

42A16SW0070 17 MOODY

DIAMOND DRILLING

010

TOWNSHIP: Moody

REPORT No.: 17

WORK PERFORMED BY: Utah Mines Ltd.

<u>CLAIM No.</u>	<u>HOLE No.</u>	<u>FOOTAGE</u>	<u>DATE</u>	<u>NOTE</u>
L 610456	JL-84-F1	876	Feb/84	(1)
L 609706	JL-84-F2	766	Mar/84	(2)
L 610469	JL-84-B4	806	Mar/84	(3)

NOTES: (1) #82-84
 (2) #190-84
 (3) #192-84

HOLE NO. 71-84-F1

PROJECT: JIM'S LAKE

PAGE NO: 2 OF 10

CASING COLLAR ELEV.: 4' above gr.

GROUND ELEV.:

DATE STARTED: FEB. 12. 84

REF. TO CLAIM CORNER:

COORDINATES: 196E. 12493 S N. E.

DATE FINISHED: FEB. 27. 84

SCALE: 1" = 10'

INCLINATION: -55°

BEARING: 360°

TOTAL DEPTH: 876'

LOGGED BY: D. M. C. VOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED						
	CHLORITE	SERICITE	CARBONATE	OTHER																		
380'	STRONG	STRONG	MODERATE	MINOR	MINOR EPIDOTE	Py	<p><u>360-397' DIORITE - CONT.</u></p> <p>calcite, Kspar filled fracs.</p> <p>foliation (sch) becomes strong</p> <p>2" chert & tr. diss sph.</p> <p><u>DIORITE</u></p> <p>plag phenocrysts</p> <p>gradational contact</p> <p>strong sch. @ 40°</p> <p>gls-calc-dol. vns</p> <p><u>AND-DIORITE</u></p> <p>wk remnant crystalline texture</p> <p>mg. crystalline.</p> <p><u>ALT. DIORITE</u></p> <p>becomes very strongly sch.</p> <p>gls-calc vng to 80%</p> <p><u>ALTERED ANDESITE TUFF</u></p> <p>gls vns</p> <p><u>ALTERED BASALTIC TUFF</u></p> <p>carb-magnetite seams</p>	100%	TRAC	386'	100%	80	380-385'	100%	380-385'	100%						
390'	STRONG	STRONG	MODERATE	MINOR	MINOR EPIDOTE	Py	<p>from 360-370.5', numerous Kspar. calcite filled fractures to 1/4" @ 40° to the c.a. (11 to fol.)</p> <p>from 371.5' - 372.5', numerous 1/2-1" vly schistose, sheared seams 11 to fol. @ 40° to the c.a., locally above calcite. Kspar veins next foliation @ 50-60° to the c.a.</p> <p>from 374-379', becomes slightly coarser grained, with more plag (to 70% of rock)</p> <p>@ 378.5' 2" sheared zone @ 95° to the c.a. 1/2 num. chl, Kspar & calcite seams to 1/4" 11 to fol. & flow 1/4" vly blebs</p> <p>from 380.5' - 380.5' num. 1/2" calcite. Kspar filled fracs @ 10° to the ca (across fol. @ 40°)</p> <p>from 383-397', foliation becomes very strong @ 95°, appearing almost gneissic in places, & plag rich vs. mafic rock bands, & numerous thin vly sheared chl. rich bands 11 to fol.</p> <p>locally minor sericite frac. fill.</p> <p>@ 388.5' 2" sheared zone & trace diss. sph (or or. Py) blebs to 1/2"</p> <p>from 389-390, numerous thin calcite. Kspar-hem filled fracs @ 45° to the ca & trace sphalerite</p> <p>@ 393, locally very sheared, & above 1" plag phenocrysts</p> <p>from 393-394, trace sph & abundant hornblende ass. & calcite frac. fill.</p> <p>@ 394.5' 1/4" calcite vein @ 80° to the c.a.</p> <p>from 396-397', increasingly sheared, chlorite altered, strongly fractured, & hem. chl. calcite frac. fill</p> <p>gradational, concordant contact & underlying sheared, altered unit (may be sub-intrusive or thick flow)</p> <p><u>397-405' SHEARED, CHLORITIZED ANDESITE/ALTERED DIORITE</u></p> <p>soft, strongly sch. sch. @ 20-40°, to 40° to the c.a., sheared light green andesite-diorite, with a weak remnant lg. mg crystalline texture in places (although predominantly obliterated)</p> <p>very strongly chloritized, with mod. pervasive carbonatization & wk sericite all. in places</p> <p>num. thin calcite seams & blebs 11 to sch. throughout unit.</p> <p>moderately fractured, pred. 11 to fol. & some scuffing @ 70-90° to the c.a., - pred. calcite, with some Fe carb. chl. hem & Py. gfs. sph? frac. fill</p> <p>below thin hem seams 11 to sch.</p> <p>OVERALL SULPHIDE CONTENT: trace Py, sph (or or. Py) ass. & calc veins & frac. fill</p> <p>from 399-400, num. 1/4-1/2" rusty gfs. calc-brown Fe carb veins from 0-90° to the c.a.</p> <p>& trace diss Py, sph (or. Py - cubic) blebs</p> <p>& gradational contact & underlying altered diorite</p> <p><u>405-412.5' ALTERED DIORITE</u></p> <p>predominantly mg. & lg. sch. phases, crystalline diorite, composed of (or. sch. 60% plag & 40% chloritized mafic (although varies slightly) - minor epidote alt. of plag in places</p> <p>moderate schistosity @ 40-70° (pred. 40°) to the c.a.</p> <p>strongly schistose, sheared in places, & strong chlorite & weak carb-ser. alt. where strongly sch.</p> <p>strongly fractured, (one set 11 to fol., several others @ rad. or.), & pred. calc. minor Kspar. hem chl. Py. sph? frac. fill.</p> <p>numerous thin hematite seams & blebs 11 fol.</p> <p>minor pervasive sericite all. in places</p> <p>above gfs sections & plag phenocrysts to 1/2"</p> <p>OVERALL SULPHIDE CONTENT: trace, 0-25% diss. Py cubes to 1/16" & minor sph. (or. Py?)</p> <p>from 405-406', very strongly fractured, @ 40-60° to the c.a., & calcite & hem frac. fill</p> <p>from 410-412.5', becomes very strongly sheared, schistose, & only weak remnant crystalline texture. fol @ 40°, very strong chl. ser. & pervasive carb. alt., soft, abundant hematite as frac. filling (moderately distinct, concordant contact & underlying unit)</p> <p><u>412.5-432' ALTERED ANDESITE TUFF (CHLORITE-CARBONATE SCHIST)</u></p> <p>rock comprised predominantly of aphanitic, light to medium green, very strongly schistose (sheared appearing) andesite tuff schistosity (if diffusious bed?) @ 95-55° to the core axis</p> <p>very strong chlorite alteration, moderate carbonate alt. (rock consists of thin alternating bands of chlorite & calcite) - minor to moderate sericite alt. in places - some knitted, pre-oxidized sch. in places</p> <p>moderately fractured, @ no preferred orientation, & calcite, chlorite, minor hematite frac. fill</p> <p>numerous thin calcite seams & blebs to 1/4" scuffing & sub-parallel to fol.</p> <p>OVERALL SULPHIDE CONTENT: 0.5% Py. as diss cubes to 1/32", above thin seams 11 to fol. & trace diss. sph for oxidized Py. blood red, may be hematite)</p> <p>from 412.5-413', 1" gfs vns & minor calcite & brown Fe carb. at rims, @ 40° to the c.a.</p> <p>from 415.5-416.5', intensely sheared, locally sericite rich, & numerous calcite-brown Fe carb. minor gfs vns to 1/2" both 11 to fol (45°) & scuffing fol.</p> <p>@ 417, fol. is, locally, knitted, crenulated - from 417.5-418', gfs-calcite veining to 2" & 60% of rock @ 80° to the c.a (across fol @ 55°) & minor Py. hem @ rims</p>	100%	TRAC	396'	100%	388-390'	100%	390-393'	100%	397-399'	100%	400-405'	100%	405-412.5'	100%	
400'	STRONG	STRONG	MODERATE	MINOR	MINOR EPIDOTE	Py	<p>becomes very strongly sch.</p> <p>gls-calc vng to 80%</p> <p><u>ALTERED ANDESITE TUFF</u></p> <p>gls vns</p> <p><u>ALTERED BASALTIC TUFF</u></p> <p>carb-magnetite seams</p>	100%	TRAC	406'	80%	405-412.5'	100%	412.5-417.5'	100%	417.5-418.5'	100%					
410'	STRONG	STRONG	MODERATE	MINOR	MINOR EPIDOTE	Py	<p>becomes very strongly sch.</p> <p>gls-calc vng to 80%</p> <p><u>ALTERED ANDESITE TUFF</u></p> <p>gls vns</p> <p><u>ALTERED BASALTIC TUFF</u></p> <p>carb-magnetite seams</p>	100%	TRAC	0.25%	100%	412.5-417.5'	100%	417.5-418.5'	100%	418.5-422'	100%					
420'	STRONG	STRONG	MODERATE	MINOR	MINOR EPIDOTE	Py	<p>becomes very strongly sch.</p> <p>gls-calc vng to 80%</p> <p><u>ALTERED ANDESITE TUFF</u></p> <p>gls vns</p> <p><u>ALTERED BASALTIC TUFF</u></p> <p>carb-magnetite seams</p>	100%	TRAC	0.15%	100%	418.5-422'	100%	422-427'	100%	427-432'	100%					
430'	STRONG	STRONG	MODERATE	MINOR	MINOR EPIDOTE	Py	<p>becomes very strongly sch.</p> <p>gls-calc vng to 80%</p> <p><u>ALTERED ANDESITE TUFF</u></p> <p>gls vns</p> <p><u>ALTERED BASALTIC TUFF</u></p> <p>carb-magnetite seams</p>	100%	TRAC	1.9%	100%	427-432'	100%	432-438'	100%	438-441'	100%					
440'	STRONG	STRONG	MODERATE	MINOR	MINOR EPIDOTE	Py	<p>becomes very strongly sch.</p> <p>gls-calc vng to 80%</p> <p><u>ALTERED ANDESITE TUFF</u></p> <p>gls vns</p> <p><u>ALTERED BASALTIC TUFF</u></p> <p>carb-magnetite seams</p>	100%	TRAC	0.5%	100%	438-441'	100%	441-446'	100%	446-451'	100%					

HOLE NO. 7L-84-F1

PROJECT: JIM'S LAKE

PAGE NO: 2A OF 10

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

DATE STARTED: FEB. 12. 84

REF. TO CLAIM CORNER:

COORDINATES: 1966, 12197 S N. E.

DATE FINISHED: FEB 27. 84

SCALE: 1" = 10'

INCLINATION: -53° BEARING: 360°

TOTAL DEPTH: 876'

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
							<p>417.5' - 432' ALTERED ANDESITE TUFF CONT.</p> <ul style="list-style-type: none"> - from 419' schistosity & in places bedding @ 80° or of 50° to the c.a., jointed, crenulated in places - very strong chl. aff. mod.-strong carbonate aff. (thin bands to bedding) - minor ser. aff. in places - numerous scuffing & parallel (to fol) qtz-calcite veins to 1/2" - weak to moderately fractured, pred. or sub to foliation, & calcite, chlorite fracture filling. (minor bed) - overall carb content ~ 20% - in places exhibits a weak (rampant) to crystalline texture, from 422'-424', may be a thin flow - Py becomes 1% as diss. cubes to 1/16" & ass. calcite veining, minor frac. filling - @ 425.5', 1" qtz on @ 95° to the c.a., & a few thin 7/8" scuffing calcite veins - from 431'-432', gradually becomes very well banded - bedded, & alternating chl & calcite rich bands to 1/16", gradational contact & underlying unit. <p>432' - 434' PYRITIC CHLORITE-CARBONATE TUFF</p> <ul style="list-style-type: none"> - very finely banded, bedded, @ 65° to the c.a. (appears v. chem sed in places), with thin alternating bands of dk green chlorite & white carbonate (pred. calcite & minor hard pale pink magnesite) - Py to 3% as large (to 1/4") cubic & subhedral, blebs along bd. planes & diss. throughout rock. - a few small fragmental appearing qtz & calcite blebs - numerous, thin (to 1/8") scuffing qtz-calcite veins, pred. to bedding. - @ 433.5', 2" thinly bd. calcite-magnesite-minor qtz 'vein' fol. - gradational contact & underlying basaltic tuff. <p>434' - 459' ALTERED BASALTIC TUFF (KOMATIITE?)</p> <ul style="list-style-type: none"> - lg to sph., very dark green, strongly foliated (appears more like bedding than schistosity, @ an average orientation of 50° to the c.a., varies to 80°) altered basaltic tuff, relatively soft - composed predominantly of thin (1/8" - 1/32") chlorite bands, & numerous thin carb. (calcite) stringers, spams & elongate fragmental appearing blebs to 10% of rock, to foliation (some of the small white stringers & blebs may be plag. or altered garnets) - numerous calcite & qtz-calcite veins to 1/2"-1", both scuffing & to foliation - numerous 3-5" mottled appearing zones, & mod.-str epidote aff. of plag. (pillow rims??) - moderately to strongly magnetic in places & vlg diss magnetite to 5% in places. - averages 1-2% (numerous thin elongate (to fol) blebs of light gray sub-metallic mineral - looks like mte, but often is non-magnetic) - in places exhibits what could be a rampant to crystalline texture & small white anhedral to subhedral plag crystals - no sharp contacts - interflow? or are these tuff frags? - overall sulphide content - 0.5-1%, Py as small diss. cubes to 1/8" & minor ass. Py & calcite seams - trace sph (or oxidized, Py) & a few carb seams - @ 438', 2" carbonate rich zone, & numerous thin magnetite seams to fol. @ 60° & locally 2% Py as blebs to 1/4" - from 439'-440' minor diss. blood red sph? hem? associated & thin carb or plag seam, to fol. @ 45° - from 441'-441.5', mottled zone, & calcite-chlorite-minor qtz seams @ 85° to 80% of rock, & 5-10% vlg diss magnetite & 2% Py cubes to 1/8", trace diss. sph-hem? - from 442'-443', Py locally to 3% as bands of diss. cubes to foliation - from 444'-444', oxidized zone, & numerous pale reddish brown hematite seams & blebs (altered Py) (some remnant cubes) to foliation @ 45° to c.a., usually associated with thin carb seams - @ 444.5', 2" zone & numerous thin qtz-calcite-minor brown Fe carb. veins to 90% of rock, & 5% diss mte, 1% Py, tr. sph - from 445.5' - 446', qtz-calcite-brown Fe carb veining to 70% of rock, to fol. @ 50° to the c.a., a few 1/4" Py-sph blebs @ vein rims, abundant hem.-limonite - surrounding basalt & 3% diss Py & ox. Py, tr. sph, mte. - from 447'-448', mottled zone, & thin calcite stringers to fol. @ 40° to 80% of rock, calcite light pink in places & minor diss. hem., minor local epidote aff. of plag., minor diss mte to 1%, Py to 0.5% - from 449'-450.5', numerous qtz-calc. epidote veins to 2" & 50% of rock to fol. @ 35° - surrounding basalt is carbonatized, & 0.9% diss mte & Py, minor hem. frac. fill locally. - @ 451.5', 1/4" calcite-hematite (after mte) in. to fol. @ 30°, & minor diss. Py @ rims - from 451.5' - 453', fol. @ 30°, locally numerous thin epidote-calcite vns to 1/4" fol., & 1-2% vlg diss hem. - from 453' - 453.5', mottled, & 50% carb-epidote bands to 1/4" fol. @ 40° 								

CONT.

HOLE NO. JL-84-F1

PROJECT: JIM'S LAKE

PAGE NO: 3 OF 10

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

DATE STARTED: FEB 12 84

REF. TO CLAIM CORNER:

COORDINATES: 196E. 12193 S N. E.

DATE FINISHED: FEB 27 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 340°

TOTAL DEPTH: 876'

LOGGED BY: D. McVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
440	VERY STRONG	MODERATE	MODERATE	EPIDOTE	Py	Py	<p>calc. chl-qtz seams to 80%. z 10% diss mte.</p> <p>oxidized zone z num. thin hem. seams</p> <p>ALTERED BASALTIC TUFF</p> <p>calcite vns. to 80% chl z 5% diss mte.</p> <p>qtz-calc-ep. vns to 50%</p> <p>calcite-epidote vns</p> <p>mottled, 10% diss mte</p>	0.5%		100%	80	441'	100%	441'	100%	
450	STRONG	MODERATE	MODERATE	EPIDOTE	Py	Py	<p>pred. aphanitic to lg dark green basalt - moderately to strongly foliated in places. @ 40°-50° to c.a. (appears to be sch. & bedding in places - tuffaceous?)</p> <p>wk lg. my crystalline appearing texture in places z epidote alt. plug & chl. aft. mafic blebs that may be restite, but in places elongate, appear almost fragmental. (shedded restite?)</p> <p>mod. strong pervasive chl. alt. patchy, ep. alt. v. minor carb. aft. in places</p> <p>afew calcite stringers 11 & cross-cut fol. afew veins z minor qtz-epidote. to 1/4"-1/2" @ rand. or.</p> <p>numerous v. small thin short white plug? alt. qtz? slips throughout rock.</p> <p>moderately to strongly magnetic, z vty diss mte & thin mte seams 11 to fol. to 5-10%.</p> <p>wk. to mod. fractured, @ random orientations. z calc. hem. chl. frac fill.</p> <p>afew thin hem. stringers 11 fol.</p> <p>numerous 4-6" mottled zones of strong epidote alt. z num. thin calc. & ep. veins 11 to fol.</p> <p>OVERALL SULPHIDE CONTENT: - 0.5% diss. cubic & bleb Py to 1/32" & minor Py ass z carb. seams</p> <p>@ 462': 4" mottled, epidote alt. zone z numerous thin calcite stringers 11 fol. @ 40° to the c.a.</p> <p>from 463-465: appears tuffaceous, z thin elongate fragmental appearing qtz & qtz-calc blebs, locally to 1/2" vty diss mte.</p> <p>@ 465.5': 2" calcite vns z minor diss hem. sph. - @ 468.5': 1" epidote-calcite rich mottled band @ 45°</p> <p>@ 469.5': 3" calcite rchp (30%) zone, as num. thin 1/4" seams 11 fol. @ 45° to c.a.</p> <p>from 468-476: calcite seams, to 10% of rock</p> <p>from 470-475.5: 1/4" calc. mte. hem filled frac @ 15° to c.a.</p> <p>from 471: 476.5: locally qtz-calc vns to 1/2" & 50% of rock, pred. 11 fol. @ 40°; diss. Py locally to 3.75% as diss. cubes to 1/32"</p> <p>from 472-472.5: thin calcite stringers to 1/16" 11 fol. @ 40° to 25% rock, z afew cutting qtz-calc. vns & diss. Py cubes to 1/8" & 5%</p> <p>from 473-475: very strong foliation @ 35° to c.a., (appears more finely bed. than schistose) z thin alternating chl. & calcite (30%) seams z afew 1/4" cutting calcite veins z minor qtz.</p> <p>Py locally to 3.75% as diss. cubes to 1/32"</p> <p>@ 473.5': 1/2" qtz-calc vns @ 80°, z Py cubes to 1/8" @ rims</p> <p>@ 476.3': 1" zone of qtz-calcite veining to 90% of rock - vns appears brecciated by thick chlorite seams - minor diss. cubic Py, blebs @ rims.</p> <p>from 477-482: foliation locally @ 30° to c.a.</p> <p>from 477-487: Py increases to 17%, as diss. cubes to 1/32" & thin seams 11 fol., begin seeing afew crystalline appearing sections, numerous qtz-epid-calc seams 11 fol. 1-2% diss. mte.</p> <p>from 482-484: Py to 2% as blebs to 1/4"</p> <p>from 483-483.5: qtz vns z calcite-epidote filled frac 11 fol @ 30° ca., minor hem. epidote alt. @ rims</p> <p>@ 489: 1/2" qtz vns. cuts fol @ 70° to c.a., minor ass. calc. hem. Py.</p> <p>arbitrary contact @ 490.5': where becomes more crystalline.</p> <p>490.5' - 516.5' CRYSTALLINE BASALT</p> <p>(distinct contact @ 490.5' - becomes crystalline appearing, but lithologies very similar)</p> <p>rock pred. dark green, moderately to strongly foliated (schistose) in places, @ av. of 45° to the c.a.</p> <p>composed of 60% chlorite altered mafics (hfe-pyr?) & 30-40% plug z wte epidote alteration in places - ranges from lg to ca. as outlined below</p> <p>weakly fractured, @ random orientations, z pred. calcite, minor chl., hem. qtz frac. filling</p> <p>afew aphanitic finely banded bedded tuffaceous appearing interbeds</p> <p>afew thin aphanitic, strongly chloritized 1-2" shear zones 11 to fol. z occasional qtz-calcite seams & minor diss. hematite</p> <p>some mottled appearing zones, z strong localized epidote alteration, (pillow rims?)</p> <p>afew calcite z occasional qtz, chl. veins to 1/2" @ random orientations</p> <p>OVERALL SULPHIDE CONTENT: trace lg diss Py</p>	9%		100%	80	441'	100%	441'	100%	
460	MODERATE	MODERATE	MODERATE	EPIDOTE	Py	Py	<p>schistosity @ 40°-50° vty diss mte to c.a. 5-10%</p> <p>locally 10% vty diss mte</p> <p>calcite vns.</p> <p>calcite-epidote with mottled zone</p> <p>BASALT</p> <p>calcite seams to 10% locally</p> <p>qtz-calcite vein</p>	0.5%		100%	80	466'	100%	466'	100%	
470	MODERATE	MODERATE	MODERATE	EPIDOTE	Py	Py	<p>qtz-calcite vein</p> <p>becomes wily crystalline appearing</p>	17%		100%	80	470'	100%	470'	100%	
480	MODERATE	MODERATE	MODERATE	EPIDOTE	Py	Py	<p>qtz vns</p> <p>becomes wily crystalline appearing</p>	2%		100%	80	476'	100%	476'	100%	
490	MODERATE	MODERATE	MODERATE	EPIDOTE	Py	Py	<p>qtz vns</p> <p>from 490.5-492 fg. sch. @ 45°</p> <p>CRYSTALLINE BASALT</p> <p>calcite-qtz-chl vns</p>	17%	486'	100%	80	482'	100%	482'	100%	
500	MODERATE	MODERATE	MODERATE	EPIDOTE	Py	Py	<p>calcite-qtz-chl vns</p>	0.5%		100%	80	487'	100%	487'	100%	

CONF.

HOLE NO. JI-84-F1

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

COORDINATES: 496E. 121935 N. E.

INCLINATION: -55° BEARING: 360°

PROJECT: JIM'S LAKE

DATE STARTED: FEB. 12. 84

DATE FINISHED: FEB. 27. 84

TOTAL DEPTH: 876'

PAGE NO: 5 OF 10

REF. TO CLAIM CORNER:

SCALE: 1" = 10'

LOGGED BY: D. McINOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
560'	MINOR	MODERATE	MODERATE	MODERATE			<p>542.5' - 558.5' ANDRESITE TUFF</p> <p>aphanitic, medium to very light green (becomes lighter towards 558.5') andesite tuff - very well developed foliation (4' thinly bedded & strongly schistose) @ 45°-50° to the c.p.</p> <p>soft, strong pervasive chl. alt., moderate to strong sericite alteration from 551' - 558.5' (corresponding to increase in chl. fol intensity, & strong from 551' - thin bedded bed (2 1/2") weak to moderate "carbonatization", & thin (1/4" - 1/2") calcite seams & diss. blebs (appearing fragmental in places) 1/4" to 10% of rock.</p> <p>whly fractured, no pref. orientation (one set 1/2" fol.) & prod. calcite, minor qtz. ch. from ser. frac. fill.</p> <p>alw v. diffuse appearing calcite vns to 1", oc. pink, & minor diss. hem. prod. 11' to tol.</p> <p>OVERALL SULPHIDE CONTENT: 0.25% Py, diss. cubes & blebs ass. & calcite seams & vns</p> <p>from 546.5' - alw 1/2" calcite (& minor qtz) vns 11' bd. & 1/4" cubes, blebs to 1/8" & 1/4" over 6"</p> <p>from 548.5' - 549' - locally 3% Py as cubic blebs to 1/8" & thin cubes 11' to tol. - alw diffuse pink calcite, minor qtz seams to 1/8" - 1/4" fol.</p> <p>from 550.5' - 551' - num. thin, soft, black chlorite, bands to 20% rock, calcite bands to 10%</p> <p>from 556.5' - 557.5' - num. 1/4" - 1/2" hard white carb. (magnetite) bands @ 45° (11' fol)</p>	0.25%		100%	8q	542.5'	100%			
570'	MODERATE	MODERATE	MODERATE	MODERATE			<p>558.5' - 575' ALTERED DACITE TUFF</p> <p>rock prod. vlg. aph, very light gray to greenish gray, very thinly bedded (<1/32") soft, altered dacite tuff, fol. - bd (1/2" sch.) @ 45° to c.p. (varies 43°-49°) - mod. to strong pervasive, sericite alt.</p> <p>numerous thin (1/32") dark green to black chlorite bands - no frags, but bd. indicates tuff (ash)</p> <p>whly fractured, & sets 11' & scattering fol. prod. chl. sericite, calcite & trace 1/4" fuchsite frac. fill.</p> <p>alw thin (1/4") calcite & minor qtz vns to 1/4" @ random, of throughout unit</p> <p>rock appears bleached, carbonatized - no reaction HCl but staining (KFECD) indicates 20% Fe carb as thin beds & blebs 11' fol.</p> <p>OVERALL SULPHIDE CONTENT: from 558.5' - 562' - tr. to 0.25% Py, prod. diss. cubic & amorph. Py blebs</p> <p>from 562' - 585' - 1% Py as diss. cubic & amorph. blebs to 1/32" & thin seams 11' bd.</p> <p>some minor frac. fill & calc. & qtz</p> <p>rock contains num. (5%) very thin (<1/32") stork (1/4") light gray to pinkish white unknown min. slips - seams 11' fol. - alw beds contain small qtz eyes to 1/32"</p> <p>@ 558.5' - 2' on yellow white qtz-magnetite vns @ 40° to c.p., & minor diss. Py @ rims & fuchsite, frac. fill, minor fuchsite frac. fill from 558.5' - 560.5'</p> <p>from 559' - 559.5' - hard white mg magnetite vns & minor qtz @ 15° to c.p. (vuggy)</p> <p>@ 563.5' - a few thin fuchsite slips 11' bedding</p> <p>@ 564' - 1/16" Py band @ 45° to c.p. (11' fol) & minor fuchsite @ rims</p> <p>from 564' - 564.5' - a few thin 1/32" Py seams, alw diss. fuchsite slips</p> <p>alw lapilli, size (1/2" to 1/4") elongate frags of carb. qtz, doctite @ 568.5'</p> <p>@ 571' - alw 1/4" Py blebs in bands 11' bd. @ 45°</p> <p>from 573' - 574' - num. thin chlorite bands, & alw thin (1/8") chert bands & locally 3% Py as bands of cubes to 1/4"</p> <p>from 574' - 575' - becomes very thinly bedded dark gray to white to light green chert & thin (1/4") massive - semi-massive Py bands to 3% rock - alw thin hard carb bands 11' bd.</p> <p>(UNIT COULD BE EXHALATIVE *)</p>	1%		100%	575'	100%				
580'	VERY STRONG	VERY STRONG	VERY STRONG	VERY STRONG			<p>575' - 602.5' ALTERED KOMATIITIC BASALT - ULTRAMAFIC (CHLORITE-TALC-SERICITE-CARB-SCHIST)</p> <p>rock prod. a dk green (light to medium green in places, depending on type & degree of alteration), very soft, extremely schistose, & strongly altered (komatiite?) basalt to ultramafic.</p> <p>comprised predominantly of chlorite, & very strong talc & sericite alt. in places & thin blebs & seams (1/4" - 1/2") of carb. (calc & magnetite) 11' fol.</p> <p>8% comp. @ 60% chl, 20% ser, 10% talc, 10% carb., fol highly variable</p> <p>in places, wk remnant of mg crystalline gabbroic talc & minor ep. alt. of any plug present, elsewhere appears v. ferruginous & elongate (11' fol.) light green ser-carb fragments</p> <p>11' @ 45° to c.p., varies 40-85°</p> <p>whly fractured, prod. 11' to tol., & chl. talc, ser. calcite, minor qtz, hem. frac. fill.</p> <p>alw white hard carb. (magnetite) & calc. & qtz vns to 1/2" in places</p> <p>from 575' - 583' - only moderately sch. & remnant of mg, yellow fill appears, gabbroic, gradually becomes intensely schistose @ 583' - strong chl. alt. of matrix, wk patchy sericite alt., minor ep. alt. of plug, minor carb. alt. as diffuse diss. blebs, alw v. soft</p> <p>v. strongly sheared talc-ser-chl alt. zones, q. 579' - 580' - whly qtz-calc, magnetite, vns to 1" & 20% rock - sulphides variable - from 575' - 575.5' - Py to 5% as bands of cubic blebs ass. c. qtz calcite vns to 1/4" (11' to 1' fol) - from 575.5' - 577' - 3% Py, as above, & from 577' - 583' - 1% Py</p>	0.5%		100%	585'	100%				
590'	VERY STRONG	VERY STRONG	VERY STRONG	VERY STRONG			<p>becomes v. strongly sch. v. soft.</p> <p>ALTERED KOMATIITIC (CHL-SER-TALC-CARB-SCHIST)</p> <p>calc-mag-qtz vns</p> <p>magnetite vns</p> <p>prod. talc (amphib)</p> <p>v. grainy appearing & chl carb blebs</p>	0.25%		100%	595'	100%				
600'	MODERATE	MODERATE	MODERATE	MODERATE			<p>gls vns</p> <p>fuchsite bearing qtz vns</p> <p>thinly bed. @ 45°</p> <p>FUCHSITE TO 20%</p> <p>EVENSITE BEARING DACITE TUFF</p> <p>gls - magnetite staining</p>	0.25%		100%	605'	100%				
610'	MODERATE	MODERATE	MODERATE	MODERATE			<p>strongly sch. (app. bd in places - c. thin qtz, chl - phyl. carb bands)</p> <p>fuch. bearing qtz vns</p> <p>ALTERED ANDRESITE & BASALT</p> <p>in places carb seams & diss blebs in 60% rock</p>	0.25%		100%	615'	100%				
620'	MODERATE	MODERATE	MODERATE	MODERATE			<p>strongly sch. (app. bd in places - c. thin qtz, chl - phyl. carb bands)</p> <p>fuch. bearing qtz vns</p>	0.25%		100%	626'	100%				

CONT.

