat. volc. calcite v. sh. sch. from 386'-389', num. gtz-calc blebs & seams in v. soft, talc-chl rich rock @ 389', 2" gc vein @ 30° to cba @ 389.5', 1" intensely sil. zone @ 390.5', 3" calcite vn 2 a few gtz seams, @ 40° to cba @ 392', 1" calc vn @ 30° to cba. from 392'-394', strongly silicified. @ 395' 1/2" calc vn. @ 80° to cba from 397'-399', 60% gtz-carb (50 gtz, 30 calcite), irreg vn & brecc frags mat. v. from 399'-400.5', v. talc rich from 400.5'-401.5', gc vns & blebs 60% of rock, 2 strong talc-chl all of host rk. OVERALL SULPH. CONT: v. vlg diss py, a few seams & blebs ass 2 gtz-carb.

HOLE NO. 1

PROJECT: JIM'S LAKE

PAGE NO: 5 OF 22

CASING COLLAR ELEV.: 3' above ground GROUND ELEV.:

DATE STARTED: FEB 24.83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MAR. 8.83

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 0°

TOTAL DEPTH: 1495'

LOGGED BY: D. M. IVOR

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	SILICIFICATION	CARBONATE																		
420'	PATCHY	STRONG	NIL	NIL	X	Py	<p>v. sch. 2 num gc vns @ 40° cba</p> <p>appears dacitic, num. gc seams.</p> <p>gc vein</p> <p><u>INT-MAF VOLC.</u></p> <p>401.5'-406' <u>QUARTZ-CARBONATE 'VEIN'</u></p> <p>from 401.5'-404.5' massive gtz-calcite. ± 40% milky gtz as brands & blobs in v. frac. sch calcite (60%)</p> <p>from 404.5'-406' gtz-calc seams & blobs to 10% of rock. ± 40% lg brecc. frags of soft chl. mat volc host rk. vns.</p> <p>406'-432' <u>INT-MAF VOLC. (ANDESITE-BASALT)</u></p> <p>pred. light green, relatively soft, altered, v. aph. int. maf volc. (andesite to basalt)</p> <p>massive to v. wily sch. in places. @ av or 40° to cba</p> <p>pred. alt. is sericite</p> <p>v. intensely frac. (almost a breccia in places) ± chl. calcite, talc frac filling</p> <p>remnant "spinites" type int. in places</p> <p>OVERALL SULPHIDE CONTENT: 0.25% pred as occ. blebs by vns ± num. gtz & calcite seams which cut rk. minor lg diss Py</p> <p>from 406'-410' dk gray, v. soft (may be alt. more maf volc here) - talc, chl. rich, irreg sch @ 30° to cba.</p> <p>from 406.5'-407' 1/2" gc vein @ 0° to cba</p> <p>from 407.5'-409' 1" irreg gtz calc vein @ 0° to cba, brecc. in places, tr. Py</p> <p>@ 410' 6" zone of strong blockiation, strong sch @ 50° to cba, gtz-calc blebs to 1/2" in talc-chl sch, ± minor graphite as slips along sch. planes.</p> <p>@ 411' 1" gc vein @ 50° to cba, ± tr. diss Py</p> <p>@ 411'-412.5' 1/2" gtz vn @ 10° to cba, ± diss cop blebs to 1/8" minor diss Py, sph. along frags.</p> <p>from 411'-412.5' v. light green, sericite rich, intensely microfrac. @ prof. or 50° cba (appears sch.)</p> <p>@ 412.5' 3" shear zone - pred. soft talc-chl. irreg sch, ± frags of ser rich alt. rk, calcite & gtz blebs. Py seams to 1/4"</p> <p>413'-413.5' numerous calcite, magnesite seams to 1/2"</p> <p>414'-415.5' gtz-calc vein, 2 lg brecc. soft, ser. rich alt. int. volc frags to 2"</p> <p>gtz - 60%, calc. 40%, a few small Py blebs @ vein rims</p> <p>from 415.5'-416' intense breccia zone, ± calcite, gray magnesite, gtz blebs & seams to 2" set in pred. talc & chl alt. rk, Py blebs - seams to 1/4", red min (H₂S, sph. calc.?)</p> <p>frac fill</p> <p>from 416'-417' red min in chise as ± carb (maybe a carb) to 0.5% as frac fill.</p> <p>@ 418.5' num 1/4" Py blebs</p> <p>from 420'-422.5' v. sch zone ± gtz-calc seams, vns to 2-3" @ 40° to cba.</p> <p>strong talc-chl alt. of rk, Py seams to 2%</p> <p>from 423'-426' slightly harder, lighter green, appears dacitic (may be sil.) num (every 2-3") gtz-calc. talc sericite to 1/2" @ 40° cba.</p> <p>@ 426' 1/2" gtz-calc. vn @ 40° to cba</p> <p>from 428'-430' wk breccia zone, ± strongly alt. talc-chl. rich matrix & frags (autobrecc.) - num calcite vns to 1" @ 45° to cba, ± thin Py stringers</p> <p>from 430'-432' dacitic appearing, num thin gc seams, 'red min' frac fill</p> <p>from 431.5'-432' v. talc rich, num. carb seams, red min frac fill.</p>	0.25%	423'	100%	8q	420'	100%									
430'	STREAMS	NIL	NIL	NIL	X	Py	<p>autobrecciated, ± str. talc chl alt.</p> <p>v. talc rich</p> <p><u>GRAPHITIC ARE.</u></p> <p>bd variable, av 40° to cba</p> <p>int volc. (full) interbed. 10% calcite seams</p>			433'	100%		432'									
440'	PATCHY	MOD	NIL	NIL	X	Py	<p>autobrecciated</p> <p>intensely brecciated</p> <p><u>WILLY BRECC. DAC-AND.</u></p> <p>intensely brecciated</p> <p>3" chl-graph seam, brecciated rims</p> <p>caliche vn.</p> <p>min. graphitic 'rock' - bd @ 40° cba</p> <p>intensely brecc. chl-graph. sil-ser alt frags.</p> <p>granular ap. luff horizon</p> <p>graphitic interbed</p> <p><u>DACITE & DACITE TUFF</u></p> <p>brecciated.</p> <p>granular ap. luff.</p> <p>carb rich breccia zone</p> <p>talc-chl-ser rich shear?</p> <p>2" graphitic seam</p> <p>stratification holes around frags.</p>			436'	100%											
450'	PATCHY	MOD	NIL	NIL	X	Py	<p>autobrecciated</p> <p>intensely brecciated</p> <p>3" chl-graph seam, brecciated rims</p> <p>caliche vn.</p> <p>min. graphitic 'rock' - bd @ 40° cba</p> <p>intensely brecc. chl-graph. sil-ser alt frags.</p> <p>granular ap. luff horizon</p> <p>graphitic interbed</p> <p><u>DACITE & DACITE TUFF</u></p> <p>brecciated.</p> <p>granular ap. luff.</p> <p>carb rich breccia zone</p> <p>talc-chl-ser rich shear?</p> <p>2" graphitic seam</p> <p>stratification holes around frags.</p>			439'	100%		441'									
460'	FRACTURE	MOD	NIL	NIL	X	Py	<p>autobrecciated</p> <p>intensely brecciated</p> <p>3" chl-graph seam, brecciated rims</p> <p>caliche vn.</p> <p>min. graphitic 'rock' - bd @ 40° cba</p> <p>intensely brecc. chl-graph. sil-ser alt frags.</p> <p>granular ap. luff horizon</p> <p>graphitic interbed</p> <p><u>DACITE & DACITE TUFF</u></p> <p>brecciated.</p> <p>granular ap. luff.</p> <p>carb rich breccia zone</p> <p>talc-chl-ser rich shear?</p> <p>2" graphitic seam</p> <p>stratification holes around frags.</p>			442'	100%		442'									
470'	FILLING	MOD	NIL	NIL	X	Py	<p>autobrecciated</p> <p>intensely brecciated</p> <p>3" chl-graph seam, brecciated rims</p> <p>caliche vn.</p> <p>min. graphitic 'rock' - bd @ 40° cba</p> <p>intensely brecc. chl-graph. sil-ser alt frags.</p> <p>granular ap. luff horizon</p> <p>graphitic interbed</p> <p><u>DACITE & DACITE TUFF</u></p> <p>brecciated.</p> <p>granular ap. luff.</p> <p>carb rich breccia zone</p> <p>talc-chl-ser rich shear?</p> <p>2" graphitic seam</p> <p>stratification holes around frags.</p>			447'	100%		444'									
480'	FILLING	MOD	NIL	NIL	X	Py	<p>autobrecciated</p> <p>intensely brecciated</p> <p>3" chl-graph seam, brecciated rims</p> <p>caliche vn.</p> <p>min. graphitic 'rock' - bd @ 40° cba</p> <p>intensely brecc. chl-graph. sil-ser alt frags.</p> <p>granular ap. luff horizon</p> <p>graphitic interbed</p> <p><u>DACITE & DACITE TUFF</u></p> <p>brecciated.</p> <p>granular ap. luff.</p> <p>carb rich breccia zone</p> <p>talc-chl-ser rich shear?</p> <p>2" graphitic seam</p> <p>stratification holes around frags.</p>			449'	100%		445'	100%	1% Zn							
							<p>446'-447' red min in chise as ± carb (maybe a carb) to 0.5% as frac fill.</p> <p>@ 418.5' num 1/4" Py blebs</p> <p>from 420'-422.5' v. sch zone ± gtz-calc seams, vns to 2-3" @ 40° to cba.</p> <p>strong talc-chl alt. of rk, Py seams to 2%</p> <p>from 423'-426' slightly harder, lighter green, appears dacitic (may be sil.) num (every 2-3") gtz-calc. talc sericite to 1/2" @ 40° cba.</p> <p>@ 426' 1/2" gtz-calc. vn @ 40° to cba</p> <p>from 428'-430' wk breccia zone, ± strongly alt. talc-chl. rich matrix & frags (autobrecc.) - num calcite vns to 1" @ 45° to cba, ± thin Py stringers</p> <p>from 430'-432' dacitic appearing, num thin gc seams, 'red min' frac fill</p> <p>from 431.5'-432' v. talc rich, num. carb seams, red min frac fill.</p> <p>432'-441' <u>MINERALIZED GRAPHITIC ROCK</u></p> <p>pred. in sph. jet black v. wily tal. (bedding - sch) chlorite-graphite rich, v. hard argillaceous rock. (graphitic ± 40-50%) - bd. @ av 40° cba, highly variable</p> <p>v. strongly frag, strong slickensides along frac. surfaces, calc. frac fill</p> <p>appears v. strongly carbonatized (calcite microfrac fill?)</p> <p>few frags' of fairly int volc rock</p> <p>num thin calcite blebs, seams, 11 sub 11 to tal</p> <p>sulphides to 3%, as diss Py blebs, occ seams to 1/4" 11 tal, red min (sph?) frac fill</p> <p>@ 433' 1/4" Py seam</p> <p>from 436'-439' int volc 'bed': v. frac, carb seams to 10%, Py blebs to 1%.</p>	0.25%	456'	100%		449'	100%									
							<p>446'-447' red min in chise as ± carb (maybe a carb) to 0.5% as frac fill.</p> <p>@ 418.5' num 1/4" Py blebs</p> <p>from 420'-422.5' v. sch zone ± gtz-calc seams, vns to 2-3" @ 40° to cba.</p> <p>strong talc-chl alt. of rk, Py seams to 2%</p> <p>from 423'-426' slightly harder, lighter green, appears dacitic (may be sil.) num (every 2-3") gtz-calc. talc sericite to 1/2" @ 40° cba.</p> <p>@ 426' 1/2" gtz-calc. vn @ 40° to cba</p> <p>from 428'-430' wk breccia zone, ± strongly alt. talc-chl. rich matrix & frags (autobrecc.) - num calcite vns to 1" @ 45° to cba, ± thin Py stringers</p> <p>from 430'-432' dacitic appearing, num thin gc seams, 'red min' frac fill</p> <p>from 431.5'-432' v. talc rich, num. carb seams, red min frac fill.</p> <p>432'-441' <u>MINERALIZED GRAPHITIC ROCK</u></p> <p>pred. in sph. jet black v. wily tal. (bedding - sch) chlorite-graphite rich, v. hard argillaceous rock. (graphitic ± 40-50%) - bd. @ av 40° cba, highly variable</p> <p>v. strongly frag, strong slickensides along frac. surfaces, calc. frac fill</p> <p>appears v. strongly carbonatized (calcite microfrac fill?)</p> <p>few frags' of fairly int volc rock</p> <p>num thin calcite blebs, seams, 11 sub 11 to tal</p> <p>sulphides to 3%, as diss Py blebs, occ seams to 1/4" 11 tal, red min (sph?) frac fill</p> <p>@ 433' 1/4" Py seam</p> <p>from 436'-439' int volc 'bed': v. frac, carb seams to 10%, Py blebs to 1%.</p>	5%	463'	100%		451'	100%									
							<p>446'-447' red min in chise as ± carb (maybe a carb) to 0.5% as frac fill.</p> <p>@ 418.5' num 1/4" Py blebs</p> <p>from 420'-422.5' v. sch zone ± gtz-calc seams, vns to 2-3" @ 40° to cba.</p> <p>strong talc-chl alt. of rk, Py seams to 2%</p> <p>from 423'-426' slightly harder, lighter green, appears dacitic (may be sil.) num (every 2-3") gtz-calc. talc sericite to 1/2" @ 40° cba.</p> <p>@ 426' 1/2" gtz-calc. vn @ 40° to cba</p> <p>from 428'-430' wk breccia zone, ± strongly alt. talc-chl. rich matrix & frags (autobrecc.) - num calcite vns to 1" @ 45° to cba, ± thin Py stringers</p> <p>from 430'-432' dacitic appearing, num thin gc seams, 'red min' frac fill</p> <p>from 431.5'-432' v. talc rich, num. carb seams, red min frac fill.</p> <p>432'-441' <u>MINERALIZED GRAPHITIC ROCK</u></p> <p>pred. in sph. jet black v. wily tal. (bedding - sch) chlorite-graphite rich, v. hard argillaceous rock. (graphitic ± 40-50%) - bd. @ av 40° cba, highly variable</p> <p>v. strongly frag, strong slickensides along frac. surfaces, calc. frac fill</p> <p>appears v. strongly carbonatized (calcite microfrac fill?)</p> <p>few frags' of fairly int volc rock</p> <p>num thin calcite blebs, seams, 11 sub 11 to tal</p> <p>sulphides to 3%, as diss Py blebs, occ seams to 1/4" 11 tal, red min (sph?) frac fill</p> <p>@ 433' 1/4" Py seam</p> <p>from 436'-439' int volc 'bed': v. frac, carb seams to 10%, Py blebs to 1%.</p>		465'	100%		455'	100%									
							<p>446'-447' red min in chise as ± carb (maybe a carb) to 0.5% as frac fill.</p> <p>@ 418.5' num 1/4" Py blebs</p> <p>from 420'-422.5' v. sch zone ± gtz-calc seams, vns to 2-3" @ 40° to cba.</p> <p>strong talc-chl alt. of rk, Py seams to 2%</p> <p>from 423'-426' slightly harder, lighter green, appears dacitic (may be sil.) num (every 2-3") gtz-calc. talc sericite to 1/2" @ 40° cba.</p> <p>@ 426' 1/2" gtz-calc. vn @ 40° to cba</p> <p>from 428'-430' wk breccia zone, ± strongly alt. talc-chl. rich matrix & frags (autobrecc.) - num calcite vns to 1" @ 45° to cba, ± thin Py stringers</p> <p>from 430'-432' dacitic appearing, num thin gc seams, 'red min' frac fill</p> <p>from 431.5'-432' v. talc rich, num. carb seams, red min frac fill.</p> <p>432'-441' <u>MINERALIZED GRAPHITIC ROCK</u></p> <p>pred. in sph. jet black v. wily tal. (bedding - sch) chlorite-graphite rich, v. hard argillaceous rock. (graphitic ± 40-50%) - bd. @ av 40° cba, highly variable</p> <p>v. strongly frag, strong slickensides along frac. surfaces, calc. frac fill</p> <p>appears v. strongly carbonatized (calcite microfrac fill?)</p> <p>few frags' of fairly int volc rock</p> <p>num thin calcite blebs, seams, 11 sub 11 to tal</p> <p>sulphides to 3%, as diss Py blebs, occ seams to 1/4" 11 tal, red min (sph?) frac fill</p> <p>@ 433' 1/4" Py seam</p> <p>from 436'-439' int volc 'bed': v. frac, carb seams to 10%, Py blebs to 1%.</p>		475'	100%		461'	100%									
							<p>446'-447' red min in chise as ± carb (maybe a carb) to 0.5% as frac fill.</p> <p>@ 418.5' num 1/4" Py blebs</p> <p>from 420'-422.5' v. sch zone ± gtz-calc seams, vns to 2-3" @ 40° to cba.</p> <p>strong talc-chl alt. of rk, Py seams to 2%</p> <p>from 423'-426' slightly harder, lighter green, appears dacitic (may be sil.) num (every 2-3") gtz-calc. talc sericite to 1/2" @ 40° cba.</p> <p>@ 426' 1/2" gtz-calc. vn @ 40° to cba</p> <p>from 428'-430' wk breccia zone, ± strongly alt. talc-chl. rich matrix & frags (autobrecc.) - num calcite vns to 1" @ 45° to cba, ± thin Py stringers</p> <p>from 430'-432' dacitic appearing, num thin gc seams, 'red min' frac fill</p> <p>from 431.5'-432' v. talc rich, num. carb seams, red min frac fill.</p> <p>432'-441' <u>MINERALIZED GRAPHITIC ROCK</u></p> <p>pred. in sph. jet black v. wily tal. (bedding - sch) chlorite-graphite rich, v. hard argillaceous rock. (graphitic ± 40-50%) - bd. @ av 40° cba, highly variable</p> <p>v. strongly frag, strong slickensides along frac. surfaces, calc. frac fill</p> <p>appears v. strongly carbonatized (calcite microfrac fill?)</p> <p>few frags' of fairly int volc rock</p> <p>num thin calcite blebs, seams, 11 sub 11 to tal</p> <p>sulphides to 3%, as diss Py blebs, occ seams to 1/4" 11 tal, red min (sph?) frac fill</p> <p>@ 433' 1/4" Py seam</p> <p>from 436'-439' int volc 'bed': v. frac, carb seams to 10%, Py blebs to 1%.</p>		481'	100%		466'	100%									

HOLE NO. L
 CASING COLLAR ELEV.: 3' above gr. GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: FEB. 24. 83
 DATE FINISHED: MAR. 8. 83
 TOTAL DEPTH: 1495'

PAGE NO: 5A OF 22
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 LOGGED BY: D. McIVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: CONTINUING NOTES FROM PAGE 5.	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP INT.	ESTI-MATED
							<p><u>411'-457' WILLY BRECC. ALT. INTERMEDIATE VAC. (DACITE-ANDESITE)</u></p> <ul style="list-style-type: none"> pred. a light, greenish gray, vlg. aph. int. v. calc. (vac. and) relatively soft. & wk to mod pervasive ser. alt. occ. chl. alt. zones wkly sch. in places. @ 2' cracks 20' or. of 40° to cba. although highly variable wkly brecciated by numerous thin seams & filled fracs of pred. chl. some talk. calcite intensely microfract. & calcite infilling. gives tol. appearance in places & pred. or. of 40° to cba. few more intensely brecc. zones v. hd in places. pos. a patchy strong silicification num fracs & blood red min. (in close ass. & calc) frac fill OVERALL SULPHIDE CONTENT: 0.25%. lg. diss. py. few seams, blebs ass. & carb seams. @ 413'. num. fracs infilled & 'red min.' (pos. sph. 1195, or a strange carb.) from 413'-444'. v. strongly (auto) brecciated. pred. or. on frags @ 60° cba. from 441'-448'. intensely brecc. & dk green. soft alt. frags in talc-chl. matrix. few thin blebs. seams of py. @ 449.5'. 6" intense breccia & black, hd chloritic & wkly carbonaceous matrix to 50% py. & light green. v. ser. carb. alt. (green carb?) frags to 1/2". sch. @ 45° d. 5% py. as blebs to 1/2". num. red min. filled fracs. @ 455'. 6" strong breccia zone. 2-3" chl-graphite seam @ 45° fo cba. num. calcite seams. py. blebs to 1/4" & 2%. strongly carbonated. thin blood red min. (sph?) seams 11 tol. @ 456.5'. 1" calc. vein in chl-talc rich zone. num. py. blebs to 1/8" <p><u>457'-459' MIN. GRAPHITE ROCK</u></p> <ul style="list-style-type: none"> pred. v. hd. black. chl-graph. rich argillaceous rock, & wkly developed bd-sch. @ 45° cba. graph. to 30%. sulphide seams & blebs to 5% 4% to 10% py. 2% to sph. - v. strongly carbonated. abund. disc. reddish orange. soft 'oxidized' app. min. in close ass. & carb. (may be p. carb. or sph. ass. & carb.) few calcite seams & blebs <p><u>458'-498' DACITE & DACITE TUFF (SILICIFIED ANDESITE?)</u></p> <ul style="list-style-type: none"> predominantly a light green, relatively hard, massive to v. slightly fol. in places. dacite. or silicified more maf. vac. (andesite), vlg. aph. distinct 'beds' of v. granular appearing rk. possibly a crystal ash tuff. although no bd. or frags. noted weakly brecciated in places. & chl-talc. occ. gls. calcite seams & infilled fracs brecc. rock intensely frac. (micro & macro) & chl-talc-calc. frac. fill occasional v. soft sericite? alt. zones numerous calcite veins. blebs & seams to 1/4" throughout rk. yellow-green amorph. sil. halos around sev. fracs. minor blood red min. frac. fill from 458'-459'. intensely brecc. & soft. alt. ang. frags in chl-talc matrix. 60% frags. 40% matrix @ 460'. 6" intense breccia zone. & hard. dk greenish black chl. (or minor graphite?) matrix & strongly sil. spr. alt. frags. num. thin irreg. calcite seams & blebs. py. to 2% as blebs. seams to 1/4" from 460-465. appears granular. v. hard. poss. tuff horizon @ 461.5'. 2" calcite; chl rich breccia zone from 461-466.8'. graphitic interbed. - thinly bd. @ 60° to cba. 60% graph. 25% calcite as thin seams to 1/4" bd. py. to 2%. as seams, blebs to 1/4" minor 'red min.' (sph?) from 466.8-468'. wkly brecc. 1" gls. vein @ 467' from 468-472'. v. granular. poss. tuff @ 472'. 2" carb. rich breccia zone. py. blebs. seams to 1/4" @ 474'. 2" talc-chl-ser. rich shear-brecc. zone. few small py. seams/blebs @ 476.3'. 2" hard. black graphitic seam @ 70° to cba. & 2% py. as blebs to 1/4" strong chl ser. alt. @ contacts & py. 								

HOLE NO. 7

PROJECT: JIM'S LAKE

PAGE NO: 7 OF 22

CASING COLLAR ELEV.: 3' above ground GROUND ELEV.:

DATE STARTED: FEB 24. 83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MARCH 8. 83

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 0°

TOTAL DEPTH: 1496'

LOGGED BY: D. McEVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS: NOTE: alteration & brecciation 'holes' around graphitic units, could these be epigenetic features.	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	SILICIFICATION	CARBONATE												
540'								granular crystal ash huff appearance.				100%	8Q			
550'								<u>DACITE TUFF</u> weakly brecc.				100%				
560'								v. soft, strong ser. carb. alt. pred calcite - gtz v. z graph interbed graph. cor. gtz-calc. graph arg.				100%				
570'								mod brecc by thin calc. gtz. chl seams				100%				
580'								v. granular, crystalline appearance <u>DACITE TUFF</u> qtz 'blebs' qtz vein @ 30° cba				100%				
590'								red calc. frac fill				100%				
600'								v. strong ser. alt. num. calc. stringers sch. tal. chl-ser carb. alt. sch. vein & graph seams qtz vein ser. brecc. dacite huff bed				100%				
								slumped graph arg. tal. 30 or 40° cba				100%				
								strongly brecc. <u>DACITE TUFF</u>				100%				

HOLE NO. 1

CASING COLLAR ELEV.: 2' above gr.

GROUND ELEV.:

COORDINATES:

N.

E.

