



52C155E0008 17 LITTLE TURTLE LAKE

010

DIAMOND DRILLING

AREA: LITTLE TURTLE LAKE

REPORT NO: 17

WORK PERFORMED FOR: Minnova Inc.

RECORDED HOLDER: Same as Above [xx]
: Other []

<u>Claim No.</u>	<u>Hole No.</u>	<u>Footage</u>	<u>Date</u>	<u>Note</u>
K 846559	ML-06	171m	July/87	(1)
K 863364	ML-07	144m	July/87	(1)
K 695827	HS-05	178m	July-Aug/87	(1)
K 862225 & FF4261	HS-06	187m 163m	July/87	(1)
K 670225	HS-07	423m	July/87	(1)
K 629172 & K 629173	HS-08	228m	July-Aug/87	(1)

1494

NOTES: (1) #W8801-009, filed June/88

MINNOVA

January 12th, 1988

LICENCE #T-556

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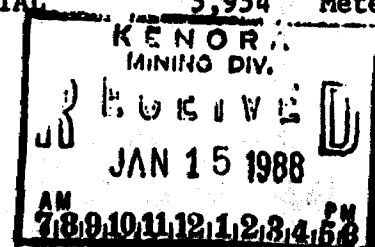
List of Diamond Drill Holes, Drilling Dates, Claims Numbers and
Meters Drilled for drilling submission of January 12th, 1988

<u>HOLE NUMBER</u>	<u>CLAIM NUMBER(S)</u>	<u>DRILLING DATES</u>	<u>METERS DRILLED</u>
BL-01	K777334/K777338	Feb. 11 - 21, 1987	381 ✓
BL-02	K777337	Mar. 19 - Apr. 1, 1987	501 ✓
BL-03	K777337/K777338	Apr. 2 - 10, 1987	468 ✓
ML-02	K873627/K777333	Jan. 9 - 15, 1987	318 ✓
ML-03	K873627/K777333	Jan. 24 - Feb. 10, 1987	528
ML-05	K830403	May 4 - 6, 1987	174 ✓
ML-06	K846559	July 7 - 9, 1987	171 ✓
ML-07	K863634	July 9 - 10, 1987	144 ✓
SR-01	K812844/K812846	June 10 - 15, 1987	210 ✓
SR-02	K812847	June 15 - 20, 1987	321 ✓
SR-03	K812848/K851619	June 26 - 29, 1987	204 ✓
SR-04	K812837	June 30 - July 2, 1987	216 ✓
BR-01	K851618	June 20 - 25th, 1987	252 ✓
BR-02	K851618	August 1 - 7th, 1987	312 ✓
HS-01	K629137	May 25 - 26, 1987	48 ✓
HS-02	K629137	May 26 - 27, 1987	36 ✓
HS-03	K777325	May 27 - June 4, 1987	348 ✓
HS-04	K695823/777322	June 4 - 10th, 1987	306 ✓
HS-05	K695827	July 3 - 7th, 1987	178 ✓
HS-06	K862225/FF4261	July 12 - 18th, 1987	187 ✓
Portion used for assessment on claim K862225 only			
Hole length 349.7 meters			
HS-07	K670225	July 20 - 24th, 1987	423 ✓
HS-08	K629173/K629172	July 24 - 31st, 1987	228 ✓

TOTAL 5,954 Meters

5,954 Meters x 3.28 = 19,529.12 Feet/Days

To be used for this submission 19,511 Feet/Days



MINDOVA INC.
DRILL HOLE RECORD

DATE: 27-November-1987

HOLE NUMBER: ML-06

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 5.00	DVERBURDEN «CASING»	Sand and gravel.				
5.00 TO 31.00	QE'D RHYOLITE «QE'D RHYD»	Grey to greeny grey fgr and predominatly hard and massive. 1% tiny < 1mm deep blue rounded QES. 5% 5mm to 10cm qtz veining @ - local ep associated with qtz veins - 2% 2-5mm erratically oriented Qtz-carbonate veinlets. 18.5-19.0 Narrow chlorite shear, shearing @	45 70 30	Generally weak to moderated incipient chlorite, locally strong chlorite over 0.5 meters.	Trace diss cubic Py.	
31.00 TO 81.10	RHYOLITE «RHYD»	Grey to green fgr and generally massive and hard. Local 0.5 to 1.0 meter sections with strong chlorite, soft and foliated, sheared chloritic zones. Foliation @..... Chloritic zones contain up to 30% qtz carb veining, veins range from 0.5cm to 20cm wide, sharp contacts between chloritic zones and grey hard rhyolite. Numerous light green bleached zones on a 3cm to 30cm scale. Overall 10% Qtz-carbonate veining at various angles to CA. As you proceed downhole past 50 meters rock is becoming greener, more mafic looking with local 10cm zones of white elongate xls (qtz-carb?). 63.0-63.4 Bleached zone. 64.0-78.0 10% 6.5cm to 20cm white qtz veining. 5% 2mm to 5mm Qtz-carb veining and blotching.	30 50	Generally weak to moderate incipient chlorite, local very strong chlorite. Chlorite increasing downhole. 64.0-78.0 «STGR CHL» Local strong chlorite associated with qtz veining.	Trace diss cubic Py.	Possibly silicified mafic but looks like QE'D RHYOLITE with an QES. Check Geocheas! May indicate stockwork chlorite alteration. Silicification? Getting feeling its more likely silicified mafic than Rhyolite.