HOLE NO. JL-84-F1

PROJECT: JIM'S LAKE

PAGE NO: 5A OF 10

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

DATE STARTED: FEB. 12. 84

REF. TO CLAIM CORNER:

COORDINATES: 296 E. 12193 S N. E.

DATE FINISHED: FEB. 27. 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 876'

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					
																DESCRIPTIVE GEOLOGY				
							<p><u>575'-602.5' CONT.</u></p> <ul style="list-style-type: none"> - from 583'-600': becomes extremely soft, very shaly schistose, (to 45° to c.a.), prod. altered to chlorite (60%), & a few talcose zones (10%), sericitized zones (10%), & 20% carbonate (prod. calcite) as thin seams & blebs // to foliation. - a few thicker, cutting & // subll calcite-magnetite-gtz vns. - rock appears 'grainy' may be wk remnant xltine tuff - weakly magnetic in places, & minor vlg diss. gnp. & occasional thin mte. seams // fol. - minor hemat in places, usually associated & calcite seams - sulphides to 0.5% diss. by cubic, occasional thin seam // fol. - from 589' → becomes more talc-sericite rich (to 30% @ exposure of chlorite), lighter green - from 592'-593.5': prod. talc. (scapolite), v. soft, crumbly, @ 592.4' → 2" hard white magnetite va. @ 55° to ca. - from 593'-600': v. 'grainy' appearing (remnant mg. carb xltine tuff?) (or large tuffaceous frags of chl. carb) - from 600'-602.5': becomes slightly harder, less granular appearing, remains strongly sch. & strong talc-chl-ser alt - numerous carb. blebs & seams, contains 0.25% by diss. gnp. - @ 600': 1/2" gtz vn @ 90° (cuts fol @ 45°) - @ 601': 1/2" gtz-minor calcite vn cuts fol @ 45°, & a few thin fuchsite stringers (to 1%) ass. & calcite bands & seams. - sharp contact @ 602.5' (@ 50°) & underlying fuchsite zone. <p><u>602.5'-609.5' FUCHSITE BEARING DACITE TUFF</u></p> <ul style="list-style-type: none"> - rock predominantly a bright light green, relatively hard, siliceous (softer in places & strong pervasive sericite alt) dacite tuff, v. thinly bedded @ 40°-60° (av. 45°) to the f.a. - wk. mod. schistose in places @ 45°. - fuchsite occurs as thin seams // bedding & diss. blebs & slips, av. content 20%, varies from 5-30%, ranges from very micaceous appearing to more massive 'green carb.' appearing. - rock contains numerous thick (from 1/4" to 2" or 3") gtz & magnetite veins as outlined below - rock is very tuffaceous appearing & elongate flint lapilli sized dacite fragments // fol. - numerous thin hard white seams & diss. blebs // foliation - appears to be a carb. but no reaction & HCl → spalling & KFeCl indicates up to carb. - rock is weakly fractured @ random orientations, & gtz & calcite lac. fill. - weak (to strong in places) pervasive, sericite alteration. - in places contains diss. vlg. bright yellow amorphous clay mineral? - SULPHIDE CONTENT: 0.5% by diss. gnp. some by ass. & gtz veining @ rims - from 605': appears very granular, & numerous v. small (<1/32") gtz eyes to 25% of rock set in a thinly bedded, sericitized matrix - @ 602.5': 1" gtz vn cuts foliation @ 65° to c.a. - @ 603.5': 1/4" gtz vn cuts fol @ 70°, minor carb @ rims, locally numerous, 10-15" gtz filled fracs. - @ 604': 1/2" gtz vn @ 90°, locally numerous, 10-15" gtz filled fracs. - from 605.5': 1/2" gtz veining to 25% of rock, veins to 2-3", prod. // subll bedding, often broken up, brecciated appearing, fuchsite locally to 30%. - veins are prod. gtz & minor carb. very hard, white carbonate (magnetite) @ rims & as lac. fill in veins. - sulphides (P₂) locally 1% as diss. cubic & amorphous blebs to 1/16" - @ 605.8', 7" vn @ 50°, @ 606'-606.5': 1" m. @ 40°, locally abundant (to 2%) diss. yellow clay min. - from 606.5'-607': 1" gtz vn @ 30°, @ 607.5': 1" gtz-magnetite vn. @ 20° - @ 608': 2" zone & gtz-mag veining to 1/4" @ 60° ca. & locally 5% P₂ - very fragmental appearing, & gtz-carb. blebs, frags: to 1/2" // fol @ 55° - @ 608.5': 2" gtz vn @ 80° & carb hard white carb @ rims - from 609.5'-609.5': less fuchsite rich (5%), more chloritic, appears to grade into underlying basaltic tuff (i.e. altered unit as opposed distinct lith.) <p><u>609.5'-627' ALTERED ANDESITE TO BASALT (TUFF? /FLOW?)</u></p> <ul style="list-style-type: none"> - prod a medium to dark green, strongly to very strongly schistose @ 50° to the c.a. (appears bedded-banded in places) altered andesite to basalt, comprised of thin (1/16") bands of chl. (altered mafics) & plag & carb. (as replacement alteration of plag) (2-60% chl., 30% to plag-carb) - wk epidote alt in places. - appears tuffaceous in places & small white fragmental appearing, plag. blebs to 1/4" // fol. - a few similar chl. & carb blebs-frags (or may be stretched xltine - wk remnant to mg xltine appearing tuff in places) appears very granular in places. - wk sericite alt in places. - numerous thin hard white diffuse magnetite seams to 1/4" // fol. occ. & minor calcite, gtz. - weakly fractured, sets // & feet fol., & calc., gtz, chl. ser & minor hemat. lac fill. - abundant vlg diss. amorphous appearing light yellowish brown clay? gnp. - SULPHIDE CONTENT: 25% by ass. diss. cubes to 1/16" & occ. ass. & gtz-carb veining 													

CONT.

HOLE NO. VL 84-F1

PROJECT: FINE LAKE

PAGE NO: 6 OF 10

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

DATE STARTED: FEB. 12. 84

REF. TO CLAIM CORNER:

COORDINATES: 496E. 121935 N. E.

DATE FINISHED: FEB 27. 84

SCALE: 1"=10'

INCLINATION: - 55° BEARING: 360°

TOTAL DEPTH: 876'

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.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
620'	MINOR	STRONG	MODERATE	MODERATE	Py	Py	<p><u>602.5-627' CONT.</u> in pieces, carbonate altered/replaced plg to 60%-70% of rock (staining indicates ser carb content & 70-80% pred. calcite & some lg carb. @ 63', 1" qtz vn @ 60" to c.g., & 'bleached' rims, & a few thin fuchsite seams @ rims from 620; becomes very strongly schistose, soft, & stronger chl-ser alt. (becomes a chl-ser carb. schist) (may be minor amounts of talc) @ 626.5'; a few thin 1/4" qtz mag. veins 11 fol. @ 50" c.a. - arbitrary contact & underlying fuchsite bearing unit. <u>627-651' FUCHSITE BEARING ALTERED ANDRESITE TUFF</u> rock predominantly a very soft, v. thin bedded (1/4" to 1/2") @ 45-55° to ca. 85° 50', also schistose) light green andesite tuff, composed of thin alternating bands/foss of light green chlorite-sericite & harder light gray to white carbonate - numerous diss carb blebs 11 fol. also present - 60% chl, 20% sericite, 20% carbonate. numerous qtz-calcite veins that are stratabound, appear 'bedded' @ 1/4"-1/2" to 2" in places, & 20% of rock, containing thin seams & slips of fuchsite to 1-2% of unit. (fuchsite v. micaceous here) rock is weakly fractured, pred. 11 to fol., & calcite & minor qtz ser. chl. free fill abundant (2-3%) light yellow clay? min. as thin slips 11 fol. SULPHIDE CONTENT: 0.75% py as diss. blebs & cubes to 1/16" in bands 11 fol. from 627'-627.5' a few 1" x 2" qtz calc vns 11 fol. & locally 5% fuchsite as thin seams 11 vn/fol & @ vn rims from 627.5'; 628'; a few thin 1/4" qtz-calc bands vns 11 fol. & 1-2% fuch seams to 1/32" & locally diss py to 1% @ 628' 1" calcite-magnesite (& minor qtz) vn a fol. & 2-3% fuchsite as diss. blebs @ rims & thin seams from 628-629', v. soft, v. strongly sch., & intense chl-ser alt & carb (? no reaction HCl) seams to 25% rock from 629-631', qtz (cherty), calcite veining - beds to 2" & 80% of rock, & 5% fuchsite as diss. blebs to 1/16" 11 fol. & thin seams in & rimming qtz-carb. appears very red - chamositic. @ 629', 2" qtz-calc vn. @ 630.5'; 3" qtz-calc vn. numerous large (to 1") fragmental appearing qtz-carb blebs.</p>	0.25%	526'	100%	80	620'	100%			
630'	MODERATE	STRONG	MODERATE	MODERATE	Py	Py	<p><u>631-711' ANDRESITE TO BASALT (FLY TO SUB-INTRUSIVE)</u> predominantly a lg to mg (with aphanitic to coarse grained phases) med. to dark green, relatively hard andesite to basalt, composed (approximately) of 50% chloritized matrix (hbc-pyr) & 50% plg (& weak to moderate epidote all. in places) varies considerably in grain size & degree (type) of alteration - foliation a few aphanitic v. strongly schistose v. chloritized zones (banded, almost lustrous appearing, but & no distinct contacts) & a few of gabbroic appearing zones on 85° weakly foliated schistose, @ 45° to the c.a. w/ky frac. @ random orientations, & chl, calc. & minor qtz hematite fracture, filling a few thin (1/2" to 1/4" to 1/8") qtz-calcite & harder magnesite veins @ random orientations SULPHIDE CONTENT: 0.25-0.5% diss py blebs, & blebs acc. & calcite vns. frac. fill. trace Pb, locally to 1% over a few " in places. from 631'-633' vlg. mod. strongly sch. @ 50', soft, sheared appearing, strong chl. alt., num. thin calcite & qtz seams 11 & 2 fol. w/ky carb. (diss. small calcite blebs. may be alt. peper), a few thin sericite seams from 633.5'-633'; numerous thin dark qtz-calcite & mag/dol vns. bands @ 65', & strong chl-ser alt. of surrounding rock. minor bent & vns from 633'-635' becomes lg-mg. crystalline, only w/ky sch. a few thin calc seams to 1/4" & calc filled. thin sericite seams. a few thin carb zones & diss calc (alt. plg?) = num thin scuffing @ 40" calcite stringers to 1/8" - abund. diss yellow clay? min. @ 639.5'; 2" qtz-calc. minor hard granary carb vn crudely oriented @ 55° & to fuchsite, sericite @ rims. - @ 640'; 1" calc. mag/dol. qtz seam 11 fol @ 55° from 640'-642.5' becomes mg-cg, very gabbroic appearing, schistose (plg & qtz alt. matrix) by 1/8" numerous thin calcite stringers & diss. blebs. tends w/ky part app. to rock; locally diss py to 3% as blebs to 1/16" minor non-magnetic, Pb. neg. Ni test. from 642.5'-651' pred vlg. lg (to a few mg phases), mod sch. to strongly sch. in a few places, @ 50" to ca. moderate to strong porv. chl alt., patchy, strong ser. alt., patchy, mod. epidote alt. plg, calc soft</p>	0.75%	636'	100%	630'	100%				
640'	MODERATE	STRONG	MODERATE	MODERATE	Py	Py	<p><u>651-711' ANDRESITE TO BASALT (FLY TO SUB-INTRUSIVE)</u> from 651'-660' lg, only v. w/ky sch. & blebs appearing qtz-calc vns to 25% rock brecc. qtz-calc vn & 2% py more sch. from 660-661'</p>	0.25%	646'	100%	640'	100%				
650'	MODERATE	STRONG	MODERATE	MODERATE	Py	Py	<p><u>CRISTALLINE ANDRESITE - BASALT</u> from 651'-660' lg, only v. w/ky sch. & blebs appearing qtz-calc vns to 25% rock</p>	0.25%	656'	100%	650'	100%				
660'	MODERATE	STRONG	MODERATE	MODERATE	Py	Py	<p>brecc. qtz-calc vn & 2% py more sch. from 660-661'</p>	0.25%	666'	100%	660'	100%				
670'	MODERATE	STRONG	MODERATE	MODERATE	Py	Py	<p>from 661-670', becomes mg v. gabbroic app. only v. w/ky sch</p>	0.5%	676'	100%	670'	100%				
680'	MODERATE	STRONG	MODERATE	MODERATE	Py	Py	<p>lg chl. shear</p>	0.25%	686'	100%	680'	100%				

HOLE NO. J1-84-F1

PROJECT: JIM'S LAKE

PAGE NO: 7 OF 10

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

DATE STARTED: FEB. 12. 84

REF. TO CLAIM CORNER:

COORDINATES: 196E. 12493 S N. E.

DATE FINISHED: FEB. 27. 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 876'

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	CARBONATE	OTHER																			
680'	MODERATE	WEAK	WEAK	WEAK			<p>630-711 CONT.</p> <p>mg. gabbroic appearing, only v. w. sch.</p> <p>from 647.5-651' cont. - numerous thin calcite seams to & cutting fol. acc. gts-calc veins, minor horn. frac. fill v. sericitized, chloritized.</p> <p>from 648.5-649.5' gts-calcite (pink. & minor horn) veining a fol. to 30% rock, vns to 1" host locally.</p> <p>from 649.5-651' numerous 1/4" calcite vns cut fol. & Py blebs to 1/8" @ rims.</p> <p>from 651-660' becomes pred. lg. & a few mg phases, only v. weakly sch. @ 55° strong chl. alt. patchy weak ser & epidote alt in places, appears 'bleached' in places, may be minor calc. alt. - very diastatic appearing, may be sub-invasive or thick flow inner phase.</p> <p>from 658-660' weakly frac. horn. chl. calc frac fill. a few mg. calc. horn & gts veins, a few aph. chloritic 'shear' zones.</p> <p>from 660-665' locally to 1% as thin blebs, 1/4" fol. unit is slightly more plagioclase rich (55%)</p> <p>from 665-666' 1/4" gts-calc. vns @ 40° locally numerous 1/4" rd. or. gts-calc-horn stringers</p> <p>from 666-668' 1/2" gts-calc-horn vns @ 45°</p> <p>from 668-670' gts-calcite veining to 2" & 25% rock sub fol. @ 45° strong chl. alt. @ rims</p> <p>from 669-671' 1/2" gts-calc vns fol @ 55°</p> <p>minor wk calcite in places & v. diss calcite</p> <p>from 670-672' lg. siltier, more schistose, (mod. str. sch. @ 50°), stronger chl. alt. minor ser. alt. in places wk calcite in places, & v. diss calc. - numerous thin (1/8") diffuse calcite seams to & cutting fol.</p> <p>from 672-674' 1" gts-calc vns @ 40° locally v. soft, sheared, appearing</p> <p>from 674-676' brecciated gts-calc vns @ 50° (brecc. by thin chl. seams) - locally 1% diss. Py cubes sch. in places highly imp. kinked, crenulated.</p> <p>from 676-678' 1" calc. minor gts vns @ 40° & strong chl. alt @ rims, & v. diss. Py</p> <p>from 678-680' becomes pred. mg. schistose, few mg phases, v. gabbroic appearing, only v. weakly sch. in places @ 50°, mod. epidote chl. plagioclase chl. alt. matrices, red. hard, 'fresh' - 55% matrix/55% plagioclase</p> <p>from 680-682' a few thin aphanitic, strongly chloritized 'shear' zones, a few thin calcite seams, a few calc-horn filled frac.</p> <p>from 682-684' lg. more strongly chloritized zone, & a few gts-horn-calcite seams, Py locally to 1%.</p> <p>from 684-686' 1/2" calc-horn filled frac @ 20° locally a few thin 1/4" calcite-horn. veins.</p> <p>from 686-688' 1/4" calc-horn filled frac @ 20° locally a few thin 1/4" calcite-horn. veins.</p> <p>from 688-690' arbitrary division @ 60° becomes finer grained</p> <p>from 690-692' lg. in places aphanitic, more andesitic appearing, more strongly chloritized, more schistose - banded appearing @ 40-55° (av. 50°) - occ. w. sch. sericitized & carb. zones</p> <p>from 692-694' numerous thin calcite & horn. gts, ser seams fol. Py increases to 1% as diss. blebs to 1/8"</p> <p>from 694-696' 3" zone & diss. lg. blebs to 1/8" & 2%, locally thin calcite stringers to 10% of rock.</p> <p>from 696-698' 6" zone & 1" gts-calc vns to 50% rock, vns sch @ 45° intense chl. alt. @ rims</p> <p>from 698-700' 1/2" gts-calc vns fol @ 60° intense chl. alt. @ rims</p> <p>from 700-702' 1/2" gts-calc vns fol @ 55°</p> <p>from 702-704' num. thin (1/8-1/4") calc-horn gts vns to 10% of rock</p> <p>from 704-706' 2" zone & num. thin calc-horn vns @ 55° locally intense chl. alt. - may be to, lch. @ rims</p> <p>from 706-708' 1/2" gts-calc-epidote vns @ 50° - from 708-709' calc. stringers to 15% rock.</p> <p>from 708-710' v. soft, v. chloritized, becomes aph. & h. appearing, arbitrary contact @ 711' = underlying bleached appearing andesite</p> <p>711-722' ALTERED DACITE TO ANDESITE TUFF</p> <p>thinly bedded, strongly schistose @ 40-50° to ca. prod. (av) light greenish gray 'flooded' appearing, slightly harder, more siliceous dacite to andesite fill - arbitrary & gradational contacts @ 711' & 722' & more chlorite rich, softer andesite to basalt units</p> <p>moderate pervasive sericite alt., minor chl. alt. in places</p> <p>patchy carbonatization, as thin diffuse seams of 50 to 100" & small (1/2") diss blebs of calcite</p> <p>occasional larger (1/8-1/4") fragmental appearing calcite blebs</p> <p>wkly frac. prod. fol. & calcite & minor chl. ser. horn. Py frac fill</p> <p>numerous (to 5%) elongate thin short pink micaceous min. slips (?) (could this be a carb?)</p> <p>SULPHIDE CONTENT: 0.25% lg diss Py, 1% Cpy</p> <p>from 711-713' 1" gts-calc vns @ 45° & thin Py seams in vns & @ rims to 2% over 2"</p> <p>from 713-715' 2" zone & diffuse calc. seams fol. to 1/8" & 20% rock, & 1/4" Py, 1% Cpy</p> <p>from 715-717' 1" gts-calc vns @ 50° & 1% v. diss Py, locally host 15 carbonatized & 1% v. diss Py</p> <p>from 717-719' 2" gts-calc-magnesite vns @ 35° CEMENTATION?</p> <p>from 719-721' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 721-723' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 723-725' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 725-727' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 727-729' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 729-731' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 731-733' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 733-735' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 735-737' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 737-739' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 739-741' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 741-743' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 743-745' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 745-747' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 747-749' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 749-751' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 751-753' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 753-755' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 755-757' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 757-759' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 759-761' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 761-763' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 763-765' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 765-767' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 767-769' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 769-771' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 771-773' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 773-775' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 775-777' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 777-779' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 779-781' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 781-783' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 783-785' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 785-787' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 787-789' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 789-791' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 791-793' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 793-795' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 795-797' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 797-799' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 799-801' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 801-803' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 803-805' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 805-807' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 807-809' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 809-811' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 811-813' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 813-815' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 815-817' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 817-819' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 819-821' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 821-823' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 823-825' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 825-827' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 827-829' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 829-831' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 831-833' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 833-835' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 835-837' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 837-839' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 839-841' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 841-843' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 843-845' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 845-847' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 847-849' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 849-851' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 851-853' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 853-855' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 855-857' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 857-859' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 859-861' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 861-863' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 863-865' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 865-867' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 867-869' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 869-871' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 871-873' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 873-875' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 875-877' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 877-879' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 879-881' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 881-883' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 883-885' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 885-887' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 887-889' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 889-891' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 891-893' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 893-895' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 895-897' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 897-899' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 899-901' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 901-903' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 903-905' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 905-907' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 907-909' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 909-911' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 911-913' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 913-915' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 915-917' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 917-919' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 919-921' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 921-923' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 923-925' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 925-927' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 927-929' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 929-931' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 931-933' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 933-935' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 935-937' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 937-939' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 939-941' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 941-943' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 943-945' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 945-947' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 947-949' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 949-951' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 951-953' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 953-955' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 955-957' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 957-959' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 959-961' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 961-963' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 963-965' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 965-967' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 967-969' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 969-971' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 971-973' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 973-975' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 975-977' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 977-979' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 979-981' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 981-983' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 983-985' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 985-987' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 987-989' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 989-991' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 991-993' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 993-995' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 995-997' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 997-999' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p> <p>from 999-1001' 2" gts-calc-magnesite vns @ 35° & strong chl. ser. alt & 5% Py as thin diss. seams illd.</p>	0.25%	AB6'	100%	BQ												
690'	MODERATE	WEAK	WEAK	WEAK			<p>becomes lg to aph from 690-711</p> <p>pure silty sch. to 50% rock</p> <p>gts-calc vns</p> <p>calc-gts-horn vns to 10%</p> <p>calcite-horn vns & h. trichite</p>	0.5%		100%		693'	100%										
700'	MODERATE	WEAK	WEAK	WEAK			<p>gts-calc ep vns</p> <p>becomes soft, more sch. alt.</p> <p>gts-calc vns to 2% of rock</p> <p>banded bedded gts-calc-mag ALTERED DAC-AND TUFF</p> <p>thinly bedded @ 45°</p> <p>gts-calc vns & 2% Py</p>	0.25%		100%		701'	100%										
710'	MODERATE	WEAK	WEAK	WEAK			<p>gts-calc vns to 2% of rock</p> <p>banded bedded gts-calc-mag ALTERED DAC-AND TUFF</p> <p>thinly bedded @ 45°</p> <p>gts-calc vns & 2% Py</p>	0.25%		100%		711'	100%										
720'	MODERATE	WEAK	WEAK	WEAK			<p>gts-calc vns to 2% of rock</p> <p>banded bedded gts-calc-mag ALTERED DAC-AND TUFF</p> <p>thinly bedded @ 45°</p> <p>gts-calc vns & 2% Py</p>	0.25%		100%		721'	100%										
730'	MODERATE	WEAK	WEAK	WEAK			<p>gts-calc vns to 2% of rock</p> <p>banded bedded gts-calc-mag ALTERED DAC-AND TUFF</p> <p>thinly bedded @ 45°</p> <p>gts-calc vns & 2% Py</p>	0.25%		100%		731'	100%										
740'	MODERATE	WEAK	WEAK	WEAK			<p>gts-calc vns to 2% of rock</p> <p>banded bedded gts-calc-mag ALTERED DAC-AND TUFF</p> <p>thinly bedded @ 45°</p> <p>gts-calc vns & 2% Py</p>	0.25%		100%		741'	100%										

CONT.

HOLE NO. J1-84-F1

PROJECT: JIM'S LAKE

PAGE NO: 8 OF 10

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

DATE STARTED: FEB. 12. 84

REF. TO CLAIM CORNER:

COORDINATES: 126E, 12+935 N. E.