INCLINATION: -55°

BEARING: 0°

PROJECT: TIM'S LAKE

DATE STARTED: FEB. 24.83

DATE FINISHED: MARCH 8.83

TOTAL DEPTH: 1495'

PAGE NO: 7A OF 22

REF. TO CLAIM CORNER:

SCALE: 1"=10'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES FROM PAGE 7	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	SILICIFICATION	CARBONATE												
							<p><u>562'-585' DACTYL (CRYSTAL ASH) TUFF</u></p> <ul style="list-style-type: none"> pred. a lg. light green, v. granular appearing dacite. no distinct banding or frags but may be a crystal ash tuff. massive appearing wkly brecciated in places, by numerous qtz, calcite, occ. chl seams & infilled frags. few irreg qtz & calcite blebs & seams throughout rock. patchy, weak to moderate silicification in places, some thin alteration halos around frags. wk to mod. pervasive sericite alteration strongly frac, @ random orientations. & prod. chl, calcite, minor talc, sulphide (Py, Cpy) qtz, red min, frac fill. from 562'-565', moderately brecciated, wkly sil., vlg. v. ser. rich, brecc. by thin calcite, occasional qtz, chl seams. @ 575', 1" qtz, calcite, vn @ 30° to cba. from 578'-580', abundant red min. carb (could this be rhodochrosite), frac fill. from 580'-583.5', v. bright green in places, could be trace disc tuchersite. @ 583', a few thin Py filled frags. from 583.5'-585', strongly ser., v. soft, num. thin calcite stringers, lg diss Py to 0.5% OVERALL SULPHIDE CONTENT: trace, lg diss Py, minor Py-Cpy frac fill & 583 & carb. seams. <p><u>585'-594' MINERALIZED GRAPHIC ARGILLITE</u></p> <ul style="list-style-type: none"> pred. hard, jet black, thinly bedded (often v. irreg. slumped, at or. 40° to cba) graphite. chlorite rich argillaceous rock (graph. 30-40%) v. carbonate rich (calcite), as thin blebs & seams to 1/4" parallel & cross-cutting fol., & frac filling of intense microfrac network (lending wk perv. carb. all appearance to it) few thin irreg ser. talc seams, often rimming carb. seams v. strong shalesides along frags. & graph. chl smears from 585'-585.5', v. sch. @ 20° to cba, talc, chl, ser. carb. alt. int. v. v. & num. thin graphitic seams, Py to 3% as blebs & seams // sch. @ 586.2', 1/2" qtz-carb vn @ 30° to cba. @ 587', 2" qtz (2 min. calc. as frac fill) vn, c. Py, talc, ser. blebs, seams. @ rims. from 588'-588.5', v. strongly sericitized, brecciated dacite seam, & num. graph. carb. Py seams, several Py frags of vlg Py to 1/2" few Py nodules to 1/4" throughout unit from 588.5'-589', sph. to 2% as seams rimming Py blebs OVERALL SULPH. CONTENT: 3% (2.75 Py, 0.25 sph) as seams, blebs to 1/2" & vlg diss min. <p><u>594'-644.5' DACTYL TUFF</u></p> <ul style="list-style-type: none"> pred. light green, lg. granular appearing, massive to v. wkly fol., tuffaceous (crystal ash) dacite. fol. exhibited in places by wk. frac. or. @ 50° to cba, although highly variable. v. strongly fractured, 2 chl, calcite, occasionally qtz, talc fracture filling wk to mod. pervasive sericite alt., appears bright green in places, may be tr. amounts of fuchsite numerous blebs & seams of calcite, magnesite, qtz throughout rock wk patchy silicification in places minor red min, frac fill. from 594'-598', strongly brecciated, & strong sil-ser alt. of frags (amorphous yellow-green appearance), quartz pred chl, some carb, a few graphitic blebs, lg to 3/4" as seams & blebs rimming brecc. frags. (border to overlying graph unit. to start up in up in hole.) @ 604.5', 2" calcite (a few qtz blebs) vn @ 40° to cba, tr. lg diss Cpy, chony luc. ser. alt @ rims. @ 605', a few 1/2" calcite, magnesite vns @ 40° to cba. - overall sulph. content: 2.25% diss Py, Cpy, small blebs & seams // sch. from 604'-606', num. 1/2" calcite vns, a few talc seams from 607'-607.5', wkly brecc. by numerous calcite & magnesite, sericite seams // sch. @ 632', 2" irreg. magnesite, blub @ 633', 1" qtz calcite blebs qtz-carb vns. @ 631', 1/2" calcite seam & minor fuchsite? talc @ rims from 642'-644.5', becomes soft, sch. @ 40° to cba, diss Py blebs to 1/4" & Py frac fill to 2%, num. carb. seams & v. prev. carb alt. 									

HOLE NO. 1

PROJECT: JIM'S LAKE

PAGE NO: 8 OF 22

CASING COLLAR ELEV.: 3' above ground GROUND ELEV.:

DATE STARTED: FEB. 24. 83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MARCH 8. 83

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 0°

TOTAL DEPTH: 1495'

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	SILICIFICATION	CARBONATE																																																																																																
600'	FACIATION	MODERATE	PERVIOUS	ALTERATION	Py	Py	<p><u>44.5' - 653' MINERALIZED GRANITIC ARGILLITE</u></p> <ul style="list-style-type: none"> predominantly v. hard, int black v. graphite rich (≈ 60%) argillaceous rock. abund. chl also present thinly bedded, v. irreg (slumped, soft sed deform. structures), from 44.5-646' @ 40° to 64a (25) from 446-653' @ 70° to 64g (25) numerous calcite seams & blebs both // to & xcut bedding, gc. gtz seams & blebs v. strong slickensides along frac/bed planes, & graph. chl. sulph shears intensely microfrac. & calcite frac fill (gives pervasive carbonatized appearance) SULPHIDES: to 5% (all Py) as thin seams & blebs, // fol. (to 1/2"), diss by basis of vlg Py & occasional Py nodules to 1/2" @ 644.8 1" calc. ser seam @ 40° cba (all. dacite frag). 	0.25%	610'	100%	80a	604'	100%																																																																																							
610'															FACIATION	MODERATE	PERVIOUS	Py	Py	<p><u>653' - 684.5' DACITE (CRYSTAL ASH) TUFF</u></p> <ul style="list-style-type: none"> lg. light grayish green, crystalline int. v. calc. (dacite-andesite) crystal ash tuff? - flow? massive appearing, to v. wily schistose in places v. granular appearance (looks almost 'diabasic' tot'd in places) wk to mod. pervasive sericite alteration numerous thin calcite seams, vns & blebs to 1/4" present throughout unit occasional thin gtz seams & blebs strongly fractured @ ind or. & calc. chl. calcite. minor red min. carb. frac fill wkly auto-brecciated in places, occ. wily brecc. by calcite seams. appears similar to units 594-604'. but coarser, more granular wk patchy silicification in places - occasionally sil. occurs as pervasive thin irreg. seams surrounding small light green ser. tuff crystals - frags i.e. appears 'matrix silicified' v. bright light green in places, may be trace amounts fuchsite (or talc staining) in places appears wily fol. & preferred calcite seam orientation of 40-50° cba OVERALL SULPHIDE CONTENT: tr-0.25% as vlg diss Py, Py frac fill, occ. lg blebs ass. & carb. seams - a few specs, gtz from 653'-654' vlg. soft, v. sericited, & num. hol silicified 'patches', num. irreg calcite seams, Py locally to 2% as frac fill & blebs to 1/2" @ 654.5' 1" gc vein @ 45° to cba @ 658.5' 2" gtz calc. vn @ 50° to cba, pred. calcite & dk gray, gtz blebs to 1/4", a few thin bright light green talc seams, pres. minor fuchsite. @ 670.5' 2" calcite-magnesian talc seam @ 50° to cba, minor Py frac fill. @ 671-671.8' num. irreg talc & calcite seams to 1/2" & a few small gtz blebs, locally carb. ≈ 30% from 676-684.5' becomes mg. tuffaceous crystals set in strongly silicified groundmass. @ 679' 2" irreg calc. talc vn @ 60° cba from 680-681' abund. red min. carb. frac fill from 684-684.5' calcite vein. 	0.25%	620'	100%	630'	100%	640'	100%	642'	100%	644.5'																																																																						
620'																															FACIATION	MODERATE	PERVIOUS	Py	Py	<p><u>684.5' - 702' ALTERED BRECCIATED INT. VOLC TUFF</u></p> <ul style="list-style-type: none"> arbitrary contact & above unit, gradational increase in alt. brecc. from 680'-690' predominantly a light green, v. soft, altered, strongly brecciated in places, dacite to andesite tuff. fg. vlg. strong pervasive sericite alteration numerous irreg calcite, talc, chl. blebs & seams brecciate rock v. strongly frac. & chl. calc. talc, frac fill. - random orientations appears wily sheared, schistose in places, & v. crude orientation of 40-50° cba granular, tuffaceous tot in places occasional 'zones' of strong pervasive carbonatization OVERALL SULPHIDE CONTENT: tr-0.25% as Py blebs ass. & gtz carb. talc seams. @ 686' 3" pred. calcite vn @ 40° to cba, yellow-green epidote colour, strong talc alt. @ rims - a few gtz blebs, talc, chl. ser seams in vein. @ 687.8' 1" light yellowish green calcite vn. @ 20° to cba. from 676'-673' irreg blebs & seams of carbonate (yellowish green discoloured calcite, white, calcite) & gtz to 60% of rock (50% carb. & 10% gtz). - host is v. brecciated, ser. rich 	5%	630'	100%	646'	100%	652'	100%	653'																																																								
630'																																													FACIATION	MODERATE	PERVIOUS	Py	Py	<p><u>MIN. GRAPH. ARG.</u></p> <ul style="list-style-type: none"> soft, ser. ind. & silicified gtz patches calcite shos DACITE TUFF. 	7%	646'	100%	646'	100%	646'	100%	646'																																										
640'																																																											FACIATION	MODERATE	PERVIOUS	Py	Py	<p><u>MIN. GRAPH. ARG.</u></p> <ul style="list-style-type: none"> soft, ser. ind. & silicified gtz patches calcite shos DACITE TUFF. 	7%	646'	100%	646'	100%	646'	100%	646'																												
650'																																																																									FACIATION	MODERATE	PERVIOUS	Py	Py	<p><u>MIN. GRAPH. ARG.</u></p> <ul style="list-style-type: none"> soft, ser. ind. & silicified gtz patches calcite shos DACITE TUFF. 	7%	646'	100%	646'	100%	646'	100%	646'														
660'																																																																																							FACIATION	MODERATE	PERVIOUS	Py	Py	<p><u>MIN. GRAPH. ARG.</u></p> <ul style="list-style-type: none"> soft, ser. ind. & silicified gtz patches calcite shos DACITE TUFF. 	7%	646'	100%	646'	100%	646'	100%	646'

HOLE NO. J
 CASING COLLAR ELEV.: 3' above ground GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: FEB. 24. 83
 DATE FINISHED: MARCH 8. 83
 TOTAL DEPTH: 1495'

PAGE NO: 10 OF 22
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 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	SILICIFICATION	CARBONATE												
720'	SFA	SIA	NI	SFA				<p>721-738' CONT.</p> <p>occasional zones of wk. pervasive carbonatization (721-723')</p> <p>patchy intense silicification in places.</p> <p>from 723-724' glz (60%) calcite (40%) vein @ 40° to cba z fg diss 'red min'</p> <p>& red min frac fill to 25% (calc in places, may be tr. sph)</p> <p>from 728-729' intense microbrecciation, v. small frags to 1/4" in autobrecc. all ser-talc matrix - a few silicified frags. - abund. red carb frac fill</p> <p>@ 730' 4" calcite vein, z num. talc-ser. blebs, strong pink staining, tr. fg diss Py</p> <p>from 731-733' diss. red carb blebs & frac fill to 0.5% (may be minor sph)</p> <p>from 736.7-737.5' glz-carb vn @ 40° to cba (60 glz, 40 carb) - a few thin chl seams, tr. diss Py</p> <p>increase in talc-ser all 733-738</p> <p>OVERALL SULPH: tr, minor diss Py</p>	5%		8Q	721'	100%			
730'	SFA	SIA	NI	SFA			<p>microbrecciation calc vn</p> <p>red carb frac fill</p> <p>brec by glz calcite talc seams</p> <p>gc vein @ 40° cba</p>				723'	100%		724'	100%	
740'	SFA	NI	NI	25%			<p>SEAM MIN. ARG</p> <p>strongly brecc. - 2" graph seam</p> <p>calcite 'blob'</p> <p>weakly brecciated, strongly carbonatized.</p>	5%			730'	100%		730'	100%	
750'	SFA	NI	NI	25%			<p>738-739.5' GRAPHITIC MINERALIZED ARGILLITE</p> <p>pred. jet black, thinly bedded (v. poorly developed, v. irreg or. av 35° cba, - slumped in places) v. hard, graphite rich (2-60%) argillaceous rock - abund. chl</p> <p>numerous v. thin calcite stringers appear to be calcite rock, calcite to 25%, occasional lg veins & blebs</p> <p>SULPHIDES: 5% as Py blebs, seams 11 bd. to 1/4", occ. Py frac fill.</p> <p>@ 738' 6" glz vn @ 738.5' 1/16" Py seam</p> <p>@ 739' 3" strongly ser-chl alt. host rock 'frag'</p> <p>fractured talc rich contacts, (N.B. no distinct contacts, these graph. units appear to be epigenetic?)</p>				731'	100%		738'	100%	
760'	SFA	NI	NI	25%			<p>739.5-740' SERICITIZED DACITE TUFF</p> <p>predominantly a wk. sph. to lg granular appearing, v. strongly sericitized dacite tuff, light green</p> <p>wkly brecciated in places by thin chl-talc seams, occasionally by calcite seams</p> <p>numerous irreg talc, calcite, occ. glz, blebs & seams to 1/4" throughout rock</p> <p>moderate to strong patchy carbonatization in places</p> <p>strong silicification in places, as pervasive patches & all. halos around fractures</p> <p>strongly frac, random orientations, z chl, talc, calcite red carb frac fill.</p> <p>appears v. weakly schistose in places: @ 741' or av. orientation of 40° to cba</p> <p>overall sulphide content: 0.25% diss Py blebs to 1/16" & occ. Py frac fill.</p> <p>from 739.5-741' strongly brecciated, z large sericitized dacite frags to 2" set in talc-chl matrix (thin seams to 1/4") v. intensely microfrac & calcite frac fill.</p> <p>@ 741' 2" graphitic seam @ 35° to the cba z 5% Py as thin seams 11 tal. blebs.</p> <p>v. strong talc all. halos to 2-3" around zone, mod. brecciated.</p> <p>@ 742' thin Py-chl seam (1/16") @ 35° to cba</p> <p>strongly carbonatized from 740-751'</p> <p>wkly brecc. from 743-750</p> <p>@ 744.6' 3" calc. bleb z num. small glz eyes, tr. diss Py @ rims</p> <p>@ 749.5' 3" gray-white calcite vein z thin talc, sericite seams, diss Py blebs @ rims</p> <p>wkly brecciated from 755-758' z diss Py blebs & Py frac fill to 1"</p> <p>@ 756' 4" graphitic seam (graph to 50%), v. irreg sch-bd (slumped), at 60° cba.</p> <p>@ glz-calcite seams to 1/4" 30%, 5% Py as thin seams 11 tal & diss blebs.</p> <p>from 756-758' v. sch. v. sericite rich, z num. thin graphitic seams, calcite seams, a few glz seams - sch/bd varies 60-90° to cba z Py to 3% at thin seams 11 tal.</p> <p>from 756-790' tal. (bd/sch) much more pronounced, av or. 60° to cba, varies 40-60°</p> <p>@ 760.5' 2" calcite seam @ 60° to cba (white to epidote colour) & a few glz blebs</p> <p>from 758-769' strong pervasive carbonatization (almost ser-carb sch. in places)</p> <p>from 764-769' red carb, frac fill to 0.5%</p> <p>from 767' occasional patches of strong silicification</p> <p>from 777-779' wk breccia zone, z num. talc blebs & seams</p> <p>from 782-790' wkly brecc., z num. talc, calcite seams to 1/2"</p> <p>N.B. UNIT A CONSISTANT DACITE, z VARYING TYPES-INTENSITIES ALTERATION.</p>	0.25%			743'	100%		739.5'	100%	
770'	SFA	NI	NI	25%			<p>4" graph seam</p> <p>thin graph seams</p> <p>bd/sch @ 60° cba</p> <p>strong perv. carb alt.</p> <p>silicified patches</p>				749'	100%		749.5'	100%	
780'	SFA	NI	NI	25%			<p>breccia zone</p> <p>numerous talc seams</p>				753'	100%		756'	100%	
											?	100%		758'	100%	
												100%		769'	100%	
												100%		769'	100%	

VE 3.0m GROUND ELEV. 3000
 N. E.
 INCLINATION 12° BEARING: 0°

PROJECT: JIM'S LANE
 DATE STARTED: Feb. 24-83
 DATE FINISHED: 2/28/83
 TOTAL DEPTH: 1008'

PAGE NO: 12 OF 17
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 LOGGED BY: D. MEYER

LITHOLOGY	FRACTURES	MINERAL GEOLOGY	COMMENTS	AVE CORE RECY / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% RECY	EST. MATED
			<p>843' - 843' <u>DACITE ANDRESITE</u> v. light, bright green, v. sharply crystallized, massive appearing, vfg. aphan. dacitic. Crystalline texture & remnant snowflake to spinifex type texture present throughout. v. sericitized, radiating zonal pseudomorphs to 1/4" - mag to v. alt. UM? numerous thin, tabular calcite, occasional qtz blebs and stringers throughout. w/ky siliceous rock in places. slightly fine @ random orientations, z. tab. calcite, qtz, chl. frac. fill. - alt. small, w/ky silicified patches. - tr. vfg. dist. by</p>			843'	100%	843'	100%		
			<p>842' - 846' <u>GRANITIC, BRECCIATED, INT. VOLC. TUFF</u> light green, sericite-talc altered int. volc. tuff frags brecciated by numerous seams of soft graphite occasional graphite seams to 1" E num. calcite, talc seams. w/ky preferred fragment orientation - sch. @ 50° to cba. top (E to Cpy) to 1/2" as diss. blebs to 1/8" - above, thin qtz-calcite veins, blebs (calcite & qtz. to 1/2" of rock) quartz to 10-25% of rock. v. strong stickensides along faces, sch. planes.</p>			844'	100%	844'	100%		
			<p>846' - 850' <u>INTERMEDIATE VOLCANIC TUFF (DACITE TO ANDESITE)</u> red to tan, v. granular, crystalline appearing light green dacite to andesite tuff. (crystal size 1/4" - 1/2") massive appearing, relatively hard. w/ky to moderate pervasive sericite alteration moderate to strong fractured @ random orientations. z. tab. chl. calcite, minor tab. calc. fragment filling. v. weakly subhedral in places. numerous grey, seams & blebs to 1/2" of calcite, talc, occasionally qtz. often occur with no distinct contacts, 'diffuse' - to 20% of rock in places. w/ky silicified in places, z. thin 'seams', bands of silicified, v. hard yellow-green amorphous appearing rock. occasional v. soft patches of strong chl-ser. alt. z. w/ky pervasive, columnarization. SERICITE CONTENT: to minor to diss. by occasional small blebs, z. quartz, talc, seams, veins, w/ky blebs Cpy thin 847' - 847.5' w/ky fine-gr. by thin chl. talc, clay graphite seams 'fingers' to 1/2" to 1/4" by Cpy blebs in 1/2"</p>			845'	100%	845'	100%		
			<p>847' - 848' 1" qtz to 2 calcite ms. @ 50° to cba. top, numerous w/ky calcite, qtz, blebs to 1", rock is w/ky with white m. @ 45° to cba, slightly talc ser. alt. @ times. locally schistose @ 45° to cba, strong chl-ser. alt. numerous calcite seams & blebs to 10% of rock. 1" qtz veins @ 50° to cba. soft, chip-ser. with red zone, z. clay 1/2" by blebs. 1" qtz-calcite seams @ 30° to cba. z. num. thin qtz stringers around</p>			846'	100%	846'	100%		
			<p>848' - 849' numerous calcite, talc seams & blebs to 25% of rock</p>			847'	100%	847'	100%		
			<p><u>GENERALIZED, GRANULAR, ANDRESITE</u> light green, granular, crystalline appearing, w/ky to moderate pervasive sericite alteration moderate to strong fractured @ random orientations. z. tab. chl. calcite, minor tab. calc. fragment filling. v. weakly subhedral in places. numerous grey, seams & blebs to 1/2" of calcite, talc, occasionally qtz. often occur with no distinct contacts, 'diffuse' - to 20% of rock in places. w/ky silicified in places, z. thin 'seams', bands of silicified, v. hard yellow-green amorphous appearing rock. occasional v. soft patches of strong chl-ser. alt. z. w/ky pervasive, columnarization. SERICITE CONTENT: to minor to diss. by occasional small blebs, z. quartz, talc, seams, veins, w/ky blebs Cpy thin 847' - 847.5' w/ky fine-gr. by thin chl. talc, clay graphite seams 'fingers' to 1/2" to 1/4" by Cpy blebs in 1/2"</p>			848'	100%	848'	100%		
			<p>849' - 850' numerous calcite, talc seams & blebs to 25% of rock</p>			849'	100%	849'	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.	ESTI-MATED
	CHLORITE	SERICITE	SILICIFICATION	CARBONATE												
900'																
910'	MINERAL	MINERAL	MINERAL	MINERAL												
920'	MINERAL	MINERAL	MINERAL	MINERAL												
930'	MINERAL	MINERAL	MINERAL	MINERAL												
940'	MINERAL	MINERAL	MINERAL	MINERAL												
950'	MINERAL	MINERAL	MINERAL	MINERAL												
960'	MINERAL	MINERAL	MINERAL	MINERAL												

880-893' cont.
 @ 883.3: 1/2" red carb. blob (may be minor ass. diss. sph)
 @ 884.5: a few 1/2" blood red carb. blebs & abund. frac fill min. (mass & R₁). may be minor ass. diss. sph.
 from 885-886: bd. becomes well developed. @ 35° to cba. (av or.)
 from 886-889: v. slumped, talpined, bd. ranging 0°-90° to cba
 from 887-888: thin 1/2" calcite & lighter green, talc-ser rich seams @ 0° to cba
 from 889-889.8: talc-chl-ger. alt. int. v. talc fill seams, massive, v. soft, w/ky brecciated by thin graphitic-carbonate seams. 1% diss. R₁ blebs to 1/16"
 from 890-892: num irreg. thin qtz-calcite seams xcut bd.
 @ 892: 1" calcite blob rimmed by fuchsite?
 from 892-893: mass. v. talc-chl alt. "host rock" alt. rim, w/ky brecc. by thin graph. chl seams.

893: 960' DACTIC APPEARING. ALT. MAF-UM? VOLC. ROCK.
 predominantly a vlg light green, massive, dactitic appearing rock, but with poor to well developed remnant snowflake to spinitex type textures throughout unit.
 (small light green, radiating acicular crystals to elongate "books" to 1/4" - may be tremolite rid.)
 - moderate to strong pervasive sericite alteration, relatively soft.
 - weakly auto-brecciated in places.
 - v. strongly fractured @ random orientations, & calcite, chl, occ. talc frac fill.
 - numerous thin, randomly or. qtz-calcite veins to 1/4" throughout rock
 - occasional v. soft, grayish green patches of wk. carbonatization
 - v. w/ky brecc. in places by talc, chl, calcite seams
 - minor patchy wt. silicification in places.
 - minor red carb. green carb. fracture filling
 from 897-895: strong perv. talc-chl alt. (alt. help from overlying graph. unit) & a few thin graphitic seams, num. irreg. qtz-calcite seams.
 from 895-897: light gray, strong pervasive carbonatization.
 @ 898: 1/2" calcite vein @ 60° to cba & num. small qtz eye blebs, a few v. thin talc, chl, ser seams
 @ 903.7: 1/2" light green carb. (calcite & minor ser.) vn @ 20° to cba, wk. carbonatization around vn
 from 904-905: a few graphitic "flebs"
 from 910-915: rock moderately brecciated by dk. green talc-chl rich seams (all auto-brecc) & frags to 1-2", frag-matrix ratio 90:10, v. coarse spinitex type, int. to 1/2" in frags, minor diss. R₁, Cpy, Gpy frac fill & red carb. frac fill.
 @ 916: numerous talc-calcite "flebs" to 1/4".
 @ 917.5: 2" qtz-calc vn @ 50° to cba.
 from 920-948: remnant spinitex type talc v. coarse, & books to 1/2".
 from 933-934: 2" qtz-calcite vn @ 0° cba, pred. calc. & spherical qtz blebs, strong ser. talc alt @ rims, & cba, v. soft fuchsite?
 w/ky auto-brecciated from 940: from 940-941: abund. red carb. frac fill.
 from 941.5-944: v. soft, talc rich shear zone: num. irreg. calcite, chl seams, tr. Cpy
 @ 942.5: 1/2" calc. vein @ 70° cba. @ 942.6: 1/2" calc. vn @ 60° to cba
 @ 943: 1/2" calc vn @ 50° cba. @ 943.6: 1/2" calc vn @ 30° to cba.
 @ 943.6: 1/2" calc, min. qtz vn @ 55° cba.
 from 945-947: qtz-carb vn, pred. milk white qtz & num. fibrous appearing, hard, large carb? seams, a few calcite blebs, bands of filled frags. contains a few v. talc-chl alt. brecc. frags "host rock".
 from 948-949: num qtz & large carb? blebs, seams
 OVERALL SULPHIDE CONTENT: trace, just a few Cpy, R₁ specs noted through entire unit.