MINDVA INC.
DRILL HOLE RECORD

HOLE NUMBER: ML-06

DATE: 27-November-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CAI	ALTERATION	MINERALISATION	REMARKS
81.10 TO 92.80	RHYOLITE BRECCIA «RHYO BX»	Grey fgr and brecciated, irregular light grey felsic fragments. Set in a mm scale chloritic stockwork. 5% white Qtz veining from 0.5cm to 5cm wide 2 to 3% irregular to discontinuous Qtz-carb veining and blotching. Gradational upper and lower contacts.		Local 5 to 10cm chloritic zones.		Looks like Rob's Rhyo BX!
92.80 TO 114.30	ALTERED MAFIC «ALT MA»	Dark green fgr very soft and foliated @ 95.5-95.8 1% tiny blue round Qtz Xlls (QES?) 98.2-98.6 Bleached fragmentally silicified zone. At 104.0 1% tiny blue Qtz Xlls (eyes?)	60	Strong chlorite.	«5% PY LOCALLY» 1% diss to bleby Py locally 5% Py over 0.5 meters.	Is this QE'D Rhyo - DOUBT IT!
114.30 TO 117.60	SPHERULITIC RHYOLITE «S. RHYO»	Grey fgr massive but not too hard. 75% 3mm subrounded grey siliceous spots (spherulites?) Set in a fgr chloritic matrix. One-1 to 2mm blue round QE observed. Upper and lower contacts gradational over a few cms.		Moderate inter-spherulitic sericite.		Not quite normal spherulitic texture (variolitic ?) Spherulitic Dyke?
117.60 TO 171.00	ALTERED MAFIC «ALT MA» E.O.H.	Dark green fgr to mgr soft and moderately foliated. 5 to 10% 1mm to 2cm Qtz-carb veinlets predominately cutting mafic @ 135.1-135.6 «HYAL BX» Hyaloclastite, irregular chlorite frags in a lighter green fgr matrix. 138.0-141.1 30 to 50% 1mm to 3mm light greeny beige spots (relict feldspar Xlls?) At 144.0m 20% 2mm to 1cm Qtz amygdules.	65	117.6-171.0 «STGR CHL» Strong chlorite.	Trace diss Py + Po. 120.2-120.3 10% m stringer + diss Py. 134.9-135.1 «5% PY» 5% diss bleby diss Py. 135.1-135.3 «5% PY + PO» 5 to 1% bleby diss Py + Po. 144.9-145.0 «10% PO, PY STRGS» 10% stringer to bleby Po + Py.	Overall unit looks like chloritic mafic cut by carbonate stringers with minor sulphides.