DATE FINISHED: FEB. 27. 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 876'

LOGGED BY: D. McEvoy

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
740'	STRONG	MODERATE					<p>711'-723' CONT.</p> <p>- very strongly schistose alt. from 731'-761'</p> <p>- 721.5' above 1/4" 1/2" qb calc vns 1/4" fol.</p> <p>- from 721'-723' w/ky. mod. carbonatized & diffuse diss calcite blebs 1/4" fol., locally unknown pink min. to 10% gradually becomes more chloritic, arbitrary contact @ 723'</p> <p>723'-771' ALTERED (CHLORITIZED, CARBONATIZED) ANDESITE (TO BASALT) TUFF</p> <p>- pred. a v. to sph. medium green (varies light to dark green depending on type (car vs chl) & degree of alt.) strongly schistose (& appearing thinly banded-bedded in places, & fol. @ 85-60° to c.p.) and/orite to basalt full. - abrad. elongate micaceous, appearing carb., blebs, but pred. fol. that indicates full (ash)</p> <p>- strong pervasive chlorite alt. moderate to strong sericite alt. in above places - moderate to strong carbonatization, occurring as diffuse white calcite bands 1/4" fol. to 1/16" & v. small (1/64") diss. blebs, calc. averages @ 15% of rock to 30% in places.</p> <p>- w/ky fractured, @ random orientations, & calcite, gr. chlorite, & sericite frac. fill.</p> <p>- atew thin (1/4"-1/2") qb-calc vns both 1/4" & scuffing foliation.</p> <p>- numerous small diss. pinkish white blebs to 1/32" (porcelanous gnts?)</p> <p>- numerous (to 5%) thin slips of unknown pink micaceous min.</p> <p>- SULPHIDE CONTENT: 0.25% v. diss. py., pec. py. seams 1/4" fol., trace Cpy & Pp</p> <p>- from 723'-724.5' numerous thin gray to calcite-magnetite bands, leads to 1/2" & 20% rock, locally andesite is strongly carb. & moderately sericitized. @ 723.5' 2" qb-calc vns 1/4" fol. @ 50° to c.a.</p> <p>- from 724.5'-726' appears granular, may be by crystalline interflow. & chl. alt. matrix & carb. gnt. replaced by pyg. schists</p> <p>- from 726'-731' lighter yellowish green, moderately sericitized, contains num. (to 20%) irreg. blebs & bands (1/4" to 1/2" to 1/2") of yellowish hard sericite, carbonate rich rock, bleached appearing @ 727.2' 1/2" qb vns & minor calcite @ rims, scuffs foliation @ 45°, strong 2" bleached halo around on. @ 270° v. diss. py. @ 727.0' 1" qb-calc vns 1/4" fol. @ 55°, & locally 1% v. diss. py. in host.</p> <p>- from 731'-751' becomes v. soft, dk green, v. chloritic, strongly schistose,</p> <p>- from 752'-752.5' py. seams to 1/4" 1/2" fol., to 1% locally</p> <p>- from 753'-754' locally v. soft, intensely schistose, chloritized, carbonate (calc) to 25% of rock as thin bands 1/4" fol., locally host is strongly carbonatized & diss. gray calcite to 15%</p> <p>- from 757'-758' calc 15% of rock, darker green @ 756.2' above 1/4" cherty qb bands-vns 1/4" fol. @ 50°</p> <p>- from 747'-749' py locally to 1% as diss. blebs by 1/16" & atew thin seams 1/4" fol.</p> <p>- @ 749.5' 1" qb vns 1/4" fol. @ 750' 1" green qb vns @ 90° to ca</p> <p>- from 751'-751.5' - becomes lighter grayish green, weakly sericitized, carbonatized.</p> <p>- @ 751' 1" qb vns @ 50° to ca, @ 752.5' 1/2" qb vns 1/4" fol. @ 50° & 1/4" py rims to 3% over 6"</p> <p>- @ 757' 1/4" of fine calcite vns scuffs fol. @ 70°</p> <p>- from 754'-757' py to 1% as diss. blebs to 1/16"</p> <p>- from 757'-771' begins to appear lg, slightly granular, siliceous appearing in places, more massive, only w/ky fol (sch) @ 55-60° to c.a., strong chl. alt. patchy mod carb. minor patchy ser. alt.</p> <p>- sulphides increase to 1% & diss (after chert) by blebs to 1/16" occ. by seam 1/4" fol., trace Cpy.</p> <p>- @ 768.5' 1/4" by seam 1/4" fol. @ 55°</p> <p>- @ 760' 1/2" diffuse calcite vns @ 25° to ca, & thin to seams, & to Cpy. py @ vns rims to 3% over 6"</p> <p>- @ 762' 1/2" qb vns scuffs fol. @ 70° to ca., @ 763' atew thin Cpy stringers 1/4" fol. @ 55°.</p> <p>- @ 765.5' atew 1/4" qb vns scuff fol. @ 90°</p> <p>- from 765' unknown pink min. to 5% of rock, @ 766.0' 1/2" calcite (minor gnt) vns scuffs fol. @ 40°</p> <p>- from 767.5' - 768' calcite & qb (cherty) remaining to 50% of rock, & 5% diss. py. in host</p> <p>- @ 770' 1" diffuse calcite vns @ 60° - from 770.5'-771', diffuse calcite vns & strong chl. ser alt. @ rims to 50% of rock - distinct contact @ 771' & more siliceous and-basalt.</p> <p>771'-804.5' CRYSTALLINE ANDESITE-BASALT</p> <p>- pred. lg-mg (to some of phases), relatively hard, brash, crystalline andesite to basalt - appears diabasic - gabbroic in places, composed of a 50% matrix (fhe, pyg?) - w/ky to moderately chloritized, & 40% plag. v. w/ky epidote altered in a few places.</p> <p>- atew v. to sph. more strongly chloritized schistose zones,</p> <p>- only v. weakly foliated schistose. @ 55° to c.a. - w/ky fractured @ random orientations, & pred. calcite-chlorite, minor hematite frac. fill - atew thin 1/4" qb-calcite veinlets @ rnd. orientations</p> <p>- from 771'-786', pred. mg (from 786'-804.5' pred. py.</p> <p>- SULPHIDE CONTENT: 0.5% diss. py. as blebs (after chert) by 1/4" & occ. py. seams ass. & calc. chl. seams</p> <p>- from 771.5'-772' num. (to 2% of rock) diffuse irreg. calcite tens. blebs to 2" & locally minor diss. hem. hem. frac. fill.</p> <p>- @ 772.5' 1/4" calc seam @ 40° & py. hem. seams @ 120° to 1/4"</p>	0.25%	746'	100%	80	741'	100%			
750'	PERVASIVE	MODERATE					<p>qc vns</p> <p>qc vns</p> <p>qc vns</p> <p>light green, seric. filled - ALTERED AND-BAS. TUFF</p> <p>calc vns</p> <p>calcite vns & Cpy. Pp</p> <p>from 751'-771', only w/ky sch. appears siliceous in places</p> <p>qc vns</p> <p>calcite-glb vns</p> <p>calc. vns</p>	0.25%	756'	100%		749'	100%			
760'	ALTERATION						<p>calcite hem vns</p> <p>from 771'-786' mg. v. siliceous appearing, only v. w/ky sch. @ 55°</p> <p>calc. vns</p> <p>calc-glb vns</p> <p>CRYSTALLINE AND-BAS.</p> <p>slightly more chl. sch.</p> <p>from 786'-804' lg.</p> <p>calcite seams</p>	19%	766'	100%		757'	100%			
770'	WEAK	WEAK					<p>calcite hem vns</p> <p>from 771'-786' mg. v. siliceous appearing, only v. w/ky sch. @ 55°</p> <p>calc. vns</p> <p>calc-glb vns</p> <p>CRYSTALLINE AND-BAS.</p> <p>slightly more chl. sch.</p> <p>from 786'-804' lg.</p> <p>calcite seams</p>	0.5%	776'	100%		768'	100%			
780'	MODERATE						<p>calcite hem vns</p> <p>from 771'-786' mg. v. siliceous appearing, only v. w/ky sch. @ 55°</p> <p>calc. vns</p> <p>calc-glb vns</p> <p>CRYSTALLINE AND-BAS.</p> <p>slightly more chl. sch.</p> <p>from 786'-804' lg.</p> <p>calcite seams</p>	0.5%	786'	100%		771'	100%			
790'	ALTERATION						<p>calcite hem vns</p> <p>from 771'-786' mg. v. siliceous appearing, only v. w/ky sch. @ 55°</p> <p>calc. vns</p> <p>calc-glb vns</p> <p>CRYSTALLINE AND-BAS.</p> <p>slightly more chl. sch.</p> <p>from 786'-804' lg.</p> <p>calcite seams</p>	0.5%	796'	100%		791'	100%			

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS: LITHOLOGIES FROM 811.5'-876' VERY SIMILAR TO THOSE IN JL-83-I-7	AVE CORE RECY / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% RECY. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
800'	W E A K	N I L	N I L	NK END ALT		P ₄	CRYSTALLINE AND-BAS.	771'-804.5' CONT.		0.5%			800			
810'	P A T C H Y, W E A K	W E A K	W K TO S Y R.			P ₄	calcite veins ALTERED. DACITE-AND.	- 781': 1/4" calcite & minor qtz in @ 25% ca., 2 mm hematite @ rims. - 780'-781': slightly more schistose, @ 55°, more strongly chloritized, 2 only v. weakly siliceous, fat - 780.5': 1/2" diffuse calcite vein // fol. @ 55°, @ 780' 1/4" qtz calc in parts fol. @ 50° & also from 780.5' to 791'-793', vly. sph zone, more strongly chloritized, only v. weakly schistose, @ 791.3'-2" qtz calc. hard base carb. (dol) vein @ 55° to ca.; 2 strong chl. alt @ rims, locally num. thin calcite stringers & hematite seams. - from 785'-804.5', becomes vly. more granular appearing, only v. weakly sch @ 55°, lighter green. - from 775'-786', numerous 1/4" 1/2" chl. diffuse calcite grains, blebs & minor frag. to 10% of rock. - becomes lighter grayish green towards 804.5' - arbitrary contact & underlying altered, more siliceous unit. 804.5'-811.5' ALTERED (CARBONATIZED) DACITE TO ANDESITE - vly. light gray green, wly. sch @ 45-50° to ca., wly. sericitized (wly. chloritized in places), weak to strongly carbonatized, (wly. diss. calcite blebs) bleached appearing dacite to andesite - by granular appearing (may be crystal left or to flow) - wly. fractured, pred. 1/4" to 1/2", 2 calcite, minor, chl. free fill - SULPHIDE CONTENT: AT. 0.5% Py, as diss. cubes, blebs to 1/16", occ. thin seams // fol. occ. ass & calcite seams. - 804.5': 1" diffuse appearing light gray calcite up @ 45° to c.a. - 805.5': 1" diffuse light gray calcite in @ 30° to c.a. - 807.5': a few thin 1/8" Py seams & Py filled fracs - to 1% over f - from 808', becomes strongly carbonatized, gradually (to 811.5') becomes softer, darker gray sl. carb., more sch. banded appearing - from 809'-810', num. 1/4"-1/2" diffuse dark bluish gray calcite seams: vns // to fol. to 30% of rock - minor graphitic free fill from 810'-811.5' - from 811'-811.5', by Py seams // fol. of Py cubes to 1/8" to 20% of rock, locally host is intensely carbonatized, strongly fractured, 2 chl. calc. graphite free fill. 811.5'-821' MINERALIZED GRAPHIC ARGILLITE - v. well developed bedding @ 50° to ca., thinly bedded (1/2"-1/4") pred. jet black graphitic argillite (graphite = 80% of rock) - numerous thin calcite 'beds' // bd. to 1/4" (av. of 1/16") to 5-10% of rock, often distorted, linked, illustrating minor folding or ssd activity. (a few calcite blebs appear 'fragmental') - a few thin short silica bands // to 1/16" // bedding - wly. fractured, @ rnd. orientations, 2 pred. calcite & Py free fill. - SULPHIDE CONTENT: 7-8% Py, trace sph., pred. as vly. diss. min in calcite seams, a few larger blebs & nodules to 1/4" in graphite, f as fracture filling. - contact @ 811.5' - 1" agglomerate of brecciated appearing zone, 2 elongate graph argillite frags to 1" set in a calcite matrix. - 812': 1/2" Py nodules - from 812.5'-815', a few 1/4" massive, semi-massive Py calcite bands - a few Py blebs appear very fragmental, locally - from 814'-818', becomes lighter black, less graphitic (50%), more chloritic, slightly harder, - from 818'-818.7', light grayish green intensely carbonatized thin, bd. dacite // interbed. - 10% Py as vly. diss. min in seams // bd. @ 50° & occasional larger blebs to 1/4" - 10% graphite as thin bands // to fol. - unit is mod. sericitized. - from 819'-821', num. thin qtz-calcite-Py seams & very fragmental appearing blebs to 5% wck. 821'-846' INTERBEDDED MINERALIZED GRAPHIC ARGILLITE/SCHIST & CARBONATIZED DACITE TUFF - bedding consistently v. well developed @ 50-55° to c.a. - from 821'-821.5' thinly bedded, soft, light grayish green carbonatized dacite tuff & 30% vly. diss. Py in thin bands // to bedding, numerous thin calcite stringers, both cutting 1/4" to 1/2" @ 50°. - from 821.5'-822' pred. hard, dark gray to jet black relatively siliceous moderately graphitic (30%) argillite; v. thinly bd., numerous thin carbonatized dacite // interbeds & agglomerate appearing 'fragments' (may be faulted) in places, notably from 821.5' - 822' & 827' (proximal to contacts & dacite tuff interbeds) - numerous thin dk. gray to white calcite & hard dark gray diply silica seams - bands // bd. to 1/4" & 10% of rock - a few v. fragmental appearing calc-silica-Py blebs to 1/8" & elongate // bd. (may be bound beds or agglomerate fragments) - sulphides (Py) to 5% overall, as vly. diss. seams // fol., a few larger diss. cubes, nodules, to 1/4", usually ass. & calcite/silica bands - from 826'-827', agglomerate app., 2 carb. dac. frags to 1" & 30%.		100%		804.5'	100%			
									0.5%		100%			807'	100%	
											100%			811.5'	100%	
														811.5'	100%	
														816'	20%	
														816'	85%	
														821'	97%	
														821'	97%	
														827'	97%	
														827'	100%	
														827.5'	100%	
														834'	100%	
														846'	100%	
														846'	100%	
														852'	100%	
														852'	100%	
														859'	100%	
														862'	100%	

HOLE NO. 76-B4-F1

PROJECT: JIM'S LAKE

PAGE NO: 10 OF 10

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

DATE STARTED: FEB. 12, 84

REF. TO CLAIM CORNER:

COORDINATES: 796E, 12985 N. E.

DATE FINISHED: FEB. 27, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 876'

LOGGED BY: D.M. [unclear]

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
860	OPPOSITE SEAMS	W.K. PERKALT.	PATCHY STR. WHERE BR.				CRYSTALLINE DACITE		0.75%		100%	BQ				
870							weakly brecc by chl. seams. intensely brecc by graph. chl. seams. v. agglomeratic appearing				100%			863.5-866.5	100%	
876								<p><u>821'-846' CONT.</u></p> <p>from 821'-828.5': thinly bed light gray vfg. aph. mod. strongly carbonatized dacite tuff - from 828.5-830.5, weakly brecciated by thin graphitic-chloritic seams 11 sub 11 fol. z. asp. Py cubes-blebs & thin seams to 1% from 828.5-831.5: thinly bedded (av. 1/4-1/2") interbedded jet black relatively hard moderately graphitic (30%) argillite & soft sericitized light grayish green dacite tuff (60% gr. arg. 40% dacite tuff) sulphides to 10% as large diss. Py cubes-blebs & vfg. thin seams 11 bd. a few nodules - equally mineralized in both rock types. - a few thin calcite bands 11 fol.</p> <p>- agglomeratic appearing in places, z both dacitic & carb. Py frags to 1" (may be bedding beds)</p> <p>- a few dacitic bands contain up to 50% vfg. diss. Py - dacite only weakly carbonatized.</p> <p>- from 831.5-834' - prop. light grayish green vfg. aph. dacite tuff, relatively soft, moderately sericitized & carbonatized, appears agglomeratic or brecciated in places by numerous thin (1/8") graphitic-chloritic seams 11 bd. @ 50% encompassing elongate thin dacitic frags (1 to 1/2")</p> <p>- numerous light gray diffuse calcite veins 11 bd. Py to 3% as vfg. diss. min. & thin seams</p> <p>- from 834'-837' - pred. hard, jet black graphitic (60%) argillite z 10% thin calcite seams 11 bd. 10% Py as thin seams to 1/4" vfg. diss. min., a few larger diss. blebs & cubes, some trac. fill, trace hem-sph.</p> <p>- @ 835: 3" zone of brecciated carbonatized light green dacitic fragments to 1" 11 fol. agglomeratic appearing - from 835.5-836' altered dacite fragments to 1" & 30% of rock, locally 1/4" semi-massive Py-hem seams 11 bd.</p> <p>- from 837'-837.5' - soft, lg. light green, strongly carbonatized, sericitized, whitish dacite tuff z 7% diss. Py</p> <p>- from 837.5-838.2' - thinly bed. black graphitic (30%) argillite z 10% thin calcite seams 11 bd. numerous 1/4" qc veins-blebs, 5% Py as seams, vfg. min 11 fol. z larger blebs to 1/2"</p> <p>- from 838.2'-838.5' - strongly sch. light green sericitized, phly carb. dacite tuff, z 5% vfg. diss. Py, a few thinly bed. carb. calc. bands z minor diss. fuchsite.</p> <p>- from 838.5-839.8' - black graphitic arg. z 10% thin calcite seams, 17% Py</p> <p>- from 839.8'-839.9' - light green, sh. sch. strongly ser-calcite altered dacite tuff z fr. diss. Py</p> <p>- from 839.9'-840.5' - v. agglomeratic appearing unit, z 30% strongly carb-ser. altered dacite fragments to 1" 11 bd. @ 55° (may be boud. beds) set in a hard black graph. chlorite matrix z 17% vfg. diss. Py - a few gray calcite veins</p> <p>- from 840.5-842' - light grayish gray, rel. soft, sch. strongly sericitized, moderately carb. dacite tuff, wily brecciated in a few places by thin (to 1/8") graph. chl. seams 11 bd., z 0.5% Py</p> <p>- from 842'-846' - v. thinly bedded (1/8") dark gray, only weakly graphitic (10-15%) argillite, both hard siliceous & softer sericitized types, a few thin ser-carb. altered dacite tuff interbeds, num. thin calcite seams 11 bd. to 5%, 17% Py as diss. blebs & vfg. seams 11 fol. (z calc.) - a few thin cherty beds, notably from 843.5'-844'</p> <p><u>846'-876' CRYSTALLINE DACITE</u></p> <p>- predominantly a light greenish gray, lg. (to mg in places) v. granular crystalline appearing dacite (flow - or perhaps coarse crystal tuff) - only v. weakly foliated (sch.) @ 45-50° to c.a.</p> <p>- 70% small white fupar refals, 30% dark, chl-ser. alt. mafic refals, minor qtz</p> <p>- weak pervasive sericite alt. - moderately fractured (one set 11 fol. num. other sets) z chl. calc. & minor sulphide trac. fill. - appears slightly bleached in places</p> <p>- a few vfg. aph. 1-2" sch. sheared zones, weakly carbonatized in a few places, z small diffuse calcite blebs & seams to 1/8" 11 fol.</p> <p>- SULPHIDE CONTENTS: 0.75% vfg. diss. Py, tr. Cpy, Po</p> <p>- v. weakly brecciated in places, by thin darker chlorite rich seams 11 sub 11 to fol. z frags to 2" & a frag matrix ratio of 95/5</p> <p>- from 848'-849' - num. thin chl. pink calcite diffuse seams 11 fol. to 10% of rock</p> <p>- from 851'-851.5' - a few thin sericite-Py-Cpy seams 11 fol. @ 50°, sulphides, locally 2%</p> <p>- from 853'-854.5' - wily brecciated by thin chl. rich bands @ 50°, frag-matrix ratio 95/5, frags elongate 11 fol. to 2"</p> <p>- from 850.5'-859.5' - wily brecciated by thin chl. rich bands @ 50°, frag-matrix ratio 95/5 @ 859' 1/4" calc. vn. calc. to 40° z 1/4" blebs to 1/4" @ 11ms</p> <p>- @ 859.5' - 2" graphitic-chloritic band @ 50° z frag. appearing Py blebs to 1/2" z 10%, 20% small ser-chl. alt. dacite frags, v. agglomeratic appearing</p> <p>- from 859.7'-860' - dacite is fractured, more strongly sericitized, silicified?</p> <p>- from 863'-864' - 1/8" chl-sulph. (Py, tr. Po, sph) filled trac @ 20° to c.a.</p>								

WELL NO. JL-81-F2

PROJECT: FIN'S LAKE

PAGE NO. 1 OF 3

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

DATE STARTED: MARCH 23, 68

REF. TO CLAIM CORNER:

COORDINATES: 1008.21005 N. E.

DATE FINISHED: MARCH 29, 68

SCALE: 1" = 40'

INCLINATION: -65° BEARING: 360°

TOTAL DEPTH: 766'

LOGGED BY: D. McJvor

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMPL. INT.	ESTIMATED		
	CHLORITE	SERICITE	CARBONATE	OTHER														
340'							<p><u>0-345' OVERBURDEN</u></p> <p>342-365' ANDESITE</p> <ul style="list-style-type: none"> light green, wily chloritized (to v. wily sericitized in some places) andesite well developed foliation @ 45° to c.a., as exhibited by alignment of pref. orientation of numerous (to 10% of rock) small (-1/8") white fsp. tabs, lends v. buffaceous appearance to rock, but in places unit coarsens, appears v. elline, chloritic. pred. a fsp. andesite wily, moderately fractured, pred. 11 fol., although other sets present, & chl. cab. hem. minor ser. gfs. frac. fill. wily sch. 11 fol. - above, thin intensely chloritized bands 11 foliation. few hematite seams & vfg. dips. tabs (oxidized sulphides?) numerous thin (1/4" - 1/2") sericite sch. seams 11 foliation. OVERALL SULPHIDE CONTENT: trace fsp. as frac. fill & minor vfg. diss. min. from 348-346' (8X CORE) - appears elline, & above 15" vuggy fsp-calc vns @ md. or. @ 350' - above 12" fsp. seams 11 fol. from 355' - coarsens slightly, appears more elline & small (1/40" - 1/20") fsp. tabs (an-sulphadial vials) set in a sch. chl. ser. rich andesitic groundmass from 357.5-358' - mg phase, v. dipritic, v. gabbroic appearing @ 362' - 1/2" bright green, sericite band @ 60° to c.a. locally, from 361-365.5' - becomes much softer, & strong purvaceous, ser. chl. alt. from 362.6-363.6' - v. soft, intensely chl. alt. & num. thick (1/2") hem rich bands 11 fol. vuggy, strongly fractured. 	99.2%										
350'	WEAK	WEAK					<p>vuggy qz veins</p> <p>ANDESITE</p> <p>mg dioritic phase</p> <p>hem rich bands</p>		TRACE	343'	85%	8X						
360'	WEAK	WEAK					<p>INTERBEDDED</p> <p>v. sheared & 80% qz vns</p>			355'	100%							
370'	WEAK	WEAK					<p>DIORITE</p> <p>strongly chloritized aph. shear zone</p> <p>locally mg</p>			364'	100%							
380'	WEAK	WEAK					<p>DIORITE</p> <p>intensely ser. alt. sch. gabbroic & pyroxenic, in remnant of xl.</p> <p>ALTERED GABBROIC ROCK</p> <p>calc. vns</p>			367'	100%							
390'	WEAK	WEAK					<p>DIORITE</p> <p>intensely altered, diorite to gabbro (or thick andesite - basicic thw). v. soft, comprised of an intensely sericitized groundmass & small (1/40") chl. tabs in remnant mg (to 10% in places) elline fill.</p>			375'	100%							
400'	WEAK	WEAK					<p>DIORITE</p> <p>intensely altered, diorite to gabbro (or thick andesite - basicic thw). v. soft, comprised of an intensely sericitized groundmass & small (1/40") chl. tabs in remnant mg (to 10% in places) elline fill.</p>			386'	100%							
	WEAK	WEAK					<p>DIORITE</p> <p>intensely altered, diorite to gabbro (or thick andesite - basicic thw). v. soft, comprised of an intensely sericitized groundmass & small (1/40") chl. tabs in remnant mg (to 10% in places) elline fill.</p>			392'	100%							
	WEAK	WEAK					<p>DIORITE</p> <p>intensely altered, diorite to gabbro (or thick andesite - basicic thw). v. soft, comprised of an intensely sericitized groundmass & small (1/40") chl. tabs in remnant mg (to 10% in places) elline fill.</p>			402'	100%							

HOLE NO. JL-84-F2

PROJECT: JIM'S LAKE

PAGE NO: 2 OF 8

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

DATE STARTED: MARCH 23, 84

REF. TO CLAIM CORNER:

COORDINATES: L80E 121005 N. E.