960-962' TALC-CHLORITE-CARBONATE 'BRECCIA'
 strongly brecciated altered int-mat v. talc - composed of strongly silicified frags to 2" of and, set in a sheared, sch. talc-chl carb matrix (60% matrix, 40% frags). sch. w/ frag or. @ 45° cba. strong silicification along frac, each phase, a few qtz blebs, seams, tr. Cpy as a few small diss. blebs.

DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
905'	100%	8q	905'		
915'	100%		910'	100%	
915'	100%		916'	100%	
925'	100%		925'		
935'	100%		930'	100%	
935'	100%		940'		
945'	100%		945'		
945'	100%		947'	100%	
955'	100%		955'		
965'	100%		960'	100%	

HOLE NO. 2
 CASING COLLAR ELEV.: 3' above ground GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: -56° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: FEB. 24. 83
 DATE FINISHED: MARCH 8. 83
 TOTAL DEPTH: 1495'

PAGE NO: 16 OF 22
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 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	SILICIFICATION	CARBONATE												
1080'	F A F	A L	S A S	N X				silica, gls seams to fuchsite rimmed gls vn. gc van								
1090'	P E A K T A C H Y	N	O C C.					glc 'blebs' gc 'bleb' calcite seams		0.25%	1082'	100%	8Q	1080'	100%	
1100'	N E A R A L T E R A T I O N		P E R V A L T					locally v. sd. v. ser. graph seam w/ky bree. gc blebs to 50% rk gc vn & talc 'blebs' gc vn			1092'	100%		1095'	100%	
1110'	A L T E R A T I O N		P E R V A L T					locally dk green. chl rich, and. gc vining carb vn. glc vn		0.25%	1102'	100%		1097.5'	100%	
1120'	E A L T E R A T I O N		P E R V A L T					granular, crystalline appearance pkles of wk carbonatization gc vn.			1112'	100%		1103'	100%	
1130'	F R A C T I O N		P E R V A L T					becomes w/ky bree. by chl-calcite seams.		0.5%	1122'	100%		1105'	100%	
1420'											1132'	100%		1107'	100%	
											1142'	100%		1113'	100%	

1085'-1088' MINERALIZED, GRAPHITIC 'ARGILLITE' & DAC-AND TUFF INTERBEDS.
 pred. a v. hd. black, graphitic (50%) argillaceous rock, & hd. exhibited by numerous thin (1/16") gls (silica) & calcite seams to 25% of rock - pred. or. 20-30° to cba, but v. irreg. in places (slumped, folded), ranging from 0°-90° to cba.
 thin gls & calcite seams appear to brecciate graph. in places.
 v. strong slickensides along bd's, frac. surfaces, & smears of graph. acc. by chl.
 a few thin sericite-calcite blebs & seams (may be all frags. of host rk.)
 from 1086'-1087': light green, fq. sericitized dacite tuff interbed. contacts @ 40° to cba.
 from 1070'-1072': light green, sericitized, w/ky sil. dacite tuff interbed, & num. gls-carb seams, diss. py to 0.5%.
 @ 1077': 6" dac. tuff 'frag.' seam. @ 0° to cba.
 @ 1079.5': 6" dac. tuff seam @ 0° to cba.
 from 1080'-1082': irreg thin gls seams & shinglers to 40% of rock.
 @ 1082.5': 14" gls vn rimmed by bright green fuchsite?
 overall sulphide content: 3% pred. py, tr. cpy - varies from zones of 5% to trace.
 py as thin seams, blebs 1/8" & 1/4" & gls (silica), calcite seams, some minor fq. diss. min., occasional rust like fill min.
 @ 1088.2': 1/2" py band @ 0° cba. @ 1082.7': 1/4" cpy bleb.

1083'-1115' DACITE (TO ANDESITE) TUFF
 pred. fq. granular appearing massive to v. w/ky schistose dacite tuff. (no apparent bedding, but granular, crystalline appearance suggest tuffaceous (vulcan ash?) origin)
 relatively hard, chl rich where present @ 20 or. of 50° to the cba.
 w/ky to mod. pervasive sericite alteration, occasional patches of chl alt. (appearing more andesitic)
 moderate to strongly fractured @ random orientations, & pred. chl, calcite, minor talc, py, & green carb? (may be v.ky talc & calcite) frac. fill.
 occasional 'soft' patches of intense chl-ser alt.
 v. w/ky brecciated in places by thin talc-chl seams, appears w/ky aptobrecciated in places.
 a few patches of wk. pervasive carbonatization
 overall sulphide content: 0.25% pred. vfg diss. py, trace cpy, minor py-cpy frac. fill, & occasional larger blebs, & gc or talc-chl zones.
 @ 1083.5': 1" gls & minor calcite vn @ 80° to the cba.
 @ 1086.5': 4" gls-carb. vn @ 40° to the cba, pred. gls & minor calcite & hd. base fibrous appearing carb? magnesite, minor red carb frac. fill.
 @ 1088.5': a few irreg gls? (hard, yellow min) blebs & minor calcite to 2" (may be sil. halo around frag.)
 @ 1089.4', 1100.2' gls-calcite 'bleb' & a few talc seams (frac. fill).
 @ 1091.5': a few 1/4" calcite vns @ 55° to cba, & a few small gls eyes; chl-talc @ rims.
 from 1096.5'-1097.5': becomes vfg-aph. v. strongly sericitized, schistose @ 45° to cba & w/ky brecciated by thin chl-graph seams 1/8" & a few 1/2" gc veins & minor talc blebs to 1/8" fr. cpy. @ 1097.0': 1" graph. seam & a few gls-calcite blebs.
 from 1097.5'-1098.5': milky gls & calcite blebs to 2" to 50% of rock
 from 1099-1100': gc v. in, large gls blebs to 2" rimmed by calcite, minor hard base carb?, numerous talc blebs to 1", fr. by diss. cpy.
 from 1101'-1102': gls-carb vn, pred. calcite & a few gls, hard yellow carb, talc blebs to 1", & a few strongly ser-chl alt. frags. of host rock, tr. diss. py-cpy (from 1098-1103: numerous smaller gc veins & blebs also present, variable orientations)
 from 1102'-1103': dk. green, chl. rich, more andesitic appearing.
 from 1105'-1106.7': predominantly gls-carbonate veining, large veins from 1105'-1106.8' & 1106'-1106.6' contacts @ 50° to cba, both vns pred. gls & calc. seams, minor hard base carb?, a few thin ser. chl. talc seams, abundant red carb frac. fill.
 @ 1109': 3" hd. base carb? & minor calcite vn. @ 45° to cba.
 @ 1110.3': 1" gls & hd. base fibrous appearing carb? (grows to vn orientation sim. to scip) vn @ 40° to the cba.
 @ 1113': 1/2" calcite vn @ 45° to cba, minor red carb frac. fill, a few thin talc-ser shinglers.

CONT.

HOLE NO. 1
 CASING COLLAR ELEV.: 3' above ground GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: FEB. 24. 83
 DATE FINISHED: MARCH. 8. 83
 TOTAL DEPTH: 1495'

PAGE NO: 18 OF 22
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 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	SILICIFICATION	CARBONATE												
1200'	US	US	N	US				<p><u>1182.5' - 1205' DACITE TO ANDESITE TUFF</u> pred. vfg to lg granular appearing, light green, soft, strongly sericitized dacite (to andesite appearing in places) tuff. strongly fractured @ random orientations. ± calcite, chlorite, talc frac. fill. appedie massive (no distinct bedding) by weakly schistose in places. @ 45° to cba. numerous irregular calcite, talc blebs and seams to 1" present throughout unit. appears wkly autobrecciated in places, v. wkly brecc. by talc-chl-carb seams in places.</p>		T		100%	8Q	1200'	100%	
1210'	FR	FR	FR	FR			<p>thin light green chert bed @ 5°</p> <p><u>MIN GRAPH ARG.</u> graphitic arg. bed 0.5' ca. numerous thin silica-calcite seams to 20%</p>		1%		100%		1210'	100%		
1220'	FR	FR	FR	FR			<p>wkly brecc. by chl. calc. talc seams.</p> <p>patches of wk carbonatization, w/ wk chl patches.</p> <p>calcite 'bleb'</p> <p>granular, crystalline app (alms) obsid. tuff in places)</p> <p>calcite v. n.</p>				100%		1225'	100%		
1230'	FR	FR	FR	FR			<p><u>DAC. AND TUFF</u> silicified patches (frags.)</p> <p>patches mod-str. carb. calcite scambd</p> <p>calc. v. n.</p> <p>qc vein</p>				100%		1230'	100%		
1240'	FR	FR	FR	FR			<p>calc. v. n.</p> <p>talc. calcite blebs to 10% rk</p> <p>calcite 'bleb'</p> <p>calc v. n.</p>				100%		1239'	100%		
1250'	FR	FR	FR	FR			<p>magnesite v. n.</p> <p>talc all. v. n.</p> <p>calc v. n.</p> <p>silicified 'bleb'</p> <p>wkly autobrecciated</p> <p>alk green, chl rich, andesitic app.</p>				100%		1249'	100%		
1260'	FR	FR	FR	FR			<p><u>1205' - 1215' GRAPHITIC ARGILLITE</u> pred. v. ind. of black graphitic rich (30%) argillaceous rock - contains numerous v. thin (< 1/16") silica & occasional calcite seams, v. irreg orientations (slumped?) to 20% of rock - brecciate, graph in places. bed @ highly variable orientations, @ 0°-5° to cba (based on ori. of silica-calcite seams). a few light green, soft, chl-carb alt. dac tuff 'frags', some scuffing calcite seams. from 1205' - 1207.5', thin 1" light green chert band @ 5° cba. ± diss. py. to 25% (chem silica appearance). contacts @ 50° to cba., brecciated. SULPHIDE CONTENT: 1% Py, 4 Cpy, as small thin blebs ass & silica-carb seams minor vfg, diss. v. n. @ 1214.5' 12° Py bleb.</p> <p><u>1215' - 1231' DACITE TO ANDESITE TUFF (CRYSTAL ARG.)</u> pred. a light green, v. granular appearing, crystalline (appears almost disc tuff in places) dacite to andesite crystal ash tuff or flow. - no apparent bed. appears massive to weakly schistose in places, @ an. or. of 45° to the cba. wkly to moderate, pervasive sericite alteration. moderately fractured @ random orientations. ± pred. calcite, chlorite, occasionally talc & red carb. fracture filling. numerous irregular calcite, talc, blebs & seams to 1" & 10% throughout rock. a few ind. or. qtz stringers, qtz-carb vns. appears wkly autobrecciated in places, wkly brecc. by calcite-talc-sar-chl seams in places. occasional short patchy zones of wk. carbonatization. occasional 'patches' to 1" of strong silicification (may be frags)</p>				100%		1259'			

CONT.

HOLE NO. **I**
 CASING COLLAR ELEV.: **3'** above ground GROUND ELEV.:
 COORDINATES: **N. E.**
 INCLINATION: **-55°** BEARING: **0°**

PROJECT: **JIM'S LAKE**
 DATE STARTED: **FEB. 24. 83**
 DATE FINISHED: **MARCH 8. 83**
 TOTAL DEPTH: **1495'**

PAGE NO: **22** OF **22**
 REF. TO CLAIM CORNER:
 SCALE: **1" = 10'**
 LOGGED BY: **D. M. IVOR**

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	SULFIDATION	CARBONATE												
1490'	STRONG	MODERATE	MODERATE	MODERATE	Py		<p>brecciated by chl. tal. graph. slump. folding of bed @ 35° or 90° va.</p> <p><u>CARB. ALT. BSESS. INT. VULC. TUFE</u></p> <p>132'-1453' CARBONATIZED ALTERED BRECCIATED INT. VULC. TUFE</p> <p>N.B. arbitrary contact & overlying unit, as alteration (tal. chl. carb. ser). sch. & brecciation become stronger.</p> <p>predominantly a light to dk green, v. soft, alt. int. volc (andesite) tuff</p> <p>strong sch/ld @ 27° or. of 35° to cba</p> <p>alt. prod. chl. w/ perv. carb. & zones of intense talc, carb. alt.</p> <p>v. strongly frac. @ a wk preferred orientation of 30-35° to cba, & calcite, chl. talc, red carb. frac. filling</p> <p>severely brecciated in places, & sericitized & occ. silicified int. volc tuff frags in talc-chl. carb. matrix, & a few thin graph. seams, preferred or. (frags & brecc. seams) @ 35° cba</p> <p>numerous thin swirling calcite seams & blebs.</p> <p>SULPHIDE CONTENT: trace, Py. v. minor sph, as diss. blebs & carb. seams & strongly brecciated areas.</p> <p>@ 1432', few small (1/32") diss. sph blebs</p> <p>brecciated from 1437'-1442', intensely @ 1442'; & ser. int. volc tuff frags to 2" set in chl. talc (& minor graph) matrix.</p> <p>@ 1442.5', 1/2" gray calcite seam (bed?) @ 35° to cba</p> <p>@ 1442.5', 1/2" calcite vn @ 70° cba</p> <p>from 1442'-1443', slumping, folding, of well dev. tuff bd. @ 27° or. 35° cba</p> <p>1449.5'-1449.5', glz. carb. vn, calcite matrix & spherical glz blebs to 1/2", crude or. of 20° to cba</p> <p>from 1445'-1452', v. brecciated, strong preferred or. of frags (almost a lapilli tuff, appearance) @ 20-30° cba, & ser. chl. alt frags set in a talc-chl. matrix, v. carbonatized, few thin graphitic seams, Py to 0.5% as diss. blebs & thin seams in talc-chl. matrix</p> <p>from 1449.5'-1450', calcite vn. (bed?) @ 35° to cba.</p>			100%	80	1440'	100%			
1450'	STRONG	MODERATE	MODERATE	MODERATE	Py		<p>brecciated, strong preferred or. of 20-30° v. carb. talc-chl. brecc. & matrix, & ser. chl. alt frags. (lapilli tuff app.)</p>		0.5%		100%		1447'	100%		
1460'	STRONG	MODERATE	MODERATE	MODERATE	Py		<p>wkly dev. bd/sch @ 55° cba</p> <p>glz. bleb calcite vn</p> <p><u>DAC. AND TUFE</u></p>			100%			1453'			
1470'	STRONG	MODERATE	MODERATE	MODERATE	Py		<p>calc. talc bleb</p> <p>v. granular, crystalline appearance</p>			100%			1455'			
1480'	STRONG	MODERATE	MODERATE	MODERATE	Py		<p>wkly auto-brecciated.</p>			100%			1465'			
1490'	STRONG	MODERATE	MODERATE	MODERATE	Py		<p>graph. on</p> <p><u>BRECC. GRAPH. CARB. INT. VULC. TUFE</u></p> <p>brecciated dac tuff.</p>		5%		100%		1485'	1487'	100%	
1495'	STRONG	MODERATE	MODERATE	MODERATE	Py		<p><u>CARB. AND TALC TUFE</u></p> <p>ser. carb. frags in chl. carb. matrix, sch/ld @ 45° cba</p>		0.5%		100%		1485'	1490'	100%	
							<p>1487'-1490' BRECCIATED, GRAPHITIC CARBONATIZED INT. VULC. TUFE.</p> <p>from 1487'-1488', prod. thin bd., rd. black, hard graphitic argillite & numerous thin calcite stringers 11 bd. to 10% of rock, a few swirling calcite seams, bd. varies 85°-90° to cba, a few sericite-carbonate alt. frags of int. volc tuff to 2", Py to 5%, tr. sph. as thin seams & blebs 11 bd.</p> <p>from 1488'-1489', light grayish green, v. fq. sph. massive appearing, v. soft, v. strongly carbonatized dac. and tuff, w/ mod. perv. ser. alt., wk. mod. frac & calc. chl. fr. fill minor diss. Py & Py frac fill to 0.5%</p> <p>from 1489'-1490', strongly brecciated, & sericite-carbonate alt. int. volc (tuff) frags to 1/2" angular, elongate @ 55° to cba, set in a hd. black graph. chl. matrix, frag. matrix ratio @ 50:50, Py to 5% as thin seams 11 bd., frac. fill, diss. blebs & Py fragments in matrix (replacement feature)</p>					1495'	1495'			

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

DATE STARTED: MARCH 8, 83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MARCH 16, 83

SCALE: 1" = 10'

INCLINATION: -65° BEARING: 0°

TOTAL DEPTH: 1200'

LOGGED BY: D. McIVOR.

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: - ADDITIONAL NOTES	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	EST. MATED
							<p>194'-223' CONT.</p> <ul style="list-style-type: none"> from 222'-226'; carb. frac fill stained pink to red. @ 222': 1/2" silicified bed. from 225'-226'; silicified andesite tuff bed, num. qtz-calcite seams @ 60° to cba, v. intensely frac, minor diss. Py. from 226'-228'; interbedded, brecciated (or slumped) and tuff (fg. light green, tuffaceous granular appearance) & argillites (both silicified, amorph. appearing gray arg & light green chl-ser. rich arg) - bd. at 25° to cba, although highly variable, num. cross cutting calcite seams, @ 226' 1/4" talc seam. from 228'-229.5'; vfg. aph. light green and. tuff bd, num. calcite stringers, seams to 1/4" from 229.5'-231'; qtz-carbonate breccia, pred. qtz, minor calcite matrix & large, angular (to 1") frags of silicified argillite & dac-and tuff, minor cpy as thin seams remaining frags, minor lg diss. Py. from 231'-233'; thinly bed. interbed gray sil. arg., green, soft chl-ser rich arg. & dac-and tuff, bd @ 40° cba, num. xcut calcite seams, ssd structures. <p>233'-261' ANDESITE TUFF</p> <ul style="list-style-type: none"> pred. a vfg. aph. light green andesitic groundmass, & well developed tuffaceous txt, num. small white (plag?) (= '188') tuff frags, wtkly dev. bd & orientation of frags @ 27° or. of 60° to the cba, (although highly variable). strongly fractured (micro & macro) @ ind. or. & pred. calcite, chlorite, occasional qtz linc. fill (one set of frags 1" bd. fol.) wk pervasive sericite - chlorite alt in places (ser >> chl) few thin calcite-qtz seams xcut fol., appears wtkly auto-brecciated in places v. argillaceous appearing in places, @ 233.8': 4" zone of strong auto-brecciation @ 235': 1/2" qtz vn @ 40° to cba, & a few small brecc. frags of and. tuff to 1/8" @ 235.2': 2" dk gray-black thinly bed (85° cba) siliceous arg. seam, tr. cpy fine fill. @ 236': 1/2" qtz vn @ 45° to the cba @ 236.2': 1" grayish black arg. bed @ 15° to the cba, & ssd structures. from 236.5'-237.5'; argillaceous light green v. sericite rich rock wtkly brecc. by thin, dk arg. seams, mottled appearance, bd. @ 25° to cba, tr. cpy in calc. seams & as fine fill. from 240.5'-241.5'; 1" argillite? zone, pred. a dk green, chl. rich argillaceous, rk, & bd. @ 40° to cba, & brecciated or boudinaged highly silicified 'frags' of arg. - v. intensely microfractured, & qtz, calcite ff & trace cpy (may be altered breccia zone, minor talc in places, very var appearing in places). from 241.5'-248'; qtz-carbonate veining to 50% of rock & bands & blebs to 6" of qtz, calcite & hd. bage dolomite?, num. talc-chl blebs (alt. frags host rock) v. fractured, brecciated appearance. @ 242.5'; 2" siliceous, gray, highly frac., brecc. arg. bed, locally green carb (calc & talc-ser) seams & ff. 252.5'-255'; qtz breccia zone, irreg qtz (& minor calcite as ff, thin seams) blebs & bands to 1/2" & 50-60% of rock brecciate host rock (strongly ser. dac-and tuff) minor Py ff @ 254'; 1" v. thin lg seam in qtz. from 257'-258'; num. calc-chl-talc blebs & seams to 1/4" no pred. or. @ 259.5'; a few 1/2" pred. qtz & minor calcite vns @ 27° 45° cba, num. chl-talc blebs @ rims. @ 260.5'; 1/2" brecciated (ssd) black chl. arg. seam @ 45° cba SULPHIDE CONTENT: trace, pred. cpy, v. minor Py, as ff & thin seams ass. & carb seams. <p>261'-265.5' INTERBEDDED DACITE TO ANDESITE TUFF & BOUND. BRECC. ARGILLITE</p> <ul style="list-style-type: none"> from 261'-263.5'; pred. a light grayish green, vfg. dac-and tuff & lg fragments & zones to 2" of gray, strongly silicified argillite (may be boudinaged arg. interbeds or a breccia), av. bd. or. @ 45° to cba, varies 30°-50° @ 262', 1/2" pred. qtz (& minor ser-talc seams) vn @ 45° to the cba from 263.5'-264'; thinly bed. (highly deformed, ssd, sd ranges 0-90° to the cba) gray-black, v. hd. siliceous argillite, a few 1-2" dac. tuff frags (boud. beds?), a few xcut qtz vns to 1/4" from 264'-265'; pred. vfg. str. ser. light green dac tuff, & a few 1-2" gray siliceous arg. frags. 								

HOLE NO. J

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

COORDINATES: N. E.