HOLE NUMBER: ML-06

DRILL HOLE RECORD

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HOLE NUMBER: ML-06

MINNOVA INC.
DRILL HOLE RECORD

DATE: 27-November-1987

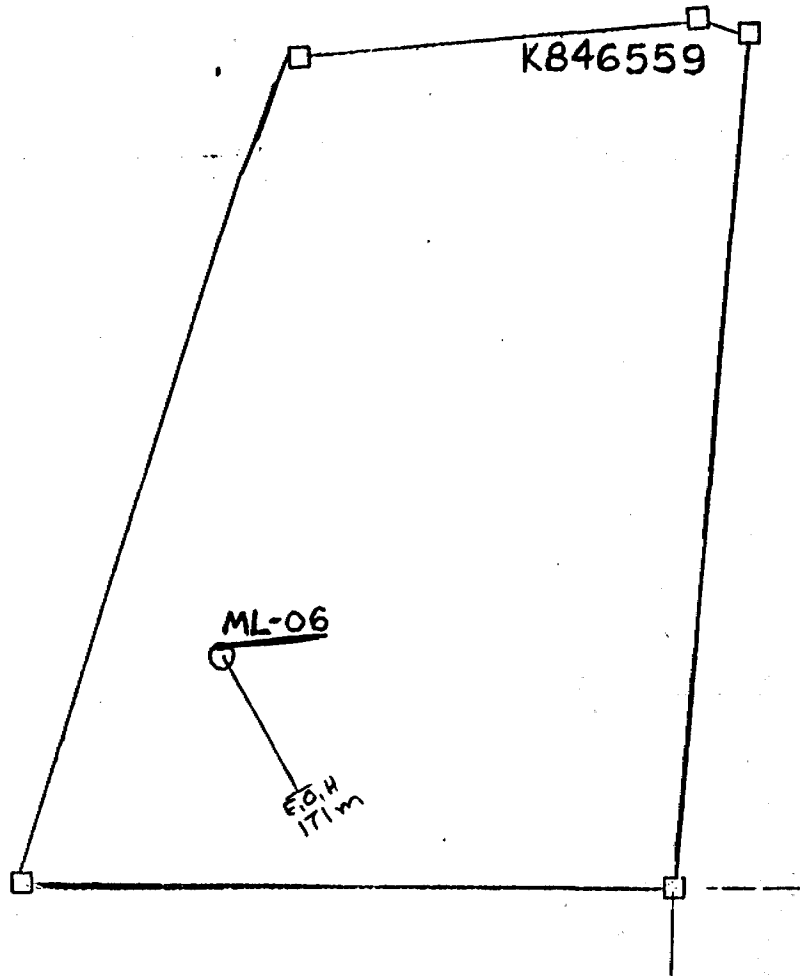
FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE (TO CA)	ALTERATION	MINERALISATION	REMARKS
		149.3-149.8 20% 3 to 5mm Qtz anhydrites.				
		150.4-152.0 «HYAL BX» Hyaloclastite breccia 2mm to 2cm irregular chloritic frags in fgr lighter green epidote rich matrix. Minor carbonated spots (anysgs?)				
		152.6-153.6 30% 1mm to 5mm irregular to subrounded light green spots (epidote?)				
		161.5-161.8 40 to 5% 1 to 3mm - greeny sub-rounded spots (Ep?)				
		163.8-164.0 Similar to section 161.5-161.8.				
		165.3-165.7 Similar to 161.5-161.8.				
		End of Hole.				
						164.8-165.0 «15% PO + PY» 10% discontinuous stringer to bleby Po 5% diss bleby Py

HOLE NUMBER: ML-06

DRILL HOLE RECORD

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SWELL BAY
DRILL PLAN



Am B. S. S.

HOLE NUMBER: ML-07

KINNOVA INC.
DRILL HOLE RECORD

DATE: 21-September-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CAI	ALTERATION	MINERALISATION	REMARKS
0.00 TO 2.30	OVERBURDEN «CASING»	Sand and boulders.				
2.30 TO 11.90	SPHERULITIC RHYOLITE «S. RHYD»	Grey to green (blotchy) fgr. to cgr hemorrhoidal spherulitic rhyolite. 1 meter zones 60 to 75% 0.5cm to 3cm sub rounded grey globular spherulites set in a fgr soft inter-spherulitic chlorite matrix alternate mild 0.5 meter zones of predominantly massive chlorite containing carbonate blotching. 6.6-7.7 Mg, massive, green quite soft and contains 10% black biotite flakes.		Strong chlorite matrix to massive chlorite.		Same texture as hemorrhoidal rhyolite in ML-3 and ML-4. Possibly dyke.
11.90 TO 144.00	ALTERED MAFIC «ALT MA» E.O.H.	Dark v.fgr. massive to locally foliated and very soft, cut by 10% locally up to 30% erratically oriented qtz-carbonated veining and blotching. Very locally minor small sub-rounded bluey qtz enygdules. Foliated - sheared zones within unit are most intensely chloritized sections. Foliation (shearing) θ 0 45 30.9-32.2 «INT DY» Intermediate Dyke. Grey to bluey green massive moderately hard containing 10 to 20% fine biotite Ills. Upper and lower contacts θ 45 32.2-33.0 25% discontinuous, erratic 1 to 3cm wide carbonate veinlets in a v. fgr. chlorite matrix. 36.5-41.5 20% 2cm to 3cm erratic, discontinuous qtz-carbonate blotching and veining (wispy habit). 48.3-49.5 «HYAL BX» Hyaloclastite breccia? Appear to be mafic bx containing 1 to 3cm frags crudely aligned, defining a foliation θ 45 Ill defined contacts. 60.0-63.0		Very strong chlorite.		 Possibly narrow mafic bx sub unit. «1-2% NT» Overall - 1 to 2% fgr magnetite.