DATE FINISHED: MARCH 29, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 766'

LOGGED BY: D. McEVOY

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED		
	CHLORITE	SERICITE	CARBONATE	OTHER														
400'	STROONG	STROONG					<p>390-396.5' <u>CONG.</u> approx. 70% sericite (as altered fspars) & 30% chl. (altered pyroxens) - few small calcite blebs w/ky fuchsite, pred. v. subh. fol. (although other sets present) & pred. calcite, chl-ser hae fill. (minor hem. fuchsite) strongly sacroced appearing schistose @ 90° to 50° to c.a. in places, numerous thin (1/32") calcite slips v. fol. to 5% rock overall sulphide content: trace v. lg. Po-Cpy along calc. filled fracs. @ 394.3' 1/4" light green calcite (Cg diss. ser) v. @ 80° to c.a. @ 396.3' 1/2" light green calcite v. v. fol. @ 396.6' 1/4" calc. filled frac. w/ky xubs, fol @ 35° & above 1/4" lg. blebs. @ 400' some sheared, slickensided fuchsite filled fracs. @ 406.5' 1" calcite-sericite v. @ 70° to c.a.</p>								80			
410'	STROONG	STROONG					<p>ser. rich alt. pseudomorphs sch @ 55°</p> <p>406.5-415.5' <u>ALTERED ULTRAMAFIC ROCK</u> rock pred. a very soft dark green to black intensely altered ultramafic lithology, comprised of a v. soft black v. soft talc-chl. sil. groundmass & large irregular lighter green mottled appearing sericite rich blebs (mainly fragments appearing elongate v. fol.) to 1" ev. 1/4"-1/2" - well developed fol. sch @ 50° to c.a. in places, some green sericite rich rock appears host to cumulate type stack alc-chl. sil. blebs - in places well dev. remnant cum. fr. rock is mag. fractured @ random orientations & calc. chl. talc. sericite trac. fill. and magnetic to strongly magnetic in places. intensely shaven appearing & slickensided on talc. ser. along fractures. overall sulphide content: 1% v. lg. diss. Po-Cpy & minor lg. trace fill @ 408.5' 1/2" calc. v. ser. sil. @ 25° locally host strongly sericite @ 412' 1/2" calc. v. ser. sil. @ 25° locally host strongly sericite from 412-415.5' more mottled appearing, & mag. 1/2"-1" ser. alt. blebs in talc-chl. groundmass up contact @ 415.5' @ 50° to c.a.</p>											
420'	WEAK	WEAK					<p>ser. rich alt. pseudomorphs sch @ 55°</p> <p>415.5-426' <u>SERICITE SCHIST (ALTERED DIORITE/ANDESITE)</u> rock pred. a light green v. soft, intensely sericitized schistose @ 60-55° to c.a. rock (sericite & 80% of rock) - pred. v. lg. to aph. sil. in places contains remnant type mag. xline fill & small ser. & lesser chl. alt. pseudomorphs set in a sericite groundmass (grades into diorite @ 426') mag. slightly darker green chl. rich zones schistosity mag. in places, known gently folded, but pred. v. well developed early fracturing, pred. v. fol. & calcite sericite, chlorite, minor fuchsite hae. fill. above thin 1/4" calcite seams v. fol. overall sulphide content: trace v. lg. diss. Po-Cpy & minor lg. trace fill in places @ 417' 1/2" calc. v. ser. sil. @ 25° to c.a. from 415.5-419' intensely sericitized schistose from 419-422.5' only moderately to strongly sch. because recogn. easily an gtl. diorite, slightly mag. less intensely sericitized, more developed remnant lg. mag. xline fill. w/ky calc. & diffuse calc. seams & 1/32" calc. to 3-5% @ 421' 1" calc. v. minor gtl. v. fol. locally @ 60° to c.a. from 422.5-424.5' mag. schistose, sericitized schistose, v. soft from 424.5-426' slightly hd. w/ky remnant lg. xline fill.</p>											
430'	WEAK	WEAK					<p>426-434' <u>SERICITIZED DIORITE</u> gtl. calc. v. mag. gtl. v. n. remnant mag. xline fill & chl. alt. pseudomorphs in ser. groundmass.</p> <p>434-439' <u>SERICITE SCHIST</u> gtl. v. n. grades into diorite</p>											
440'	WEAK	WEAK					<p>439-442' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
450'	WEAK	WEAK					<p>442-444' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
460'	WEAK	WEAK					<p>444-449' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
470'	WEAK	WEAK					<p>449-456' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
480'	WEAK	WEAK					<p>456-466' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
490'	WEAK	WEAK					<p>466-476' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
500'	WEAK	WEAK					<p>476-486' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
510'	WEAK	WEAK					<p>486-496' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
520'	WEAK	WEAK					<p>496-506' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
530'	WEAK	WEAK					<p>506-516' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
540'	WEAK	WEAK					<p>516-526' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
550'	WEAK	WEAK					<p>526-536' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
560'	WEAK	WEAK					<p>536-546' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
570'	WEAK	WEAK					<p>546-556' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
580'	WEAK	WEAK					<p>556-566' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
590'	WEAK	WEAK					<p>566-576' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
600'	WEAK	WEAK					<p>576-586' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
610'	WEAK	WEAK					<p>586-596' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
620'	WEAK	WEAK					<p>596-606' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
630'	WEAK	WEAK					<p>606-616' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
640'	WEAK	WEAK					<p>616-626' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
650'	WEAK	WEAK					<p>626-636' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
660'	WEAK	WEAK					<p>636-646' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
670'	WEAK	WEAK					<p>646-656' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
680'	WEAK	WEAK					<p>656-666' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
690'	WEAK	WEAK					<p>666-676' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
700'	WEAK	WEAK					<p>676-686' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
710'	WEAK	WEAK					<p>686-696' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
720'	WEAK	WEAK					<p>696-706' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
730'	WEAK	WEAK					<p>706-716' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
740'	WEAK	WEAK					<p>716-726' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
750'	WEAK	WEAK					<p>726-736' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											
760'	WEAK	WEAK					<p>736-746' <u>SERICITIZED DIORITE</u> gtl. v. n. grades into diorite</p>											

CONT.

HOLE NO. JL 84-F2

PROJECT: JIM'S LAKE

PAGE NO: 3 OF 8

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

DATE STARTED: MARCH 28, 84

REF. TO CLAIM CORNER:

COORDINATES: 180 E. 121005 N. E.

DATE FINISHED: MARCH 29, 84

SCALE: 1"=10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 766'

LOGGED BY: D. McFAR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
466'	WEAK	WEAK						<p>126'-134' CONT.</p> <ul style="list-style-type: none"> @ 431: 1/2" calc-chl vns @ 90° to c.a. from 433-434: above 1/4" gte-calcite seams @ random or, becomes vfg rather sharp, distinct contact & underlying intensely sch/ser alt unit. @ 65°. 			100%	80				
470'	ALTA	PATENCY					<p>M.G. DIORITE</p> <ul style="list-style-type: none"> gte vns & ser. alt. halos gte-halo seam gc vns 	<p>434'-444' SERICITE SCHIST (INTENSELY ALTERED DIORITE ROCK)</p> <ul style="list-style-type: none"> look a bright light green, intensely schistose @ 55° to c.a., intensely sericitized (90% of rock) altered diorite (gradational contact @ 444' & a good lg diorite) rock vfg soft, prod. vfg, but & well developed 'remnant' mg-cg phases, & chl. f ser. alt. pseudomorphs set in a sericite groundmass (lands & granular app. to rock) moderately fractured, prod. isobut fol. (although other orientations present) & ser. chl. & minor sulphide frac. fill. abw irreg. 1/4-1/2" calcite veins, occ. gte vns, prod. or 11 fol. rock is vfgly carbonized in places, & num. thin (c/16") calcite seams 11 fol. & vfg diss calcite. 466s (c/132") occ. diffuse appearing vns. appears spotted in places, & vfg diss. unknown thick min. to 1-2% of rock. OVERALL SULPHIDE CONTENT: 1% vfg diss. to Py-Cpy as thin slips 11 fol., minor frac fill, & min. associated & calcite seams to Py-Cpy 	0.25%	466' to 470'	100%					
480'	STRONG	PERVASIVE					<ul style="list-style-type: none"> @ 434.2: 1/2" gte & minor calcite vns @ 45° to c.a. @ 434.5: 1/4" gte vns 11 fol @ 55° ca, & abw scuffing gte-calcite stringers. @ 435.2: 1" gte & minor calc vns @ 55° to c.a. @ 435.4: 1/2" gte vns @ 55° locally num 1/8" calcite stringers 11 fol. from 438-440: num thin 1/16" calcite stringers 11 fol., to 5% of rock, & minor vfg diss. Py-Pb & locally some Py to frac. fill. from 440-440.5: 1" irreg calc. gte vns. @ 441: 1/4" gte vns 55° ca. from 441-443: becomes less intensely sch., less intensely sericitized, & mod. remnant mg xline txt. & gradational contact & underlying diorite. 		470' to 480'	100%						
490'	STRONG	PERVASIVE					<p>444'-448' M.G. DIORITE</p> <ul style="list-style-type: none"> rock pred. a relatively hard, fresh mg diorite, composed of on av 35% an-subhedral vfgly chl-ser alt. remnags & 65% white fspars (comps vary locally from 25% to 50/50) v. vfgly foliated, (sch & vfg flow banding?) @ av or. 40-45° to c.a., although variable some shearing of alt. mafic minerals 11 fol. vfgly fractured @ random orientations, & chl ser, calcite, minor gte fuchsite frac. fill abw mottled, appearing more alt. schistose zones where xline txt is overprinted. abw thin gte-calcite vns & stringers. OVERALL SULPHIDE CONTENT: 0.25 to 0.5% vfg diss Py, to Pb, Cpy, & min associated & gte-calc vns & frac. fill. from 444-446: vfg to lg, coarsens to mg by 446' from 446-452: mgre gabbroic, appearing & 50% fspars: 50% fspars, gradationally more fspars rich towards 452' @ 450.5: 1/2" gte minor calcite vns @ 30° to c.a. & trace diss. Py @ 455.5: 1/2" sheared sericite seam @ 20° to c.a. @ 457: 1/2" light green gte (c minor ser.) vns scale fol @ 50° to c.a. @ 457.2: 2" sheared, sericitized zone @ 70° to c.a. from 460-461: abw 1/4" gte stringers @ 20° to c.a., & minor vfg diss Py. from 463-464: numerous (to 10% of rock) thin (to 1/16") gte-calcite chl seams @ 60° to ca. vfgly becc. rock. @ 464: 1" calc-ser. minor gte-chl vns @ 55° to c.a. from 464-465: num. 1/8" calc-ser vns/seams @ 0-20° to c.a. @ 465: 1/2" gte vns @ 55° to c.a. & Py blebs @ rims. & 1/2" chl-ser-carb rich alt. halo around vns. @ 466: locally abw 1/8" white creamy gte vns @ 45-55° to c.a. @ 467: 1/2" pred. calcite minor gte-chl-ser-Py vns @ 95° to c.a., locally & num. 11 gte seams/filled frags. @ 467: abw 1/2" pred. calc. gte vns @ 30° to c.a., & vfg ser alt halos to 2" overprinting mg xline txt. from 470-470.5: 6" mottled app. zone & stronger pervasive or. alt. overprinting mg xline txt., & locally abw thin hard creamy carb stringers. 1% vfg Py locally. 	T R A C E	480' to 490'	100%						
500'	STRONG	PERVASIVE					<ul style="list-style-type: none"> calc vns calc vns calc-ser-gte vns calc vns gc vns 		490' to 500'	100%						
510'	STRONG	PERVASIVE					<ul style="list-style-type: none"> calc-ser vns cg gabbroic phase calc-ser vns. cg gabbroic phase halo blebs ser seams cg gabbroic phase 		500' to 510'	100%						
520'	STRONG	PERVASIVE							510' to 520'	100%						

HOLE NO. JL-84-F2

PROJECT: JIM'S LAKE

PAGE NO: 4 OF 8

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

DATE STARTED: MARCH 23, 84

REF. TO CLAIM CORNER:

COORDINATES: LBOE, 121005 N. E.

DATE FINISHED: MARCH 29, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 766'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
520'	WEAK	WEAK	WEAK	WEAK			gc vining to 50% <u>DIORITE</u> qtz-chl-talc seams gc vining	527-527' <u>DIORITE</u> mg to cg in places, composed of 70% white fspars (w/ky sericite & epidote all in places) & 30% w/ky chloritized (i.e. in places sericitized) ferromags - w/ky adiristose @ 40° to c.a. - w/ky to mod. fractured @ random orientations. f chl. ser. qtz-calc. minor qtz frac. fill. - above thin qtz-calcite vns - stringers @ random orientations - OVERALL SULPHIDE CONTENT: trace py. lo. Cpy ass. & qtz-calc seams, frac fill. & minor vly diss min. - @ 523.5' 1/4 calc. seam xcuts fol. @ 30° & 1/4" po blebs @ rims. - @ 524' 1/4" calcite filled fac @ 40° ca. - @ 524.5' 1/4" calc. py filled fac @ 80° ca., locally above 1/4" talc blebs - @ 525' 1/4" calc. seam xcuts fol. @ 40° - from 526'-527', numerous 1/4" randomly or. qtz-calc-chl-talc seams & minor diss po. Cpy-py sharp concordant contact @ 40° @ 527'.	0.25%		100%	80'	527.5'			
530'	STRONG	STRONG	PATCHY	STRONG			gc vining SERICITIZED CHLORITIZED ANDERSITE TO BASALT intensely sch. zone	527-528' <u>SERICITIZED - CHLORITIZED ANDERSITE - BASALT Flow</u> rock pred. a medium green, lg to mg, intensely altered silline andersite to basalt, & spongy pervasive ser & chl alt. (ser or chl) at both fspars & ferromags, & a well developed remnant lg. mg silline bit. - v. sheared appearing, soft, moderately schistose @ 35°-40° to c.a. - numerous thin (to 1/8") irreg diffuse calcite seams @ random orientations, occ. & qtz moderately fractured @ rad. or. & calcite, sericite, chlorite & occ. qtz-talc frac. fill. - above thin talc seams & blebs - v. w/ky carbonatized in places; & minor diss vly calcite - numerous small (c. 1/16") white 'slips' // fol. v. corroded garnets? - OVERALL SULPHIDE CONTENT: 0.5% vlyg diss lo. py. & minor min. ass. & gc vining & frac fill. trace Cpy. - from 527-527.2' lg to 5% as frac fill & vlyg diss min. - @ 528' 1/2" calcite vnl seam subh fol. @ 30° - @ 528.5' 1/2" qtz-calc vnl xcuts fol. @ 60° - from 530-531.5' 1/4" calcite seam @ 0° - from 531.5-532' num. 1/4" randomly orientated qtz & calcite seams. - @ 532.5' 1" calc (e lg dias ser.) vnl // fol @ 35° - locally rock v. sericitized. - from 532.5-533.5' intensely schistose (@ 60°), aph. v. strongly sericitized, bedded app. zone (could be a thin buff interbed) & qtz-calcite vns to 1" // fol. to 50% of rock. - from 534-538' becomes slightly coarser grained (to mg), more diorite-gabbro appearing, & num. thin 1/4" calc & qtz vns - distinct contact & underlying schist @ 55° to c.a. - 538-542.5' <u>SERICITE - CARBONATE 'SCHIST'</u> - rock pred. a light greyish green, vly to aph. intensely schistose (@ highly variable, orientations av. 50°-60° to c.a., but deformed - slumped, kinked appearing in places), intensely sericitized rock (pred. ser.) & thin (c. 1/16") beds/bands of calcite // sch. to 10% of rock. - above chloritic seams & minor pervasive chl. all in pl moderate to strongly fractured, pred. // sub // foliation @ 60°-80° to ca. & pred. calcite. minor chl. ser. sulphide frac. fill. - numerous (to 10% of rock) thin secondary calcite (occ. & qtz) vns - spacing to 1/4" // sub // sch. v. hard lg granular or silling bit. in places, may be either an intensely sheared andersite to basalt or talciferous interbed. - SULPHIDE CONTENT: from 538-540' 1%, pred. py. trace po. as seams // fol. associated & qtz-calc, & minor thin slips // fol. - from 540-542.5' 5% (2% py, 2% po) as thin seams (to 1/8") // fol. ass & gc vns (to rims) & v. thin slips // fol. - @ 542.5' 1/4" qtz-calc vnl @ 60° to ca. & num. thin lo. py seams // fol. locally - from 540-542.5' qtz-calc vns to 1/2" @ 60°-90° to c.a. to 30% of rock, often bi-crystalline rock - v. intense ser. all surrounding host - indistinct contact @ 542' & more chloritic unit.	0.5%	100%	538.5'		100%			
540'	WEAK	WEAK	WEAK	WEAK			SERICITE - CARB. SCHIST	542.5-542.5' <u>SERICITE - CARBONATE 'SCHIST'</u> - rock pred. a light greyish green, vly to aph. intensely schistose (@ highly variable, orientations av. 50°-60° to c.a., but deformed - slumped, kinked appearing in places), intensely sericitized rock (pred. ser.) & thin (c. 1/16") beds/bands of calcite // sch. to 10% of rock. - above chloritic seams & minor pervasive chl. all in pl moderate to strongly fractured, pred. // sub // foliation @ 60°-80° to ca. & pred. calcite. minor chl. ser. sulphide frac. fill. - numerous (to 10% of rock) thin secondary calcite (occ. & qtz) vns - spacing to 1/4" // sub // sch. v. hard lg granular or silling bit. in places, may be either an intensely sheared andersite to basalt or talciferous interbed. - SULPHIDE CONTENT: from 538-540' 1%, pred. py. trace po. as seams // fol. associated & qtz-calc, & minor thin slips // fol. - from 540-542.5' 5% (2% py, 2% po) as thin seams (to 1/8") // fol. ass & gc vns (to rims) & v. thin slips // fol. - @ 542.5' 1/4" qtz-calc vnl @ 60° to ca. & num. thin lo. py seams // fol. locally - from 540-542.5' qtz-calc vns to 1/2" @ 60°-90° to c.a. to 30% of rock, often bi-crystalline rock - v. intense ser. all surrounding host - indistinct contact @ 542' & more chloritic unit.	1%	5%	100%	542.5'		100%		
550'	STRONG	STRONG	STRONG	STRONG			gc vining to 25% rock CHLORITE SCHIST	542.5-542.5' <u>SERICITE - CARBONATE 'SCHIST'</u> - rock pred. a light greyish green, vly to aph. intensely schistose (@ highly variable, orientations av. 50°-60° to c.a., but deformed - slumped, kinked appearing in places), intensely sericitized rock (pred. ser.) & thin (c. 1/16") beds/bands of calcite // sch. to 10% of rock. - above chloritic seams & minor pervasive chl. all in pl moderate to strongly fractured, pred. // sub // foliation @ 60°-80° to ca. & pred. calcite. minor chl. ser. sulphide frac. fill. - numerous (to 10% of rock) thin secondary calcite (occ. & qtz) vns - spacing to 1/4" // sub // sch. v. hard lg granular or silling bit. in places, may be either an intensely sheared andersite to basalt or talciferous interbed. - SULPHIDE CONTENT: from 538-540' 1%, pred. py. trace po. as seams // fol. associated & qtz-calc, & minor thin slips // fol. - from 540-542.5' 5% (2% py, 2% po) as thin seams (to 1/8") // fol. ass & gc vns (to rims) & v. thin slips // fol. - @ 542.5' 1/4" qtz-calc vnl @ 60° to ca. & num. thin lo. py seams // fol. locally - from 540-542.5' qtz-calc vns to 1/2" @ 60°-90° to c.a. to 30% of rock, often bi-crystalline rock - v. intense ser. all surrounding host - indistinct contact @ 542' & more chloritic unit.	2%	5%	100%	542.5'		100%		
560'	MODERATE	MODERATE	MODERATE	MODERATE			gc vns qtz-chl-calcite vining mg siliceous shear zone CRYSTALLINE BASALT/GABBRO	542.5-542.5' <u>SERICITE - CARBONATE 'SCHIST'</u> - rock pred. a light greyish green, vly to aph. intensely schistose (@ highly variable, orientations av. 50°-60° to c.a., but deformed - slumped, kinked appearing in places), intensely sericitized rock (pred. ser.) & thin (c. 1/16") beds/bands of calcite // sch. to 10% of rock. - above chloritic seams & minor pervasive chl. all in pl moderate to strongly fractured, pred. // sub // foliation @ 60°-80° to ca. & pred. calcite. minor chl. ser. sulphide frac. fill. - numerous (to 10% of rock) thin secondary calcite (occ. & qtz) vns - spacing to 1/4" // sub // sch. v. hard lg granular or silling bit. in places, may be either an intensely sheared andersite to basalt or talciferous interbed. - SULPHIDE CONTENT: from 538-540' 1%, pred. py. trace po. as seams // fol. associated & qtz-calc, & minor thin slips // fol. - from 540-542.5' 5% (2% py, 2% po) as thin seams (to 1/8") // fol. ass & gc vns (to rims) & v. thin slips // fol. - @ 542.5' 1/4" qtz-calc vnl @ 60° to ca. & num. thin lo. py seams // fol. locally - from 540-542.5' qtz-calc vns to 1/2" @ 60°-90° to c.a. to 30% of rock, often bi-crystalline rock - v. intense ser. all surrounding host - indistinct contact @ 542' & more chloritic unit.	0.5%	100%	546'		100%			
570'	WEAK	WEAK	WEAK	WEAK			becomes lg. more sheared appearing locally trace by gc vns. cals vns ANDERSITE TUFF calc vnl	542.5-542.5' <u>SERICITE - CARBONATE 'SCHIST'</u> - rock pred. a light greyish green, vly to aph. intensely schistose (@ highly variable, orientations av. 50°-60° to c.a., but deformed - slumped, kinked appearing in places), intensely sericitized rock (pred. ser.) & thin (c. 1/16") beds/bands of calcite // sch. to 10% of rock. - above chloritic seams & minor pervasive chl. all in pl moderate to strongly fractured, pred. // sub // foliation @ 60°-80° to ca. & pred. calcite. minor chl. ser. sulphide frac. fill. - numerous (to 10% of rock) thin secondary calcite (occ. & qtz) vns - spacing to 1/4" // sub // sch. v. hard lg granular or silling bit. in places, may be either an intensely sheared andersite to basalt or talciferous interbed. - SULPHIDE CONTENT: from 538-540' 1%, pred. py. trace po. as seams // fol. associated & qtz-calc, & minor thin slips // fol. - from 540-542.5' 5% (2% py, 2% po) as thin seams (to 1/8") // fol. ass & gc vns (to rims) & v. thin slips // fol. - @ 542.5' 1/4" qtz-calc vnl @ 60° to ca. & num. thin lo. py seams // fol. locally - from 540-542.5' qtz-calc vns to 1/2" @ 60°-90° to c.a. to 30% of rock, often bi-crystalline rock - v. intense ser. all surrounding host - indistinct contact @ 542' & more chloritic unit.	0.5%	100%	546'		100%			
580'	WEAK	WEAK	WEAK	WEAK			altering to ser. carb beds SER-CARB TUFF few graph. beds	542.5-550.5' <u>CHLORITE 'SCHIST'</u> - rock pred. a dark green vly to aph. strongly chloritized schistose rock - very strong sch. @ av. or. 65° to ca. although highly irreg. variable in places, & some kinking, crenulation & ssd appearing features. - pred. chl (60%) but some sericitized zones to 25% of unit. - numerous v. small (c. 1/32") plng. // to sch. pink to yellowish white slips that appear to be garnets. to 5% of rock.	20%	50%	571'		100%			

HOLE NO. JL-84-F2

PROJECT: JIM'S LAKE

PAGE NO: 5 OF 8

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

DATE STARTED: MARCH 23, 84

REF. TO CLAIM CORNER:

COORDINATES: L80E, 12100S N. E.

DATE FINISHED: MARCH 29, 84

SCALE: 1" = 10'

INCLINATION: - 55° BEARING: 360°

TOTAL DEPTH: 766'

LOGGED BY: D. McEVOY

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
580'	DOUBT	STRONG	STRONG				<p>thin sericitic carbonate beds</p> <p><u>SEA-CARB. TUFF</u></p> <p>thin graphitic seams</p>		2%	580'	80%	2a	580'	90%		
590'		STRONG	STRONG				<p>has thin graphitic gte-calc vns</p> <p><u>MYRITIC CARBONATE TUFF</u></p> <p>3 lacunae, increasingly graphitic</p>		15%	586'	100%		587.6'	100%		
600'	FEW	FEW	FEW				<p>gray pyritic carbonate fragments</p> <p>gray pyritic carb. interbeds</p>		10%	596'	100%		602'	100%		
610'	FEW	FEW	FEW				<p><u>MINERALIZED GRAPHITIC BASALTITE</u></p> <p>carb frag & 10% Py</p>		10%	606'	90%		607'	100%		
620'		INTERBEDS	INTERBEDS				<p>gray pyritic buff interbed</p>			616'			613'	100%		
		INTERBEDS	INTERBEDS				<p>thin silica beds to 30% of rock</p>			626'	100%		615'	100%		
630'	WEAK	INTENSE	ALTA				<p>ephiphratic carb. all one frags set in <u>CARBONATED BASALT TUFF</u></p> <p>graph. grass</p>		10%	626'	100%		618'	100%		
	SEAMS	ALTA	ALTA				<p>strongly brecciated</p>		31	636'			627'	100%		
							<p><u>BRECCIATED ALTERED DACITE TO ANDESITE</u></p>		27	636'			633'	100%		
							<p>thin sericitic carbonate beds</p> <p>5% - 50% calcite</p> <p>weakly granular appearing in places - moderate to strongly fractured pred. 11 fol., although other sets present, calcite, chlorite, sulphide frac. fill. & some carbonaceous material (graphite) - rocks appears to be whly brecciated rock in places, several generations of fracturing.</p> <p>thin 5/16" - 5/8" v. soft, sheared gray calcite rich rock, & 10% Py as vlg slips 11 fol. @ 65° to c.a. & micro-fracture filling.</p> <p>from 576.5 - 579; core badly ground, y. poor recovery, & blocks of both v. pyritic (to 20%) sericitic, carbonate rich rock & pyritic (to 20%) black graphitic argillite (Py nodules to 1/2") presumably interbedded.</p> <p>from 574 - 580; dark gray, v. carbonate rich aphanitic rock & 20% vlg diss Py & Py frac fill.</p> <p>from 580; light green, soft sericitic-carbonate rich rock, & increasingly common (to 5% rock) thin 1/32 - 1/16" graphite-calcite-sulphide seams 11 fol. @ 75° to c.a. (although variable or), looks like frac fill, strongly brecciated rock in places, sulphides to 2% (Py) ass. & graph seams, & microcalc fill, in v. fine, close hatch type textures.</p> <p>becomes increasingly thinly bedded towards 587.5; increasingly carbonate rich, @ 586'; 2" thickly bedded zone & 1/16" graph-calc-ser bands, beds v. kinked, crenulated & 10% vlg Py, H. sph.</p> <p>sulphides thin, 587' - 587.5 - 5% Py</p> <p>arbitrary contact & underlying more pyritic, carbonate rich unit.</p> <p>587.5 - 595.5; <u>TRINELY BEDDED MYRITIC CARBONATE TUFF</u></p> <p>rock predominantly a very thinly bedded (< 1/16" to 1/8") (to av. or. of 65° to c.a., although kinked in places, slumped appearing in places) light gray to beige carbonate (dolomite) - sericitic in places, both diss. in carb. & as thin beds to 1/8" to 25% of rock;</p> <p>thin graphitic seams to 1/16" to 5% rock - thin calcite seams/beds to 1/4" & 10% of rock.</p> <p>numerous (to 10%) secondary calcite & gte-calcite vns both 1/4" & scuttling bedding</p> <p>sulphide content: 15% pred. Py, trace Cpy, sph, as v. thin (< 1/32") slips-seams 1/4" bd, vlg diss min. & microcalc fill in cross-hatch type textures, & ass. & major gc veins</p> <p>from 587.5 - 591; v. thinly bed (1/16" - 1/8") more sericitic</p> <p>@ 588.8'; 2" gte-calcite v. xctls bd. (bd highly contorted locally)</p> <p>from 589.2 - 589.5; 4" calcite, minor gte vns, highly contorted bd. around vns.</p> <p>@ 591.3'; 1" gte v. @ 90° to c.a.</p> <p>rock is strongly fractured pred. 11 sub 11 bd. although other or. present, & pred calcite - Py frac fill, minor gte, graph, whly brecc. rock in places</p> <p>@ 591.7'; 2" gte minor calcite vns 11 fol. & akw sph. Cpy blebs, locally rock is brecciated by thin Py, chl. calcite seams</p> <p>carb in places is v. granular, tuffaceous appearing.</p> <p>@ 593.2 & 594'; 1/2" quartz-calcite vns scuf bd. @ 25° & Cpy-Py-aph blebs to 1/8" @ rims.</p> <p>from 595 - 615.5; thin graphitic interbeds to 50%</p> <p>615.5 - 626.7; <u>MINERALIZED GRAPHITIC ARGILLITE</u></p> <p>rock predominantly a thinly bedded (< 1/32" - 1") jet black hard & graphitic argillaceous rock, bd. @ an average or. of 75° to c.a., although variable in places from 55° - 90° & some kinking, slumping & ssd type features.</p> <p>numerous (to 10% of rock) thin silica beds to 1/8" (to 60-70% of rock in places)</p> <p>few thin carbonate (calcite) beds to 5% of rock, usually & ass. sulphides</p> <p>moderately fractured, pred. 11 sub 11 bd. & calcite, silica, sulphide frac. fill.</p> <p>few thin sericitized, carbonized dacite buff or equiv. metas. interbeds</p> <p>rock is brecciated in places by thin calcite & silica seams.</p> <p>SULPHIDE CONTENT: 8% to 10%, varies 5 - 15% of pred. Py, trace sph, Cpy, occurring as nodules to 1/2"; semi-massive bands/beds to 1/8" diss vbas to 1/8", vlg min ass & calc & silica seams & frac fill.</p> <p>some carb-silica-sulph blebs to 1/2" appear v. fragmental (may be bond. interbeds)</p> <p>from 595.5 - 596; slumped contact & overlying unit, & 1/2" elongate gray carbonate fragments in graphitic matrix, bd. ranges 0 - 90° to c.a.</p> <p>from 597.5 - 600; about 2" gray granular carbonate rock fragments & 15% vlg diss Py.</p> <p>@ 602; 2" band of lg granular gray rock (whly carb rich) & 25% vlg diss Py</p> <p>from 602.8 - 603.4; vlg gray granular v. carbonate rich rock, & 25% vlg diss Py</p> <p>@ 608.5'; 1" fragment of lg gray granular v. carb rich rock & 10% vlg diss Py</p> <p>@ 609; 2" frag as above.</p> <p>from 610; 1/2" interbed of thinly bed dark gray whly carbonaceous vlg granular rk & 50% Py as vlg diss vns in bands only 11 fol. & calcite to 1/2"</p>									

CONT

HOLE NO. J1-84-FZ

PROJECT: JIM'S LAKE

PAGE NO: 6 OF 8

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

DATE STARTED: MARCH 23, 84

REF. TO CLAIM CORNER:

COORDINATES: 180E, 12000S N. E.