INCLINATION: -55° BEARING: 0°

PROJECT: TIM'S LAKE

DATE STARTED: MARCH 8, 83

DATE FINISHED: MARCH 15, 83

TOTAL DEPTH: 1200'

PAGE NO: 3 OF 17

REF. TO CLAIM CORNER:

SCALE: 1" = 10'

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	SILICIFICATION	CARBONATE												
300'	FF	WR	NIL	FF.	/	Pg	DAC TUFF - GRWK.	313-319' CONT.		TR.	301'	100%	8R	296'	100%	
	ALT BDS	NIL	ALT BDS	VNS	/	Pg	glt vn bd INTAD. ARGILLITES calc vn arg intbd anglomeratic/breccia bed	from 316-316.7', dac tuff/grwk bed, vlg light green, hard, wky sericitized dacitic appearing groundmass, ± 80% small frags/clasts of pred white plag; minor glt - most frags slightly elongate // to wky dev. bd. @ 45° to the cba - a few slightly lounded frags (may be Wecke).		TR.				301.8'	100%	
	WEAK	WEAK	WEAK	SEAMS	/	Cpy	brecc. DAC-AND TUFF / GRAYWACKE	from 316.7-317.2', v. hd, v. strongly silicified, intensely fractured (micro-brecciated) arg. or alteration zone - glt-calcite ff - breccia matrix, fr. ass. Cpy		0.25%				310'	100%	
310'	WEAK	WEAK	WEAK	SEAMS	/	Cpy	silicified glt-kepar blebs to 1/8" qc veining	from 317.2-319', thinly bd (1/2") interbed v. hd, gray cherty arg. & light green, sericitized vlg. aph. arg? or dacite? - bd. @ 20° cba, a few minor ssd features, num. rustling calcite filled frags.						313'	100%	-15 Cu
	WEAK	WEAK	WEAK	SEAMS	/	Cpy	DAC TUFF INTBD. ARG & DAC TUFF / GRAYWACKE	319-320' DACITE / DACITE TUFF (VOLCANOCLASTIC GRAYWACKE?) pred a vlg. aph. dacite to dacite tuff, light green, wky sericitized.		TR				319'	100%	
320'	FRAC	FRAC	FRAC	SEAMS	/	Pg	arg grwk arg gray cherty arg - bd 25° glt vn wky auto-brecciated qc arg clast DACITE TUFF / GRAYWACKE	appears massive to v. wky fol. (bd) in places, @ 25° or 45° cba, slightly granular appearing in places. moderate to strongly fractured @ random orientations, ± pred. calc. chl frac fill. numerous glt & calcite blebs & seams to 1/4" throughout rock. @ 219.6', 1/2" glt vn @ 75° to the cba. @ 320', 2" glt vn ± minor calcite @ rims - brecciates host rock, ± angular frags to 1/4" of host rk in glt matrix. @ 320.5', a few thin bond?, offset gray arg beds to 1/8", @ 45° to cba. from 320.5' - 321.5', wky auto-brecciated. @ 322.5', 1/2" qc vein @ 45° to the cba. @ 324.5', a few small gray cherty arg & black arg frags-clasts (a graywacke) @ 325' 1/4" qc vein @ 40° cba		TR				325'	100%	
	FRAC	FRAC	FRAC	SEAMS	/	Cpy	qc veining to 30% rock	from 325.5' - 330', glt. calc. veining to 30% rock, num. irreg yns & blebs to 2-3" w/ pred. or. of 25° cba, pred. white calcite, minor pink calcite, hard white carb & glt - numerous ass. calc-chl seams & blebs @ rims ± fr. Pg - wky brecc rk in places		TR				330'	100%	
330'	FRAC	FRAC	FRAC	SEAMS	/	Pg	GRAYWACKE	OVERALL SULPHIDE CONTENT: trace Cpy, Pg, lg blebs, seams ass. ± qc veining, carb seams & ff.		TR						
	FRAC	FRAC	FRAC	SEAMS	/	Cpy	wk bd @ 46° cba white glt. tips & black arg clasts to 25% qc (calc-dol) vns in grwk wky black cherty arg & grwk bd @ 25-30° grwk	330-339' VOLCANOCLASTIC GRAYWACKE (appears similar to above 'dacite' unit, slightly hd, more siliceous, clast rich) vlg. aph. light green v. wky sericitized, hard, dacitic appearing matrix ± small clast-rk frags to 1/5" of pred white plag; glt, black argillite (av. 1/32") becomes increasingly clast rich to 339' (where 25%) majority of clasts wky elongate // to wky dev. bd @ 45° to the cba. v. strongly frag. (to wanky brecc.) @ ind or. ± glt-chl, minor calc ff. & 0.5% pred. Cpy, fr. Pg ass ± qc-chl frac fill trace dies. (blastic) Pg.		TR				339'	100%	
340'	AFEW	AFEW	AFEW	THIN	/	Cpy	sil. arg grwk cherty arg INTERED. ARG. & GRAYWACKE	239-270' INTERBEDDED ARGILLITES & VOLCANOCLASTIC GRAYWACKE - DAC-AND TUFF from 339'-340', num. 1/4" glt ± minor hard base carb. & kepar seams @ wk pred or. of 25° to the cba in vlg light green graywacke or dacite tuff bed, vns. from 340'-341', thinly bd (av 1/2"-1") interbedded v. hd, black cherty argillite, white to gray amorphous app. silicified arg & graywacke - bd, well dev. @ 25° or. of 25-35° to cba, some ssd features, slumping, minor brecciation in places. graywacke beds comprised of light green, wky ser vlg. aph. matrix & small white (glt, feld) & dk black arg. clasts elongate // to bedding, v. strongly frag. @ ind. orientations ± calcite & fr. Cpy frac fill, minor vlg. diss. Pg wacke beds.		TR	346'			345'	100%	
	ALT	ALT	ALT	SEAMS	/	Cpy	slumped, intbd sil. arg & grwk breccia zone.	from 341'-343.5', graywacke/dac. tuff bd, well dev. @ 25° to cba, light green, hard dacitic appearing groundmass ± small (1/64") white plag? - glt clasts/frags to 10% of rock - wky frac @ ind or. calc-chl ff ± fr. Pg, Cpy @ 343', 1/2" black cherty arg 'bed' or slumped frag.		0.25%	100%		350'	100%		
350'	BEDS	BEDS	BEDS	VNS	/	Cpy	graywacke ± num. Cpy bearing calcite seams sil. arg. bd @ 20°	from 343.5' - 345', thinly bd (1-2") interbedded black argillite, gray v. siliceous arg. & relatively soft light green sericite rich argillite, bd. well developed @ 20° to the cba. - from 345.5' - 346', minor slumping, ssd features, wky frac & calc frac fill ± fr. Cpy		0.25%	100%		355'	100%	-10 Cu	
360'					/					TR	361'			359'		

HOLE NO. 7

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

COORDINATES: N. E.

INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE

DATE STARTED: MARCH 8, 83

DATE FINISHED: MARCH 15, 83

TOTAL DEPTH: 1200'

PAGE NO: 34 OF 17

REF. TO CLAIM CORNER:

SCALE: 1" = 10'

LOGGED BY: D. McIVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI- MATED
							<p>337'-380' CONT.</p> <ul style="list-style-type: none"> from 345'-346', graywacke, well dev. bd. @ 25° to the cba, light green dacitic appearing matrix & v. elongate (11 to 6d - stretched?) clasts to 1/4" of black argillite, gray siliceous arg. & qtz. a few lg slumped frags of gray siliceous arg. trace by in a few thin scuttling calcite seams. from 346'-346.5', thinly bd. @ 30-35° to the cba) gray, v. cherty argillite from 346.5'-352', pred. aph. argillaceous light green gneiss - dac. huff. - wk apparent bd. @ 35° to the cba, pred. frag. clast poor, only a few small white plag. qtz. 'blebs' w/ly frac @ rd. orientations & pred calcite & tr. Cpy frac fill. - a few thin gray siliceous argillite interbeds. from 352'-355', interbd, thinly bd. gray siliceous argillite - green ser. rich arg & clast poor graywacke, v. irreg. bd. strongly deformed, slumped, at 20° or. of 80° to cba, scuttling calcite seams & frac. filling & tr. Cpy. @ 355', 2" breccia zone, angular, black siliceous arg frags to 1/2" in calcite matrix. from 355'-359', pred. graywacke, light green, argillaceous, rel. hard matrix, poorly developed bd. @ 35° to the cba, a few small clasts of pred white plag. qtz. occasionally arg. - a few scuttling to randomly oriented calcite seams & calc. filled frags & Cpy to 0-25% @ 366, 1' 1/4" spherical (elastic?) 1/4" blebs - w/ly autobrecc. from 358-359. from 359'-360', thinly bd. (2" 1/4") interbd. hd. gray to black sil. arg & green ser. rich arg @ 20° to the cba, trace Cpy in a few scuttling calcite seams & filled frags. from 360'-362', aphanitic - argillaceous light green, massive to v. w/ly bd, appearing Sericite rich arg? or volc (dacite) huff. - num qtz-calc filled frags & tr. Cpy from 362'-365', thinly bd. (1/2"-2") interbd. hd. gray to black siliceous arg & green, soft sericite-chl rich arg., av. bd. or. @ 20° to cba although abundant ssd. w/ly frac & calc. chl & tr. Cpy frac fill. - w/ly autobrecc. from 364-365' from 365'-369.5', gneiss or dacite huff. bd, aph. argillaceous light green dacite appearing groundmass - matrix. & v. small, pred. white plag. qtz. & minor dark argillite clasts to 10% of rock, elongate // bedding @ 25° to the cba few Cpy bearing arg. clasts - Cpy to 0-25% as 1/2" ss. & qtz & calcite @ 366, 1' & 367, 1' 1/2" qtz blebs & small Cpy 'blebs' to 1/8". w/ly autobrecciated. softer, w/ly chl from 368-369.5' 369.5'-371', interbd @ 30° to the cba gray to black siliceous arg & soft green arg. v. deformed (ssd). Cpy to 0-1% as frac. fill. ass. & calcite. from 371'-373', light green aphanitic - argillaceous, w/ly dev. bd @ 30° cba, w/ly autobrecciated dacite? or arg - trace Cpy as frac fill. ass. & calcite, a few lg (to 2") slumped black argillite frags. from 373'-374.5', thinly bd., interbd. hd. black to gray siliceous argillite, bd. av. 30° to the cba, but v. irreg. severely 'coll-sepd. deformed' or bracciated. numerous randomly oriented chl-calc filled frags & 1% Cpy from 374.5'-381', graywacke, argillaceous grayish green matrix, w/ly dev. bd. @ 35° to the cba, & thin clast rich vs. clast poor beds - zones. clast rich beds & up to 25% small pred. white qtz-feld. a few black arg clasts, w/ly autobrecciated, strongly frac. @ pred. or. // bd. tr. sph. cpy ass. & calc filled frags @ 376, 1' qtz vn. @ 50° to cba brecciated host rock from 381'-382.5', thinly bd. (1/4") interbd @ 30° to the cba) green chl-ser rich arg & gray-black siliceous arg. @ 381' 1/2" breccia zone & calcite seams brecc. arg. a few thin scuttling calcite seams, vns. 382.5'-385.5', graywacke/huff. - v. w/ly bd. @ 30-35° to the cba, light green argillaceous - aphanitic groundmass - matrix & 5-10% v. small (c. 1/8") white plag? buffaceous appearing frags. w/ly frac. ind or. calc frac fill, a few thin calc. seams, vns. from 385.5'-389', thinly bd, interbd black & green argillites. often brecciated, ssd features, bd. varies 20-50° to cba, av. 35°, numerous thin qtz & calcite seams xcut & in places w/ly brecc. rk. & minor ass. sph. Cpy a few thin green graywacke bds. from 389'-390', v. thinly bd. (c. 1/8") gray siliceous arg. fd. @ 30° to cba, numerous scuttling calcite stringers & filled frags & tr. Cpy frac fill - contact & underlying unit well defined. @ 40° cba. 								

HOLE NO. J

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

COORDINATES: N. E.

INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE

DATE STARTED: MARCH 8.83

DATE FINISHED: MARCH 15.83

TOTAL DEPTH: 1200'

PAGE NO: 4 OF 17

REF. TO CLAIM CORNER:

SCALE: 1" = 10'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE RECY / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% RECY. SAMP. INT.	ESTIMATED
	CHLORITE	SERICITE	SILICIFICATION	CARBONATE												
360'	A	A	A	N				390'-395' SEVERELY BRECCIATED, ALTERED MAFIC? VOLCANIC ROCK					BQ	359'		
	A	A	A	N				rock consists predominantly of small (<1/16") to large (2-3") pred. angular fragments of light green,phanitic v. strongly sericitized to chloritized to talc altered rock frags (originally a maf-volc.?) set in a dark green to black chlorite rich matrix.			100%			365'	100%	
	A	A	A	N				matrix varies from v. sch. fol. @ 25° to the cba. r _g chl-occ talc-calcite rich to hard black argillaceous (chl & minor graph) rock.		0.25%				371'	100%	1 Cu
370'	A	A	A	S				fragments exhibit a strong preferred orientation. ll fol. are usually elongate ll to fol. (strong lapilli full appearance in places)			100%			375'	100%	
	A	A	A	S				rock is mod. to strongly frac. @ random orientations, & calcite, chl & red Fe oxide frac fill in places, in places rebrecciated rock.						380'	100%	
	A	A	A	S				in places sericitized frags v. bright light green, may be trace amounts fuchsite.						385'	100%	
	A	A	A	S				fragment/matrix ratio ≈ 50/50						390'	100%	
	A	A	A	S				aluv fragments are wkly carbonatized.						394'	100%	
	A	A	A	S				OVERALL SULPHIDE CONTENT: trace, Cpy, Py as v. thin seams r _g & calcite frac fill.						395'	100%	
	A	A	A	S				from 394'-395': becomes carbonate rich, & calcite stringers & seams to 20% of breccia matrix, & locally 1% Py, as fr. diss. min. seams in matrix & rims on frags. aluv xerting calcite blebs & v. to 1/2".						396'	100%	
380'	O	O	O	V				395'-424' SEVERELY BRECCIATED, ALTERED GABBRO						398'	100%	
	O	O	O	V				v. strongly brecciated, mag. gabbro appearing rock, composed of approx. 50% plag. in places wkly epidote alt. & 50% mafic mix. pred. alt to chl. minor epidote.						399'	100%	
	O	O	O	V				rock is v. strongly brecciated by bands & seams of dk black chl-occ. graph. rich argillaceous rock, occ. v. carb rich (calcite) in places.						400'	100%	
	O	O	O	V				strong foliation in places, & orientation of breccia seams, frag orientation & sch in frags @ an av. orientation of 50° to the cba. although highly variable throughout unit.						401'	100%	
	O	O	O	V				strongly frac. @ wk. pref. orientation of sub ll fol. @ 45-50° to cba, pred. chl, calcite & minor Fe oxide or carb frac fill.						402'	100%	
	O	O	O	V				numerous calcite blebs & seams to 1/2" throughout rock, wkly rebrecciated rock in places.						403'	100%	
	O	O	O	V				frag size related to degree of brecciation, ranges from 2 1/8" to 6-8".						404'	100%	
	O	O	O	V				average fragment/matrix ratio ≈ 70/30, although highly variable throughout unit.						405'	100%	
	O	O	O	V				SULPHIDE CONTENT: 0.5%, pred Py, fr. sph. Cpy as thin blebs & seams ass. & graph-chl matrix seams & carb seams, minor diss. Py in frags.						406'	100%	
	O	O	O	V				@ 395.5', 2" pred calc & ser. band @ 40° to the cba.						407'	100%	
	O	O	O	V				from 395.5'-396': matrix rich, 2 bands of 2" of pd. black chl. minor graph arg.						408'	100%	
	O	O	O	V				rock brecciating gabbro, locally & Py blebs to 1/4"						409'	100%	
	O	O	O	V				@ 396.6', 1" graph chl arg. seam @ 40° to the cba, & minor Py, Cpy						410'	100%	
	O	O	O	V				from 397'-397.5', 6" graph arg band @ 45° to cba, Py seams & frags fill to 1%.						411'	100%	
	O	O	O	V				from 398'-401', gte carb vein to 30% of rock, (60% gte, 30% calcite), wk. or. @ 45° to cba, 10% chl-ser alt frags host rock fr. diss. Py.						412'	100%	
	O	O	O	V				from 401'-410', becomes v. g. only wkly brecciated v. l/m ratio ≈ 95/5.						413'	100%	
	O	O	O	V				@ 407.5', 1/2" calc vn @ 45° to the cba, minor ass. talc						414'	100%	
	O	O	O	V				@ 409.5', 1/4" qc vein @ 25° to the cba						415'	100%	
	O	O	O	V				@ 412', 3" calcite vn @ 40° to the cba, & minor 'green' carb (talc? ser: & calcite)						416'	100%	
	O	O	O	V				v. strongly brecc. from 410'-424'. frags become mod. rounded, strong or. @ 45° cba						417'	100%	
	O	O	O	V				from 416'-424', becomes increasingly fol. sch (appears 'id') @ 45° to the cba, becomes Py to vlg. v. strong chl-ser alt of frags, only wk. remnant gabbroic frt, numerous gte. gte seams & blebs (may be an alt. coarse maf-volc luff. - arb. contact @ 424', where becomes lighter, more ser. rich).						418'	100%	
	O	O	O	V				NOTE: From 424'-504' unit contacts are somewhat arbitrary & gradational, and are based on subtle changes in what is an extremely brecciated & severely altered rock. Its original lithology is entirely open to question, and the names here-in given are only 'best guesses', followed by a detailed description of just what the rocks are comprised.						419'	100%	
	O	O	O	V				becomes schistose @ 45° cba						420'	100%	

HOLE NO. \checkmark

CASING COLLAR ELEV.: 4' a-g.

COORDINATES:

INCLINATION: -55°

GROUND ELEV.:

N. E.

BEARING: 0°

PROJECT: TIM'S LAKE

DATE STARTED: MARCH 8, 83

DATE FINISHED: MARCH 16, 83

TOTAL DEPTH: 1200'

PAGE NO: 4A OF 17

REF. TO CLAIM CORNER:

SCALE: 1"=10'

LOGGED BY: D. McEVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
							<p>421'-422' - BRECCIATED, ALTERED, MAFIC TO UM VOLC. ROCK.</p> <ul style="list-style-type: none"> rock consists predominantly of large (av. 2-3", to <math>1\frac{1}{2}</math>") angular to sub rounded brecciated fragments of light green, vfg-aph, v. strongly sericitized (to chlorite, talc altered in places) rock. Originally a mafic-um volc? - pred. v. soft, clay silicified, amorphous appearing gray frags. v. strongly brecciated by darker green, hard, pred. chloritic, occ. graphitic, calcite rich argillaceous rock (occasionally soft, & talc) wk to mod. foliation, & preferred breccia matrix seams & frag orientation, & wk sch. in frags, @ an av. orientation of 90° to the cba (although highly variable throughout unit) numerous calcite blebs & seams to 1/2" both 11 to & resulting foliation afew frags v. bright light green, may be trace amounts turquoise & sericite, av. fragment-matrix ratio 2:95:5 strongly fractured, @ wk. prof. or, 11 sub 11 foliation, pred. chl & calcite frag. fill. in places v. strong silicification halos around fractures, & thin silicified 'stringers' forming 'net' thru through rock - in places small, zoned spherical silicification blobs lending 'oolitic' appearance to rock. OVERALL SULPHIDE CONTENT: trace Py & Cpy as small seams & blebs ass. & breccia matrix zones, carb seams, & fracture filling. from 426.5'-428'; Py & tr. Cpy frag fill to 0.5% (ass & calcite), num. small v. bright green talc-ser (+ turquoise?) alt. frags. @ 427.5' 3" zone of thin silicified seams forming net thru through rock. from 429'-430'; v. strange silicification txt. numerous small spherical to elliptical (stretched spheres) blebs of sil., often zoned, & vitrified rims & sericitized cores (may be alt. of remnant 'cumulate' txt.), numerous strongly silicified frags, & net txt'd sil. zones, locally numerous v. bright green talc-sericite (& turquoise?) alt. frags. from 430.5'-431.5'; v. strongly brecciated, numerous zoned, silicified spherical blebs, locally Py to 1% as thin seams 11 to fol. & blebs in matrix to 1/4" @ 431.5'; 1" calcite vein & minor qtz, hard base carb, @ 60° cba @ 432.5'; 2" qtz & minor calcite, hd. base carb, blebs @ 432.7'; 3" zone of v. soft yellowish green spherical alt. blebs (clay mineral?) from 431'-433'; v. intense ser-chl-talc alt of frags, v. soft. <p>433'-441' BRECCIATED, ALTERED, MAFIC TO UM ROCK. (REMNANT 'SNOWFLAKE-SPINIFEX' TXT'S)</p> <ul style="list-style-type: none"> rock consists of large (2-3") to small (<math>1/16</math>" to 1") brecciated fragments of vfg-aph appearing, hard light green (silicified) to soft light green (sericitized) rock, strongly brecciated by thin seams of dk green to black, hard, chlorite rich argillaceous rock (& minor graphite, calcite in places) weak preferred frag & matrix seam orientation @ 40° to the cba (although variable) brecciating matrix seams contain numerous v. small brecc. frags (autobrecc - polystage deformation) fragments contain remnant med-coarse snowflake to spinifex type textures (may be tremolite rich, a flow chill margin) fragment matrix ratio av 95:5, highly variable throughout unit. strongly tac @ rnd or, & pred. calc, chl, minor talc, Py frag fill. OVERALL SULPHIDE CONTENT: tr Py ass. & calcite seams & frac fill, matrix seams, v. minor to disc min. in frags @ 433'-433.5'; v. talc-chl rich bands, & Py locally to 0.5% ass. & num thin calcite seams, as frac. fill, & minor disc min. from 435'-437'; intensely brecciated, frags av. 1/8", flm ratio 90:10, v. strong fol. @ 40° to the cba from 437'-439'; only wply brecc, frags exhibit coarse (1/4-1/2") remnant snowflake & spinifex txt's, v. soft, strongly sericitized. @ 438.7'; 2" qc vein @ 70° to the cba, pred. calcite & a few qtz & hd. base carb blebs. from 439'-441'; qc veining & blebs to 80% of rock, pred. qtz & hd. base carb, minor calcite, a few sericite 'booke-blebs' to 1/2" 								

HOLE NO. 7

PROJECT: FIM'S LAKE

PAGE NO: 6 OF 17

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

DATE STARTED: MARCH 8. 83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MARCH 15. 83

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 0°

TOTAL DEPTH: 1200'

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	SILICIFICATION	CARBONATE												
40'	MATRIX	ALT. FRAGS	AFW ALT. FR.	NUM. SEAMS	X	CPY	gls vn BREC. ALT. MAF. VOLC. ser alt. frags chl-carb matrix (locally)	504-516' BRECCIATED DACITE TO ANDESITE (CRYSTAL ASH TUFF/FLOW) (SIMILAR TO THOSE UNITS IN 204 & called 'ash tuff') - pred. a lg. crystalline, granular appearing dacite to andesite, crystal luff or flow, light green fibrous appearing chl. & minor calcite, along thin talc-sericite seams & tilted frags, appears massive to v. weakly foliated (preferred orientation of breccia matrix seams & frags) @ 45° to the cba. - brecciated by thin, hard, grayish green chlorite-carbonate (calcite) seams, ranging from wk to v. strong brecciation, var mod. z. frag/matrix ratio @ 95% - numerous irregular calcite (occasionally & qtz. talc) seams & blebs to 1/4" throughout unit. - from 504.3' - 506.9', qc vein @ wk preferred orientation of 45° to the cba, pred. gls & hd. bage fibrous appearing chl. & minor calcite, along thin talc-sericite seams & tilted frags, numerous small angular chloritized fragments of brecciated host rock, vns. - rock is strongly frac. @ ind. or. z. chl-carb-talc-qtz & red limonite? frac fill - irreg patches of wk. silicification, amorphous non-illine seams & patches appear to brecciate in places, appears v. obsid. luff in places. - @ 509' - 510' calc. vn @ 35° to the cba, z abundant red lim. hemi frac fill locally. - @ 514' - 515' 2" qtz. calcite - hd. bage cryb, vn @ 35° to the cba - from 514-514.5', 2" qc vn @ 0° to the cba, z a few cpy blebs along rutting fractures - from 514-SIS', rock becomes vfg. light gray, weakly carbonatized - OVERALL SULPHIDE CONTENT: trace, a few cpy blebs, ass. & breccia matrix & qc veining.	0.1%	100%	80	486'	100%	486'	100%	208 Cu
40'	BRECCIA MATRIX	MOD. ALT. FRAGS	AFW ALT. FRAGS	NUM. SEAMS	X	CPY	locally brecciated by gray calcite seams. BREC. ALT. MAF-VOLC. ROCK. "blabs" v. intensely brecciated, frags 1" wk pred. or. @ 40°	516-518' GRAPHITE-CHLORITE 'BRECCIA' - rock consists predominantly of strongly schistose (thinly bed.) soft chl. (sch @ 40° to the cba) & along thin graphitic seams & slips along sch. planes, num. thin calcite seams to sch. contains about small brecciated fragments to 1/4" of completely sericite to carbonate all rock. Py to 3% as disc blebs to 1/4" & frac filling - @ 515-2' 2" calcite bleb rimmed by Py appears epigenetic.	0.5%	100%	496'	100%	496'	100%	.03 Cu .03 Cu	
500'	FR. FILL	WEAK	WEAK	SEAMS	X	CPY	sch. (bd) @ 40° cba. DAC-AND (TUFF) widely brecciated mod. brecciated frags @ 20° cba.	518-519' BRECCIATED SERICITIZED DACITE (OR ALT. MORE MAFIC VOLC.) - pred. vfg. oph. light green massive appearing dacite, relatively soft, v. strongly sericitized - brecciated by numerous thin chl. calcite (occ. z qtz) seams no pred. or. - frags range from 1/4" to 2.3", frag/matrix ratio @ 95/5 - along calcite blebs, seams, & tr. cpy - wkly carbonatized in places - strongly fractured, @ random orientations, z calcite, chl, occ. talc frac fill. - @ 516.8', 1/2" qtz. carbonate (calcite) vn @ 80° to the cba.	TRACE	100%	506'	100%	506'	100%		
510'	BRECCIA MATRIX	WEAK	WEAK	PATENS	X	CPY	gls - hd. bage carb (dol.) vn BREC. DAC-AND. TUFF/FLOW. calc. vn qc vein pervasive carbonatization	519-523' STRONGLY ALTERED, BRECCIATED MAFIC VOLC. ROCK. - rock consists of light green, soft, v. strongly sericitized to chloritized to carbonatized in places, angular to well rounded frags to 1/2" & 40% of rock set in a v. sheared chloritic (z minor graphitic, calcite and talc) matrix. - strong preferred orientation of frags, seams, & sch @ 40° to the cba, varies slightly throughout the unit - strongly fractured, pred. rutting the foliation, z calcite, minor chl, red limonite?, qtz & talc fracture filling - numerous calcite blebs - @ 520', 3" calcite vein @ 40° to the cba, z a few small gls blebs - from 521-522.5', num. graphitic seams z chl. matrix, to 20% of rock - from 522.5-523', qc vn, pred. calcite z a few gls blebs to 2" - OVERALL SULPHIDE CONTENT: 3%, pred. py, tr. cpy, as thin seams ass. z graphitic zones, & disc blebs throughout chloritic breccia matrix. (as opposed to a distinct lithology, may be just a severely alt. zone in dac-and.)	TRACE	100%	516'	100%	516'	100%		
520'	STR. B.M.	STR. N.L.	STR. N.L.	STR. N.L.	X	CPY	GRAPHITE-CHLORITE 'BRECCIA' chl. carb matrix BREC. SER. DACITE ser alt. frags ser. chl - carb all frags ALT. BREC. MAF. VOLC. ROCK chl-graph. calc-talc matrix	523-526' BRECCIATED DACITE TO ANDESITE (CRYSTAL ASH) TUFF. - pred. a med green, lg. granular to crystalline appearing dacite to andesite luff/flow, pred. massive to v. weakly sch. bed. appearing in places @ 40° to cba where present - moderately to strongly brecciated by thin dk gray-green pred. chlorite seams, occ. z minor calcite	TRACE	100%	526'	100%	526'	100%		
530'	BRECCIA MATRIX	ALT. FRAGS	AFW W.K.L.Y. ALT. FRAGS	NUM. SEAMS	X	CPY	gls vn gls - hd bage carb vn gls - hd bage carb. calc vn. qc veining to 90% rk BREC. DAC-AND TUFF matrix locally talc-chl rich qc vein	526-528' BRECCIATED DACITE TO ANDESITE (CRYSTAL ASH) TUFF. - pred. a med green, lg. granular to crystalline appearing dacite to andesite luff/flow, pred. massive to v. weakly sch. bed. appearing in places @ 40° to cba where present - moderately to strongly brecciated by thin dk gray-green pred. chlorite seams, occ. z minor calcite	TRACE	100%	526'	100%	526'	100%		
540'	BRECCIA MATRIX	ALT. FRAGS	AFW W.K.L.Y. ALT. FRAGS	NUM. SEAMS	X	CPY	gls vn granular to illine gls frags	528-530.5' BRECCIATED DACITE TO ANDESITE (CRYSTAL ASH) TUFF. - pred. a med green, lg. granular to crystalline appearing dacite to andesite luff/flow, pred. massive to v. weakly sch. bed. appearing in places @ 40° to cba where present - moderately to strongly brecciated by thin dk gray-green pred. chlorite seams, occ. z minor calcite	TRACE	100%	536'	100%	536'	100%		

HOLE NO. J

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

COORDINATES: N. E.

INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE

DATE STARTED: MARCH 8, 83

DATE FINISHED: MARCH 16, 83

TOTAL DEPTH: 1200'

PAGE NO: 6A OF 17

REF. TO CLAIM CORNER:

SCALE: 1" = 10'

LOGGED BY: D. McIVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES	AVE CORE RECY / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC Y. SAMP. INT.	ESTI- MATED
							<p><u>522'-547.5' CONT.</u></p> <ul style="list-style-type: none"> frags are wkly sericitized, chloritized in places, a few silicified fragments frags pred. angular to sub rounded, av. 1" (range <math>\frac{1}{16}</math> to <math>2\frac{3}{4}</math>), overall frag/matrix ratio is 90/10 strongly fractured @ random orientations, & pred. chl. calcite, minor talc, qtz frac. fill. numerous chl. carb. occ. talc, qtz blebs throughout rock @ 523.2', 1" qtz vn @ 70° to the cba, & minor calc. hd bage carb. a few small Cpy blebs strong chl. fill. @ rims @ 524'-3" qtz carb vn @ 60° to the cba, pred qtz & greenish-bage hard carb. abundant red min frac fill from 524'-526', num. thin qtz carb vns & blebs & 0-5% Cpy as min. @ rims from 526'-527', qc vein, contacts @ 70° to the cba, 50% qtz, 30% hard bage carb & 20% calcite, a few thin sericite-talc seams, minor red carb, frac fill, nvs. from 527'-529', num. thin qtz, hd bage carb & calcite seams & blebs to 1" & 10% of rock, v. wk pred. or. of 40° to the cba, Cpy to 0.1% as small blebs @ rims & in chl. breccia matrix seams from 529'-530.5', qc veining is 90% of rock, pred. white to bluish-green qtz (30%) & hd bage fibrous appearing carb (40%) & 10% calcite, minor blood red min. frac fill, in places appears porphyritic, bluish green qtz matrix & hd bage carb 'blebs', nvs. from 531'-532', matrix becomes v. talc-chl rich, & a few angular frags of grayish-green sericitized dacite, frag/matrix ratio 30/70, numerous qtz blebs to 1" from 532'-532.5', qc vein, pred. milky qtz & seams of fibrous appearing hd bage carb, a few thin sericite seams, strong talc-chl fill @ rims, nvs. from 532.5'-535', rock v. soft, strongly ser-chl with numerous qtz calcite chlorite-talc veins, seams to 1/4" @ wk pred. or. of 60° to the cba, Cpy from 537'-538.2', qc vein, contacts @ 60° to the cba, pred qtz & mottled, fibrous appearing bands of hd bage carb., a few thin sericite-talc filled frags, red min filled places, (sericite v. bright green in places, may be trace tuchsite) from 538.3'-545', rock becomes v. granular, crystalline appearing, almost obsid. talc'd @ 540', 1" qtz vn @ 50° to the cba, & fibrous hard bage carb seams & to vn. orientation @ 544.6', 2" calcite bleb from 545'-547.5', becomes vfg-aph, wkly tal. @ 50° to the cba, numerous qc blebs & seams to 1" OVERALL SULPHIDE CONTENT: trace, minor Cpy & qc seams & chl. breccia matrix. <p><u>547.5'-549.5' GRAPHITIC-CHLORITIC 'BRECCIA'</u></p> <ul style="list-style-type: none"> rock consists pred. of soft, v. schistose (bedded?) interbedded chlorite-graphite (50% chl, 30% qtz) (sch @ 45° to the cba), & small (to 1/2") v. sericitized to chloritized to carbonatized brecciated frags of dac-and tuff numerous thin calcite seams, blebs to 1/4" both in & next sch., tr. Py, (epigenetic) <p><u>549.5'-556.5' STRONGLY BRECCIATED DACITE TO ANDESITE TUFF.</u></p> <ul style="list-style-type: none"> pred. lg. wkly granular-crystalline appearing, light to dark green, dacite to andesite (tuff?) massive appearing, no distinct bedding. wk pers ser. chl fill in places. v. strongly brecciated by thin seams of pred. chl. occasionally calcite wk. plethored breccia seam-frag orientation in places, @ av. or. of 35° to the cba frag/matrix ratio averages 90/10, frags av. 1/2" (range <math>\frac{1}{16}</math> to <math>2\frac{3}{4}</math>) numerous cross cutting calcite seams & blebs strongly fractured @ random orientations & pred calcite, chl, minor talc, red min frac fill from 549.5'-551', 2" qc vn @ 0° to the cba, pred. calcite & a few spherical qtz blebs, minor hd. bage carb, nvs. @ 553', 1/4" calc. seam @ 0° to the cba, & strong orange coloration (minor Kspar?) from 555'-556.5', increasingly brecciated, minor graph in matrix, numerous carb stringers, blebs SULPHIDES: trace, a few v. small Cpy blebs in chl-calc matrix seams. <p>- arbitrary contact & underlying more alt, brecc. graph rich unit</p>								

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	SILICIFICATION	CARBONATE												
600'	BR	NR	NIL	SMS			<p><u>603-622' CONT.</u></p> <p>GRAPHITIC BRECCIA</p> <p>From 612-614', intensely brecciated, frag-matrix ratio @ 60/80, frags @ 1/4", strong preferred or. of 45° to the cba, elongate, lapilli tuft appearance, minor vfg diss Cpy in matrix.</p> <p>@ 615', 1" calc. vn @ 40° to the cba, talc seams @ rims.</p> <p>From 614'-616', only v. wkly brecciated, ref. hwp. light green dac. tuft.</p> <p>@ 621', 1" elongate calc-talc bleb @ 40° to the cba</p> <p>From 616-622', gradual increase in brecc. intensity, (v. str. by 622') & corresponding increase in chl-ser alt</p> <p>OVERALL SULPHIDE CONTENT: 0.1%, pred. Cpy. as small diss. blebs in brecc. matrix & ass. & carb seams, minor frac fill.</p>		TR.	602'		BQ	594'	100%		
610'	BR	NR	NIL	SMS			<p>locally v intensely brecc.</p> <p><u>SIN BRECC. INT VOLC TUFF</u></p> <p>intensely brecc. frags @ pref. or. 40° cba</p> <p>sericite to chl alt. frags brecciated by hd. black chl-graph arg seams.</p>		0.5%		100%		605'	100%	.03 Cu	
620'	BR	NR	NIL	SMS			<p>calc-talc bleb</p> <p><u>622-623.5' GRAPHITIC BRECCIA</u></p> <p>rock consists of v. thinly bd. sch @ 27° or. of 35°-40° to the cba) graphitic-chloritic (= 60-50) hd black argillaceous matrix & 30% small (to 1/2" av. H") predominantly angular, elongate (11, 6d-sch) fragments of v. alt rock (sericite to carbonate to v. soft green clay min?), & a few sulphide fragments</p> <p>matrix is v. carbonate rich & num. thin calcite stringers 11 fol. (lending perv. carb appearance to it)</p> <p>sulphides to 3% (Py, tr. sph. Cpy) as seams to 1/16" 11 fol. & small diss blebs throughout matrix</p> <p>@ 623.2', 1/4" massive Py band @ 70° to the cba.</p>		0.1%		100%		612'	100%	.03 Cu	
630'	BR	NR	NIL	SMS			<p><u>623.5'-636.5' BRECCIATED DACITE TO ANDESITE TUFF</u></p> <p>rock consists of brecciated fragments of rel. soft, light green, mod. sericitized (to chloritized in places) vfg to slightly granular appearing massive to wkly sch. dacite to andesite (185?)</p> <p>frags to 3-4" av 1", vfg frag/matrix ratio is 95/5, & a few zones of more intense brecciation.</p> <p>brecciated pred. by thin chl seams, occ & calcite, occasionally by hard black argillaceous (& minor graph) seams</p> <p>wk preferred orientation of brecc. seams & frags, & ass wk. sch in frags in places. @ 27° or. 40° to the cba</p> <p>numerous calcite seams & blebs</p> <p>strongly fractured @ random orientations, & pred. chl, calc, minor red min (sph?) frac. fill</p> <p>SULPHIDE CONTENT: trace to 0.25%, pred Py, tr. sph. Cpy as thin seams & diss. blebs ass. & matrix & carb seams</p> <p>from 623.5'-626', strong pervasive carbonization of frags (light gray, v. soft), locally matrix v. carb. rich @ 625.5', 1/4" calcite vn @ 40° to the cba</p> <p>from 626'-627', a few 1/4" calc. vns @ 40° to the cba, & minor sph. Cpy, Py frac fill locally</p> <p>@ 628', 1" irreg qtz-calc vn @ 40° to the cba, brecciates host rock, Py blebs to 1/8" @ rim</p> <p>from 630'-631', num. calc & hd bagg carb. (dol.) seams to 1/8" & 1/4"</p> <p>from 631'-632.5', qtz-calc vn, contacts @ 40° to the cba - from 631'-631.8', pred. milky to smoky qtz & a few thin calcite seams, blebs, a few small chloritized host rk frags</p> <p>from 631.8'-632.5', 50% qtz, 50% calc, sch @ 40° to the cba, a few thin hd bagg carb (dol.) seams, strong talc-chl alt @ rims, vns.</p> <p>from 632'-635.5', becomes increasingly altered, brecciated, frags become carb & to talc-chl alt by 632.5', matrix becomes increasingly graphitic, numerous calcite seams & blebs to 1/16" of rock, sulphides to 2% (Py, tr. sph) as thin seams & blebs in matrix (occ. rim frags) & ass. & carb seams</p>		3%		100%		622'	100%		
640'	BR	NR	NIL	SMS			<p>graph-chl seams brecc. qc vein v. ser. calcite int volc tuft</p> <p><u>INTD GRAPH BRECCIAE BRECC. CARB INT VOLC TUFF</u></p> <p>less intensely brecc. wk pref or. @ 50°</p> <p>strong pref. or. of brecc. ser. frags @ 35° cba</p> <p><u>BRECC. DAC-AND. TUFF</u></p> <p>chloritic, wkly graphitic matrix</p> <p>thinly bd graph @ 0°</p> <p>GRAPHITIC BRECCIA</p> <p>chl & carb & graph matrix</p> <p><u>BRECC. CARB DAC. TUFF</u></p> <p>ser. to chl to carb alt. frags</p>		T.R. to 0.25%		100%		626'	100%		
650'	BR	NR	NIL	SMS			<p>from 626'-627', a few 1/4" calc. vns @ 40° to the cba, & minor sph. Cpy, Py frac fill locally</p> <p>@ 628', 1" irreg qtz-calc vn @ 40° to the cba, brecciates host rock, Py blebs to 1/8" @ rim</p> <p>from 630'-631', num. calc & hd bagg carb. (dol.) seams to 1/8" & 1/4"</p> <p>from 631'-632.5', qtz-calc vn, contacts @ 40° to the cba - from 631'-631.8', pred. milky to smoky qtz & a few thin calcite seams, blebs, a few small chloritized host rk frags</p> <p>from 631.8'-632.5', 50% qtz, 50% calc, sch @ 40° to the cba, a few thin hd bagg carb (dol.) seams, strong talc-chl alt @ rims, vns.</p> <p>from 632'-635.5', becomes increasingly altered, brecciated, frags become carb & to talc-chl alt by 632.5', matrix becomes increasingly graphitic, numerous calcite seams & blebs to 1/16" of rock, sulphides to 2% (Py, tr. sph) as thin seams & blebs in matrix (occ. rim frags) & ass. & carb seams</p>		2%		100%		631'	100%		
660'	BR	NR	NIL	SMS			<p><u>635.5'-644' INTERBEDDED GRAPHITIC BRECCIA & BRECCIATED, CARBONATIZED INT. VOLC TUFF.</u></p> <p>from 635.5'-638', graph. breccia, & thinly bd sch graph-chl matrix @ 27° or. of 35° to the cba (although highly variable), & strongly elongate, 1/16" small (av 1/4" up to 1") frags of v. sericite to chl. altered light green int volc. carb & in places, frag/matrix ratio @ 50/50</p> <p>numerous calcite seams & blebs, 11 fol. calcite frac. fill Py to 1/16" 2 tr. Cpy, sph. as thin seams & blebs 11 fol. calcite frac. fill</p> <p>@ 637.5', 1" qc vein @ 35° to the cba</p>		1%		70%		636'	95%		
	BR	NR	NIL	SMS			<p>from 638'-644', graph. breccia, & thinly bd sch graph-chl matrix @ 27° or. of 35° to the cba (although highly variable), & strongly elongate, 1/16" small (av 1/4" up to 1") frags of v. sericite to chl. altered light green int volc. carb & in places, frag/matrix ratio @ 50/50</p> <p>numerous calcite seams & blebs, 11 fol. calcite frac. fill Py to 1/16" 2 tr. Cpy, sph. as thin seams & blebs 11 fol. calcite frac. fill</p> <p>@ 637.5', 1" qc vein @ 35° to the cba</p>		1%		100%		644'	100%		
	BR	NR	NIL	SMS			<p>from 638'-644', graph. breccia, & thinly bd sch graph-chl matrix @ 27° or. of 35° to the cba (although highly variable), & strongly elongate, 1/16" small (av 1/4" up to 1") frags of v. sericite to chl. altered light green int volc. carb & in places, frag/matrix ratio @ 50/50</p> <p>numerous calcite seams & blebs, 11 fol. calcite frac. fill Py to 1/16" 2 tr. Cpy, sph. as thin seams & blebs 11 fol. calcite frac. fill</p> <p>@ 637.5', 1" qc vein @ 35° to the cba</p>		5%		100%		659'	100%		
	BR	NR	NIL	SMS			<p>from 638'-644', graph. breccia, & thinly bd sch graph-chl matrix @ 27° or. of 35° to the cba (although highly variable), & strongly elongate, 1/16" small (av 1/4" up to 1") frags of v. sericite to chl. altered light green int volc. carb & in places, frag/matrix ratio @ 50/50</p> <p>numerous calcite seams & blebs, 11 fol. calcite frac. fill Py to 1/16" 2 tr. Cpy, sph. as thin seams & blebs 11 fol. calcite frac. fill</p> <p>@ 637.5', 1" qc vein @ 35° to the cba</p>		TR	664'			651'	100%		

HOLE NO. **V**
 CASING COLLAR ELEV.: **4' above ground** GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: **-65°** BEARING: **0°**

PROJECT: **VIM'S LAKE**
 DATE STARTED: **MARCH 8, 83**
 DATE FINISHED: **MARCH 15, 83**
 TOTAL DEPTH: **1200'**

PAGE NO: **9** OF **17**
 REF. TO CLAIM CORNER:
 SCALE: **1" = 10'**
 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	SILICIFICATION	CARBONATE												
660'	MATRIX	ALT. FRAGS	NIL	UPWARD			<p>calc vn. BRECC. CARBON DACITE TUFF highly variable, 'crenulated', slumped (or folded), in places numerous thin calcite seams to 1/8" - 1/4" to fol. Py to 1% as thin seams & blebs 11 to fol. from 672.5' - 678.5', graphitic argillite, thinly bedded, jet black, v. hard, well dev. bed. @ 45° to cba calcite to 20% of rock as v. thin seams 11 fol. & larger cross-cutting seams to 1/4" chlorite rich in places, strong slickensides along frac & bed. planes & graph. chl. Py smears sulphides to 5% (4.75% Py, 0.15% sph, 0.1% Cpy) as bands to 1/2" 11 fol, small diss. blebs & frac fill ass. & calcite</p>		TRACE	669'	100%	BQ	657'	100%		
670'	MATRIX	ALT. FRAGS	NIL	DOWN			<p>gc veining to 80% rk INTENS. BRECC. INT. VOLC TUFF GRAPH. ARG. graph. chl. calc. matrix @ 20% cba & ser. carb. all. frags graph. arg. bed. @ 45°</p>		1%	669'	80%		666'	80%		
680'	BRECCIA	WEAK ALT. FRAGS	NIL	UP			<p>wkly ser. to chl. all. calc. and tuff graphitic 'breccia' zone brecciated by chl. calc. graph. seams. BRECC. DAC. AND TUFF.</p>		5%	674'	100%		673.5'	100%	.05 Zn .03 Cu	
690'	MATRIX	ALT. FRAGS	NIL	DOWN			<p>increasingly str. ser. carb. calc. chl. all. of frags, sh. sch @ 45°</p>		TRACE	684'	100%		684'	100%		
700'	FRAGS	NIL	NIL	SWS TO 25%			<p>GRAPHITIC ARG. slumping, av bed. or. @ 25°</p>		2%	674'	100%		688'	100%		
710'	BRECCIA	WEAK ALT. FRAGS	NIL	PATCHY			<p>frags mod. carbonatized gc vn INTENSELY BRECC. DAC. TUFF. sericitized dacite tuff frags in chl. calc. matrix</p>		8%	670'	100%		692'	100%		
720'	MATRIX	ALT. FRAGS	NIL	DOWN			<p>gc vein v. intensely brecc. frags av 1/4" pref. or. @ 10° cba</p>		1%	700'	100%		695'	100%		
730'	BRECCIA	ALT. FRAGS	NIL	UP			<p>thinly bed. graph. arg. & 40% calc. seams intensely brecc. dac. tuff INTENS. BRECC. DAC. TUFF GRAPH. ARG.</p>		TRACE	700'	100%		707'	100%		
740'	MATRIX	ALT. FRAGS	NIL	DOWN			<p>graph. arg</p>		1%	710'	100%		711'	100%		
750'	MATRIX	ALT. FRAGS	NIL	DOWN			<p>graph. arg</p>		0.5%	719'	100%		717'	100%		
760'	MATRIX	ALT. FRAGS	NIL	DOWN			<p>graph. arg</p>		0.5%	719'	100%		720'	100%		

HOLE NO. V
 CASING COLLAR ELEV.: 4' above gr. GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: MARCH 8, 83
 DATE FINISHED: MARCH 15, 83
 TOTAL DEPTH: 1200'

PAGE NO: 9A OF 17
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 LOGGED BY: D. McIVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	MATED
							<p><u>711-727.5' BRECCIATED INT. VOLC. TUFF (DAC-AND) & GRAPHITIC ARGILLITE INTERBEDS.</u></p> <ul style="list-style-type: none"> From 711-712.5': thinly bd. hard jet black graphitic argillite, beds to 1/8" @ av. or. of 20° to the cba v. carb rich, & 40% calcite seams to 1/2" in bd. w/ky brecc. rock in places. Strong talc, chl all. surrounding rock. Py to 1% (& tr. Cpy) as diss blebs & thin seams in fol. From 712.5'-717': v. intensely brecciated, altered dacite to andesite tuff, & light green to dk grayish green. Fg. granular appearing frags. av. 1/8" (range < 1/16" to 1"). sub ang to sub ind. all to chl. ser. occasionally carbonatized, pred. frag supported, a few frag supported zones. matrix pred. chl. & calcite & graphite. hd. argillaceous in places, w/ky pred. or. of brecc. seams & frags @ 20° to the cba, numerous calcite seams & blebs, calcite frac fill. Py & tr. Cpy to 0.5% as diss. amorphous blebs to 1/16" in both frags & matrix From 715'-717': matrix becomes increasingly graphitic, & corresponding increase in chl. cont. all of frags (where carbonatized have distinctive gray colour), frags w/ky sch. in places in fol. From 717'-718.5': thinly bd hard black v. graphitic argillite, bd. av 25° to the cba, numerous thin calcite stringers in bd, a few thin sericite-chlorite seams & blebs (alt. host rock 'frags?'), Py to 0.5% as thin seams in bd, smears along slickensided bd & frac surfaces. From 718.5'-719': talc-chl. calcite alt. frags to 1/2" in chl-graph matrix, strong pred. or. of 35° to the cba, irreg spherical blebs throughout rk of talc-chl cores & calcite rims, to 1/8". may be alt. cumulate type crystals, Py to 1% as seams to 1/16" in fol & minor diss in in. From 719-719.5': thinly bd (@ 25° to the cba) graph arg., Py to 5% as 'beds' to 1/2", num thin calcite stringers in fol, a few ser. carb alt. frags host rock From 719.6-727.5': mod to strongly brecciated and. tuff. frags light gray, strongly chloritized, carbonatized in places, mod. pred. or. of brecc seams & frags @ 35° to the cba, matrix seams are chloritic, graphitic in places & occ. graph bands to 1/8" frags v. soft, occ sch in fol in rock, numerous randomly oriented calcite stringers & seams to 5% of rock, Py to 0.5% as amorphous diss. blebs throughout rock & occ thin seams ass. & matrix & carb seams. <p><u>727.5'-743' STRONGLY BRECCIATED DACITE TO ANDESITE TUFF</u></p> <ul style="list-style-type: none"> Fg. granular appearing, light green, w/ky sericitized dacite tuff, strongly brecciated by thin seams of pred. chlorite occasionally with calcite in places breccia matrix a light gray sericite rich rk (may be autobrecciated) brecciated frags pred. angular to sub-ang. av. 1/8" (range < 1/16" to 2-3") & an av flm ratio of 0.5/1.5, pred. frag supported, a few v. intensely brecciated zones where matrix supported. w/ky preferred orientation of breccia seams & frags in places, @ highly variable orientations, av @ 40° to the cba numerous thin randomly oriented calcite seams & blebs to 1/4" throughout rock. v. strongly fractured @ random orientations, pred. calc. chl. minor red min frac fill. afew w/ky silicified frags in places, w/ky patchy carbonatization of frags @ 730', 1" diffuse appearing carb. 'bleb' (calcite) @ 40° to the cba @ 730.5', a few small 1/8" silicified fragments @ 730.6', 1/2" calc vn @ 45° to the cba, & minor diss Py @ rims @ 732.5', a few silicified frags, focally brecc. matrix is hd. gray, may be autobrecc. @ 735', 1/4" calcite vn @ 20° to the cba From 734.5'-735', frags v. ser. rich, white From 736-743', frags become silty coarser gr, w/ky carbonatized in places @ 737.2', 1/2" qtz carb vn @ 55° to the cba From 738'-739', numerous 1/4" calc vns @ 90° to the cba, & a few diss. Cpy blebs to 1/16" @ 739.5', 2" irreg pred. calcite (& a few qtz blebs) vn, folded, @ 35° to the cba From 740'-743', strong pred. orientation of elongate frags @ 60-90° to the cba, v. agglomeratic appearance, v. strongly brecc. & frag. matrix ratio 70/30, matrix v. chl = talc = calcite rich, numerous blebs Py-Cpy to 1/16" OVERALL SULPHIDE CONTENT: trace. Py, Cpy as small blebs & matrix or carb seams arbitrary contact & underlying less brecciated unit. 								