HOLE NUMBER: ML-07

DRILL HOLE RECORD

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HOLE NUMBER: HL-07

MINNOVA INC.
DRILL HOLE RECORD

DATE: 21-September-1987

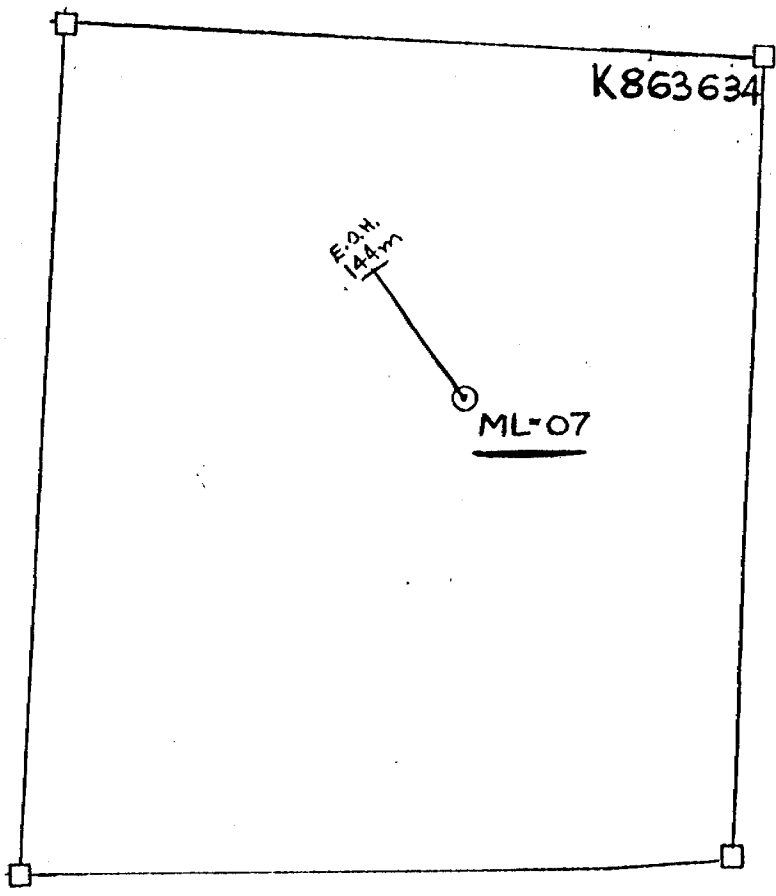
FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CAI	ALTERATION	MINERALISATION	REMARKS
		Locally moderately magnetic. Locally pseudo-brecciated, frags - pseudo-frags - epidotized.				
		78.0-92.5 «HYALD ZONES» 20cm to 0.5m zones of hyaloclastite - pseudo hyal breccia and zones from 5cm + to 30cm of intense 2 to 5mm scale sub angular Ep spotting within generally altered to locally fresh looking mafic. Hyalo-bx zones contain wispy chloritic frags, mm to cm scale wispy carbonate blotches and minor Py. - Epidote zones contain 30 to 70% 2 to 5mm epidote spots in a fgr chloritic matrix.		Local very strong chlorite.		
		92.5-98.5 Strong epidote spotting intermittently over 6.0 meters, 10 to 15% irregular 2 to 5mm carbonate veining.		Very strong chlorite.		82.5-84.0 «2% PY, 1% PO» 2% diss Py + 1% bleby Po associated in 1 to 2cm by 5cm clusters.
		108.0-113.0 10% 2 to 5mm subrounded qtz-carbonate anygs.				114.3-114.5 «10% PO» 10% bleby Po associated with carbonate veining.
		115.5-128.0 25% very irregular 1mm to 1 to 3cm wide qtz carb veining + blotching.				
		125.5-127.5 Very frothy - up to 40% 1mm to 1cm subrounded to irregular qtz-carbonate anygdules.				116.0-116.9 «5-10% PO + PY» 5 to 10% Po + Py associated with carb veining.
		128.0-131.0 Pseudo brecciated hyalo -anygdaloidal		Very strong stringer chlorite.		At 131.0-131.0 «3-4MM SPH» 3 to 4mm wide deep brown sphalerite stringer rimmed by carbonate.
		131.0-144.0 Lighter green foliated to pseudo brecciated altered mafic.		Very strong light green (bleached) chlorite.		
		End of Hole.				