DATE FINISHED: MARCH 29, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 711'

LOGGED BY: D.M. VOOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y. SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
640'	W.K. WOODS	SIR	SIR				<p>626.5-626.7' CONT.</p> <p>shungly breccia</p> <p>626.7-633' INTENSELY ALTERED (CARBONATIZED) MINERALIZED DACITE TYPE OR CLASTIC EQUIVALENT</p> <p>rock comprised of a dark gray, intensely carbonatized, vfg. aphan. dacite appearing lithology</p> <p>v. soft, comprised of thin (1/4-1/2") bands/beds & v. agglomeratic appearing fragments in bd.</p> <p>set in a gray, wky carbonaceous, aphanitic groundmass</p> <p>thin black graphitic seams to 25% of rock.</p> <p>moderately fractured, pred. // foliation & graphite, calcite, sulphide frac fill - wky brecciated rock in places</p> <p>few qtz-calcite vns to 1/4" both // & scuffing bd.</p> <p>similar unit to 574-587.5' but less sericitic, more agglomeratic appearing, could be an agglomeratic dacite or slumped metased.</p> <p>SULPHIDE CONTENT: 10% Py as v. thin seams // bd ass. & graphite, frac fill, a vfg. arbitrary cont'd & underlying altered brecciated rock.</p> <p>rather arbitrary cont'd & underlying altered brecciated rock.</p> <p>633-701' BRECCIATED (CARBONACEOUS MATRIX) ALTERED (CARBONATE-SERICITE) DACITE TO ANDESITE (VOLCANICLASTIC SLUMP BRECCIA?)</p> <p>highly variable appearing unit & different degrees of brecciation & types and intensities of alteration & in places varying clast lithologies & textures, ranging from a vfg. to aphanitic light gray to green sericite-carbonate altered dacite to andesite or a vfg. clastic rock (siltstone to argillite, appears v. granular in places) & a mg. dioritic type lithology OR a coarse clastic graywacke (v. difficult to determine due to alteration & shearing/schistosity overprinting features); in places appears like a siltstone-graywacke, elsewhere like a dacite-andesite to diorite, may be both, in a very complex slump type breccia.</p> <p>in general, rock comprised of brecciated fragments of</p> <ol style="list-style-type: none"> vfg. to aphan. sericitized, carbonatized dacitic appearing lithology to siliceous dacitic lithology to granular siltstone appearing lithology mg. graywacke appearing lithology mg. siliceous andesite-diorite appearing lithology <p>set in a dark gray to black carbonaceous, often chlorite-carbonate rich argillaceous matrix, occasionally cherty, occasionally more sericitic rich mylonite type lith.</p> <p>well developed foliation @ 65° to c.a.</p> <p>from 633-635.2' - intensely brecciated to agglomeratic appearing, & a fragment/matrix ratio of both clasts/bags from ~ 1/32 to 2", elongate // fol @ 70° to c.a., & cherts of light greenish gray vfg. to aphan. // by granular appearing silt intensely carbonatized sericitized dacite to andesite or siltstone</p> <p>matrix a dark gray to black aphanitic (argillaceous) graphitic; chloritic material</p> <p>Py to 5% as thin seams/beds // foliation pred. ass. & matrix, some vfg. diss min in clasts, some fragmental/clastic appearing blobs</p> <p>few 1/4" scuffing // (to fol) calcite, minor qtz vns</p> <p>from 633-637.5' pred. graphite & a few thin siliceous carbonate seams, a few 1/4" Py seams</p> <p>from 635.2-641' only weakly brecciated, & occasional graphitic-chloritic argillaceous seams to 1/2" av. 1/4" every 2-8" // to 5% of rock, pred. oriented @ 70° to c.a., as matrix to large (to 6-8" & 1/4") both vfg. light green shungly sericitized moderately carbonatized dacite to andesite or argill. clastic rock & slightly coarser v. granular appearing siltstone to graywacke (wky ser-carb all) - unit v. clastic appearing, wky sch. in frags // fol-bd.</p> <p>few thin 1/4" calcite seams both // to & scuffing foliation</p> <p>sulphides to 2% (1% Pb, 1% Py) as 1/4" seams & matrix, frac fill, & vfg. diss min in clasts.</p> <p>from 641-644.5' more strongly brecciated, & a fragment/matrix ratio of 80/20 matrix seams to argillaceous graphitic-chloritic material to 1/2" (av. 1/16") & 20% @ pred. orientation of 65° to c.a., & fragments from ~ 1/4" to 1-2" of pred. (80% of clasts) a light gray-green vfg. sericitized-carbonatized dacitic lithology. few (20%) slightly coarser granular siltstone to graywacke type clasts, & up to 10-15% vfg. diss Py-Pb.</p> <p>numerous // & scuffing calcite - Py filled frags to 1/4"</p> <p>sulphides; av. 5% (3% Py, 2% Pb) as vfg. diss min. in siltstone clasts & min. ass. &</p>	5%		100%	8Q	641'	100%			
650'	BRECCIA SEAMS	MOD. ALT. OF SOME FRAGMENTS					<p>frag of ser-carb alt. plate, & siltstone & gnd. & diorite (clump breccia) brecc. by chl. graph seams</p> <p>above cherty dol. frags</p> <p>qc vein.</p> <p>644.5-646'</p>	100%		651'	100%					
660'	BRECCIA SEAMS	MOD. ALT. OF SOME FRAGMENTS					<p>646-648'</p>	100%		656'	100%					
670'	BRECCIA SEAMS	MOD. ALT. OF SOME FRAGMENTS					<p>648-651'</p>	100%		656'	100%					
680'	BRECCIA SEAMS	MOD. ALT. OF SOME FRAGMENTS					<p>651-656'</p>	100%		656'	100%					
690'	BRECCIA SEAMS	MOD. ALT. OF SOME FRAGMENTS					<p>656-676'</p>	100%		671'	100%					
							<p>676-681'</p>	100%		676'	100%					
							<p>681-686'</p>	100%		681'	100%					
							<p>686-689'</p>	100%		686'	100%					
							<p>689-696'</p>	100%		689'	100%					
							<p>696-706'</p>	100%		696'	100%					

CONT

HOLE NO. VL-84-F2

PROJECT: VIM'S LAKE

PAGE NO: 6A OF 8

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

DATE STARTED: MARCH 23, 84

REF. TO CLAIM CORNER:

COORDINATES: L80E, 12+00S N. E.

DATE FINISHED: MARCH 29, 84

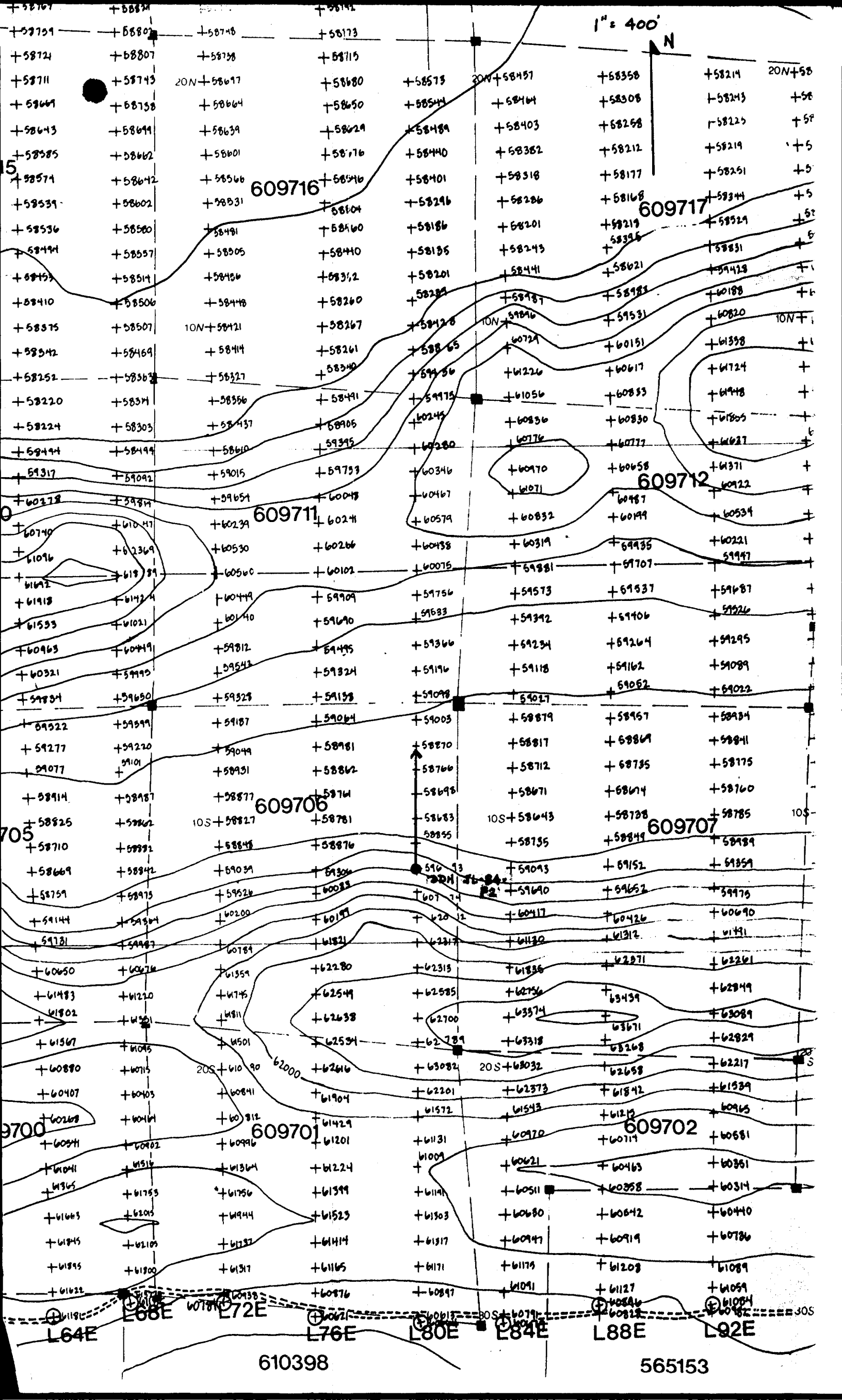
SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 716'

LOGGED BY: D. McEVOY

SECTION	ALTERATION			FRACTURING	MINERAL GEOLOGY	COMMENTS:	AVE CORE RECY / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% RECY. SAMP. INT.	ESTI-MATED
						<p>653-701 CONT.</p> <p>641-649.5 CONT. - graphitic seams - becomes intensely brecciated towards 649.5' & increasing graphite & sulphide content.</p> <p>from 649.5' - 649' thin bedded (1/4" - 1/2") graphitic argillite & interbedded to 50% of rock of carbonate-sulphide luffs (bands to 1/2" of fragmental calcite & Py)</p> <p>bedding well developed @ 65' to c.a.</p> <p>sulphides to 30% (Py, tr. B. sph.)</p> <p>@ 648.5' 2" calcite in 11 fol. & 1/2" massive Py bands</p> <p>from 646'-647' - moderately brecciated & thin 1/16" - 1/8" wky carbonaceous chloritic & often v. carbonate rich, usually v. hard dk gray to black matrix seams @ pref. or. of 55°-65° to c.a. every 3-4" & 10% of rock (on av. in places more strongly brecciated).</p> <p>clast fragments are: 50% - v. light grayish green, ductile appearing lithology, often strongly sericite altered, moderately carbonatized in places, occ. v. siliceous appearing.</p> <p>20% - slightly coarse, more granular, lg 'siltstone' appearing lithology, often v. mineralized & up to 30% v. lg diss. to lg.</p> <p>30% mg v. granular appearing light green graywacke or dioritic type lithologies, composed of 50% light green sericitized groundmass/matrix & 50% small pebbles - in places v. granular graywacke appearing, elsewhere v. siliceous appearing.</p> <p>clasts are wky sch. 11 bedded - v. slumped, appearing.</p> <p>numerous cutting & 11 (to fol.) calcite & qtz-calcite veins to 1"</p> <p>average fragment size 2-3" to < 1/4" in places where more strongly brecciated.</p> <p>sulphide contents, av 10%, 6% Py, 4% Py, & tr. Cpy, sph. as thin blebs & seams 11 fol. in graphitic matrix, as frac. fill. & as v. lg diss. mineralization throughout most clasts</p> <p>from 646'-647.5' sulphides locally to 25% (20% to 5% Py) as diss. thin. in clasts & sulphide microinc. fill.</p> <p>in places breccia matrix more of a mylonitic type gray-green sericite-carbonate rich ground host rock.</p> <p>@ 651' 1" qtz-calc vn @ 20° to c.a.</p> <p>@ 652.5' a few 1" totally carbonate altered (dolomite) frags, matrix, locally is chert.</p> <p>@ 655' a few 1" cherty bage, dolomite frags/clasts, locally a 1/2" calc vn @ 20°</p> <p>@ 660' 2" qtz. hd white carb vn @ 20°</p> <p>from 647'-701' - lg siliceous ductile to argillite clasts become 70% of rock, along mg graywacke & dioritic clasts, along siltstone type clasts, clasts less alt. only moderately sericitized, w/ patchy carb. alt. along clasts appear wky silicified.</p> <p>sulphides: 5% (3% Py, 2% to. as above)</p> <p>@ 673' 2" massive graphite band @ 65° to c.a.</p> <p>from 677'-678.5' mg siliceous dioritic rock.</p> <p>unit is less strongly brecciated, & graphitic-chloritic argillaceous seams to 5% of rock.</p> <p>from 694'-701' only v. weakly brecciated & along thin graphitic-chlorite-carbonate rich 'zones' as opposed to distinct brecciating bands/seams.</p>								



1" = 400'

N

609716

609717

609711

609712

609706

609707

609701

609702

610398

565153

L64E

L68E

L72E

L76E

L80E

L84E

L88E

L92E

20N

20W

20N

10N

10N

10N

10S

10S

10S

20S

20S

20S

15

0

705

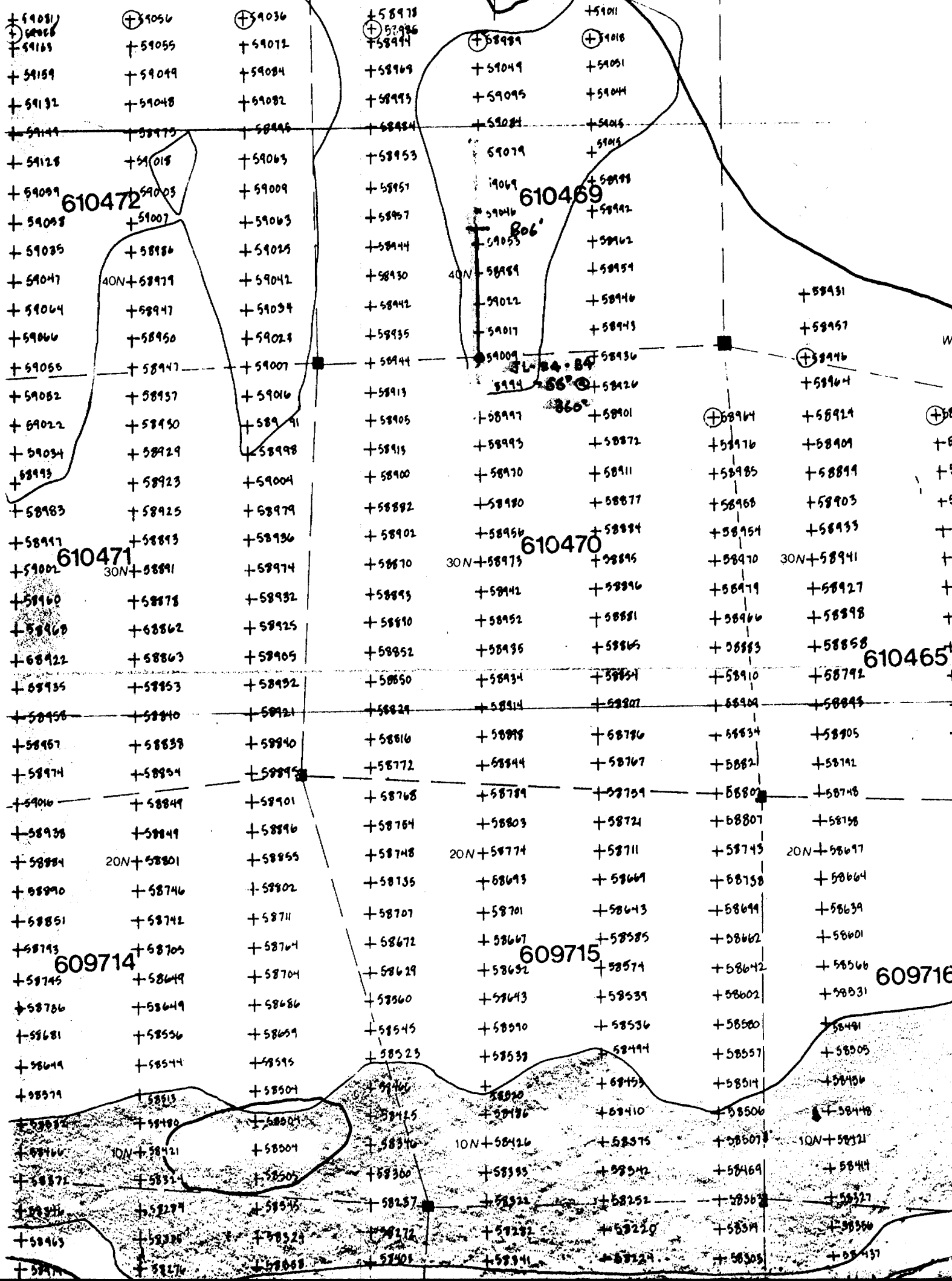
9700

905

N
1" = 400'

Trail Lake

24000



HOLE NO. JL-88-24

PROJECT: JIM'S LAKE

PAGE NO: 1 OF 9

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

DATE STARTED: MARCH 31, 1984

REF. TO CLAIM CORNER:

COORDINATES: 160E, 37100N N. E.

DATE FINISHED: APRIL 6, 1984

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 806'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
300							DIP TESTS: CORRECTED, @ 320, 5R°, @ 600, 51° @ 806, 46° - PLASTIC PIPE TO 330'		99.63%							
310						OVERBURDEN	1ST SET-UP @ 160E, 37100N, DOWN TO 184' HQ CASING & LOG HOLE, MOVED UP 4'. D-326 OVERBURDEN - FOR DESCRIPTIVE GEOLOGY NOTES, SEE ATTACHED TYPED SHEETS									
320																
330	WEAK	WEAK	WEAK			P ₄	thinly bedded tuffaceous interbedded and. tuff appearing interbedded & sharp distinct contacts @ 45° - hard white calc. ss. C.G. SHEARED DIBASE		0.5%	32'	100%	80				
340						P ₄	aphanitic calc. ss. seams w/ky. brecciate rock			33'	100%					
350	STRONG	STRONG	STRONG			P ₄	MINERALIZED ANDESITIC LAPILLI TUFF OR CLASTIC EQUIVALENT (INTERFLOW SEDIMENTS?) aph. dacite tuff interbedded or shear zone and. tuff interbedded or shear zone SHEARED, SCHISTOSE, DIORITIC ROCK strong sed @ 45° to ca.		5% 0.2% 5% 7R 17%	34'	100%		343.5	100%		
	WEAK	WEAK	WEAK			P ₄	and. tuff - qc varying to 50% rock MINERALIZED ANDESITE TUFF OR CLASTIC EQUIVALENT (INTERFLOW SEDIMENTS?) - bio rich seams		3%	35'	100%		348.5			
360									27%	TO 361'	100%	V	360	100%		

HOLE NO. JL-84-84

PROJECT: JIM'S LAKE

PAGE NO: 2 OF 9

CASING OG. LAR ELEV.: 4' above ground GROUND ELEV.:

DATE STARTED: MARCH 31, 84

REF. TO CLAIM CORNER:

COORDINATES: 260E, 37100N N. E.

DATE FINISHED: APRIL 6, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 806'

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	SERPENTINE	CARBONATE	OTHER												
360'	WEAK	WEAK						- strongly ser. cal. alt. tuff interbed or sh. zone - calc-chl seams and tuff interbed			100%	80	362'	100%		
370'	PATCHY	PATCHY						- andesite tuff interbed or shear zone		0.25%			364'	100%		
	ALT.	ALT.						<u>DIORITE TO GABBRO</u> - very sheared appearing & only remnant siliceous tuff.			100%		374.5'			
380'	DIFFERENTIAL	DIFFERENTIAL						qc vln		0.25%			372.5'	100%		
390'	WEAK	WEAK						qc vln			100%					
	MODERATE	MODERATE						qc vln		0.5%						
400'	WEAK	WEAK						- weakly brecciated by calc. seams <u>BASALT/GABBRO</u>		0.25%			397'			
	MODERATE	MODERATE						<u>CHLORITIZED, CARBONATIZED BASALT TUFF</u> - qc vln to 30%		0.5%			400.5'	100%		
	WEAK	WEAK						- qc veining, locally host is weakly silicified - 2" breccia zone		0.25%						
410'	PATCHY	PATCHY						- carb alt. halos around thin qtz seams <u>CRYSTALLINE ANDESITE TO BASALT</u>		6			406'			
	ALT.	ALT.						- qc seams w/ky brecciate rock		0.5%				100%		
420'													416'			
													70	100%		

HOLE NO. JL-84-84

PROJECT: JIM'S LAKE

PAGE NO: 3 OF 9

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

DATE STARTED: MARCH 31, 84

REF. TO CLAIM CORNER:

COORDINATES: 160E, 37100N N. E.

DATE FINISHED: APRIL 6, 84

SCALE: 1"=10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 806'

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
	SILICATE	SEP SITE	CARBONATE	OTHER												
420'	M O D E R A T E	W E A K	W E A K			P ₁		CRYSTALLINE ANDESITE TO BASALT		0.25%		100%	80			
						P ₂		ch. in partings		0.5%	422'					
430'	S T R O N G		S T R O N G			P ₃		90° in well in bed at @ 45° to c.a.				100%		430.5'		
						P ₄		90° in							100%	
440'	F E A R L Y		F E A R L Y			P ₅		CHLORITIZED CARBONATIZED MAFIC VOLCANIC TUFF		0.5%	434'			438'		
						P ₆		calcite seams to 20% in rock				100%			100%	
450'	S R O N G		S R O N G			P ₇		1000 c.a. E. dip. thin bed. trace fucisite		2%	446'			446'	100%	
						P ₈		EUCHRITE BEARING CHLORITE-CARBONATE QUARTZ RICH METASEDIMENT		1%				447.5'	100%	
460'	W E A K		W E A K			P ₉		seams 70% thin dol. beds. ± 2-3% fucisite		1%				450'	100%	
						P ₁₀		90° in thinly bedded dol. ± 5% thin fucisite seams		2%		100%		450.5'	100%	
						P ₁₁		mass gte in.		0.5%					100%	
						P ₁₂		QUARTZ-FELDSPAR-PORPHYRY			456'				100%	
						P ₁₃		off dike SERICITIC ARGILLITE		TR				456.7'	100%	
480'	S R O N G		S R O N G			P ₁₄		interbedded sericite, calcite & biotite rich argillites		TR				459'	100%	
						P ₁₅		INTERBEDDED ARGILLITES				100%		462'	100%	
						P ₁₆		BIOTITE RICH INTERBEDDED ARGILLITE/GANGWACKE		0.25%	461'				100%	
470'	W E A K		W E A K			P ₁₇		QUARTZ-FELDSPAR-PORPHYRY		0.5%		100%			100%	
	W E A K		W E A K			P ₁₈		BIO. RICH ARGILLITE		NVS	476'					475'
	W E A K		W E A K			P ₁₉		BIO. RICH INT. VOLC. LAPILLI TUFF/WACKE		0.25%	70	100%				
480'	W E A K		W E A K			P ₂₀		BIO. RICH INT. VOLC. LAPILLI TUFF/WACKE		TR	486'			477.5'	100%	

HOLE NO. JL-84-24

CASING COLLAR ELEV.: 4260' VE GROUND GROUND ELEV.:

COORDINATES: 66E, 37100 N. E.

INCLINATION: -55° BEARING: 366°

PROJECT: JIM'S LAKE

DATE STARTED: MARCH 31, 84

DATE FINISHED: APRIL 6, 84

TOTAL DEPTH: 806'

PAGE NO: 4 OF 9

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	CARBONATE	OTHER												
480'	W.A.						90 yd. CHL. RICH INT. VOLC. LAPILLI TUFF/WAGRE		1%		100%	8Q	479.5	100%		
							bedding @ 55°			486'						
490'	WEAK	WEAK	WEAK				cherty silica band 90-ly in 2' bio rich alt halo ANDESITE TUFF/EPICLASTIC EQUIVALENT		0.5%		100%					
	WEAK	WEAK	PATCHY							496'						
500'	WEAK	WEAK					gla calcite bands cherty silica frags				100%		500	100%		
													502	100%		
													505			
	WEAK	WEAK					DACITE TUFF OR CLASTIC EQUIVALENT ROCK		0.25%				508.5	100%		
510'	V. STR.	WEAK					CHLORITIZED ANDESITE TUFF OR CLASTIC EQUIVALENT ROCK		5%		100%		513	100%		
	STRONG	V. STRONG	STRONG				90 yd. SERICITIZED, CARBONATIZED, DACITE TO ANDESITE TUFF OR CLASTIC EQUIVALENT ROCK hem stained halos around fractures			TRACE			516	100%		
													518.5	100%		
520'	PATCHY	PATCHY	STRONG								100%		522	100%		
													527	100%		
							CARBONATE LAPILLI TUFF		2%	526'			529	100%		
530'	STRONG	STRONG									100%					
													536			
													537.7	100%		
540'	W.K.	W.K.	W.K.				QUARTZ-FELDSPAR BAPHYRY		0.25%	546'	100%			100%		

HOLE NO. JL-84-84

PROJECT: JIMS LAKE

PAGE NO: 5 OF 7

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

DATE STARTED: MARCH 31 24

REF. TO CLAIM CORNER:

COORDINATES: 260E. 3700N N. E.