HOLE NO. 7
 CASING COLLAR ELEV.: 4' above gr. GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: MARCH 8, 83
 DATE FINISHED: MARCH 15, 83
 TOTAL DEPTH: 1200'

PAGE NO: 10 OF 17
 REF. TO CLAIM CORNER:
 SCALE: 1"=10'
 LOGGED BY: D. McEVOR

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	SILICIFICATION	CARBONATE												
720'	MATRIX	ALT. FRAG.	NIL	WAXY ACT. FRAG.			<p><u>BRECC. DAC TUFF</u></p> <p>713'-755.5' WEAKLY BRECCIATED DACITE TO ANDESITE TUFF pred. a lg, granular, crystalline appearing, relatively hard, light green, massive to wtkly schistose lhd dacite to andesite tuff. v. wtkly brecciated (to moderately in a few localized places) by thin randomly oriented chl seams, occasionally by thin calcite seams. wk pervasive sericite alt, patchy wtk chl alt in places strongly fractured @ random orientations, z chl, calc, & red min (FeO?) frac fill numerous calcite blebs & seams to 1/4" throughout rock patchy wk. mod carbonatization sch. @ an av or. of 50° to the cba where present. from 746'-745.5' irreg chl-calc 'vn' @ 10° to the cba, z locally Py (s tr. sph. Cpy) to 1% as thin seams @ vn rims & diss. blebs. @ 750' 2" graph seam @ 40° to the cba from 749'-750' becomes vlg aph, gray, mod. carbonatized. from 750'-751' mod sch @ 40° to the cba, strong chl-calc alt. from 752'-753' numerous thin qtz seams @ 60° to the cba from 753'-753.5' v. soft, chl rich, z 1% Py as diss. blebs to 1/16" OVERALL SULPHIDE CONTENT: 0.25%, pred Py as diss blebs to 1/16" throughout rock, a few Cpy blebs ass. z carb seams.</p>	0.5%	722'	100%	8Q	720'	100%			
730'	BRECCIA MATRIX	NEAR ALT. FRAG.	AFW ALT. FRAG.	N.P.M. SEAMS & BLEBS			<p>calcite 'bleb' - a few silicified frags. calc. vn wtkly ser. frags of aq. tuff in chloritic matrix. <u>STRAY BRECC. DAC-AND. TUFF</u> qz vein calcite vns qz-calcite vn. v. agglomeratic appearance. Strong pref. frag. or. @ 60°-90° cba</p>		T R A C E	732'	100%		727.5'	100%		
740'	SEAMS ALT. MATRIX	NX PERV. ALT.	PATCHY SEAMS				<p>calc. chl seam @ 0° cba z Py, Cpy @ rims. <u>WTKLY BRECC. DAC-AND TUFF</u> 2" graphitic seam @ 50° z carbonatization 'kato' qz stringers soft chl rich zone (shear)</p>	0.25%		742'	100%		743'	100%		
750'	STRONG	NIL	STRONG				<p>graphitic arg. brecc. dacite int'ld graph brecc. int'vls. <u>INT'RD. GRAPH. ARG. & BRECC. DAC-AND. TUFF</u> wtkly graph arg. bd @ 20° cba. v. strongly brecc. int volc graph arg. calcite vn-seam qz 'bed' 2" graph 'bed' STRONGLY BRECC. INT. VOLC. TUFF 1" graphite 'bed' 1" graph seam chloritic-graphitic matrix</p>			753'	100%		750'	100%		
760'	BRECCIA MATRIX	NIL	NIL				<p>graphitic arg. brecc. dacite int'ld graph brecc. int'vls. <u>INT'RD. GRAPH. ARG. & BRECC. DAC-AND. TUFF</u> wtkly graph arg. bd @ 20° cba. v. strongly brecc. int volc graph arg. calcite vn-seam qz 'bed' 2" graph 'bed' STRONGLY BRECC. INT. VOLC. TUFF 1" graphite 'bed' 1" graph seam chloritic-graphitic matrix</p>	72-0.5%		755'	100%		755.5'	100%		
770'	BRECCIA MATRIX	NIL	NIL				<p>graphitic arg. brecc. dacite int'ld graph brecc. int'vls. <u>INT'RD. GRAPH. ARG. & BRECC. DAC-AND. TUFF</u> wtkly graph arg. bd @ 20° cba. v. strongly brecc. int volc graph arg. calcite vn-seam qz 'bed' 2" graph 'bed' STRONGLY BRECC. INT. VOLC. TUFF 1" graphite 'bed' 1" graph seam chloritic-graphitic matrix</p>	5%		758'	100%		758'	100%		
780'	BRECCIA MATRIX	NIL	NIL				<p>graphitic arg. brecc. dacite int'ld graph brecc. int'vls. <u>INT'RD. GRAPH. ARG. & BRECC. DAC-AND. TUFF</u> wtkly graph arg. bd @ 20° cba. v. strongly brecc. int volc graph arg. calcite vn-seam qz 'bed' 2" graph 'bed' STRONGLY BRECC. INT. VOLC. TUFF 1" graphite 'bed' 1" graph seam chloritic-graphitic matrix</p>	19%		763'	100%		760'	100%		
							<p>graphitic arg. brecc. dacite int'ld graph brecc. int'vls. <u>INT'RD. GRAPH. ARG. & BRECC. DAC-AND. TUFF</u> wtkly graph arg. bd @ 20° cba. v. strongly brecc. int volc graph arg. calcite vn-seam qz 'bed' 2" graph 'bed' STRONGLY BRECC. INT. VOLC. TUFF 1" graphite 'bed' 1" graph seam chloritic-graphitic matrix</p>	37-TR		765'	100%		766.5'	100%		
							<p>graphitic arg. brecc. dacite int'ld graph brecc. int'vls. <u>INT'RD. GRAPH. ARG. & BRECC. DAC-AND. TUFF</u> wtkly graph arg. bd @ 20° cba. v. strongly brecc. int volc graph arg. calcite vn-seam qz 'bed' 2" graph 'bed' STRONGLY BRECC. INT. VOLC. TUFF 1" graphite 'bed' 1" graph seam chloritic-graphitic matrix</p>	19%		773'	100%		775'	100%		
							<p>graphitic arg. brecc. dacite int'ld graph brecc. int'vls. <u>INT'RD. GRAPH. ARG. & BRECC. DAC-AND. TUFF</u> wtkly graph arg. bd @ 20° cba. v. strongly brecc. int volc graph arg. calcite vn-seam qz 'bed' 2" graph 'bed' STRONGLY BRECC. INT. VOLC. TUFF 1" graphite 'bed' 1" graph seam chloritic-graphitic matrix</p>			777'	100%		777'	100%		
							<p>graphitic arg. brecc. dacite int'ld graph brecc. int'vls. <u>INT'RD. GRAPH. ARG. & BRECC. DAC-AND. TUFF</u> wtkly graph arg. bd @ 20° cba. v. strongly brecc. int volc graph arg. calcite vn-seam qz 'bed' 2" graph 'bed' STRONGLY BRECC. INT. VOLC. TUFF 1" graphite 'bed' 1" graph seam chloritic-graphitic matrix</p>			783'	100%		777'	100%		

HOLE NO. J
 CASING COLLAR ELEV.:
 COORDINATES:
 INCLINATION: -55°

GROUND ELEV.:
 N. E.
 BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: MARCH 8, 83
 DATE FINISHED: MARCH 15, 83
 TOTAL DEPTH: 1200'

PAGE NO: 11 OF 17
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 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	SILICIFICATION	CARBONATE												
780'	R.M.	N.K.	N.L.	N.S.			<p><u>BRECC. AND TUFF</u></p> <p>matrix locally graphitic</p> <p><u>BRECC. DACITE TUFF</u></p> <p>numerous qtz-calcite vns (cda v. ground)</p> <p>5" graph. ag bed @ 40'</p>	<p>809'-817' CONT.</p> <p>spontane type tuff. may be a tremolite? rich altered more mafic vol.</p> <p>sharply fractured @ random or, & pred calcite, ope. qtz-chl frac fill.</p> <p>nucleated randomly or, calcite seams & blebs to 1/4" throughout rock.</p> <p>v. wk pred. or. of brecc. seams, frags in places, @ 40° to the cba.</p> <p>overall frag. matrix ratio 95:5, variable, to 70:30 in places, frags range < 1/16" to 3/4", 2v & 1"</p> <p>OVERALL SULPHIDE CONTENT: trace, v. minor fq diss py, occ. small py blebs in matrix zones or ass. & carb seams.</p> <p>from 812.7' - 813.2', 6" irreg qtz-carb vn @ 2v or. of 75° to the cba, pred. calcite & blebs of harder magnesite, a few thin qtz seams, & a few 'frags' to 1" of cherty argillaceous rock (possibly v. silicified host rock frags) - numerous thin sericite seams & 5% fuchsite as small blebs & diss. seams to 1/4" - 1/2" throughout vn.</p> <p>0.5% vfg diss py, strong ser. alt. sch of surrounding rock.</p> <p>@ 816', a few small silicified frags</p> <p>@ 816.5', 1" qtz & minor calc vn @ 55° to the cba, thin 1/8" graph seam @ rim, locally 0.25% vfg diss py.</p>	1%	783'	100%	BQ	782'	100%		
790'	B.A.	N.K.	N.L.	N.S.			<p>calc. vns</p> <p>WIKLY BRECC. DAC. AND TUFF</p> <p>wkly sch @ 40° cba</p> <p>mod. stry sericitized dac tuff</p> <p>wkly brecc. by alt. seams.</p>	<p>817'-819.6' ANDESITE</p> <p>vfg. aph. light green, massive appearing, wkly chloritized andesite - slight 'granular' appearance, may be a tuff.</p> <p>mod. frac @ random orientations, pred. calcite, minor chl. frac fill.</p> <p>afew thin calcite seams to 1/8"</p> <p>@ 818', 1" breccia zone, @ 60° cba, chl-calc matrix & silicified host rk frags to 1/4"</p> <p>from 818' - 818.6', irreg qc vein, rimmed by chl. & tr. py</p> <p>@ 818.7', 1" qc vein @ 30° to the cba, pred. calc, a few qtz blebs, tr. diss py, a few silicified, bedded host rock frags @ rims.</p>	0.5%	787'	50%		790'	90%		65%
800'	S.E.	M.D.	N.L.	N.S.			<p>breccia bearing qc vein.</p> <p><u>BRECC. DACITE</u></p> <p>afew silicified frags.</p> <p>thin graph seam</p> <p>breccia zone</p> <p>ANDESITE</p> <p>qc vein.</p>	<p>819.5'-821' INTERBEDDED, MINERALIZED, WIKLY GRAPH. ARGILLITE & SERICITIZED, SCH. DACITE TUFF</p> <p>from 819.5' - 822', pred. v. thinly bd., hard, yet black wkly graphitic argillite & numerous thin (< 1/32") gray, siliceous 'beds' & carb 'beds' seams 11 fol. bd.</p> <p>bd. highly variable, ranges 0° - 90° to the cba, & abund. sumping, ssd features, av or. is 2° 50' to the cba as exhibited by pr. of sil & carb seams.</p> <p>cross cutting milky qtz & minor calc. vns to 1/2" & 25% of rock.</p> <p>py to 2/4" & tr. sph, as fq diss blebs to 1/16" forming bands 11 fol. occ larger blebs to 1/4"</p> <p>@ 819.5', a few small (1/32") sph blebs</p> <p>@ 819.6', 2" brecciated, sericitized dacite tuff bd, & qc veining & blebs to 30%</p> <p>@ 821.5', 2" brecciated dacite tuff bd.</p> <p>from 822' - 823', light green dac. and tuff bd, v. intensely frac & calc. frac fill, a few thin graph - chl seams, @ 822.5', 3" qc bleb @ 0° cba, tr. fq diss py</p> <p>from 823' - 827', thinly bd (av < 1/2") interbedded black, schistose chl. graph rich rock (graph arg.), gray siliceous argillite, & light green v. sericitized, schistose, altered int volc tuff (?) (sericite schist) - bd. sch variable, av 45° to the cba, crenulated, slumped in places, wkly brecciated in places, qtz calcite seams & blebs 11 fol. to 30% of rock</p> <p>strong ser sch bands v. bright, light green, may be trace fuchsite.</p> <p>py to 1% as thin seams, blebs 11 sch, & vfg diss min.</p>	TR	806'	100%		809'	100%		
810'	M.A.	M.D.	N.L.	N.S.			<p>thinly bd. sch @ 45°</p> <p>appears wkly brecc. in places.</p> <p><u>CARBONATIZED DAC. AND TUFF</u></p> <p>num. calcite shinglers</p> <p>calc vn</p>	<p>827'-842.5' CARBONATIZED DACITE TO ANDESITE TUFF</p> <p>thinly bd rock, light grayish green, vfg, slightly granular, tuffaceous appearing dacite to andesite bd (or wk sch) well developed @ 45° to the cba, wk to mod. pervasive sericite alt.</p> <p>mod. to strong carbonatization, & diffuse appearing calc diss. throughout rock, & numerous thin calcite shinglers & seams to 1/4" both 11 & spalling foliation.</p> <p>appears v. wkly, auto-brecciated in places, (faint breccia tuff) & slightly chl. wkly chl. seams faintly brecciating sericite rich rock.</p> <p>afew v. small (< 1/64") tuffaceous appearing frags of pred. chl & white plag? separ.</p> <p>mod. to strong frac, pred 11 fol. @ 40-45° to the cba, & calc. chl. occ py frac fill</p> <p>occasional patches, seams of chl all.</p> <p>@ 841', 1/2" calcite vn @ 50° to the cba, @ 841', 1/2" calc vn @ 60° to the cba</p>	TR	807'	100%		812.5'	100%		
820'	N.K.	N.L.	N.L.	N.S.			<p>graph arg.</p> <p><u>INTRD. GRAPH. ARG. & DAC. TUFF</u></p> <p>dac. tuff bd.</p> <p>inld graph - gray sil arg</p> <p>Esch. sch dacite tuff:</p>	<p>from 823' - 827', thinly bd (av < 1/2") interbedded black, schistose chl. graph rich rock (graph arg.), gray siliceous argillite, & light green v. sericitized, schistose, altered int volc tuff (?) (sericite schist) - bd. sch variable, av 45° to the cba, crenulated, slumped in places, wkly brecciated in places, qtz calcite seams & blebs 11 fol. to 30% of rock</p> <p>strong ser sch bands v. bright, light green, may be trace fuchsite.</p> <p>py to 1% as thin seams, blebs 11 sch, & vfg diss min.</p>	TR	819'	100%		817'	100%		
830'	S.E.	N.L.	N.L.	N.S.			<p>thinly bd. sch @ 45°</p> <p>appears wkly brecc. in places.</p> <p><u>CARBONATIZED DAC. AND TUFF</u></p> <p>num. calcite shinglers</p> <p>calc vn</p>	<p>from 827' - 827', thinly bd (av < 1/2") interbedded black, schistose chl. graph rich rock (graph arg.), gray siliceous argillite, & light green v. sericitized, schistose, altered int volc tuff (?) (sericite schist) - bd. sch variable, av 45° to the cba, crenulated, slumped in places, wkly brecciated in places, qtz calcite seams & blebs 11 fol. to 30% of rock</p> <p>strong ser sch bands v. bright, light green, may be trace fuchsite.</p> <p>py to 1% as thin seams, blebs 11 sch, & vfg diss min.</p>	TR	823'	100%		819.5'	100%		
840'	F.E.	N.K.	N.L.	N.S.			<p>thinly bd. sch @ 45°</p> <p>appears wkly brecc. in places.</p> <p><u>CARBONATIZED DAC. AND TUFF</u></p> <p>num. calcite shinglers</p> <p>calc vn</p>	<p>from 827' - 827', thinly bd (av < 1/2") interbedded black, schistose chl. graph rich rock (graph arg.), gray siliceous argillite, & light green v. sericitized, schistose, altered int volc tuff (?) (sericite schist) - bd. sch variable, av 45° to the cba, crenulated, slumped in places, wkly brecciated in places, qtz calcite seams & blebs 11 fol. to 30% of rock</p> <p>strong ser sch bands v. bright, light green, may be trace fuchsite.</p> <p>py to 1% as thin seams, blebs 11 sch, & vfg diss min.</p>	TR	827'	75%		823'	100%		

HOLE NO. J
 CASING COLLAR ELEV.: 4' above gr. GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: MARCH 8, 83
 DATE FINISHED: MARCH 15, 83
 TOTAL DEPTH: 1200'

PAGE NO: 12 OF 17
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 LOGGED BY: D. M. EVOR

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	SILICIFICATION	CARBONATE												
840'	W X V	W X V	W X V	W X V	Py	Py	<p>827'-842.5' CONT.</p> <p>CARR'D DAC AND TUFF calc. vn.</p> <p>CRAMPITIC ARGILLITE</p> <p>wkly brcc. by chl-calc seams</p> <p>calcite vn</p>		TR				BQ	832'	100%	
850'	N U M E R O U S	W E A K	W E A K	P A T C H Y	Py	Py	<p>strongly carbonatized</p> <p>magnetite bleb</p> <p>blood red min frac fill to 1%</p> <p>tbl. chl-calc seam</p>							852'		
860'	T H I N	M O D E R A T E	M O D E R A T E	M O D E R A T E	Py	Py	<p>DACITE TUFF</p> <p>blk-chl-calcite 'blabs'</p> <p>calc vn</p> <p>gls-calc. hd bage carb vn</p>							862'	100%	
870'	S E A M S	P E R A L T E	P E R A L T E	P E R A L T E	Py	Py	<p>bedded, appearing gray calcite vn</p> <p>gls-calcite blebs to 30%</p> <p>gls-calc. vn</p> <p>calcite 'bleb'</p> <p>calcite seams wkly brcc rock</p>							866'	100%	
880'	F R A C T U R E	A L T E R A T I O N	A L T E R A T I O N	A L T E R A T I O N	Py	Py	<p>red min frac fill to 1%</p> <p>gls-calcite 'bleb'</p> <p>silicified patches</p> <p>calc-chl blebs to 50% rk</p> <p>gls-calc. dol. vn</p>							871'	100%	
890'	F I L L I N G	A L T E R A T I O N	A L T E R A T I O N	A L T E R A T I O N	Py	Py	<p>luchsite rimmed hd bage carb vn</p> <p>luchsite to 27% rimming carb seams</p> <p>dol-calc vn</p> <p>gls-calcite vn & minor luchsite</p> <p>avay thin gls-calc. sms & trace luchsite</p>							881'	100%	
900'							<p>842.5'-900.5' DACITE TUFF (CRUSTAL ASH)</p> <p>pred. a fq, granular to v. crystalline appearing, light green dacite (cryst? -ast?) tuff. (appears almost obsc. feld in places, may be a flow)</p> <p>massive appearing to v. wkly sch. bed in places, pred. red hard.</p> <p>wk. mod pervasive sericite alteration</p> <p>numerous irreg. diffuse appearing calcite seams & blebs to 1" throughout unit.</p> <p>few thin chl-talc seams & blebs</p> <p>moderately frac. @ random orientations, pred. calcite, chlorite frac. fill, minor talc, red carb (sid.?)</p> <p>appears wkly autobrecciated in places, & v. faint brcc. but thin seams of chl-carb rich rock wkly brcc. ser. rich dacite</p> <p>patchy, mod. to strong carbonatization (bones of diss. calc.)</p> <p>afew v. small lylite appearing frags of chl & white feldspar.</p> <p>patchy silicification in places, & thin amorphous seams wkly brecciating rk in places.</p> <p>from 843.5'-849.5', wkly brcc. by numerous thin chl-calc seams, v. strongly sericitized, Py & tr. Cpy to 1% as small amorphous diss. blebs to 1/16". @ 843.6', 1/2" hard gray carb vn @ 60°.</p> <p>@ 844', 1" hard gray carb (magnetite?) vn @ 90° to the cba.</p> <p>from 848.5'-848', strong perv. carbonatization, mod. from 848-852'</p> <p>@ 848', 1" diffuse calcite seam @ 40° to the cba, @ 849.5', 1" calcite bleb rimmed by chl, minor talc.</p> <p>@ 852.5', 2" hard gray carb (magnetite) bleb</p> <p>from 854'-856', blood red min-carb? fract fill & fq diss min z calcite to 1%</p> <p>@ 855.5', 1/2" talc-chl-calcite seam @ 35° to the cba, minor red min (carb? sph?) @ rims.</p> <p>@ 858.5', afew 1" talc-calcite blebs, locally abundant red min frac fill, patchy silicification</p> <p>@ 859', numerous 1/2" calcite & talc-chl blebs, locally abundant red carb? frac fill.</p> <p>@ 860.6', afew "A" Py blebs along talc-chl seam</p> <p>from 859-861', silicified patches, blebs & seams to 30% of rk.</p> <p>@ 861', 1/2" calc. vn @ 45° to the cba.</p> <p>from 862-863', gls-carbonate vein, contacts @ 30° to the cba, consists of 50% gls, 30% calcite & 20% hd bage to white carb (dol. magnetite), wkly fol @ 30° to the cba, afew small sericitized host rock frags, vns.</p> <p>@ 866.5', 4" gray calcite vn (looks v. 'bedded') @ 30° to the cba, z afew thin talc-ser seams, vns, strong ser-carb all @ rims, schistose @ rims.</p> <p>@ 867', 1" calcite vn @ 50° to the cba, talc-chl alt @ rims, locally dacite is v. sericitized.</p> <p>from 867-868', numerous irreg. gls-calc blebs to 2" to 30% of rock, strong ser-chl alt of surrounding host rock, wkly sch @ 40 or 50° to the cba, numerous ass. talc-chl blebs @ rims, vns.</p> <p>from 868-868.7', gls-carbonate vn @ 30° to the cba, thin 1/2" smoky gray gls bands, rimmed by diffuse calc-sericite (v. bright light green, may be trace anatase, luchsite) seams, vns, strong ser-chl alt of surrounding host rock.</p> <p>@ 869', 3" calcite 'bleb' z afew small gls eyes, sericite seams, vns, local strong ser-chl alt host rk, wkly sch.</p> <p>from 867'-871' silty more diffuse calc rich, more andesitic in appearance</p> <p>from 871'-872', num. thin diffuse calcite seams wkly brecciate rock.</p> <p>from 872'-873', red min (possibly sph?) frac fill & diss min. & calcite blebs to 0.5% CONT.</p>					885'	100%			
														886'	100%	
														887'	100%	
														888'	100%	
														889'	100%	
														890'	100%	
														891'	100%	
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														894'	100%	
														895'	100%	
														896'	100%	
														897'	100%	
														898'	100%	
														899'	100%	
														900.5'	100%	

HOLE NO. V
 CASING COLLAR ELEV.: 4' above ground GROUND ELEV.:
 COORDINATES: N. E.
 INCLINATION: -55° BEARING: 0°

PROJECT: JIM'S LAKE
 DATE STARTED: MARCH 8, 83
 DATE FINISHED: MARCH 15, 83
 TOTAL DEPTH: 1200'

PAGE NO: 12A OF 17
 REF. TO CLAIM CORNER:
 SCALE: 1" = 10'
 LOGGED BY: D. McIVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTIMATED
							<p><u>875.5' - 900.5' CONT.</u></p> <ul style="list-style-type: none"> from 876'-877': numerous 'red-min' filled frags to 1%, locally above talc seams, w/ patchy carbonatization. @ 877': 1" qtz-calcite blb @ 30° to the cba. @ 878': a few silicified seams, patches to 1" from 879.5' - 880.5': irreg calc-chl 'blebs' to 1" are 50% of rock. from 885' - 890.5': qtz-calc vein is 80% of rock, vein @ 0° to the cba, minor diss sph @ 886' (massive bc vein from 885.5' - 887', elsewhere vn @ 0° to 50% rock) - pred calcite (40%) and qtz (40%) & 20% hard base carb (dol?), a few thin red-carb filled frags, a few small sericitized host rock frags. tr. diss Cpy-sph @ 891': thin 1/8" hd base carb seam @ 55° to the cba, rimmed by 1/2" zone of bright green diss; fuchsite, to 50% of rock from 891'-894': v. thin fuchsite seams & blebs to 2% of rock, usually ass. & talc-chl blebs or thin carb seams. from 895' - 895.5': irreg calc vn @ 30° to the cba, hd base vuggy dolomite & calcite to 50% of rock, & 20% small brecciated frags of host rock. NVS from 896.5' - 897': irreg qtz-calcite seam @ 20° to the cba, & num. veiling calcite stringers, a few small seams & blebs to 1/8" of fuchsite, strong chl-ser alt @ rims. from 898' - 899': numerous thin (to 1/2") qtz-calcite-yellow carb seams @ 45 or 30° to the cba, & a few small thin fuchsite seams & blebs. from 900' - 900.5': irreg qtz-calcite vn, & seams @ 50° to the cba, locally v. strong ser. alt of host rock & tr. fuchsite & 0.5% vlg diss Py. OVERALL SULPHIDE CONTENT: trace, v. minor Py, Cpy, sph as small blebs ass. & qtz-calc seams. <p><u>900.5' - 906.5' MINERALIZED GRAPHITIC ARGILLITE</u></p> <ul style="list-style-type: none"> pred v. thinly bed. (c 1/4") rd black strongly graphitic argillite (50-60% graph). bd highly variable, slumping, ssd features, 20 or 25 75-80° to the cba, varies from 50°-90° numerous thin gray to white calcite seams, stringers 1/2" to 1/4" & 10% of rock, & a few crosscutting calcite filled frags & seams a few small elongate sericitized 'frags' (bondinaged interbeds?) of dacite luff? to 1/4" a few thin silica seams (c 1/4") if bd, occasional lg blebs to 1/4" from 908' - 906.5': silica stringers to 1/8" become 25% of rock. (11 tal) v. strongly frac. pred 11 tal, & calcite, minor Py frac fill. v. strong slickensides along bd/frag surfaces, & smeared graph. Py Py to 5% as seams to 1/8" 11 foliation, diss. cubic-amorphous 'blebs' to 1/16" & etc. seams & calc. silica seams. <p><u>906.5' - 921' INTERBEDDED, ALTERED, BRECCIATED, HT VOLC TUFF & GRAPHITIC ARGILLITE</u></p> <ul style="list-style-type: none"> from 906.5' - 911': pred. a light green, wky to mpd sch. @ 45°-50° to the cba) dacite to and luff. vlg. sph. to slightly granular appearing in places, mod to strong patchy sericite-chloritic alt., v. wky, brecciated in places by thin pred chl & calcite seams @ wky pred. or. of 45° to the cba, numerous (to 10% of rock) calcite seams & stringers to 1/4" @ rnd. orientations, v. strongly frag @ rnd or, pred apl. chl frac fill v soft, wky patchy carbonatization, @ 908.2' 1/2" calc vn & a few qtz blebs @ 30° to the cba @ 908.2' 1/2" qtz-calc vn @ 45° to the cba, @ 910.2' 1/4" calc vn @ 60° to the cba, @ 910.5' 1/2" qtz-calc vn @ 85° to the cba, from 910.5' - 911', v. soft sch, strong ser. chl alt. trace Py, Cpy, ass. & calcite fracture filling from 911' - 912.5': thinly bed (c 1/4") interbed sericitized dac. luff & graphitic-chloritic rock, bd & sch @ 45 or. of 50° to the cba, although crumpled, slumped or, folded in places. Py to 5% as thin seams to 1/8" 11 bd sch, & minor lg diss min., a few cross-cutting calcite seams to 1/4", overall graph content & 25%. from 912.5' - 916': strongly sch @ 45 or. of 45° to the cba, sericitized (to chloritized in places), light grayish-green, vlg to slightly granular appearing dacite to and luff, calcite seams & blebs to 10% of rk, v. strongly fractured @ random orientations, & calc & minor chl. Py frac fill, wky brecciated in places by thin chl. seams, Py to 0.5% as vlg diss min. ass. & calc, chl seams & as frac. fill. from 916' - 917': v. thinly bed (c 1/4") interbed gray cherty siliceous argillite & black graphitic argillite, bd. 20° to the cba, v. irreg in places & ssd fits - slumping, bondinaged, thin calcite & gray magnesite seams to 1/4" 11 bd. to 30% of rock CONT. 								