HOLE NUMBER: HL-07

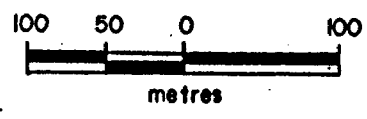
DRILL HOLE RECORD

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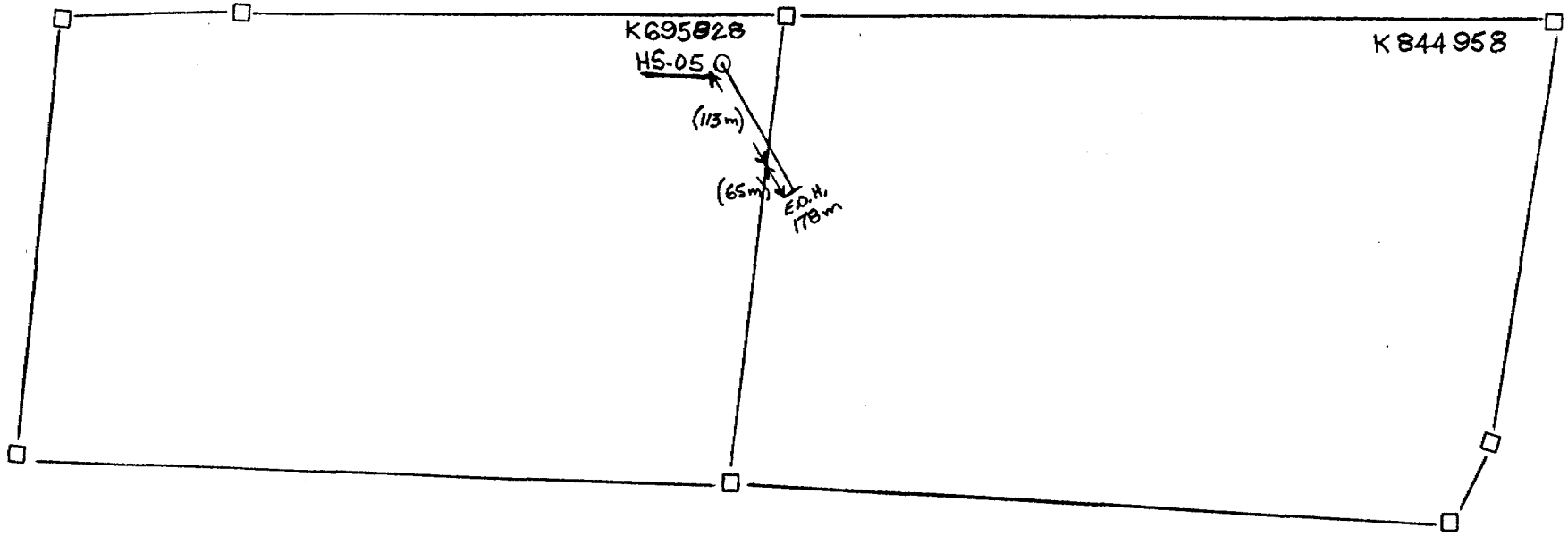


SWELL BAY
DRILL PLAN



7 m Data

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		containing 10% 3mm biotite ill's.				
		126.7-127.1 Pyrite-magnetite bed containing 36% silicified mafic host.			126.7-127.1 40% Py + 30% agt 40% fgr diss to bedded Py 30% massive bedded magnetite.	
		Sharp contact at 126.7 @	45			
		Sharp contact at 127.1 @	30			
		127.1-129.3 «QFP DYKE» Altered QFP Dyke. Fgr black groundmass peppered with 50% sub-rounded 1 to 3mm ill's. 1 to 2% 2mm round blue QES. phenocrysts set in fgr soft black chlorite matrix.		127.1-129.3 «STB SER» Strong sericite.		Doesn't look like normal QFP Dyke!
		129.3-131.3 Pillowed mafic containing distinct pyritic pillow selvages.			5% diss Py, only found in pillow selvages.	
		131.3-132.4 «QFP DY» QFP Dyke. - grey, massive and relatively soft.		131.3-132.4 «STB SER» Strong Sericite.		
		Sharp contact at 132.4 @	70			
		132.4-176.7 Fgr greeny grey amygdaloidal mafic, locally hard and silicified. Overall-5% 2mm to 2cm creamy white subrounded amygdules. Locally 2 to 4mm sub-rounded blue qtz amygs. Mottled light green irregular patching, lighter green mottling softer than bluey-green silicified mafic.		Moderate chlorite. Local strong sericite.	1% Py as distinct 1cm wide stringers or interpillow sed.	Very mottled heterogeneous look!
176.70 TO	QED					
178.00	RHYOLITE	Grey massive fgr hard QED Rhyolite containing 1 to 2% small 1 to 2mm blue QES.				Not sure if QED RHYD - check geochem.
	«QED RHYD»	- Can't put finger on contact.				
	E.O.H.	End of Hole.				