DATE FINISHED: APRIL 6. 84

SCALE: 1"=10'

INCLINATION: -55° BEARING: 36°

TOTAL DEPTH: 806'

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	CARBONATE	OTHER												
540'	W	W	W	S.L.			QUARTZ-FELDSPAR PORPHYRY		0.25%			80	542.6	100%		
	V	V	V				SERICITIZED, CARBONATIZED FELSP. LAPILLI TUFF		0.5%		100%		546	100%		
	Y	Y	Y				locally sericitized argillite interbedded dolomitic interbeds dol. beds.						546	100%		
550'	Y	Y	Y				thin argill. dolomite beds		1%		100%		550	100%		
	STRONG	STRONG	STRONG				ALTERED DACITE TUFF OR CLASTIC EQUIVALENT ROCK						556	100%		
	STRONG	STRONG	STRONG				dol. beds to 60% rock - dol. vn.						559	100%		
560'	STRONG	STRONG	STRONG				thin bedded to 55°				100%		560	100%		
	STRONG	STRONG	STRONG				SERICITIZED, CARBONATIZED DACITE TUFF OR CLASTIC EQUIVALENT		0.5%				566	100%		
	STRONG	STRONG	STRONG				gls dol vn						569	100%		
570'	STRONG	STRONG	STRONG				gls calc frags						571	100%		
	STRONG	STRONG	STRONG				INTERBEDDED ARGILLITES & DACITE TUFF		5%				571	100%		
	STRONG	STRONG	STRONG				SERICITIZED DACITE TO ANDESITE LAPILLI TUFF		30%		100%		572	100%		
	STRONG	STRONG	STRONG				DACITE TO ANDESITE LAPILLI TUFF		0.5%				572	100%		
	STRONG	STRONG	STRONG				ANDESITE LAPILLI TUFF		1%				578	100%		
580'	STRONG	STRONG	STRONG				SERICITIZED, CARBONATIZED QUARTZ-FELDSPAR PORPHYRY		0.25%		100%		582	100%		
	STRONG	STRONG	STRONG				seric carb lapilli frags						584	100%		
	STRONG	STRONG	STRONG				MINERALIZED, SERICITIZED, FELSP. LAPILLI TUFF		5%				584	100%		
	STRONG	STRONG	STRONG										589	100%		
590'	STRONG	STRONG	STRONG				calc gls seams		0.25%		100%		596	100%		
	STRONG	STRONG	STRONG				ANDESITE						606	100%		

HOLE NO. VL 84-84

PROJECT: JIM'S LAKE

PAGE NO: 6 OF 9

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

DATE STARTED: MARCH 31, 84

REF. TO CLAIM CORNER:

COORDINATES: 260E 37400N N. E.

DATE FINISHED: APRIL 6, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 806'

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	SEPICITE	CARBONATE	OTHER												
600'	W E A K	W E A K	W E A K					show zone, strongly ser. carb. alt. <u>ANDESITE</u>		0.25%		100%	80	605		
610'	P A T C H Y	I N T E R M E D I A T E	N U M E R O U S					small sericite & carbonate fragments in 20% rock approx. phase -gls vn locally dol. frags to 30%		17%	100%		606	608	100%	
620'	S T R O N G	P E R V A S I V E	F R A G M E N T S					locally coarse hyp. luff. & dol. & ser. frags to 60% rock			100%			619	100%	
630'	A L T E R A T I O N	A L T E R A T I O N	I N T E R B E E D S					<u>SERICITE - CHLORITE - CARBONATE ALTERED DACITE TO ANDESITE LAPILLI TUFF</u>			100%			617	100%	
640'										27%	100%			629		
650'								gls. carb. ser. frags in totally sericitized groundmass <u>SERICITIZED FELSIC LAPILLI TUFF</u> dol. interbeds dol. vn into gls. veining		TRACE	100%			626	100%	
660'								<u>SERICITIZED METAGRAYWACKE</u> light brown carbonate (all) overprints granular text. gls. here - ser. sa.		0.26%	100%			623	100%	
														699	100%	
														659	100%	
														653	100%	
														To 660.5		

HOLE NO. J1-RA-24

PROJECT: JIM'S LAKE

PAGE NO: 7 OF 9

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

DATE STARTED: MARCH 21, 84

REF. TO CLAIM CORNER:

COORDINATES: 160E, 37100N N. E.

DATE FINISHED: APRIL 6, 84

SCALE: 1"=10'

INCLINATION: -55° BEARING: 365°

TOTAL DEPTH: 806'

LOGGED BY: D. McILYAR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	% SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
665'								SERICITIZED METAGYPSUM		0.25%	662'	100%	80	660.5'	100%	
670'								-gc vn SERICITIZED PORPHYRITIC DACITE -heavily brecciated by calcite veining 5% thin graphitic seams 4 massive graphitic (Pb/Cu conductor) CARBONATIZED SERICITIZED NKLY CARBONACEOUS DACITE TUFF OR REWORKED CLASTIC EQUIVALENT thin lam bands to 30%		1%		100%		668.5'	100%	
680'								light sage by granular dolomite secondary calcite & minor gfs vns CARBONATE ROCK				100%		674'	100%	
690'										0.5%	680'	100%		677.5'	100%	
											686'			680'	100%	
														686'	100%	
														689'	100%	
														692'	100%	
700'								gc vn carbonate (dolomite) fragments to 30% rock CARBONATIZED SERICITIZED DACITE IN NKLY TUFF TO AGGLOMERATE (OR SLUMPED CLASTIC EQUIVALENT)		2%		100%		698'	100%	
														703'	100%	
								-gfs vn minor diss to schistite						708'	100%	
710'														712'	100%	
														715'	100%	
720'								INTENSELY CARBONATIZED/SERICITIZED DACITE TUFF		0.25%	726'	73%		727'	100%	

HOLE NO. JL-R4-84

PROJECT: JIM'S LAKE

PAGE NO: 8 OF 9

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

DATE STARTED: MARCH 31, 84

REF. TO CLAIM CORNER:

COORDINATES: 260E, 37100N N. E.

DATE FINISHED: APRIL 6, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 806'

LOGGED BY: D. McIVOR

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERPICITE	CARBONATE	OTHER												
720'								gc veining <u>INTENSELY CARBONATIZED SERPICITIZED DACITE TUFF</u>	0.25%		73%	80			75%	
730'	MODERATE TO WEAK							alt. int @ 60'-70' to c.a. gt-calc seams gc vn. calc. mag vn ± 5% mte. calc. mte vn.			100%				100%	
740'	TO STRONG							gc seams calc vn <u>CARBONATIZED, CHLORITIZED ANDESITE TUFF</u>	0.25% to 0.5%		100%				100%	
750'	PERVASIVE							calc. by vns calc-gt-mte vns.			100%					
760'	ALTERATION							calc vn calc veing gc vn			100%					
770'								intensely chloritized zone	0.25% to 0.5%		100%				100%	
780'											100%					

HOLE NO. VL-84-24

PROJECT: JIM'S LAKE

PAGE NO: 9 OF 9

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

DATE STARTED: MARCH 31, 84

REF. TO CLAIM CORNER:

COORDINATES: L60E. 37+00ft N. E.

DATE FINISHED: APRIL 6, 84

SCALE: 1" = 10'

INCLINATION: -55° BEARING: 360°

TOTAL DEPTH: 806'

LOGGED BY: D. McIVER

SECTION	ALTERATION				FRACTURING	MINERAL	GEOLOGY	COMMENTS:	AVE CORE REC'Y / HOLE	SULPHIDES	DRILLING INTERVAL	% CORE RECOVERED	CORE SIZE	SAMPLE INTERVAL	% REC'Y SAMP. INT.	ESTI-MATED
	CHLORITE	SERICITE	CARBONATE	OTHER												
780'	MODERATE	HEAVY	MODERATE			P ₄						100%	8Q			
790'	TO PATCHY	TO STRONG					<p>gc vn</p> <p><u>CARBONATIZED, CHLORITIZED ANDESITE TUFF</u></p>	0.25%	786'	100%			782'			
800'	STRONG	ALTERATION					<p>calc seam</p> <p>mag-calc vn</p>	1/2		100%			796'		100%	
806'							<p>mag-calc vn</p>	0.5%		100%			806'		100%	
<p>HOLE ENDS @ 806'</p> <p>64 SAMPLES SPLIT FOR ASSAY</p> <p>D. McIVER</p> <p>MAY 23/84</p>																

JL-84-B4

0 - 326'
326 - 343.5'

-Overburden

Coarse Grained Sheared Diorite

-rock pred coarse grained (crystal and sheared elongate crystals to 1/4" av 1/8") dioritic rock, composed of approx 65% white anhedral to sub heudral fspr crystals, occasionally ser, occasionally sheared and elongate, and 35% furrowmags, now altered pred to chl, also elongate parallel to foliation, sheared

-composition varies locally from 50/50 to 80/20

-strongly sheared appearing foliated w elongation of crystals and thin sheared seams at 35 to 40° to the ca, although also v highly variable ranging from 35 to 50° to the ca,

numerous thin (to 1/4") sheared appearing schistose, chl / ser rich seams parallel to foliation

-numerous (2 to 3%) v thin short carb slips throughout rock parallel foliation

-mod to strongly frac at no preferred orientation w calcite, chl, ser, frac fil.

-contains a few thin calcite and harder white carb (magnesite) vn to 1/2", av 1/8" pred parallel foliation

-rock appears weakly sil in places w alteration around frac and in places around v fspar rich zones

-in places large fspar zones contain pinkish stained crystals to 1/2",

-from 327 to 329', thinly bd appearing dark green vfg (bd at 50°) v soft, strongly ser chl, carb, tuffaceous (andesitic) interbd (looks like and tuff-cld be vfg sheared dioritic equivalent rock) w 5% small pink to white garnets, corroded, elongate parallel bd, indistinct contacts w locally from 326 to 327' and 329 to 331', v strongly sheared, chl, ser, altered dioritic rock schistosity locally at 50° to the ca,

-at 331', 1" band of vfg to affinity light green andesitic appearing rock, sharp contacts w diorite at 45° to the ca, band contains 5% vfg diss Po, locally dioritic rock

has talcos frac fil and talc alteration of mafix
 -at 333', 1" hard white carb vn at 50° to the ca,
 -distinct sharp contacts underlying unit at 55° to the ca,
 -from 342 to 343.5', numerous thin (to 1/2") chl-ser blebs-seams throughout rock appear to weakly brecciate rock in places
 -overall sulphide content, 0.5%, vfg diss Py-Po-Cpy, usually associated w altered chl blebs and crystals

343.5 - 348.5'

Mineralized Andesitic Lapilli Tuff or Clastic Equivalent Rock (Interflow Sediments)

-highly variable occurring unit, as detailed below but w v well dev bd at 50 to 60° to the ca, resembles interflow type coarse tuff or clasts equivalent, maybe volcanic clastic
 -from 343.5 to 344.5', rock is a vfg to affinitic light green mod ser weakly carb thinly bd (55°) tuffaceous and tuffaceous appearing andesitic to dacitic litho w a few 1/4 to 1/2" faint 'dioritic type' frag/clasts elongate parallel bd, contains 5% vfg diss Po and Py and trace Cpy as well as thin seams and frac fil Po-Py associated with calcite
 -sharp contact at 344.5', at 50° to the ca
 -from 344.5 to 345.5', thinly bd (50 to 60°) strongly chl-ser altered vfg to affinitic ground mass w 20% fspar and fspar-chl frag/clasts (dioritic material) to 1/2" av 1/8 to 1/4" elongate parallel bd, maybe conglomeratic volcanic clastic or agg, ground mass is weakly carb w numerous thin calcite seams and bd and vfg diss blebs of calcite, a few elongate thin stretched v small (1/32") white blebs that may be garnets, vfg diss Cpy-Py and trace Po to 0.25%, maybe a intensely sheared dioritic rock, but looks v bd and maybe an agg or a conagg interflow sediment

-from 345.5 to 346.2', sharp contacts at 60° w overlying and underlying units a vfg granular dark green intensely chl-carb altered thinly bd (60°) andesite tuff or clastic equivalent w 5% vfg diss Py(3%) Po (2%) and trace Cpy, at 346.2', 1/2" qtz minor calcite vn parallel bd

-from 346.2 to 347.5', intensely sheared dioritic rock, comprised of a v schistose sheared, chl, - ser, altered ground mass w 50 to 60% white small (to 1/4") fspr blebs parallel foliation (elongate, stretched) weak remnant coarse grained crystalline type texture, trace vfg diss Py-Cpy-Po, v sharp distinct contact at 347.5' at 60° to the ca,

-from 347.5' to 348.5', vfg granular appearing soft intensely chl-ser and carb(diss fg calcite to 10%) and minor talc alteration in places) rock, thinly bd/schistose appearing at 45° to the ca, w 1% vfg pred Po-Py and minor Cpy, sharp contact w underlying dioritic rock at 30° to the ca,

348.5 - 354.5'

Sheared Schistose Dioritic Rock

-rock consists pred of a v sheared appearing altered med grained diorite w v well dev strong foliation/schistosity at an av orientation of 45° to the ca, ranges from 40 to 50° to the ca,

-rock comprised of approx 50 to 60% white anhedral to sub heudral fspr 'blebs' to 1/4" often stretched elongate parallel to schistosity, av 1/16 to 1/8", and 40 to 50% v strongly chl to ser mafic blebs also stretched elongate parallel to foliation, occurring often in thin 'nicik' bands to 1/4"

-numerous totally altered (chl-ser) sheared bands Parallel schistose/foliation

-a few light green affinitic bands to 2" (resemble what is being called dacite to andesite tuff or clastic equivalent inter-bds)

- numerous thin calcite seams parallel to foliation to 1/4"
- a few approx (1 to 2%) thin (1/32") short elongate parallel schistosity white slips (garnets?)
- mod frac, pred parallel foliation, w chl, ser, some talc frac fil
- sheared chl - ser seams appear to weakly brecciate rock in places
- some talc alteration of furrowmags in places
- overall sulphide content, trace vfg diss Py, Po, Cpy
- at 349.2', 2" affinitic light green ser 'dacite-andesite tuff', type band, v sharp contacts with diorite at 55° to the ca, w 2% vfg diss Py, trace Po, Cpy
- from 351.8' to 352.2', 5" vfg light green andesite tuff/clastic interbd w 2% pred Po-trace Py, Cpy, sharp contacts w dioritic rock at 45° to the ca,
- sharp contact w underlying unit at 45° to the ca

354.5 - 360'

Mineralized Andesite Tuff/Or Clastic Equivalent (Interflow Sediments)

- unit similar to that encountered from 343.5 to 348.5', and is highly variable in appearance, but consists pred of;
- vfg (w affinitic phases) light green, v granular appearing, thinly bd (1/2 to 1") (bd v well dev at 45° to the ca,)
- weakly chl/ser andesite tuff type litho or clastic equivalent rock
- weakly to mod frac, pred parallel sub parallel bd w calcite, chl, sulphides, and biotite frac fil (some talc in places)
- a few biotite rich phases
- a few coarser v wacke appearing zones
- weakly carb in places, w vfg diss calcite
- appears 'fragmental' in places (agg/conagg) w large frag/clasts to 2" of light green affinitic andesite or 'slumped' frag into slightly coarser wacke appearing rock

-from 354.5 to 355.5', vfg to affinitic light green mineralized andesite tuff w 3% vfg diss Po-trace Cpy and Py, numerous thin (1/4") qtz-calcite bands /beds at 45° to the ca, often rimed by thin Po and Cpy seams.

-from 355.5 to 358', becomes slightly coarser dark green, intensely chl and carb altered, w a few fspar blebs that appear frag/clastic to 1/8" a few calcite seams parallel bd at 45°, thinly bd (1/2 to 1")

-at 356.2' 1/2" qtz minor calcite vn parallel foliation at 45° to the ca, numerous thin (1/16") biotite rich seams parallel bd, often riming or associated w thin calcite seams

-from 357 to 357.5', qtz calcite vn to 1" (av 1/4") to 50% of rock parallel foliation

-from 357.5 to 358', appears conagg/agg w large 2" light green affinitic frag parallel foliation set in coarser host sulphides to 5% (3% Po- 2% Py trace Cpy) and possibly v minor sphalerite, and a light gray metallic mineral (graphitic/molly?) as vfg diss mineralization and slips parallel bd, some frac fil, some larger cubic Py blebs associated w calcite seams

-from 358 to 360', vfg dark green soft strongly chl weakly ser carb altered andesite tuff, a few frag appearing 2" slightly coarser blebs parallel foliation at 45° to the ca, numerous calcite seams, a few, biotite rich zones, 2% sulphide (pred Po trace Py) as vfg diss mineralization and a few larger blebs associate w calcite seams

-sharp content at 365', at 45° w underlying diorite - gabbro unit

360 - 392'

Diorite to Gabbro

- rock pred a med grained (w coarse grained phases) diorite to gabbro, composed of approx 60% fspar(pladge), anhedral to sub-hedral to uhedral laths to 1/8", often light green weakly epidote altered and 40% dark green furrowmags, pred altered to chl, occasionally ser, in well dev med grained crystalline texture
- massive appearing to v weakly foliated (schistosity) in places at 50° to the ca a few (2 to 3%) small (to 1/16") corroded stretched white to pale pink garnets, rock is weakly frac at random orientation w pred calcite, chl, some talc, ser frac fil
- occasional thin (to 1/4") affinitic chl-ser rich seams at 50° to the ca,
- numerous 6 to 8" affinitic tuffaceous type interbds as outlined below
- contains 0.25% vfg diss Po-Py-trace Cpy some minor sulphide frac fil associated w chl-calcite (pred Py-Po)
- a few 1/4 to 1/2" calcite vn
- sheared appearing in places w stronger schistosity, stronger alteration to chl-ser of mafic minerals, and some crude "nicic" banding of fspr vrs. chl-ser altered mafics
- from 360 to 362.5', weakly foliated/schistosity at 50° to the ca,
- from 362.5 to 363.2', vfg soft light green strongly ser, chl, thinly bd appearing at 50° to the ca, tuffaceous interbd? w 3% vfg diss Po-Py, trace Cpy.
- at 363.2', calcite bd/vns to 1/4" to 60% of rock, sharp contacts w diorite at 50° to the ca,
- from 363.2' to 365.7', diorite contains numerous randomly oriented calcite-chl sheared-schistos seams to 1/4"
- from 365.7 to 366.7', vfg light green mod ser, bd appearing at 50° to the ca, andesite 'tuff' type interbd w 2% vfg diss pred Po-Py and trace Cpy
- contact at 366.7', appears silicified (dacitic)

- from 370 to 371', vfg, light green andesite tuff interbd w 0.5% vfg diss Po-Py, sharp contacts at 45° to the ca,
- at 372.5, 1/2" sheared chl band 40° to the ca w 1% Py blebs to 1/16"
- from 374.5 to 379.5', becomes fg, v schistos, sheared appearing, at 45° to the ca, more andesitic to andesite tuff appearing but in places remnant fg crystalline texture strong chl alteration and strong pervasive carbonitization w diss calcite blebs to 1/32 and 15% of rock, numerous elongate stretched corroded white to pink 1/32" garnets parallel to schistosity lends to tuffaceous appearance to rock, grad contacts at 374.5', but distinct sharp contact at 379.5', at 25° to the ca,
- at 375.5', 1" white calcite and white to yellow stained qtz vn at 70° to the ca,
- at 378', 1/2" qtz-calcite vn at 50° to the ca,
- sulphides, 0.25% vfg diss Py-Po, trace Cpy
- at 387', at 50° to the ca, 1" pred qtz minor calcite and bright yellowish green harder carb vn
- at 388.5', at 25° to the ca, 1/4" calcite seam w 1/4" chl alteration halo and a few Py blebs to 1/16",
- rather arbitrary contact w underlying unit

392 - 395.3'

Andesite to Basalt Tuff

- rock pred a vfg to affinitic dark green thinly bd strongly schistose (at 65° to the ca) v strongly chl andesitic to basaltic tuff,
- carb w thin (less than 1/32") seams calcite parallel bd and thin elongate blebs parallel bd to 15% of rock
- contains 2 to 3% thin (less than 1/32") short (1/4") elongate pale yellowish to beige to pink corroded stretched garnets parallel foliation
- a few small blue qtz eyes and elongate qtz blebs parallel foliation
- numerous thin qtz calcite vn to 1/2", pred parallel sub parallel bd,
- weakly to mod frac at random orientations w calcite, qtz, chl frac fil,
- 0.5% fg diss Py
- at 392.1', 1/2" pred qtz minor calcite vn parallel foliation at 65° to the ca,
- from 392 to 393.5', maybe intensely sheared dioritic rock, slightly coarser but grades into good tuffaceous unit
- at 393.5', 1/2" calcite - minor qtz vn parallel foliation at 65° to the ca,
- contact w underlying crystalline unit at 395.3', at 55° to the ca,

395.3 - 397'

Crystalline Basalt

- fg to med g massive crystalline basalt /gabbro composed of approx 50% white plag (sub heudral to uhedral laths and 50% chl maffics)
- a few thin chl-calcite seams to 1/4", appear to weakly brecciate rock in places
- 0.25% fg diss Py and Py associated w chl-calcite seams and chl-calcite fil frac
- weakly frac at random orientations
- a few small 1/16" blue qtz blebs
- contact at 397', at 30° to the ca,

397 - 400.5'

Chloritized, Carbonitized Basaltic Tuff

- rock a dark light green thinly bd (at 55° to the ca,) intensely chl vfg to affinitic basaltic tuff, w 25% small (1/32 to 1/16" calcite blebs/frags elongate foliation parallel and thin seams/bds parallel foliation, a few 1/2" v frag appearing carb blebs
- 2 to 3% small thin corroded stretched garnets
- weakly to mod frac at random orientations w calcite, chl, qtz frac fil,
- 2 to 3% small blue qtz eyes,
- numerous thin (to 1/2") qtz calcite vn parallel bd
- from 397 to 399', 0.5% diss Py-trace Po
- from 399 to 400.5', qtz calcite vn/bds to 1/4" parallel bd to 30% of rock w locally 5% diss Py-Po (vfg and blebs to 1/8"), intensely chl
- rather arbitrary contact at 400.5', appears coarser, crystalline,

400.5 - 430.5'

Crystalline Andesite To Basalt

- rock pred a med green, fg to med g in places, (to affinitic in places, pred fg) crystalline appearing andesite to basalt
- weakly foliated (schistose) at av orientation 45° to the ca,
- relatively soft, mod pervasive chl alteration, weak patchy carb and ser alteration in places
- appears v modelled in places, with large to 1/4" chl altered blebs throughout rock, usually aligned parallel foliation, lends tuffaceous/lapilli tuffaceous appearance rock, (but more an alteration product)
- mod frac, pred parallel foliation, w calcite chl frac fil, some minor hematite Py frac fil
- a few thin qtz carb vn/seams to 1/2" pred parallel sub parallel foliation.
- where strongly schistose gets sericite alteration, appears more tuffaceous than crystalline, but grades into good crystalline rock.

- numerous small thin white slips parallel foliation of carb? corroded garnets?
- weakly carb from 400.5 to 401.5',
- at 401', minor black graphitic appearing mineral as frac fil, (specular hematite?)
- from 400.5 to 403', fg, crystalline, composed of 50 to 60% chloritized mafics and 50 to 40% plag crystals, becomes vfg to affinity from 403'
- from 403 to 406.5', lighter green, vfg to affinity, culminating at 406.5', w a 2" breccia zone, maybe a flow top zone and breccia
- at 404.5', 1/2" qtz calcite vn at 65° to the ca, w strong chl alteration at rims
- from 404.5 to 405', numerous 1/4" to 1/2" qtz calcite hard yellowish green carb seams at irregular orientations, host appears weakly sil and epidote altered, locally trace Cpy diss in host, contact at 406.5' at 35° to the ca, rock brecciated by thin qtz calcite seams,
- from 406.5 to 409', mod schistose at 40° to the ca, mod ser, appears v locally tuffaceous,
- from 410 to 411', numerous 1/4 to 1/2" hard yellowish green crystalline carb vn and alteration halos around thin qtz seams at 60° to the ca, locally minor vfg diss Cpy,
- from 414 to 414.5', numerous thin 1/4" qtz and yellowish green carb seams at a regular orientations, appear to weakly breccia rock in places,
- at 417.5', 1/2" calcite seam w minor hematite, cross cuts foliation at 30° to the ca,
- locally from 416 to 421', v tuffaceous appearing, schistose at 45 to 50° to the ca numerous small white fspar-carb-garnet? slips lend tuffaceous appearance but grades into a good fg crystalline unit
- from 424 to 430.5', becomes v modelled appearing w numerous irregular chl blebs, and alteration patches to 1/4" and 30% of rock parallel foliation, lends v agg appearance to unit, numerous thin qtz and hard

green to yellowish mineral (carb?) seams
 pred parallel well dev foliation at 45°
 to the ca,
 -contact distinct at 430.5', w underlying
 tuff at 45° to the ca,
 -overall sulphide content, 0.25% to 0.5%
 vfg diss Py, trace Cpy and Po, some Py
 frac fil,

430.5 - 445'

Chloritized Carbonitized Mafic Volcanic
 Tuff

-rock pred a dark green vfg to affinitic
 thinly bd/strongly schistose at 45 to 50°
 to the ca, basaltic tuff, v strong pervasive
 chl alteration, and strong carb w small
 calcite blebs and thin seams (1/32", elongat
 parallel to bd) and thicker irregular
 'diffuse' calcite blebs and bands, to 25%
 of rock
 -v soft, numerous small short (1/32" to 1/
 16"), elongate parallel to foliation,
 white blebs to 35% (garnets-fspar frag?)
 -numerous thin calcite and lighter yellowish
 green hard carb seams to 1/4", usually
 parallel foliation, occasional cross cutting
 foliation
 -rock is mod frac, pred parallel sub parallel
 bd w chl, calcite, occasional qtz and Py,
 frac fil, minor hematite
 -a few irregular ser patches to 1",
 -carb increases in intensity towards 445'
 -sulphide content, 0.5% diss Py, vfg and
 occasional mineralization (cubic) to 1/16"
 trace Cpy, occasionally associated w
 thin diffuse calcite seams
 -at 430.5', 1/2" qtz hard yellowish green
 carb vn parallel bd at 45° to the ca,
 -at 436', 1" pred qtz minor calcite vn at
 35° to the ca,

445 - 451.5'

Fuchsite Bearing, Thinly Bedded, Carbonate-Chlorite-Qtz Rich Medasediments

-thinly bd (less than 1/16" to 1/2") light gray, fg, granular medasediment, (bd v well dev at 40 to 45° to the ca) comprised of variable amounts of carb(gray dolomite-ankerite, fg, granular, reaction w HCL when scratched)- qtz-chl and fuchsite and thin alternating bd as outlined below

-numerous thin (to 1/2") qtz-carb vn, pred parallel sub parallel bd,

-numerous small (1/32 to 1/16") elongate pale pink stretched garnets parallel foliation to 3 to 5% of rock

-weakly frac pred parallel bd w calcite qtz chl hematite frac fil,

from 445 to 447.5', thinly bd pred chl (80%), w a few 1/4" to 1/8" gray dolomitic type fg granular carb bd, w minor qtz abundant hematite bands-blebs to 10% of rock, (bands to 1/2"), v soft, a few thin qtz calcite vn parallel to and weakly cross cutting bd at 35 to 40° to the ca, a few light green intensely altered 'clay mineral' type seams from 445 to 445.5'

a few fg granular qtz vn/bd to 1/4", only trace fuchsite as a few v thin seams around qtz and dolomite bd and qtz vn, 2% Py as thin slips parallel foliation, occasional to 1/16", becomes increasingly dolomite rich towards 447.5',