HOLE NO. J PROJECT: JIM'S LAKE PAGE NO: 13A OF 17
 CASING COLLAR ELEV.: 4' above gr. GROUND ELEV.: DATE STARTED: MARCH 8, 83 REF. TO CLAIM CORNER:
 COORDINATES: N. E. DATE FINISHED: MARCH 15, 83 SCALE: 1" = 10'
 INCLINATION: -55° BEARING: 0° TOTAL DEPTH: 1200' LOGGED BY: D. McEVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED		
							<p>933-969.5' CONT.</p> <ul style="list-style-type: none"> from 941.5-942.5; 1" qtz. calcite v. @ 0° to the cba, & a few small Cpy blots to 1/16" @ 946; 2" gray to light green (± minor sericite) calcite v. @ 25° to the cba, v. bd. appearance, & a few thin Py seams. from 944-955; silicified? - gray, v. hd amorphous appearing groundmass & small light green (cc?) luffaceous appearing frags, silicified groundmass appearance from 951-953; locally Py to 0.5% as fine grained diss amorphous & cubic blots to 1/16" minor frac fill from 954.5-955; brecciated by qtz veining, & thin seams to 1/4" @ wk pref. or. 55° cba @ 955; 2" graph arg interbed, thinly bd (c. 1/4") @ 90° to the cba, graph-chl, rich argillaceous bk & a few thin, strongly sericitized, dac tuff beds, num. thin calcite seams, stumped, a few qtz blots to 1/4", trace Py as a few v. thin seams, 11 bd. @ 958; 8" carb v. @ 45° to the cba, pred. hd white magnesite & minor calcite, a few brecc. host rock frags, etc. from 958-969.5; becomes hotter, more intensely altered, & strong carbonatization & chl-ser alt. v. qtz-aph, amorphous appearing @ 960; 2" calcite blob @ 66° to the cba from 961-962; minor 'red min.' frac fill. @ 963.5; 3" gray calcitic blsb, locally Py to 0.5% as diss. blots to 1/32" & frac fill. OVERALL SULPHIDE CONTENT: trace - 0.25%, pred Py, v. minor Cpy, as v. qtz diss blots & a few thin seams ass. & carb. minor frac fill. <p>961.5-977' GRANITIC ARGILLITE & SERICITIZED DACITE TUFF INTERBEDS</p> <ul style="list-style-type: none"> from 961.5-967.5; pred. thinly bd. (c. 1/4") v. hd, jet black to gray wkly graphitic argillite, bd @ 85° to the cba, numerous thin calcite & silica seams & stringers 11 bd. to 20% of rk, exhibit v. irreg. small scale distortions, (micro-ssd, slumping) occasional beds to 1/4" of gray, cherty, siliceous argillite, a few scuffing calcite (& sericite, chlorite) seams & filled fracs, overall graph content ≈ 16%, Py (c. 11. qtz) to 1% as thin seams 11 bd. ass & carb; silica seams, minor v. qtz diss min & scuff frac fill, occasional small blots of dk brown calcite (16 appearing, non-magnetic) @ 967' 1/2" Py blob. from 967.5-969; v. qtz-aph (argillaceous) light green schistose v. sericitized, soft dacite tuff?, green arg., sch-bd. @ 85° to the cba, numerous thin chl. seams 11 sch, wkly brecciate rock in places, wkly carbonatized in places, numerous thin gray to white calcite seams & blots throughout unit, strongly fractured @ random orientations & chl-calc frac fill, etc., @ contact & underlying graph is v. bright green, may be trace luchsite & ser. from 969-972; thinly bd. hard, jet black moderately graphitic argillite (35% graph), bd. at 60° to the cba, somewhat variable, & minor slumping, numerous thin calcite & silica seams 11 bd. to 20% of rock, a few thin crosscutting calcite & qtz & chl & ser seams & filled fracs, Py to 2% as thin seams v. fol. ass. & calc-silich seams, occ blots to 1/4" & minor v. qtz diss min., minor dk brown, non-magnetic to. @ 972; 1" bd. gray calc. bed @ 85° to the cba, & a few thin ser. Py seams. <p>972-975' MINERALIZED, BRECCIATED ALTERED DACITE TUFF?</p> <ul style="list-style-type: none"> rock consists of light to dk grayish green, strongly sericitized to chloritized in places, v. qtz-aph altered, clay. tuff (poss. volcanoclastic, i.e. argillite), v. strongly brecciated by seams of dk black hard wkly graphitic-chloritic argillaceous rock (v. carb rich) & thin, soft chl. seams frags to 2-2", av ≈ 1", frag/matrix ratio ≈ 80/20, wk fol. @ 45° to the cba num. thin calcite seams, fol. & scuffing bl. to 5% of rock Py to 3% as diss. blots to 1/4" & thin seams in matrix zones, & minor frac fill. <p>975.5-980.5' DACITE TUFF</p> <ul style="list-style-type: none"> pred. a Py v. granular, luffaceous appearing light green dacite, appears massive, mod. strong pervasive sericite alt (of groundmass), & innumerable small white feldspar? tuff frags - xstals) num. thin, irregular calcite seams, stringers @ rd. or. to 5% of rock mod. frac, 2" chl. calc. Py, occ. graph frac fill. 										

CONT.

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

DATE STARTED: MARCH 8, 83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MARCH 15, 83

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 0°

TOTAL DEPTH: 1200'

LOGGED BY: D. McINDOR

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	SILICIFICATION	CARBONATE												
960'	S	S	P	S			carbonatized DACITE TUFF 975'-980.5' CONT. numerous small (1/16") dk bluish green carb blebs frags dis. throughout rock (to 5%) Py to 1% as v. small (< 1/16") diss. amorphous blebs & seams ass. carb. minor frac fill. Lk pervasive carbonatization from 975'-976' @ 976': 1" prod. gray calcite seam @ 40° to the cba. & a few dirty qtz blebs & thin dk chl. seams, strong, sch & ser. all @ rims; 2% Py as thin seams vn. or. from 977'-978', thin (1/16") graph. calc. Py filled frac @ 0° to the cba. & 1/2" dk gray (chl. graph?) alt. halo.		0.25%		100%	8Q	972'	100%		
	S	N	S	S			thinly bed graph arg GRAPH. ARG. & DAC. TUFF INTERBEDS schistose, sericitized dac. tuff		1%	966'		969	100%			
970'	S	S	N	S			thinly bed. graph arg bd. @ 60° ser. chl. alt. dac frags MIN. BRECC. DAC. TUFF brecc. by chl. graph arg seams	980.5'-981' MINERALIZED, BRECCIATED, ALTERED INT. VOLC. TUFF rock composed of brecciated frags of vlg. aqth light green, soft altered int. volc. tuff; - moderately sericitized, w/ky chloritized in places; frags pred. sub-angular to sub-rounded, range from 2 1/16" to 2" av. 1" v. strongly brecciated by seams & bands of hd dk green to black chloritic rich argillaceous rock, occasionally & minor graphite, carbonate (calcite) dk prep. or. in places @ 60° to the cba av frag/matrix ratio @ 75/25, pred. frag supported, a few intensely brecciated zones where matrix supported. in places frags exhibit a mg-eg remnant snowflake to spinifer type texture (may be hem. rich, alt. more matix volc.) from 982'-983', massive band of light green 'rock' exhibiting a mg-eg snowflake-spinifer tex. & replacing clusters of acicular min. altered pred. to sericite. from 983'-988', matrix becomes lighter grayish green, calcite, sericite rich @ 984', 1" gray calcite 'bleb' from 985'-987', matrix becomes v. siliceous cherty black argillite, brecciated frags have v. irreg. rims, (partially consumed)		2%	100%		972'	100%		
	S	S	N	S			carbonatized gray calc vn DACITE TUFF		3%	975'		975	100%			
980'	F	S	N	S			light green ser. chl alt. frags MIN. BRECC. DAC. TUFF chl. & graph & carb. arg rich matrix.	dk prep. or. in places @ 60° to the cba av frag/matrix ratio @ 75/25, pred. frag supported, a few intensely brecciated zones where matrix supported. in places frags exhibit a mg-eg remnant snowflake to spinifer type texture (may be hem. rich, alt. more matix volc.) from 982'-983', massive band of light green 'rock' exhibiting a mg-eg snowflake-spinifer tex. & replacing clusters of acicular min. altered pred. to sericite. from 983'-988', matrix becomes lighter grayish green, calcite, sericite rich @ 984', 1" gray calcite 'bleb' from 985'-987', matrix becomes v. siliceous cherty black argillite, brecciated frags have v. irreg. rims, (partially consumed)		1%	100%	980.5'	100%			
	W	M	N	S			calcite seam chl. graph arg band breccia zone.		3%	986'		987'	100%			
990'	P	M	N	S			bedded appearing calcite up 1% vlg. diss Py	987: 1012.7' CRUSTALINE DACITE TO ANDESITE & GRAPHITIC-CHLORITIC BRECCIA ZONES rock comprised predominantly of a light green, moderate to strongly sericitized, vlg. v. crystalline (short acicular light green translucent min. now all to ser.) pred. massive appearing (to v. w/ky foliated-schistose @ 45-50° to the cba) dacitic appearing rock (to andesitic appearing in places where w/ky chloritized) v. strongly fractured to weakly brecciated in places, @ random orientations, & prod. calcite, black chl. occ. graph. talc fracture filling w/ky brecciated in places by seams & bands of v. hard, black, chloritic-graphitic (loc. & carb) argillaceous rock, occ 'blebs' chl. graph arg; throughout the numerous irregular white to v. dk gray (e fr. chl. graph) calcite blebs & seams throughout unit v. siliceous in places (to a rhynodacite) a few soft v. chl. ser alt. 'zones' (shear zones) SULPHIDE CONTENT: 2% Py, as fr. diss blebs to 1/16" throughout rock & blebs-seams associated & graph. chl breccia zones. @ 987.5', 3" light green calcite, vn. (green colour-vly diss ser.) @ 55° to the cba, locally numerous thin graph. chl seams, filled blebs @ 988.4', 1/4" dk black chl. graph 'arg' band @ 65° to the cba, & 1% diss Py, minor calcite @ 989.3', 3" breccia zone, & 80% dk black chloritic, w/ky graphitic 'arg' & numerous thin calcite seams & 20% brecciated dac. frags, w/ky pred. or. 45° to the cba, Py to 2% as blebs & seams to 1/4" hl. from 991'-992', v. bedded appearing (sch. @ av. or. of 30° to the cba, ranges 0°-30°, slumped, unrelieved) gray to white calcite & a few small qtz blebs & hd balye. light bluish green carb. blebs, a few thin seams, sericite (occ. v. bright green - kushite) & chlorite, Py to 1% as vlg. diss min & thin seams to strong ser. alt. surrounding rk. from 992.5'-993.5', numerous 1-2" diffuse appearing light green calcite blebs often rimmed by chl. talc. @ 994.5', 3" calc. bleb rimmed by chl. talc.		100%	987'	100%				
	P	M	N	S			DACITE-ANDESITE brecc. by chl. graph seams		2%	993'		991'	100%			
1000'	W	K	N	S			graphitic band					995'	100%			
	P	M	N	S			v. crystalline					995'	100%			
	P	M	N	S			chl. rich arg; seams brecc. rk.					1003'	100%			
1010'	P	M	N	S			chl. graph arg; bed.					1007'	100%			
	N	T	N	S			pred qtz & minor calc & hd. large carb. ATX-CARB VN brecc. frags both rock		0.5%	1013'		1012.7'	100%			
1020'	N	T	N	S								1016'	100%			
	N	T	N	S								1018.5'	100%			

CONT.

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

DATE STARTED: MARCH 8, 83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MARCH 15, 83

SCALE: 1"=10'

INCLINATION: -55° BEARING: 0°

TOTAL DEPTH: 1200'

LOGGED BY: D. McIVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES.	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP INT.	ESTI-MATED
							<p><u>987-1012.7 CONT.</u></p> <ul style="list-style-type: none"> from 998-996', strongly brecciated by chl (minor graph) rich arg. bands, seams to 1/4" @ pref. or. of 80-90° to the cba, flm rich splso, frags v. sericitized, 'spruded' irreg rims, a few small calcite blebs & seams, Py to 5% as blebs to 1/4", thin seams in foliation & v. fine wisps throughout matrix (microfract filling) @ 1000', 2" wky graphitic hd. black arg. band-bd. @ 60° to the cba, & 2% Py as blebs & seams to 1/4" in fol. from 1005-1006.5', chl. rich arg. seams brecciate rock, @ pref. or. 0° cba (fol varies p. 45°), v. bd appearing & thin calcite-Py bands-beds, v. strong stikensides along bd & frac surfaces, frags host rock v. strongly sericitized, Py to 5% as diss blebs to 1/4" & seams in fol. from 1007-1007.5', 6" strongly brecciated zone, hd black chl. rich argillaceous matrix to 60% & 35% v. strongly sericitized dacite frags, Py to 3% as blebs to 1/2" from 1009-1009.5', rock becomes increasingly softer, darker green, chloritized. from 1009.5-1010', gray chl-graph arg. bed. seam @ 45° to the cba, & 2% Py as blebs to 1/4", a few qc blebs from 1010-1012.7', small dk green acicular sthale to 1/4" & 20% of rock. <p><u>1012.7-1019.5 QUARTZ-CARBONATE 'VEIN'</u></p> <ul style="list-style-type: none"> qtz carbonate veining to 95% of rock & 5% large (to 3") brecciated frags host rock. pred. qtz (60%) & 20% hd base carb. (dol. magnesite?) & 15% calcite hd base carb occurs as elongate fibrous appearing blebs & seams calcite occurs as bands, blebs to 2-3" & frac fill throughout vn. qtz pred. milky to translucent white, wk foliated appearance in places, & pref. or. of carb seams, but highly variable, minor pink Kspar? frac fill. numerous thin sericite seams & blebs to 1/4" throughout vn, usually rimming carb blebs or brecc. frags of host rock, v. coarse (gross.) in places, & bright green (fuchsite?) in places. from 1012.7-1013.5', vn @ 0° to the cba, 50% vn, 50% crystalline and., & Py blebs @ vn rims to 1/4" & 1% @ 1014.5', 3" light green andesite frag & dk green-black wky graph-chl arg. seam (1/2") @ 55° to the cba, 0.5% Py as diss min in frag & at vn rims. @ 1017', 1" chl alt. host rock band @ 25° to the cba, Py to 2% as blebs @ vn rims to 1/4" from 1018-1019.5', vn @ 0° cba, 50% of rock, Py to 2% as blebs to 1/4" @ vn rims. SULPHIDE CONTENT: overall \approx 0.5%, pred. as Py blebs @ rims of brecc. host rk frags & occasional small blebs ass. & sericite in vein. <p><u>1019.5-1026 ANDESITE TUFF & CHLORITIC-GRAPHITIC BRECCIA ZONES</u></p> <ul style="list-style-type: none"> lg. light grayish green, v. granular to crystalline appearing dacite-andesite tuff (crystal-ash tuff) (granular appearance - num. small white topgr tuff frags set in a light grayish green wky sericitized groundmass - appears almost dlcic 1st in places) wky to moderately brecciated in places by seams & bands of dk black argillaceous chlorite & graph. carb. exhibiting wk pref. or. of 90° to the cba, although highly variable strongly fractured @ random orientations, & calc. chl occ. graph frac. fill. numerous thin white to gray calcite seams to 1" throughout rock @ 1020.8', 1" black chl-calcite 'fish' argillaceous 'bleb' @ 90° to the cba from 1021-1022', strongly brecciated by argillite bands, frag/matrix ratio \approx 80/20, & matrix a gray to black rd. siliceous arg. Py to 3% as small diss blebs to 1/8" throughout matrix, clear sericite-calcite seams. @ 1028.5', a few 1" gray calcite blebs @ 1029.5', 2" qtz-carb. arg. seam @ 80° to the cba, & 5% Py as blebs to 1/4" from 1029-1028', becomes increasingly coarse grained, more chl rich, Py to 2% as small diss. blebs to 1/8" OVERALL SULPHIDE CONTENT: 1%, Py ass. & argillaceous breccia seams & diss blebs throughout rock. arbitrary contact & underlying, gradationally coarser grained unit. 								

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

DATE STARTED: MARCH 8, 83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MARCH 16, 83

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 0°

TOTAL DEPTH: 1200'

LOGGED BY: D. McEVOR

SECTION	ALTERATION			FRACTURING	MINERAL	GEOLOGY	COMMENTS: ADDITIONAL NOTES	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI- MATED
							<p><u>1044-1054' CONT</u></p> <ul style="list-style-type: none"> from 1047-1051' cont. & thin calcite & qtz seams, 11 fol. numerous thin sericite-chlorite seams; minor orange-pink coloration in places (minor Kspar.); tr. by diss fly (appears to be p. brecc. alt. fol. dyke) from 1048-1051', v. q. aph. massive appearing light green mod. chloritized, strongly carbonatized andesite (possibly a luff. v. granular appearing in places) & 30% prod qtz - minor carb veining - smoky gray qtz bands to 2". variable orientations ranging 0°-60° to 45° to the cba & calcite blebs & rims, a few cross-cutting calcite seams. tr. v. q. Cpy @ in rims @ 1050.5': 2" massive talc-chl blebs. from 1051-1054', thinly bed. sch. light gray v. strongly carbonatized and. luff. w. kly chloritized, relatively good luffaceous but & small white platy frags set in an andesitic groundmass, w. kly brecciated by numerous thin chl & graphite & calcite seams numerous thin (to 1/4") randomly or. calcite seams throughout unit. tr. diss fly as small amorph. blebs to 1/32" - bed. sch @ av. or. 45° to the cba <p><u>1054-1072' MODERATELY BRECCIATED CRSTALLINE ANDESITE</u></p> <ul style="list-style-type: none"> rock consists predominantly of lg crystalline (to granular, luffaceous appearing in places) light gray to light green andesite. (flow?) - crystals white to light green, v. fibrous appearing - patchy w. to mod. sericite alt., chl alt. in places. moderately brecciated by thin seams & bands of hd black to gray argillaceous rock, prod chl & graphitic 'slips' & calcite seams, @ dipind orientations of 30° & 50° to the cba rock v. strongly fractured @ 30-50° to the cba & calcite, chlorite, minor graphite fracture filling numerous thin calcite seams & blebs throughout rock, both w. & scuttling foliation frags to 1-2", av. frag. matrix ratio = 90/10, more strongly brecc. in a few places occasionally minor amp. of talc in matrix seams. in places frags lighter green, harder, dragily appearing. @ 1054.5': 2" light green calcite bleb (calc & minor diss. sericite). @ 1056': 1/2" calcite seam @ 55° to the cba. @ 1058': 3" breccia matrix rich zone & 30% calcite stringers-seams @ irreg or. (0-90° cba) @ 1068': 3" breccia matrix rich zone, & 40% calcite seams to 1/2" from 1069-1070', v. strongly brecciated, & gray to white calcite & dk green to black chl. graph. 'arg' bands v. strongly brecc. rk. (from 1064-1072', prod. only v. d. brecciated, v. well dev. xline bit) SULPHIDE CONTENT: variable, from 1064-1068', 1% Py, tr. Cpy as small blebs & seams ass. & breccia matrix & minor v. q. diss. min. throughout rk. from 1068-1072', 0.25% Py, a v. few small diss. blebs throughout rk & minor min. 683. & brecc. matrix seams. <p><u>1072-1099' STRONGLY BRECCIATED CRSTALLINE ANDESITE (LUFF?)</u></p> <ul style="list-style-type: none"> prod dk to light grayish green (chl alt. vs sericite alt.), lg crystalline to slightly granular luffaceous appearing aegitic (crystal luff?) crystals v. small white fibrous appearing aggregates & a few plag laths crystalline groundmass & small white plag & chl. matrix luffaceous frags. v. strongly brecciated by thin seams & bands of chl to hd chl rich argillaceous 'rock', occasionally & graphitic slips, usually & some calcite either as v. q. diss. blebs or @ rims. strong preferred breccia seam-frag orientation in places, @ highly variable orientations strongly fractured @ random orientations, & prod. calcite, minor chl, Py trac fill. numerous thin randomly or. calcite seams & stringers throughout rock, occasionally & minor qtz. v. w. carbonatization in places, numerous small white calcite 'blebs' - luff frags? cross cutting calcite seams & v. strong 'graywacke' appearance in places, & num. small frags-clasts of and. & arg. OVERALL SULPHIDE CONTENT: 1% Py, tr. Cpy, as lg diss. blebs, to 1/16" throughout rock, occasional larger cubic & amorphous blebs ass & matrix zones. argillaceous breccia matrix occ. gray, siliceous. from 1072-1074', v. strongly brecciated, frag/matrix ratio = 80/20, w. prod or. 35-55° to the cba @ 1075', a few 1/8" Cpy smears along fac. from 1074-1076', mod. strongly brecciated, frag/matrix ratio = 95/5 from 1076-1078', v. strongly brecciated, frag/matrix ratio 76/26, frags to 1/2" sub rounded, 01 @ 35° 								