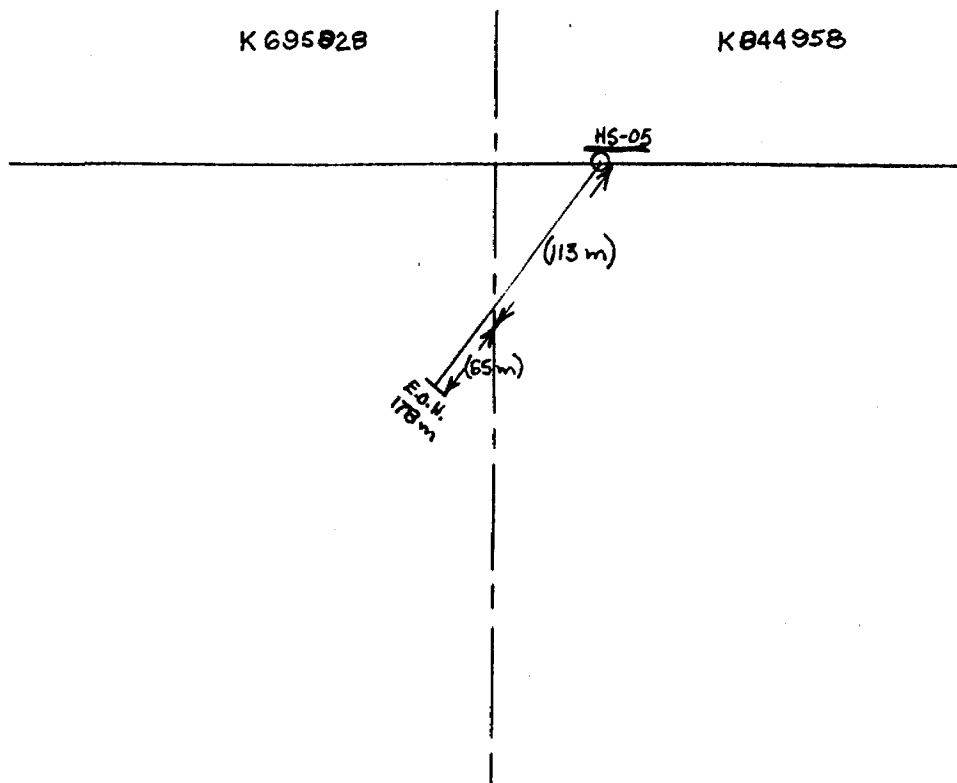
SWELL BAY
DRILL PLAN

100 50 0 100
metres

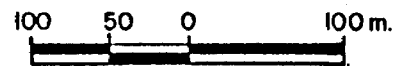
Franklin

K 695 028

K 044 958



SWELL BAY
DRILL SECTION



Free Dated

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 2.10	DVERBURDEN «CASING»	Sand and boulders.				
2.10 TO 113.50	DE'D RHYOLITE «DE'D RHYO»	<p>Grey to greenish grey fgr to mgr hard (siliceous) and massive to foliated and relatively soft (altered) containing 10 to 20% 1 to 2mm round blue RES.</p> <p>Local concentrations of up to 20% surrounded to irregular 2mm to 3cm qtz-carbonate blotches (amydules).</p> <p>Cut by 1cm to 10cm wide qtz-carbonate veins - these lower veins occur a few to 10 meters apart and are oriented sub-parallel to 90 degrees to CA.</p> <p>Some veins contain 10% 1 to 2mm dark green mafic.</p> <p>Altered zones in DE'D Rhyolite are foliated @ ...</p> <p>28 to 28.5 Well foliated DE'D Rhyolite, soft.</p> <p>40.0-47.0 Hard grey fresh amygdaloidal DE'D Rhyolite.</p> <p>At 45.7 - pinky stain over a few cos (Heaetite?)</p> <p>53.0-55.3 Light grey (bleached) fgr. DE'D Rhyolite containing 20% tiny round 1mm blue RES and 10 to 15% flattened hard magnetite - clots from 2mm to 2cm long (length to width ratio of 5:1). Mgt - clots aligned parallel defining a foliation @</p> <p>A few larger mafic Xlts associated with qtz carbonate.</p> <p>55.3-60.6 «QTZ-BIOT DYKE» Quartz-Biotite Dyke - dark grey mgr qtz-biotite porphyritic dyke. 30% 1 to 3mm biotite Xlts. 40% 2 to 5mm Qtz Xlts Set in a mgr biotitic-qtz matrix. Foliated @</p> <p>Upper and lower contact zones bleached and fgr over 0.5 and 1.0 meters respectively.</p> <p>Ca scale qtz-carbonate veingin parallel to contact helps make contact 55.3 meterd @</p>	<p>Local strong sericite associated with foliated zones.</p> <p>Alteration cones and goes in 2 to 5 meter wide zones.</p> <p>50</p> <p>28.0-32.5 «STRONG SER» Strong sericite.</p> <p>60</p> <p>45</p> <p>60</p> <p>25</p>			<p>Check geochem. MSD 3116.</p> <p>Check geochem. MSD 3117.</p> <p>12 diss bleby Py.</p>