-from 447.5', to 450', becomes approx 60 to 70% light gray to brownish gray dolomite and qtz as fg granular bd w 25% thin chl bd and 2 to 3% fuchsite as occasional thin seams parallel bd, w 1% vfg diss Py, bd v discontinuous, irregular at 449.7' to 450', massive qtz w minor calcite vn crudely oriented sub parallel foliation at 35° to the ca,

-from 450 to 451.5', fuchsite seams (less than 1/16") parallel bd to 5%, increasing towards 451.5', w rock thinly bd pred grey fg granular dolomite and qtz (60/20) and 10% thin chl + or minus ser seams/beds

-carb is fg granular appearing, 2 to 3% small elongate garnets, Py to 1% is vfg diss mineralization and thin slips

parallel bd, occasional frac fil
 -sharp contact at 451.5', at 50° to the ca
 -from 450 to 451.5' a few thin qtz vn
 parallel bd locally diss Py to 2%,

451.5 - 456.7'

Quartz Feldspar Porphyry

-rock comprised of a vfg to affinitic dark gray to light yellowish gray weakly ser v sil ground mass, weakly foliated/sch in places at 50° to the ca, as exhibited by alignment and elongation of approx 60% phenocrysts to 1/4" av. 1/8" of anhedra to sub heudral pred fspar some qtz, occasionally phenocrysts are yellowish green weakly ser, occasional carb altered or replaced
 -rock is mod frac at random orientations w calcite frac fil,
 -in places v sheared, schistose, ser, as outlined below,
 -contains 0.5% vfg diss, Py
 -from 452.5 to 454.5', massive white qtz vn, weakly frac w trace Py as frac fil, and a few 1 to 2" brecciated QFP frag
 -from 454.5 to 455', a few 1/4" qtz stringers
 -at 455.2', 2" sheared zone parallel foliation at 50° to the ca, w strong ser alteration (locally thin sch ser bands and carb bands to 1/16" and 3% vfg Py and Py' blebs to 1/16" parallel foliation)
 from 455.2 to 456.7', QFP is strongly foliated wat 50° to the ca, weakly sheared appearing, w light yellowish mod pervasive ser alteration of sil ground mass, and numerous small (less than 1/32") diss calcite blebs/slips
 -sharp contact at 456.7', at 60° to the ca (conformable)

456.7 - 459'

Sericitic 'Argillite' (Metasediment)

-rock a v thinly bd (less than 1/32" to 1/2") light beige-yellowish green pred ser rich arg rock, bd v well dev, at 65° to the ca,
 -contains numerous (to 10% of rock) v small (1/64" to 1/32") white blebs of clay mineral? often elongate parallel foliation (maybe altered garnets)
 -contains a few thin chl rich bands
 -a few thin dark brown biotite rich bands
 -a few thin qtz calcite bd/bands parallel foliation to 1/16"
 -a few larger parallel sub parallel white qtz and hard white carb vn,
 -a few clastic / frag appearing chl blebs maybe altered felsic tuff horizon,
 -from 458.5 to 459', thin 6" conformable qtz fspar porphyry seams / dyke w a 1" qtz vn at 50° to the ca, at 458.7', w a few small diss Cpy blebs
 -at contacts w QFP at 458.5', locally arg is carb rich w 2% over 2" vfg diss Py
 -overall sulphide content, trace, vfg diss Py minor Cpy, in qtz vn

459 - 462'

Thinly Bedded Interbedded Argillites

-thinly bd (less than 1/16" to 1/2") interbd light green, v soft, v ser, arg, dark brown, v soft biotite rich arg, and dark green chl arg, (ser - 40% biotite rich-40% chl-20%) bd v well dev at 50° to the ca, although varies in places w some SSD type features and slumping
 -numerous thin (to 1/4") qtz calcite vn/seams pred parallel sub parallel bd
 -rock is mod frac pred parallel sub parallel bd, w pred calcite minor qtz chl frac fil
 -a few dirty biotite rich graywacke type interbd to 1 to 2",
 - few frag / clastic appearing qtz carb- chl - biotite blebs (maybe boudinaged interbd)

-at 460.5', 1" qtz minor calcite brecciated
 vn parallel foliation
 -overall sulphide content, trace vfg
 diss Py

462 - 468'

Biotite Rich Interbedded Argillites and
 Graywacke (Or extremely altered inter-
 mediate volcanic tuffs)

-rock pred a v soft, vfg to affinitic
 (arg) dark brown, v biotite rich (50 to
 60%), thinly bd and strongly sch (both well
 dev at 55° to the ca) rock, w in places
 20 to 30% v small (1/64 to 1/32") white
 calcite, qtz, and fspar 'eyes' elongate
 parallel foliation, resembling tuffaceous
 frag, but maybe clasts, occasional larger
 (to 1/4") qtz calcite blebs/frags elongate
 parallel foliation
 -from 462 to 466.5', pred a wacke/tuff
 w small qtz fspar and carb blebs to 20%
 w a few clean biotite rich argillaceous
 bd
 -from 466.5 to 468', pred a clean biotite
 arg medasediment
 -rock is mod frac, pred parallel sub parallel
 bd, although other orientation present
 w pred calcite, minor chl, ser, qtz,
 Py frac fil
 -numerous 1/4" to 1/2" qtz calcite vn
 at a regular orientations
 -Py to 0.25% as vfg diss mineralization
 and occasional blebs to 1/4" elongate
 parallel foliation, minor frac fil
 -occasional chl-ser rich zones
 -sharp contact at 468', at 55° to the ca,
 with conformable QFP unit

468 - 475'

Quartz Feldspar Porphyry (Sil? Conformable)

-rock consists of an affinitic, v sil gray ground mass (to slightly yellowish gray where weakly ser in places, modelled appearing in places w thin small calcite and ser slips), w av 50 to 60% phenocrysts of pred fspar, minor qtz, av 1/8", range from 1/32" to 1/4" , pred anhedral to sub heudral, a few uheudral and hexagonal phenocrysts, occasionally also light green weakly ser

-rock is weakly foliated in places at 50 ° to the ca, as exhibited by the alignment of phenocrysts

-indistinct gray phenocrysts poor chill margins at 468 and 475', one to 2" thick contacts at 55° to the ca,

-rock is weakly frac, at a crude preferred orientation of 30° to the ca, w calcite ser, Py frac fil, usually w strong 1/4 to 1" sil halos around frac, usually enriched in diss Py to 1 to 2%,

-overall Py content, 0.5%, vfg diss mineralization, frac fil, and mineralization in sil halos,

-a few biotite/chl clots in places

-from 472 to 472.5', more strongly frac w ser, Py frac fil, locally v strongly sil (halos on frac) w 3% vfg diss Py and Py frac fil

475 - 476.2'

Biotite Rich Argillaceous Metasediment

vfg to arg / affinitic dark brown well bd (1 to 2") biotite rich (40 to 50%) meda-sediment, bd at 50°, weakly frac parallel sub parallel bd w calcite frac fil, a few thin chl bands, in places numerous v small white fspar?, slips/seams
-no visable sulfides

476.2 - 479.5'

Biotite Rich Intermediate Volcanic Lapilli
Tuffs/Equivalent Wacke*

- rock comprised of a thinly bd (less than 1/16 to 1/4") well dev bd at 55° to the ca vfg to affinitic dark brown to green biotite rich (in places chl rich) ground mass w 30 to 40% small thin (1/8 to 1/4") calcite, qtz, and chl blebs elongate parallel foliation, appears v tuffaceous w frag parallel bd (lapilli tuff) but cld be an altered gwk type medasediment
- becomes increasingly chl and weakly ser towards 479.5',
- numerous 1/4" calcite w minor qtz seams parallel sub parallel foliation
- rock is weakly frac pred parallel foliation w chl frac fil,
- to 0.25% vfg diss Py, a few 1/4" frag appearing Py blebs parallel foliation
- frag decrease in abundance to 10% by 479.5'
- frag pred qtz-chl and minor carb

479.5 - 483.5'

Chlorite Rich Intermediate Volcanic Tuff/
Wacke

- rock comprised of vfg to affinitic dark green v soft intensely chl ground mass thinly bd and sch at 55° to the ca, w 5% v small (less than 1/32") frag appearing (elongate parallel bd/sch) light gray carb blebs, a few qtz blebs and sulfide blebs (Py, trace Po, to 1%, as v frag appearing blebs to 1/2", av 1/32")
- a few 1 to 2" similar litho but ser rich 'frag/clasts', elongate parallel bd (bomb shaped), cld be a tuff to agg or equivalent clastic grwk
- occasional lighter v carb rich bd to 1" (w 10% vfg diss calcite)
- rock is weakly frac pred parallel foliation w calcite and chl frac fil
- 5% vfg diss biotite clots throughout rock
- becomes intensely chl from 482 to 483.5',

-at 481', 1" qtz calcite vn sub parallel
bd at 65° to the ca,
-contact at 483.5', at 50° to the ca
with underlying more andesite vol appearing
litho

483.5 - 505'

Andesite Tuffs/or Clastic Equivalent Rock

-rock pred a vfg to affinitic light green
weakly chl - ser altered, weakly carb
in places, (vfg diss calcite to 5 to 10%)
granular appearing andesite tuff or slightly
reworked clastic equivalent rock.
-well dev bd and weak sch at av orientation
of 55° to the ca,
-granular appearing w numerous v small
(less than 1/64") dark chl clots and white
calcite clots to 10% of rock, elongate
parallel to bd, in places 20%, in places
coarsen to 1/8"
-occasional qtz 'eyes' to 1/8" and calcite
blebs to 1/4", v frag/clastic appearing
in places, elongate parallel bd, v dirty
in places
-numerous (overall to 5%) thin (to 1/2"
av 1/8 to 1/4") calcite vn, occur w minor
qtz, at random orientations
-mod frac at random orientations w pred
calcite, minor chl, ser, qtz, Py frac fil
-looks andesitic but granular and bd
indicates a tuff or clastic rock
-a few 1 to 2" biotite rich zones w up to
5% vfg diss biotite
-in places faintly agg appearing w large 1"
bomb shaped andesite 'frag' but v poorly
dev, indistinct contacts w matrix, maybe
a function of fracturing
-overall sulfide content, 0.5%, Py as pred
cubic mineralization associated w calcite
and silica seams and in fil frac, minor
vfg diss mineralization, trace associated
Po and Cpy
-at 489.2', 1/4" cherty silica bands/bd
parallel bd w numerous 1/8" Py blebs at
rims, locally numerous 1/2" calcite seams
at irregular random orientations, appear to
weakly brecciate rock in places

- at 490', 1/8" qtz calcite Py bd/bands parallel bd at 55°, w 2" biotite rich alteration halo
- at 491', a few 1/2" cherty silica v frag appearing blebs elongate parallel foliation w Py cubes at rims to 1/8" (brecciated vn?)
- from 491 to 492.5', numerous (to 10% of rock) thin calcite and occasional qtz bd/seams parallel bd at 55° to the ca, usually w Py cubes to 1/8"
- at 495.5', 1/8" semi massive Py (w trace Po and Cpy) band w calcite parallel bd
- at 500', 60° to the ca, numerous 1/2 to 1/4 inch calcite and qtz bands/bd parallel foliation, locally w thin associated Po-Py seams to 2% over 3",
- from 500 to 505', gradually becomes light grey more 'dirty' appearing, more clast /frag rich, w numerous calcite and large cherty silica frag to 1/2",
- at 500.5', 1" grey chert/silica frag elongate parallel foliation w calcite, Py and Po seams to 1/8" at rims
- at 501', a few 1/4" calcite and cherty silica bands parallel bd w locally 3% Py and Po as vfg diss mineralization and seams and occasional semi massive bands to 1/16"
- rather arbitrary contact at 505', w underlying lighter grey more carb rich unit

505 - 508.5'

Dacite Tuff or Clastic Equivalent Rock

- rock a light grey, mod soft, vfg granular dacite tuff or more prob a clastic equivalent type rock
- ground mass is v granular, grey, vfg weakly ser, weakly carb w abundant (10%) vfg diss calcite
- rock contains well dev bd at 50° to the ca thinly bd (less than 1/16")
- contains a v small (less than 1/64" to 1/4") elongate parallel bd calcite and silica frag, to 5% of rock, usually in thin bands

-rock is weakly frac, pred parallel bd
 w calcite, minor chl-ser-Py frac fil
 -contains a few 1/4" to 1/2" calcite-
 qtz vn pred parallel bd,
 -becomes more chl from 508 to 508.5',
 rather grad and arbitrary contact w under-
 lying unit
 -overall sulfide content, 0.25% Po-Py as
 thin slips associated w calcite seams,
 minor vfg diss mineralization, and a few
 small (1/16") frag appearing blebs,

508.5 - 513'

Chloritized Andesite Tuff to Basalt Tuff
/ or Clastic Equivalent Rock

-rock pred a vfg to affinitic intensely
 chl dark green thinly bd andesite to basalt
 ground mass w 5% small (1/4") calcite and
 minor silica elongate blebs that appear
 frag, bd well dev w a weak sch at 55° to
 the ca,
 - a few mineralized thinly bd carb zones
 ie at 508.6 to 509', rock is thinly bd
 (less than 1/4") grey vfg granular calcite
 bd, some slumping soft sediment deformation
 type features, some carb beds composed
 of larger tuffaceous frag to 1/2", w locally
 20% vfg Py-Po in calcite and as thin seams
 and frag appearing blebs parallel to bd,
 a few secondary qtz calcite vn to 1/4"
 also parallel bd,
 -from 509.8 to 510', bd at 55° to the ca,
 of vfg granular qtz calcite w 5% Po and
 trace Py-Cpy as thin slips parallel bd
 a few frag appearing blebs
 -from 510.1' to 510.5', thin (to 1/8")
 fg granular calcite and minor qtz seams/bd
 and larger agg appearing frag elongate
 parallel to bd, to 60% of rock, w associate
 10% thin sulfides seams (8% Po, 2% Py, trace
 Cpy) and frag blebs

- numerous secondary calcite and qtz-calcite vn to 1/4" to 1/2", pred parallel bd
- overall sulfide content of unit, 5% (4% Po, 1% Py) pred associated w thin carb interbds, a few 1/4" frag appearing blebs, some minor vfg diss mineralization
- from 512.5 to 513', qtz calcite vn parallel foliation
- rather arbitraty contact w less chl underlying unit

513

- 518.5'

Sericitized Carbonitized Dacite to Andesite Tuff or Clastic Equivalent Rock

- thinly bd, at 55° to the ca, med grey to green dacitic to andesitic tuffaceous rock soft, strongly ser-chl altered,
- numerous small (to 1/8" av 1/8"), calcite blebs, frag appearing, elongate parallel to foliation, to 10% of rock
- numerous thin (to 1/4") calcite rich bd parallel foliation
- in places ground mass appears v granular w diss calcite to 10%
- a few thin calcite vn
- rock is weakly frac pred parallel bd, w calcite chl ser and some hematite frac fil
- at 516.7', 517.7, and 518.2', thick 2 to 3" bright orange hematite stained zones halos around vuggy calcite fil frac
- overall sulfide content, trace vfg diss Py,
- distinct contact at 518.5', w underlying lapilli tuff unit

518.5 - 537.7'

'Carbonate Lapilli Tuff' (Sericitized Carbonatized Felsic Lapilli Tuff)

- highly variable appearance w differing frag content and matrix-ground mass composition, but in general rock pred thinly bd av 1/16 to 1/4", w v well dev bd at 55° to the ca,
- comprised of a vfg granular siliceous to affinitic ser-chl in places to vfg granular carb (yellow, hard, dolomitic) matrix/ground mass w frag content ranging from 25% to 90%, from 1/32" to 1", elongate parallel to bd, of pred yellow modelled appearing dolomitic rock, occasionally qtz (cherty silica-fg granular in places) occasionally white soft calcite
- dolomite appears as modelled alteration of felsic sil frag
- rock is weakly to mod frac pred parallel bd, w ser calcite, minor chl hematite frag fil
- a few thin well bd arg interbd as outlined below
- overall sulfide content, approx 2%, pred Po, w minor Py and sphalerite as thin seams parallel bd and small diss elongate blebs parallel bd
- from 518.5' to 519', appears to be thinly bd (at 55°) alternating bd of light grey ser arg rock and light yellowish green carb (dolomite, hard, reaction HCL only if scratched) and chl arg bands, but maybe agg frag as opposed to interbds, locally w 5% sulfides (3% Po, 2% Py, trace Cpy and sphalerite) as thin seams to 1/32" parallel bd and diss mineralization and carb bd, at 518.5', 1/2" qtz calcite vn parallel bd
- from 519 to 522', matrix/ground mass a light grayish green intensely ser felsic litho w 25 to 30% v small (av 1/32", coarsens towards 522', to 1/2") yellow - white carb (dolomite) blebs/frag elongate foliation, a few qtz frag, v granular appearing locally, some slumping in bd as exhibited by deformed by qtz carb vn, at 521.5', 1/2" qtz calcite vn, Po locally to 1% as thin

slips parallel foliation, and occasionally frag appearing blebs w' trace Py and Cpy

-from 522 to 523.5', ground mass becomes slightly darker green, weakly chl, frag remain 25 to 30% but av size 1/8", v well dev lapilli tuff texture, frag pred a grey to white to light green carb rich occasional qtz rich rock, sulfides to 1% as vfg diss slips and seams parallel to foliation (Po w trace Py and Cpy)

-from 523.5' to 525.5', more thinly bd as opposed to tuffaceous appearing w thin alternating bd of dark grey and light grey and green strongly ser vfg granular felsic tuff, and thin carb bd/blebs elongate parallel foliation

-a few frag appearing lapilli tuff type carb blebs to 10%, sulfides only 0.25% as vfg diss Po and Py, ser granular felsic tuff pred w carb locally only 15%

-from 525.5' to 527', thinly bd arg/tuffs rock here comprised of a v well dev distinct alternating bd at 55° to the ca, of light brown dolomitic carb (30%) and grey green ser rich felsic tuff litho, a few thin biotite bearing siltstone type interbd, sulfides to 1% as vfg diss pred Py trace sphalerite and Po

-from 527 to 529', agg appearing phase w large (to 1" elongate parallel to bd) light brown dolomitic type agg appearing frag to 80% of rock set in a ser ground mass, also numerous (to 10%) large (to 1/2") white calcite frag appearing blebs

-sulfides locally 2% is vfg diss pred Py mineralization in carb frag

-at 529', a few 1/4" qtz calcite vn parallel bd

-from 529 to 537.7', good lapilli tuff w thin (av 1/16 to 1/8") elongate (1/4 to 1/2") ser - qtz frag and yellow dolomite frag and cherty silica frag to 60% of rock in a vfg granular intensely ser siliceous ground mass

-sulfides locally 2% as vfg diss Po and Po seams parallel bd w trace Cpy Py sphalerite (this unit cld conceivably be a clastic turbiditic type sediment)

537.7 - 542.5'

Quartz Feldspar Porphyry/Porphyritic Rhyolite

-(concordant contacts at 55° at 537.7 and 542.5',)

-rock comprised of an affinitic light greyish green sil ground mass, v modelled appearing in places w weak pervasive ser and carb alteration w numerous thin slips of ser and calcite throughout ground mass w an av of 50 to 60% phenocrysts of pred fspar, minor qtz, range from 1/16 to 1/4" av 1/8", pred anhedral to sub heudral, occasional light green, weakly ser and carb in places

-weakly foliated at 55° to the ca, as exhibited by alignment of phenocrysts

-weakly frac at random orientations w calcite ser frac fil and usually w strong 1/2" sil alteration halos

-Py to 0.25% as vfg diss mineralization minor frac fil, and mineralization in sil alteration halos

-from 538 to 538.5', sheared modelled appearing zone w strong ser - carb alteration of ground mass and almost complete overprinting of porphyry texture.

542.5 - 546'

Intensely Sericitized, Carbonitized Altered Felsic Tuff to Lapill Tuff

-v similar to unit from 518.5 to 537.7'

-rock consists of thinly bd (1/16 to 1/4") light green to grey sch appearing (bd and sch at 60° to the ca) intensely ser ground mass w 30% small white to yellowish white ser and carb (dolomite and calcite) blebs that are elongate parallel to bd and appear to tuffaceous and appear to be tuffaceous frags, range in size from 1/32 to 1", overall rock composition approx 60%

ser and 20% carb, contains 0.5% vfg diss
Py and Py slips parallel to bd, w trace
Po and 2 to 3% vfg unidentified black
mineral

-contains in places a few frag appearing
qtz blebs

-in places ground mass appears v granular,
sil

546

- 560'

Altered Dacite Tuff or Clastic Argillaceous
Equivalent Rock

-rock pred a thinly bd (a 1/32" to 1/2")
light greenish grey v soft strongly ser
and in places carb vfg to affinitic
/arg altered dacite ash tuff or arg
-bd at 55° to the ca, kinked, crenulated
in places w some soft sediment deformation
features

-carb occurs as vfg diss yellowish white
calcite and hard dolomite and occasional
bd/bands to 1/4", to 20% of rock, in places
small blebs v frag appearing

-rock appears lapilli tuff in places w 1/4
to 1/2" elongate parallel to bd frag of
pred dolomite and qtz, usually sulfide en-
riched

-rock itself appears weakly agg in places
w faintly frag appearing blebs to 1"

-rock contains abundant 5% vfg diss black
unknown mineral

-rock is weakly to mod frac pred parallel
sub parallel bd with sulfide and carb and
ser frac fil

-overall sulfide content, 1%, associated
w dolomite seams, pred a Py w minor Cpy
Po and sphalerite

-at 546 to 547.5', thinly bd interbd bright
yellow to white totally ser arg rock w
and grey green strongly ser altered dacite
tuff w a few thin carb rich bd and 30 to 40%
vfg diss yellow dolomite.

- from 547.5 to 548.5', numerous thin 1/8 to 1/4" modelled appearing dolomitic bd w locally 2% Py as vfg diss mineralization in carb bd and thin seams and diss cubes in other locally darker green weakly chl arg bd, trace sphalerite and Po, locally numerous small 1/8" qtz eyes
- at 549', 1/4" dolomite bd w 10% Py, locally a few qtz vn/blebs
- at 549.7' numerous thin 1/8" carb - Py bands/bd, v contorted illustrating slumping and soft sediment deformation and host
- at 550.5', 1/2" calcite-qtz and dolomite-Py bd parallel bd
- at 550.6', 1/2" dolomite-Py bd, w trace sphalerite, v contorted
- from 550.6 to 551', numerous thin Py and dolomite bd/bands to 1/4" w trace amt of sphalerite
- at 551.2', 1/4" contorted carb Py band
- at 552.5', 1/4" calcite qtz dolomite vn w trace Py sphalerite
- at 551.8', 1/4" contorted carb Py band
- from 551.5 to 552.5' numerous 1/4" to 1/2" highly contorted carb and minor qtz vn/bd w diss Py Po and sphalerite to 2% locally
- at 554', 1/16" Py - Sph fil frac cross cuts foliation at 90° to the ca,
- at 554.5', bd strongly kinked off set by calcite Py sph fil frac at a reg orientations
- from 555 to 555.5', numerous 1/2" frag appearing carb rich blebs and bands parallel bd locally w 5% sulphides(4%Py minor sph Cpy and Po) as thin seams and vfg diss mineralization.
- at 556', a few 1/2" qtz calcite vn sub-parallel bd at 70° to the ca
- from 557.5 to 558', dolomite rich fg granular bd and large 1" agg appearing frag to 60% of rock w 5% vfg diss Po-Py
- from 558.5 to 559.5', highly contorted dolomite w minor qtz calcite vn at 0° to the ca w 20% vfg diss Py-Po and trace Cpy.

-rather arbitrary contact w underlying lighter green more strongly ser altered unit.

560

- 569'

Altered (Sericitized, Carbonitized)
Dacite Tuff or Argillaceous Clastic Equivalent

-rock v similar to that from 546 to 560', but more strongly ser alteration, more carb rich, a lighter yellowish green in color

-pred light yellowish green to gray thinly bd (to 1/2") vfg to affinitic/arg dacite tuff or arg equivalent, w v strong ser and carb alteration

-carb as thin diffuse and distinct yellowish bd of dolomite and minor calcite and as diss blebs throughout rock, in places occur as frag appearing blebs, but poorly dev

-bedding v well dev at 55° to the ca,

-numerous thin calcite seams pred parallel foliation, a few qtz calcite and dolomite vn parallel bd, often Py enriched

-weakly frac pred parallel bd w calcite Py ser and dolomite frac fil

-a few 1/4" qtz calcite eyes

-numerous thin 1/4" light pinkish grey totally ser beds

-sulfide content, 0.5%, as vfg diss Py and Py in carb seams, trace Cpy and Po

-at 566.5', 2" brecciated appearing zone w qtz calcite and dolomite frag

-from 568 to 569', numerous 1/4" qtz calcite frag elongate parallel bd, locally appears agg w large 1" carb rich frag, locally numerous thin pinkish grey ser interbd

569 - 571'

Interbedded Argillites and Dacite Tuff

- thinly bd (to 1/2") well dev bd at 60° to the ca, although varies w abundance slumping and soft sediment deformation features, interbd
- 1) light pinkish grey intensely ser arg often w a few thin cherty sil interbd (to 40%),
- 2) lighter green mod ser altered often v modelled appearing dacite tuff, w numerous thin carb frag
- Py to 5% as thin 1/16" bands and seams of massive mineralization, frac fil, and a few frag appearing blebs to 1/4"
- appears brecciated, slumped in places
- a few cross cutting and parallel carb (dolomite and minor calcite) and qtz vn

571 - 572.7'

Altered (Sericitized) Dacite to Andesite Lapilli Tuff

- rock comprised of a v thinly bd (1/16 to 1/4") vfg to affinitic strongly sheared sch intensely chl-ser altered dacitic to andesitic ground mass w 30% small elongate parallel to bd (av 1/16" x 1/4") yellow dolomite and white ser rich frag appearing blebs and thin bands parallel foliation (good lapilli tuff texture)
- bd and sch at 60° to the ca,
- a few thin secondary highly contorted yellow hard dolomite vn to 1/4"
- from 571 to 571.5', semi massive Py and trace Po and Cpy bands parallel bd to 1/4" and 30% of rock, w a few frag appearing 1/4" Py blebs
- at 571.7', 1/4" highly contorted qtz dolomite vn parallel foliation
- sulfides from 571.5 to 572.7', 0.5%, a few thin Py seams and blebs elongate parallel foliation

572.7 - 574.5'

Dacite to Andesite Lapilli Tuff (Fragment Poor)

-rock a vfg light green mod ser dacite to andesite tuffaceous rock, weakly carb w minor vfg diss light beige dolomite and occasional bands of dolomite
 -thinly bd at 60° to the ca,
 -5% lapilli size frag to 1/4" of pred calcite, minor qtz, dolomite, elongate parallel to bd
 -0.5% vfg diss Py and thin Py bands to 1/16" w trace vfg diss Cpy

574.5 - 578'

Andesite Lapilli Tuff

-rock comprised of a thinly bd (1/16") dark green ser and in places chl altered vfg to affinitic andesitic ground mass (bd well dev at 65° to the ca,) w 25% to 30% frag ranging from 1/16 to 1/2" elongate parallel to bd, of qtz, carb, and ser altered dacite to andesite
 -numerous thin grey totally ser seams/frag
 -a few (1%) Py frag to 1/4" and some vfg diss Py and diss Py cubes
 -from 574.5', 575', ground mass intensely ser, locally a few 1/2" semi massive Py frag
 -sharp contact w underlying QFP at 65° to the ca,

578 - 582'

Altered (Sericitized, Carbonatized) Quartz Feldspar Porphyry/Porphyritic Rhyolite

-rock comprised of a light yellowish green hard, sil, vfg ground mass that has been mod ser and carb w ser and carb occurring as thin small slips/blebs throughout ground mass (to 20% of rock) lending modelled appearance to rock

- weakly foliated at 65° to the ca,
- alteration has for the most part overprinted porphyritic texture but still faintly visible are 30 to 40% phenocrysts to 1/8" of now weakly ser/carb altered or replaced fspr and minor qtz
- unit is weakly frac at random orientation w pred qtz, calcite, minor ser, chl, Py frac fil
- some sil halos along frac
- Py to 0.25% as vfg diss mineralization and minor frac fil
- concordant contacts at 578', and 582', at 65° to the ca,

582

- 589'

Mineralized Altered (Sericitized) Felsic Lapilli Tuff

- rock comprised of a v thinly bd(1/16 to 1/4") light grey, intensely ser ground mass w occasional thin chl seams and thin carb seams (bd of calcite and hard dolomite) bd v well dev, at 65 to 70° to the ca,
- contains approx 30% small elongate parallel to bd white ser and carb (calcite and dolomite) blebs that appear to be lapilli frag, content varies greatly from 5 to 50% of rock, range from 1/32 to 1/4", av 1/16" a few qtz frag
- 5% large (to 1/2", av 1/8" to 1/4") elongate semi massive Py (+ ser, carb, qtz) frag
- rock is weakly to mod frac, pred parallel foliation, w calcite ser and minor chl Py frac fil
- a few secondary qtz calcite vn pred parallel foliation
- ground mass is carb in places w alternating calcite and ser bands/bd
- from 582 to 583.5', Py to 10% as vfg diss mineralization in bands w chl ser and carb, and frag to 1/4" elongate parallel foliation
- from 583.5 to 589', Py to 5% as frag, minor fg diss mineralization and seams parallel to bd

-at 585.5', 1/2" calcite minor qtz vn
 at 70° to the ca,
 -at 588.3' 2" intensely ser thinly bd
 yellow ser zone
 -from 588.3 to 598', becomes increasingly
 chl, grad contact w underlying less
 altered more chl andesitic unit

589

- 605'

Andesite (Tuff?)