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	SILICIFICATION	CARBONATE													
1080'	BRECCIA MATRIX	WEAK PATCHY	HALO AROUND A FEW FRAGS	WAX PATCHY ALT. FRAGS			<p>acicular mafe pshls to 1/4" in brecc. crystalline and gte carb varying to 30% of calc. vn</p> <p>1072-1099 CONT. from 1072-1083, becomes mg. v. crystalline, & small 'blocks' of radiating, acicular white fibrous appearing min. (hegrite?) & occasional v. elongate acicular (to 1/4") light to dk green (calc to epidote?) mafic min - may be a remnant spinel type tpt or met. tpt. may be an alt. mafic mafic vpl. @ 1081.5', 1" calc bled in graph. chl breccia matrix zone & a few cpy blobs to 1/8" along fracs.</p> <p>from 1081-1086, gte-carbonate to 30% of rock, as v. thin veins-seams & large vns to 6", v. sed. bedded appearance. @ 40-50" to the cba, from 1083-1084, pred. calcite-magnesite seams-beds to 1/2" & 70% of rock, often slumped, folded, circulated, & v. strong chl all & sch. in surrounding rock @ 45" to the cba, a few small gte blobs-eyes & carb, a few small hd black arg. frags (brecciated host rock)</p> <p>from 1083-1083.2', v. strongly chl. all host rk & minor talc, carb</p> <p>from 1083.2-1083.7', gte-carb vn, pred. gray smoky gte & blobs & thin seams of white calcite & ep. colored carb, crude tal. @ 45" to the cba, a few thin ser-chl seams vn. or., a few small brecciated arg. frags, heavily brecciated host rock frags are silicified.</p> <p>from 1083.7' to 1086', v. strongly brecciated & frags to 30%, occ. silicified to totally sercite all, matrix is soft chl to hd chl graph. carb rich, argillaceous rk, pred. or. @ 50" to the cba, numerous calcite-sericite seams & blobs to 2" tr. by diss. arg.</p> <p>from 1086-1099, moderately brecciated, frag/matrix ratio 95/5, av frag size 1-2" of mg crystalline and, matrix v. carb rich</p> <p>@ 1087, 1/4" calc. vn, brecciates rk</p> <p>@ 1088, 1/2" gte-calcite vn @ 50" to the cba, pred calcite & a few gte blobs</p> <p>@ 1090, silicification halos around thin gte seams</p> <p>from 1095-1096, v. strongly silicified, vfg. crystalline tpt overprinted by sil., & elongate acicular green islets remaining.</p>	19%	1084	100%	8Q	1077'	100%				
1090'	MATRIX						<p>silicification halos around thin gte seams</p> <p>silicified</p>				1095	100%		1092'	100%		
1100'	SYSDONG ALT. MATRIX	STRONG	NUMEROUS BLEBS	NUMEROUS BLEBS			<p>gcs vns</p> <p>chl-ser alt frags in chloritic 'arg' groundmass matrix (chl to sil. arg) predominant.</p> <p>STRONGLY BRECC. ALT. MAE-UM VOLC RK</p> <p>gte-carb breccia</p> <p>frags alt to chl-ser-talc elongate @ 45" chl locally frags v. silicified</p> <p>fant autobrecciated appearance</p> <p>silicified zones</p>	0.5%		100%		1099'	100%		1099'	100%	
1110'	FRAGS OF STR. ALT. MATRIX						<p>highly variable appearance, & varying types-devices of alteration & brecciation.</p> <p>rock consists predominantly of fragments of light grayish green v. strongly chl to ser to talc altered vfg. aph mafic (to um?) volcanic rock, w/ky foliated & preferred orientation of brecc. seams & frags, & corresponding sch. in frags, @ highly variable orientations,</p> <p>intensely brecciated by seams of hd. dk green to black chlorite rich 'argillaceous' rock, occasionally & minor graphitic, calcite</p> <p>occasionally brecciated by soft talc-chlorite seams (arg autobrecciation product?)</p> <p>strongly fractured @ random orientations, & pred. calcite & chlorite fracture, filling.</p> <p>numerous irreg. blobs & seams of calcite & gte-talc-chlorite throughout unit.</p> <p>frags appear argillaceous in places, dacitic in places, occasionally alt. to v. light green amorphous appearing clay min?</p> <p>av. frag size 1/2-1" sub rounded to sub ang, crude av frag/matrix ratio ~ 80/20, but highly variable.</p> <p>from 1099-1102', frags, pred. gray-green, chl-sericite rich, breccia matrix pred. chl arg, wk pred or @ 50" to the cba, ty to 0.5% as vfg. diss. min. in both frags & matrix.</p> <p>@ 1100', 4" gte vein, pred. spherical blobs gte to 1/2" in, calcite matrix, 70% gte, 30% calc.</p> <p>@ 1101', 1/2" gte vn @ 0" to the cba (v 4") folded, pred gte & calc @ rims.</p> <p>from 1102'-1104', frags slightly harder, dacitic appearing, a few v. bright green, soft 'clay min' alt. frags from 1102-1102.5', a few w/ky silicified frags, frags elongate & pred. or. @ 45" to the cba, (fragilit. tpt appearance), 0.25% vfg. diss. arg.</p> <p>from 1104'-1106', v. intensely brecciated, matrix predominant, v. hd. black to gray chl to sil. arg, highly explosive appearance & frags to 1", av 1/4", angular to elongate pyroclast shaped of light green ser, rich alt. volc, numerous calcite, frags & silicified frags & what appears to be a prebrecciated or graywacke appearing frags of a light green aph soft matrix & frags/chests of light green ser. rich tk, black arg & gte. ty to 0.5% & trace cpy, as thin seams running a few crosscutting gte seams, vfg. diss. min. & 'wings' throughout tk. v. strange unit, matrix may be some sort of tubidite.</p> <p>from 1106-1107', rock consists pred. of lg (to 2") frags of chloritized mat. UM volc & 3 frags or seams of a gte-carb breccia - (small angular frags of arg &</p>	0.25%	1105	100%		1104'	100%				
1120'							<p>silicified zone</p>	0.5%		100%		1109'	100%		1109'	100%	
1130'	BRECCIA MATRIX	WEAK PATCHY	NUMEROUS BLEBS	NUMEROUS BLEBS			<p>gcs vein (gte-calc-dot)</p> <p>gte-hd base carb vn</p> <p>gcs vn</p> <p>thin graphitic seam</p> <p>BRECC. ALT. AND SERICITE</p> <p>gts-hd-base carb vn.</p> <p>v. strongly brecc.</p> <p>matrix becomes graphitic</p> <p>matrix graphitic.</p> <p>BRECC. AND SERICITE INTER.</p>	1%		100%		1116'	100%		1116'	100%	
1140'							<p>from 1124-1124', STRONGLY BRECCATED, ALTERED (SILICA, TALC, CHLORITE, SERICITE) MAFIC TO UM? VOLC ROCK</p>	19%		100%		1126'	100%		1126'	100%	
							<p>CONT.</p>	0.5%		100%		1136'	100%		1136'	100%	

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

DATE STARTED: MARCH 8.83

REF. TO CLAIM CORNER:

COORDINATES: N. E.

DATE FINISHED: MARCH 16.83

SCALE: 1" = 10'

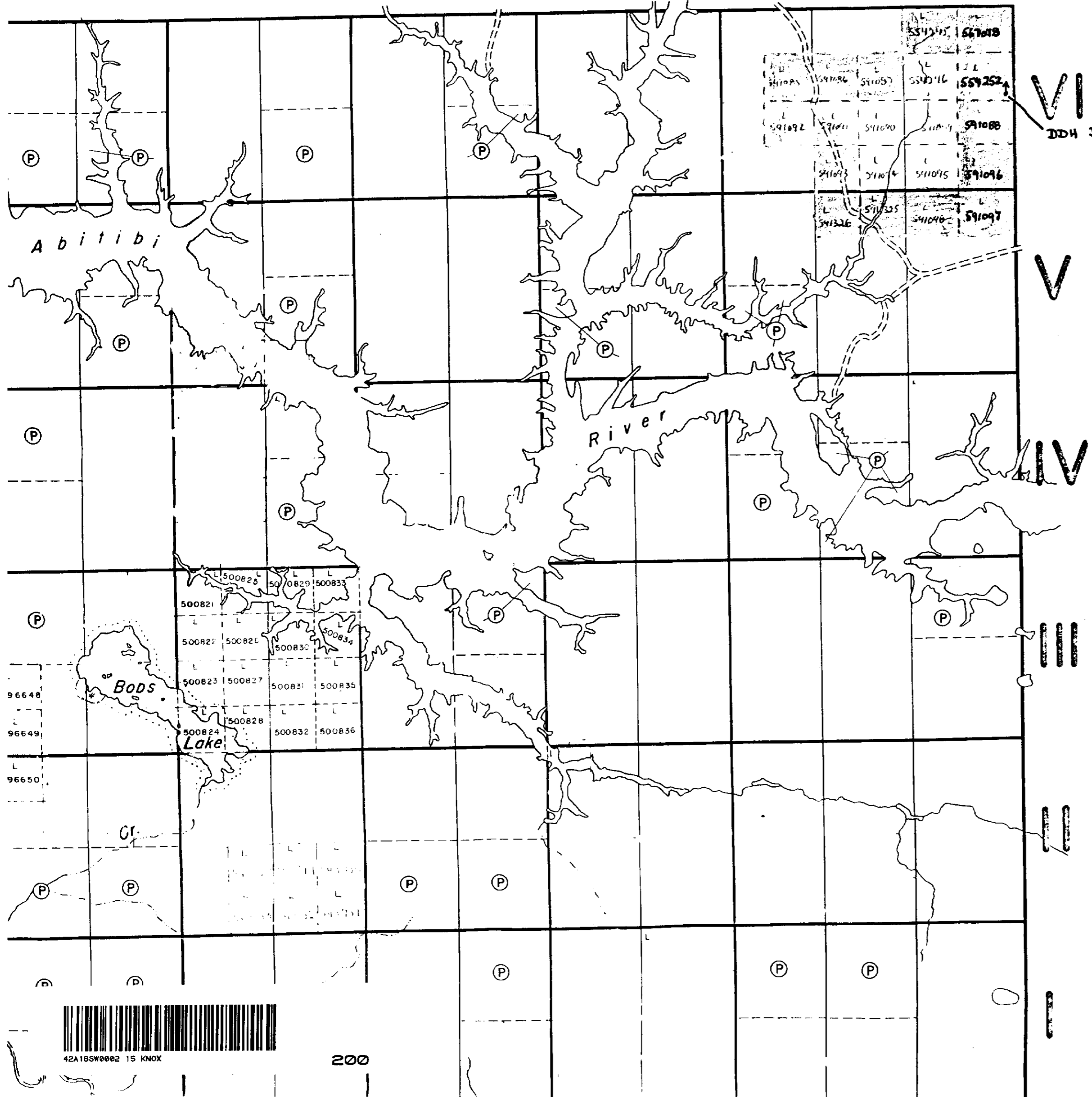
INCLINATION: -55° BEARING: 0°

TOTAL DEPTH: 1200'

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.	ESTIMATED
	CHLORITE	SERICITE	SILICIFICATION	CARBONATE												
1140'	BRECCIA	NEAR		PATCHY			<p>qtz-calc vn v strongly brecc. frags strongly carbonatized hd. black chl-graph arg rock matrix</p> <p>strongly carb-chl-ser alt frag in chl-graph-calc rich matrix</p>		0.5%	146'	100%	8x	1138'	100%		
1150'	MATERIAL	FRAGMENT		FRAGMENTS			<p>1124-1138' CONT.</p> <p>1129, 7/8" graphitic seam @ 55° to the cba from 1130.5-1131, qc vein @ 30° to the cba, pred. calcite & qtz & hd. large carb. blebs & seams, vly diss. Py, & thin Py seams & vn rims (to 19%)</p> <p>1133.5, 1/2" chert 1135, 1" strongly brecciated zone & Py locally to 3% as thin seams 11 fol. @ 35° & rims on frags @ 1131.5, 2" calcite seam @ 35° to the cba.</p> <p>from 1136-1138, breccia matrix becomes v. graphitic, & bands to 2" @ 35° to the cba</p> <p>OVERALL SULPHIDE CONTENT: 1%, pred. Py, tr. Cpy, as diss. blebs to 1/16" & thin seams ass. & breccia matrix.</p>		2%	146'	100%		1147'	100%		
1160'	FRAGMENT	FRAGMENT		FRAGMENTS			<p>1138-1179' BRECCIATED INT. VOLC. TUFF (DAC. TO AND) & GRAPHITIC INTERBEDS.</p> <p>highly variable unit, & varying degrees & types of alteration - brecciation from 1138-1147, rock consists predominantly of lg granular to crystalline appearing andesite tuff/flow frags, strongly brecciated, & 1/16" ratio of 90:10, av frag size 1/16" (range 1/16"-3/8"), angular to subrounded frags, breccia matrix pred. hd black chloritic to wly graphitic argillaceous rock, occ. calcite rich, occ. softer chlorite, wk soft to chl alt of frags in places, numerous calcite blebs & seams to 1/8", strongly frac. @ red or. & chl. calc. occ. Py fiss. fill.</p> <p>from 1138-1140, matrix v. graphitic from 1140.5-1141, qc vein @ 50° to the cba, pred. calcite & a few 1/8" qtz blebs, a few light green calc. (& diss. sericite) blebs.</p> <p>from 1142-1142.5, locally v. strongly brecciated, frags are v. light green, aphanitic, v. strongly carbonatized & ser-chl alt. Py to 5% thin stringers & blebs to 1/4" occasional late chlorite rich zones throughout unit</p> <p>strong perv. carbonatization from 1142.5-1147, 2 pred. or. @ 25° to the cba sulphides av 0.5% Py as vly diss min in matrix, a few small blcks in frags.</p> <p>from 1147-1151, frags become vly aphan. v. strongly carbonatized, strongly sericite to chlorite altered, v. strongly brecciated, frag matrix ratio 80:20, av frag size 1/8"-1/2", matrix relatively graphitic & carb rich, strong pred. or. @ 27-35° to the cba (ranges 30-50°) Py to 2% as blebs & seams to 1/8" in both frags & matrix, crosscut boundaries, 1149, 1/2" graph seam @ 40° to the cba, a few 1/8" Py bands 11 fol. from 1150-1151, graphitic argillite, thinly bed @ 30° to the cba, a few small ser-calc alt. frags host rock?</p>			146'	100%		1151'	100%		
1170'	FRAGMENT	FRAGMENT		FRAGMENTS			<p>qtz-calc vn v. wly brecc by ser-chl-carb seams (auto-brecc.)</p> <p>graph arg bed graph arg bed.</p> <p>qc vn strongly brecc.</p> <p>graph seam strong pred frag or. @ 3 seam thin graph intbeds!</p> <p>graph seams</p>			146'	100%		1159'	100%		
1180'	FRAGMENT	FRAGMENT		FRAGMENTS			<p>1151-1164, frags become lg, granular, light green, wly sericitized, dacitic appearing, only weakly brecciated, wk foliation @ 40° to the cba (6d/sch in tuff). breccia matrix pred gray-green, soft, ser-chl-carb rich rock, more an auto-brecciation product, numerous thin randomly oriented calcite & qtz & chl blebs & seams to 5% of rock & 1/16", 2" qc vein @ 35° to the cba</p> <p>from 1159.5-1160.5, 1170g qc vn @ 10° to the cba, light green qtz & v. fragmental appearing blebs of calcite, minor red-orange coloration of qtz, calcite in places, minor redmin frac fill.</p> <p>from 1161-1164, frags become increasingly sericitized, increasingly brecciated @ strong foliation 35° cba</p> <p>frags Py as a few small blebs to 1/8" ass & carb seams, breccia matrix zones.</p> <p>from 1164-1173, v. strongly brecciated, fragmental ratio averages 90:10, to 60/40 in places, mod. strong preferred or. of frag seams & elongated frags @ 45° to the cba from 1164-1164.7, thinly bedded (& 1/16") graph arg interbed, pred graphite & numerous thin calcite seams-beds to 20% rock, bd. varies 0-50° to the cba, slumped, kipped, a few strongly sericitized dac. tuff frags - slumped beds, Py to 5% as thin seams 11 fol., a few blebs to 1/4" & minor vly diss min., a few thin cross-cutting calcite seams.</p> <p>from 1164.7-1165.5, frags aphan. v. strongly sericitized & carbonatized.</p> <p>from 1165.5-1165.7, graphitic argillite interbed, thinly bed (& 1/16"), pred. graph & num. thin calcite seams 11 bed to 25% of rock, 1/8" @ 45° to the cba Py to 5% as blebs to 1/2" & thin seams ass. & carb seams, wk carb. halo around graphitic unit.</p> <p>from 1168-1169, numerous thin (to 1/4") qtz-calc seams @ 30° to the cba & 1169, 2" qc vn @ 30° to the cba, pred. calcite & minor pinkish-orange discoloured qtz.</p>			146'	100%		1173'	100%		
1190'	FRAGMENT	FRAGMENT		FRAGMENTS			<p>qtz-calc vn.</p> <p>wk fol. (6d/sch) @ 40° cba.</p> <p>DACITE TUFF</p>			146'	100%		1179'	100%		
1200'	FRAGMENT	FRAGMENT		FRAGMENTS			<p>END</p>			146'	100%		1200'	100%		

Moody Twp.



THE TOWNSHIP
OF

KNOX

DISTRICT OF
COCHRANE

LARDER LAKE
MINING DIVISION

SCALE: 1-INCH= 40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
ROADS	—+—+—+—+—
IMPROVED ROADS	—+—+—+—+—
RAILWAYS	—+—+—+—+—
POWER LINES	—+—+—+—+—
MARSH OR MUSKEG	—+—+—+—+—
TRAILS	—+—+—+—+—

NOTES

400' Surface Rights Reservation around all Lakes and Rivers.
 Flooding rights along shores of Abitibi River.
 License of Occupation 8674 covers land below 826' & 881' level along the shores of the Abitibi River.

JUN 28 1982



SURFACE



OVERBURDEN

BRECCIATED DACITE

BRECCIATED MAFIC VOLCANIC (VARYING INTENSITIES OF SILICIFICATION, SERICITE, CHLORITE, TALC ALTERATION)

ANDESITE

MINERALIZED GRAPHITIC ARGILLITE (3% PYRITE)

BRECCIATED DACITE

DACITE TUFF

MINERALIZED GRAPHITIC ARGILLITE (3% PYRITE)

GRAPHITIC ARGILLITE (3% PYRITE)

GRAPHITIC ARGILLITE (2% PYRITE)

DACITE TUFF (FUCHSITE BEARING)

GRAPHITIC SCHIST (SERICITE, CARBONATE, 2% PYRITE)

GRAPHITIC ARGILLITE (3% PYRITE)

DACITE

DACITE

DACITE TUFF

DACITE TUFF

DACITE TUFF

GRAPHITIC ARGILLITE (5% PYRITE)

DACITE TUFF

DACITE TO ANDESITE TUFF

GRAPHITIC ARGILLITE (5% PYRITE)

GRAPHITIC SCHIST (TALC, CHLORITE, SERICITE, CARBONATE, 5% PYRITE)

DACITE TUFF

DACITE TUFF

GRAPHITIC BRECCIATED DACITE TUFF

CARBONATIZED DACITE TUFF

DACITE TUFF

CARBONATIZED DACITE TUFF

SILICIFIED, BRECCIATED DACITE TUFF

GRAPHITIC, BRECCIATED ANDESITE TUFF

DACITE TO ANDESITE TUFF

GRAPHITIC ARGILLITE (5% PYRITE)

ANDESITE

ALTERED MAFIC VOLCANIC

DACITE TO ANDESITE TUFF

CARBONATIZED DACITE TUFF

GRAPHITIC ARGILLITE (2% PYRITE)

INTERBEDDED DACITE TUFF AND GRAPHITIC ARGILLITE (3% PYRITE)

DACITE TUFF

GRAPHITIC ARGILLITE (2% PYRITE)

INTERBEDDED GRAPHITIC ARGILLITE, SILICEOUS ARGILLITE, AND DACITE TUFF (.5-1% PYRITE)

DACITE TUFF

GRAPHITIC ARGILLITE (10% PYRITE)

DACITE TUFF

BRECCIATED DACITE TUFF INTERBEDDED GRAPHITIC ARGILLITE AND DACITE TUFF (3% PYRITE)

DACITE TUFF

CARBONATIZED, BRECCIATED DACITE TUFF

DACITE TO ANDESITE TUFF

BRECCIATED, GRAPHITIC, CARBONATIZED DACITE TO ANDESITE TUFF (5% PYRITE)

CARBONATIZED ANDESITE LAPILLI TUFF/BRECCIA

UTAH MINES LTD.

JDH # JL-83-J

1" = 100'

COLLAR: L16E, 4+40 S

INCLINATION: -55°

BEARING: 0°

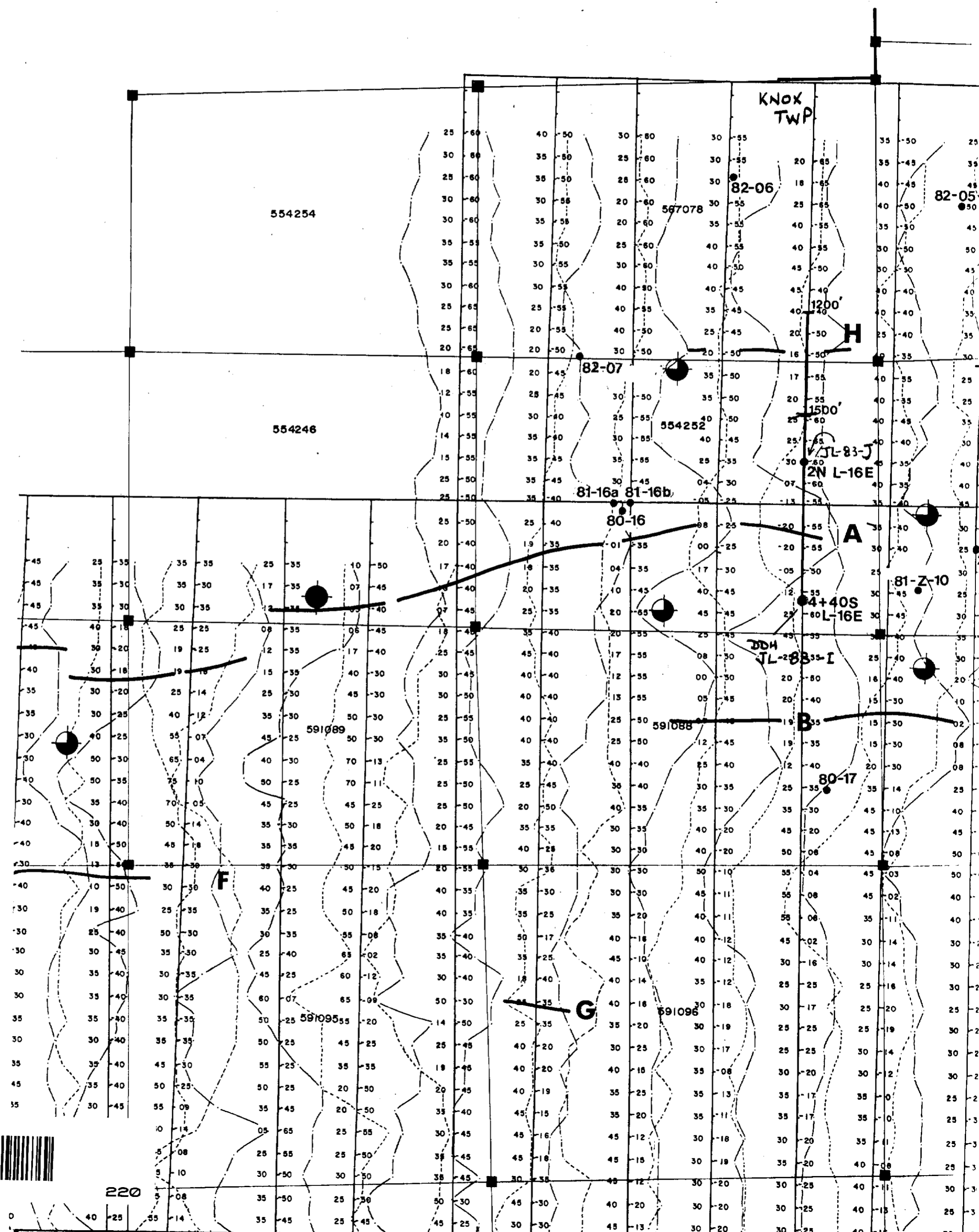
TOTAL DEPTH: 1495'



42A165W0002 15 KNOX

1" = 400'

MOODY TWP
GALNA TWP



42A16SW0002 15 KNOX

220