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	(SAMPLE ID CA)	ALTERATION	MINERALISATION	REMARKS
		10cm wide qtz carbonate vein marks contact at 60.6 @	20			
		64.0-64.6 @ «BIOT PORPH DY» Biotite Porphyritic Dyke. 30% 1 to 2mm black biotite flakes set in a fgr fabric matrix. Both upper and lower contacts @	45			
		64.6-110.0 Fgr to agr grey hard fresh looking Qe'D Rhyolite containing 20 to 25% 1 to 2mm round blue QES, massive to weakly foliated @	60			Eric's plunging pits on surface.
		10% 2cm to 20cm Qtz-carb veining. 3 to 5% 3mm to 3cm irregular to subrounded carbonate spots (amys).				
		110.3-111.1 Qtz-carbonate vein, white-grey qtz containing 40 to 50% large anhedral to euhedral lca carbonate xls.				
113.50 TO 120.50	TUFFACEOUS TO EIXHALITE «TU EXH»	Grey to brown to greeny fgr to agr. and well foliated to banded, locally looks fragmental. Appear to have zones of sulphide sediment and barren tuff (sed) to lapilli tuff alternating with massive rhyolite. - small grains 1mm or less of magnetite associated with massive rhyolite zones. The non massive foliated to banded zones foliated @	45 to 60	113.5-115.5 Very strong sericite.	Locally sphalerite associated with seds beds.	Possibly just a shear zone.
		Locally appears bedded @	60			
		113.5-115.8 Lap Tuff - ash tuff., locally 5cm x 1cm frags or boudinaged beds?		Strong sericite and moderate to strong chlorite.	115.5-115.8 2 to 3% diss bleby Py.	Not great looking sed. or tuff.
		115.5-115.9 Grey fgr well bedded sediment, bedding @	65		Overall 1% sphalerite in one 0.5cm bed containing 5 to 10% brown sphalerite.	
		contains one 0.5cm wide sphalerite soaked bed.				
		115.9-117.1 Relatively massive felsic, quite hard peppered with 5% 1 to 2mm black magnetic xls (magnetite?)			1 to 2% diss cubic Py. Trace sphalerite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE (TO CA)	ALTERATION	MINERALISATION	REMARKS
		Fragmental looking.				Contact at 150.4 meters questionable.
150.40 TO 150.50	MASSIVE SULPHIDES «MS»	Massive bedded Pyritic Sed.			Py + opt «Py-15%, Po-5%, Mt-30%»	Stringer Sphal 3% to bedded.
150.50 TO 150.80	QE'D RHYDLITE «QE'D RHYD»	QE'D RHYDLITE LOBE.				
150.80 TO 150.90	MASSIVE SULPHIDE «MS»	Massive bedded pyritic Sed.			Py + Mgt «20% Py, 20% Mt»	
150.90 TO 171.30	ALTERED ? AMYGDAL- OIDAL MAFIC «MA»	Greeny-grey fgr and intensely amygdaloidal, locally up to 70% 2mm to 5mm subrounded qtz amygdules. Moderately foliated @ Locally bleached. - no DES. 162.5-168.5 Greeny-grey fgr. weakly amygdaloidal. - looks different from mafic above and below - gradational contacts	60	Moderate chlorite.	151.0-151.1 10% < 1mm x lls opt, 10% fgr Py»	Not sure if mafic. Check geochem sample MSD-3121. Check geochem. MSD-3122 Could be dyke!
171.30 TO 174.20	DP - DFP «DFP»	Bluey-grey fgr to mgr massive to weakly foliated and very hard containing 5 to locally 25% subrounded blue DES and 2 to locally 15% sub anhedral pinky-white feldspar Xlts. Appears amygdaloidal. Contact at 171.3 @ Can't tell exactly where contact at 174.2 is (can narrow it down to 10 to 20cm).	65	Weak incipient chlorite, moderate an stringer chlorite.	2 to 3% lss to lca stringer fgr Py.	Check geochem. 3123.
174.20 TO 192.50	ALTERED MAFIC «ALT MA»	Greeny grey fgr amygdaloidal mafic, locally very frothy, preeminantly (2mm to lca) white qtz-carbonate amygdules (locally up to 30% over 0.5m). 5% qtz-carbonate veining from 2mm to 8cm wide at various angles to CA.		Moderate to locally strong chlorite.	2 to 3% Pyrite as 2mm to lca stringers and bleby concentrations of fgr Py. At 281.5 1 to 2cm scale reddish-brown irregular sphalerite blebs associated with qtz- c carb veining.	