-rock a fg, med green, weakly sch (at 60°
 to the ca) andesite w numerous (to 20%
 of rock) small (1/16") chl blebs align
 parallel to foliation that may be tuffaceous
 frag
 -a few small (less than 1/64") white to
 pink stretched elongate parallel to fol-
 iation garnets? to 5% of rock
 -weakly to mod frac at no preferred orientat
 ion, w pred calcite, minor chl, Py frac
 fil, minor hematite
 -rock is weakly chl-ser altered in places
 -a few qtz-calcite vn to 1/2" in random
 orientations, a few diffuse calcite seams
 -rock is weakly to mod carb w 5 to 10%
 diss calcite
 - a few 1/8" to 1/4" light green fspr
 blebs that appear to be phenocrysts
 -overall sulfide content, 0.25% pred
 diss Py cubes to 1/8", some Py associated
 w calcite frac fil,
 -from 589 to 591', foliation locally
 strong at 70° to the ca, w numerous thin
 1/8 to 1/4" calcite chl and qtz seams
 occasionally w minor associated cubic
 mineralization at rims
 -from 592.7 to 593.2', numerous thin
 1/8 to 1/4" calcite and minor qtz seams
 at 80 to 90° to the ca, to 30% of rock,
 host locally as strongly carb
 -at 596.5', 1/2" calcite vn at 50° to the ca
 -from 596 to 602', coarsen slightly to
 fg to med grained, may be a remnant crystal-
 line texture as opposed to tuff, w chl
 altered mafic blebs and weakly ser altered
 fspr, v gabbroic appearing in places.

- from 597 to 599', locally diss Py cubes to 1/8" and 1%
- at 599', 1" calcite minor qtz vn at 70° to the ca, weakly brecciated rock w 1/4" angular brecciated rock frag
- from 599 to 599.5', numerous thin irregular chl-calcite seams to 1/4" w cubic Py blebs to 1/8"
- at 601.5', 1/2" qtz and hard light beige green carb vn at 90° to the ca,
- at 602', 1/2" chl seams parallel foliation weakly brecciates rock
- from 602 to 602.7', shear zone?, intensely ser carb v soft light green zone w 20% carb vn pred parallel foliation at 60° to the ca, w 5% Py as mineralization associated w vn and vfg diss mineralization
- at 602.7' to 602.9', qtz calcite vn parallel foliation at 60° to the ca,
- at 603.5', 2" calcite minor qtz and light bright green carb vn parallel foliation at 60° to the ca,
- from 603 to 605', becomes fg, carb locally 15%, appears more tuffaceous here, well foliated at 55° to the ca,
- contact at 605', distinct,

605 - 649'

Altered (Sericite-Chlorite-Carbonate)
Dacite to Andesite Lapilli Tuff (or Clastic
Equivalent Rock)

-highly variable appearance w differing degrees and types of alteration and varying frag content but rock pred a v soft thinly bd (1/32 to 1/2") med green intensely ser, in places chl ground mass (v sheared sch appearing parallel bd, vfg to affinitic /arg, w thin bands elongate thin frag (av 1/32 to 1/16", occasionally to 1/4") of white totally ser altered rock, white to yellowish beige carbonate (dolomite) calcite, and occasionally cherty silica, to av 30% of rock, but highly variable from 20 to 60% of rock

- frag pred ser (15%) carb and minor qtz
- v small frag lend granular appearance to rock in places, cld conceivably be an epiclastic rock
- agg phases were larger 1/2" frags to 80 to 90% of rock
- rock is weakly to mod frac, pred parallel sub parallel bd but other orientations present, w pred calcite, minor chl, ser, dolomite, qtz, sulfides, and hematite frac fil
- a few larger secondary qtz carb vn
- numerous thin carb'bd' to 1/16" throughout unit (calcite and dolomite)
- overall sulfide content approx 1%, pred Py, trace Cpy and Po, as v thin slips and seams parallel bd, a few frag appearing blebs to 1/4", minor frac fil, minor diss Py cubes
- from 605' to 608', agg phases from 1/2 to 1" elongate parallel to bd light gray to green strongly carb and ser dacite to andesite frag to 70 to 80% of rock in a ser chl ground mass, w a few (5%) calcite frag seams to 1/4", usually enriched w diss cubic Py and vfg diss Py to 2% w trace Cpy, at 606', numerous 1/2" calcite and minor qtz vn at 50° to the ca, w minor diss Py and at 602', a thin 1/16" Cpy seam parallel to bd
- from 608 to 611', v frag poor (5%), pred thinly bd intensely ser rock w 10 to 15% thin (1/16") carb (calcite and hard beige dolomite) bd and a few ser and carb frag, only 0.5% Py as vfg diss mineralizatio
- from 610.2' to 610.5', qtz parallel bd
- from 612 to 613', locally v carb rich w 30% thin 1/8" dolomite bd and frag locally appears brecciated by numerous thin chl calcite seams
- from 614 to 617', locally v carb rich v coarse lapilli tuff, w bands to 1" and frag to 1/2" parallel bd of hard beige dolomite w ser to 60% of rock, locally frag av 1/4 to 1/2", to 60 to 70% of rock pred dolomite, ser, and a few cherty grey silica frag, a few Py frag, matrix ground mass a thinly bd ser chl rich/altered rock

-sulfides locally 3% (pred Py trace Po and Cpy) as frag and v thin seams parallel to bd, some carb rich bd/frag contain v bright light green ser and perhaps trace amounts of fuchsite
 -from 617, rock becomes generally a few thinly bd lapilli tuff as in general description
 -from 631', calcite become dominant carb sulfides increase to 2% (Py-trace Cpy) rock becomes slightly more chl

649 - 654'

Altered (Sericitized) Felsic Lapilli Tuff

-v thinly bd at 65° to the ca (kinked, crenulated in places, av less than 1/16") light green intensely ser ground mass w approx 10% thin calcite seams/bd and blebs that appear to be tuffaceous frag in places, and w 10% v small (to 1/4") elongate parallel to bd frag appearing Qtz and dolomite and white totally ser altered blebs
 -rock is mod frac pred parallel bd, but other orientations present w calcite and ser frac fil,
 -a few 1/4 to 1/2" dolomite bd, often appearing comprised of agg sized 1/2" frag
 -overall sulfide content, trace vfg diss, Py
 -at 652.7', a few 1/2" dolomite bands /bd comprised of large frag elongate blebs parallel to bd
 -at 653.5', 1" dolomite bd comprised of agg frag
 -rock appears in most places a ser schist

654

- 663.5'

Sericitized Metagraywacke

- rock pred a vfg v granular light green strongly ser siltstone to grwk appearing litho w numerous elongate white (less than 1/64") fspr blebs parallel crude bd at 65° to the ca, a few slightly larger 1/32" to 1/16", fspr and qtz clasts/blebs, -a few K-spar and hematite rich blebs
- strongly frac at random orientations w calcite, qtz, hematite, and fuchsite frac fil
- minor vfg diss calcite lends carb appearance to rock
- weak epidote alteration in places as halos around qtz carb stringers
- overall sulfide content, 0.25%, Py associated w qtz calcite vn, qtz calcite to 10% of rock
- at 655', 1/8" dolomite band parallel bd w 5% vfg diss Py
- at 656', 2" zone weakly brecciated w numerous thin qtz calcite seams w trace diss Py, locally a light brown carb, overprints granular texture of rock.
- at 656.5', 1" qtz calcite vn w numerous thin associated stringers at irregular orientations
- from 656.5' to 658', weak overprinting by light brownish grey pervasive carb
- from 658.5', to 659', numerous vn to 1" to 65° to the ca, of light green ser carb and hematite rich material, often brecciates rock, w trace Py, locally abundant hematite and fuchsite frac fil
- at 659.5', 3" vn at 70° to the ca, of brecciated qtz, hematite, ser, and green ser calcite, minor diss Py, cld be a thin dykelet from underlying fspr porphyry
- at 659.9', 1/4" calcite-qtz-green carb vn at 70° to the ca,
- at 660.4', 1" brecciated vn at 70° to the ca, of pink calcite, minor qtz, chl, green carbonate, and fspr w trace diss Py, strongl frac w hematite frac fil,

-from 660.5' to 663.5', get 5% small (1/4") rounded qtz clasts, wacke becomes slightly coarser w numerous small chl altered clasts and small qtz clasts to 10% of rock coarsens (graded) towards 663.5', w a few 1/2" rounded qtz clasts, to 15% of rock
 -sharp contact at 663.5', at 70° to the ca,

663.5 - 668.5'

Sericitized Porphyritic Dacite

-rock pred a bright light green fg crystalline dacite composed of a strongly ser and weakly carb ground mass w 40 to 50% small crystalline sub heudral to uhedral lath shaped fspr crystals and 5% large (to 1/2", av 1/8 to 1/4"), aheudral to sub heudral white to light green fspr phenocrysts
 -weakly foliated/sch at 65° to the ca,
 -strongly frac at random orientations w pred hematite, calcite, minor qtz, Py frac fil
 -intensely frac in places w calcite and hematite fil frac brecciating rock
 -1% vfg diss Py and Py associated w calcite and hematite fil frac
 -at 666', 4" vfg granular qtz calcite vn at 65° to the ca, pink stained w vfg diss hematite, and a few hematite blebs to 1/4", w vfg diss Py to .25%
 -(maybe a fspr-porphyry dyke)
 -sharp contact a 668.5', at 45° to the ca,

668.5 - 667.5'

Carbonatized, Sericitized, Weakly Carbonaceous, Dacite Tuff or Re-worked Clastic Equivalent Rock

- rock pred a dark grey thinly bd (1/16 to 1/4") (at av orientation 65° to ca, although kinked and crenulated in places), strongly ser, carb dacite tuff to lapilli tuff,
- numerous thin dark black chl and perhaps weakly carb slips parallel foliation to 5% of rock
- appears clastic/lapilli tuff in places w white fspr and qtz blebs to 1/4" elongate parallel foliation
- numerous (to 15% of rock) irregular grey calcite and occasionally dolomite vn/seams occasional brecciate rock
- appears agg in places w elongate 1/2" grey dacite type frag rimed by thin chl graphitic seams
- overall graphitic content approx 5%, as occasional bands and bd to 1/2",
- 2% vfg diss Py
- at 669.7', 2" zone intensely brecciated by calcite vn
- from 670.5 to 671', v granular, clastic appearing, w numerous 1/4" qtz and fspr clasts/frag
- from 674 to 675.3', lighter green, intense ser zone, w a good lapilli tuff texture, w 20% small 1/8" to 1/4" carb and ser frag parallel bd, locally thin Py seams and blebs and vfg diss mineralization to 2%
- from 675.5 to 675.8', 4" massive graphitic zone, thinly bd jet black w 5% Py as semi massive bands parallel bd and occasional nodules to 1/8" abundant hematite associated w graphite, (this is prob the conductor)
- from 675.8 to 676.5', thin hematite bd to 30% of rock, bd v contorted, locally w associated Py seams to 3%
- sharp contact at 677.5', at 75° to the ca,

677.5 - 693'

Carbonate Rock

-rock consists of both a light beige to brown fg crystalline to granular appearing dolomitic carb (perhaps as an altered dacite), and a affinitic beige more thinly bd v sedimentary appearing dolomitic carb

-strongly frac w calcite, minor ser, qtz frac fil at random orientations, also abundant hematite and minor Py frac fil

-bd where present at 65° to the ca,
-numerous (to 5%) thin irregular calcite and occasional qtz vn/seams to 1/2"

-abundant vfg calcite (to 10% of rock) in both carb rocks

-both phases also have abundant vfg ser to 15% to 20% of composition

-a few thin ser interbd

-sulfide content, 0.5% vfg diss Py and Py associated w calcite, qtz, ser seams/vn

693 - 715'

Carbonatized, Sericitized Dacite Lapilli Tuff to Agglomerate, or Slumped Clastic Equivalent Rock

-v soft, thinly bd, at 65 to 75° to the ca, w some slumping and kinked crenulated bd in places, av 1/16 to 1/2",

-light greyish green intensely altered dacite to lapilli tuff to agg consisting of a vfg to affinitic sch sheared appearing totally ser ground mass (w vfg diss calcite and an av of 30% (although highly variable from 10 to 80%), v frag appearing blebs of grey carb (dolomite and calcite) from 1/8" to 1 to 2" elongate parallel to bd

-a few qtz frag

-a few carb 'bd'

-strongly frac (to brecciated in places) pred parallel bd w calcite, minor qtz, ser, chl, Py, hematite frac fil (poss minor carb material in places)

- overall carb content approx 40% of rock
- cld be a sediment, appears conagg in places
- numerous qtz and calcite secondary vn to 1" av 1/4", at random orientations
- overall sulfide content, 2% vfg diss Py, Py in carb frag, w trace Cpy and Po
- a few carb frag are v Py rich, to 30% vfg diss mineralization
- at 696.5', 2" qtz minor calcite vn cross cuts foliation at 65° to the ca, locally a few 1" v Py rich (to 25%) carb frag
- at 706.7', 1" qtz vn cross cuts foliation at 45° to the ca, locally brecciated/slumped appearing
- at 708', 1" qtz minor calcite vn cross cuts foliation at 45° to the ca,
- at 708.5', minor diss fuchsite in grey 1" carb rich frag

715 - 727'

Intensely Carbonitized Sericitized Dacite Tuff

- rock v ground, difficult to log, poor recovery
- appears to be v soft light green affinitic intensely carb - ser altered dacite tuff, weakly dev bd at 75° to the ca, numerous thin qtz calcite seams, 0.25% vfg diss Py

727 - 806'

Carbonitized Chloritized Andesite Tuff

- rock pred a vfg (w affinitic phases) med to dark green mod to strongly chl-andesite tuff, pred soft, weakly foliated (sch and apparent bd at 65° to the ca, varies from 60 to 70° to the ca)
- mod to strongly carb w vfg diss calcite rock to 10 to 15%, often as small (1/64") blebs and slips parallel foliation lending a tuffaceous appearance to rock, a few large carb blebs (discontinuous vn) to 1/2" appear frag in places
- numerous calcite w occasional qtz vn to 1/2" av 1/8" to 10% of rock, at random

orientations

- numerous diffuse type calcite vn
- rock is mod frac pred parallel foliation w calcite and minor qtz chl, ser, sul, hem, frac fil,
- weak ser alteration in a few places
- numerous thin v bd appearing calcite and harder white carb(magnesite) vn often containing 10 to 20% vfg diss magnetite
- occasional hard granular qtz rich bd
- contains numerous v small (less than 1/64") pink slips parallel foliation to 3 to 5% of rock (stretched garnets ?)
- calcite seams often light green w vfg diss sericite, often weakly brecciate rock
- overall sulfide content, 0.25% to 0.5%, pred vfg diss Py and trace Cpy, occasional diss cubes, occasionally associated w calcite seams, some frac fil
- at 728.7', 2" zone w numerous thin 1/4" calcite and qtz seams parallel foliation w trace diss hematite, Py, sphalerite, locally rock is v granular appearing, v tuffaceous appearing,
- at 729.5', 1/4" calcite vn parallel bd at 70° to the ca, w 1% vfg diss Py and a few 1/16" hem blebs, locally rock is v strongly carb
- at 731', 2" zone w thin 1/4" bd appearing calcite vn to 80% of rock containing 10 to 15% diss magnetite and minor Py
- at 733.5', 1" zone w bd appearing calcite and harder white granular carb(magnesite) vn/bd to 1/4" and 5% w 5% magnetite and trace Py
- locally from 727 to 734', rock is v strongly carb, w diss calcite and diffuse appearing calcite vn to 25% of rock.
- at 736', 1/2" calcite vn at 70° to the ca, w 5% diss magnetite and 2% diss Py,
- at 743.5', 3" zone w numerous 1/4" calcite minor qtz seams parallel foliation w 2 to 3% fg diss magnetite and 2 to 3% fg diss Py, magnetite is often hematized, lending pink discoloration to calcite

- at 748' 1/2" calcite vn w minor Py at 65° to the ca, locally from 747 to 748', rock is v carb rich w diss calcite slips to 30%
- at 730' a few thin calcite blebs contain 5% cubic Py
- at 751', thin calcite seams w minor hem magnetite blebs to 1/8"
- at 751.5', at 45° to the ca, 1/4" calcite silica granular vn w 2 to 3% diss magnetite and 2 to 3% diss Py
- at 752', bd / sch is highly contorted, overturned
- at 757.5', 1/4" calcite vn parallel bd at 70° to the ca, as a few 1/4" Py blebs in abundant fg diss Py,
- at 758.5', 1" irregular granular pink calcite qtz vn
- at 758.8', 1/2" qtz calcite cross cuts foliation at 30° to the ca, locally hosted is dark green, v chl, contains 5% small white fspr blebs
- from 758 to 561', numerous 1/2" diffuse calcite vn, host v carb,
- at 761.5', 1/2" qtz calcite vn cross cuts foliation at 80° to the ca,
- at 762', 1" diffuse appearing calcite band at irregular orientation, locally foliation appears deformed, slumped,
- from 764 to 771.5', affinitic phase, darker green, intensely chl, strongly carb, ser in places, w well dev foliation at 70° to the ca, calcite seams and frag appearing blebs to 1/4" to 15% of rock, locally Py, to 1% as diss cubes and mineralization association w calcite seams, appears faintly agg in places w crudely outlined 1/2" chl andesitic frag, (maybe a function of frac)
- from 784 to 787', begins to appear thinly bd w 1/32" carb rich vrs chl rich bd, bd often kinked crenulated at av orientation of 75° to the ca, locally more ser rich
- from 787', rock is lighter green, mod ser, strongly carb, affinitic phase, w mod to well dev foliation (sch and bd) at 70° to the ca,

- at 787', 1" qtz hard white magnesite blebs /vn at 90° to the ca
- numerous often contorted (highly) white hard magnesite and calcite and occasional silica bands/vn parallel bd to 1/2", occasional v frag appearing blebs to 1/2" to 10% of rock, Py increases to 1%, as diss fg mineralization and cubic blebs and amorphous blebs to 1/8" associated w carb seams
- carb seams appear to weakly brecciate rock in places
- at 797', 1/4" calcite vn w minor hematite at rims
- at 799.5', 1" magnesite - calcite vn at 70° to the ca, w minor diss Py and hematite
- at 804.5', 1" magnesite - calcite vn w minor hematite at 70° to the ca,

Moody, Galna
twps



Ontario
Name and Postal Address of Recorded Holder
UTAH MINES LTD. #82
1238 Riverside Dr. Timmins, Ont. P4R 1A4
The Minin
42A16SW0070 17 MOODY
900
T 793

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed	Mining Claim			Mining Claim			Mining Claim		
	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.
876	L	610876	20	L	610886	40	L	554241	40
for Performance of the following work. (Check one only) <input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey		610877	20		610887	40		554242	40
		610878	20		610888	40		554243	40
		610879	20		610889	38		554336	40
		610880	20		610892	38		554337	40
		610881	20		610893	40		554338	40
		610884	35		610894	40		554339	40
		610885	40		610924	24		554340	40

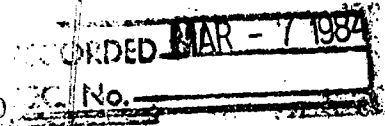
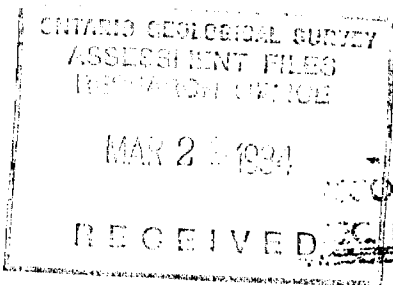
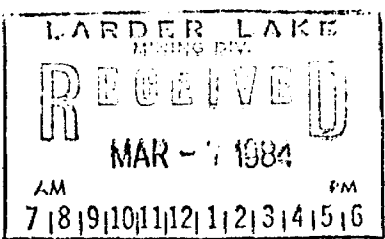
All the work was performed on Mining Claim(s): L 610456

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

One Diamond Drill Hole - # JL-84-F1, Totalling 876' (BQ core) Bearing 360° at an inclination of -55°, From February 12, 1984, to February 27, 1984.

BY; HEATH & SHERWOOD DRILLING, 34 Duncan Avenue, North, KIRKLAND LAKE, Ont.

Attached is drill log, and hole location maps.



Date of Report: March 3, 1984
Recorded Holder or Agent (Signature): Duncan F. McIvor

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying
Duncan F. McIvor, 1238 Riverside Drive, Timmins, Ontario, P4R 1A4
Date Certified: March 3, 1984
Certified by (Signature): Duncan F. McIvor

Table of Information/Attachments Required by the Mining Recorder

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

REPORT OF WORK (cont)

Page 2 of 2

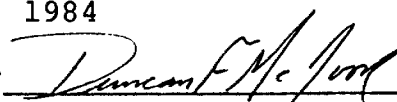
Work Performance - Distribution of Credits (cont)

L 554246 - 40 days

L 554250 - 21 days

DATED: March 3, 1984

Duncan F. McIvor



Moody, Kears
Galna twps

Instructions - Supply required data on a separate form for each type of work to be recorded (see table below).
- For Geo-technical work use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical and Expenditures)".

Mining Act

#190

Name and Postal Address of Recorded Holder: UTAH MINES LTD
Prospector's Licence No.: T-793
1238 Riverside Drive, Timmins, Ontario, P4R 1A4

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed	Mining Claim			Mining Claim			Mining Claim		
	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.
766	L	576915	5	L	567183	18	L	610507	18
		576916	20		567184	18		610508	18
		576917	20		610422	18		610509	40
		576918	20		610429	18		610510	40
		576919	20		610430	18		610511	18
		576920	20		610504	18		610512	18
		576921	20		610505	18		610513	18
		567179	18		610506	18		610514	18

All the work was performed on Mining Claim(s): L609706

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

1 Hole, JL-84-F2, Drilled Bearing 360° @ -55° with "BQ" core,

Drilled by Heath and Sherwood Drilling
4 Duncan Avenue, North,
Kirkland Lake, Ontario,

Drilled March 23 to 29th, 1984

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
RESEARCH OFFICE
JUN 7 1984
RECEIVED

ENCLOSED ARE LOG AND HOLE LOCATION MAPS.

LARDER LAKE
MINING DIV.
RECEIVED
MAY 24 1984
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

RECORDED MAY 24 1984
REC. No. _____

Date of Report: May 22, 1984
Recorded Holder or Agent (Signature): Duncan McIvor

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: Duncan F. McIvor, 1238 Riverside Dr, Timmins, Ont. P4R 1A4
Date Certified: May 22, 1984
Certified by (Signature): Duncan McIvor

Table of Information/Attachments Required by the Mining Recorder

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

<u>MINING CLAIM #</u>	<u>WORK DAYS CREDIT</u>
L 610515	18
610516	18
610517	18
610518	18
610519	18
610520	18
610521	40
610373	18
610374	17
610379	18
610380	18
610387	18
610388	18
610393	18
610394	18

766 MAN DAYS, APPLIED OVER 39 CLAIMS

Moody + Kern
Mining Act

Instructions -- Supply required data on a separate form for each type of work to be recorded (see table below). For Geo-technical work use form no. 1362 "Report of Work (Geological, Geophysical, Geochemical and Expenditures)".

Name and Postal Address of Recorded Holder: **UTAH MINES LIMITED, 1238 Riverside Drive, Tim, Ont.**
Prospector's Licence No.: **T-793**
#PR2

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed 806'	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.
	Prefix	Number	Work Days Cr.		Prefix	Number	Work Days Cr.		Prefix	Number	Work Days Cr.	
for Performance of the following work. (Check one only) <input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey	L	576915	15	L	576907	20	L	576899	20			
		576914	20		576906	20		576898	20			
		576913	20		576905	20		576897	20			
		576912	20		576904	20		576945	40			
		576911	20		576903	20		576944	40			
		576910	20		576902	20		576943	40			
		576909	20		576901	20		576942	40			
		576908	20		576900	20		576941	40			

All the work was performed on Mining Claim(s): L 610469

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

One Hole, JL-84-B4, Totalling 806', BQ core,
Drilled by: HEATH & SHERWOOD DRILLING
4 Duncan Ave. N,
KIRKLAND LAKE, ONTARIO
From: March 31, 1984 to April 6, 1984

ENCLOSED ARE DRILL LOGS AND HOLE LOCATION MAPS

RECORDED MAY 25 1984
REC. No. _____

Date of Report: May 23/84
Recorded Holder or Agent (Signature): *Duncan McIvor*

Certification Verifying Report of Work

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

Name and Postal Address of Person Certifying: **Duncan F. McIvor, 1238 Riverside Drive, Timmins, Ontario, P4R 1A4**

Date Certified: May 23/84
Certified by (Signature): *Duncan McIvor*

Table of Information/Attachments Required by the Mining Recorder

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

MINING CLAIM #

WORK DAYS CREDIT

576940

40

576939

40

576938

40

576937

40

576936

40

576935

31

806 DAYS, APPLIED OVER 30CLAIM