MINNOVA INC.
DRILL HOLE RECORD

DATE: 13-October-1987

HOLE NUMBER: HS-06

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
192.50 TO 195.80	BE'D RHYOLITE «BE'D RHYD»	Green-grey fgr locally very hard to very soft, locally but predominantly foliated @ 2 to 3% 1 to 3mm - subrounded to ellipsoidal blue QES. 3 to 5% qtz-carbonate veining. 2 to 3% 1 to 3mm qtz-carbonate amygs?	70	Local strong chlorite and sericite.	3% fgr diss to aa scale stringer Py.	
195.80 TO 205.10	ALTERED MAFIC «ALT MA»	Greeny-grey fgr amygdaloidal metric, locally light grey (silicified) cut by 10% aa to ca scale qtz-carbonate veins at various angles to CA. 199.0-201.3 «FELS DYKE» Felsic Dyke - grey agr hard qtz - biotite dyke. Foliated @ Sharp contact at 199.0 marked by 10 to 20cm wide silicified zone - contact @ Contact at 201.3 marked by pinky-pyritic qtz vein contact @ 201.3-205.1 Well foliated locally silicified bands a few cm wide parallel to foliation @	65 65 80 65	Moderate to local very strong chlorite	Minor Py associated with Qtz-carb veining. 3% fgr diss to bleby Py. At 203.8 0.5 to 1cm wide qtz-pyrite vein subparallel to CA (50% qtz-50% Py).	
205.10 TO 258.50	SPHERULITIC RHYOLITE «S RHYD»	Light greeny-grey fgr to agr and predominantly very hard with prominent rice crispy py texture. Quite sharp contact at 265.1 @ First few meters kink of mottled and heterogeneous looking, pseudo DP texture, weakly amygdaloidal 2 to 5% 2 to 5mm. Subrounded beige qtz-carb amygdules. Amygdules dissappear by 216.5 meters. 217.9-219.2 «ALT QFP DY» Altered QFP DYKE Dark green-white speckled. 30% relict anhedral feldspar Xlts and 5% 2mm-subrounded to round 2mm bluey QES in a fgr mafic looking groundmass. Weakly foliated, defined by sub-parallel	70	Local moderate. Sericite in core foliated, less massive zones. Moderate inter-pheno chlorite.	Trace diss Py.	Contact zone.

HOLE NUMBER: HS-06

DRILL HOLE RECORD

LOGGED BY: B. NELSON

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HOLE NUMBER: HS-06

MINNOVA INC.
DRILL HOLE RECORD

DATE: 13-October-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	(ANGLE) (TO CAI)	ALTERATION	MINERALISATION	REMARKS
		alignment of feldspar Xlls @	70			
		Sharp upper and lower contacts @	70			
		229.5-234.4				
		Qtz-carb veining containing dark bluey-black				
		mineous - no Xlss form-hard (tore?).				
		By 254 meters unit looks more like bleached pale				Likely a weird spherulitic texture.
		blue (paste) O.P. but pseudo QES.				
		By 258 meters spherulitic texture has				
		disappeared.				
258.50 TO 260.60	QFP DYKE «QFP DY»	Pinky-beige massive and predominantly hard		Moderate to strong sericite.		QFP Dyke with left (sinstral) offset
		containing up to 50% 2mm to 1cm subrounded bluey				on surface at PA Cu.
		grey to reddish (hematite stained).				Don't see FPS - altered to sericite.
		Qtz pheno crystals in a fgr pinky-beige sericitic				
		groundmass?				
		Sharp contact at 258.5 @	70			
		Sharp contact at 260.6 @	80			
260.60 TO 343.70	PERVASIVE ALTERED MAFIC «PERV ALT MA»	Greeny grey fgr relatively soft to very soft,		Strong sericite, local strong chlorite		
		amygdaloidal to intensely amygdaloidal (frothy)				
		and well foliated @	65			
		260.6-262.5				
		Frothy amygdaloidal mafic, well foliated @	60	Strong chlorite.		2% 0.5cm wide stringer Py.
		25% 3mm to 1cm subrounded Qtz amyg. >				
		predominantly bluey Qtz.				
		262.5-262.8 «FLT»				
		Fault zone.		Strong chlorite.		5% Py.
		- blocky and broken				
		Brecciated contacts but look to be about	75			
		262.8-264.2				
		Light grey, intense milky-white Qtz-carb-veining,		Strong sericite.		1 to 2% diss Py.
		predominantly @	70			
		264.2-264.4 «MS»				
		Massive sulphide stringer.		Strong sericite.		262.2-264.4 «80% Py»
		80% py and 20% altered sericite-carbonate host.				113ppm Cu
		Sharp upper and lower contacts @	80			132ppm Zn
						7.6ppm Ag

HOLE NUMBER: HS-06

DRILL HOLE RECORD

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HOLE NUMBER: HS-06

MINNDVA INC.
DRILL HOLE RECORD

DATE: 13-October-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE DIP CAI	ALTERATION	MINERALISATION	REMARKS
						8ppb Au
		264.8-266.7 «PY + SER» Pyritic - sericitic zone. Well foliated @	80	Strong sericite.	264.7-264.8 50 to 60% Py in strongly sericite host 10% Py as fgr stringery blebs minor Po	
					266.2-266.3 5% aa stringer fgr light brown sphalerite 10% stringer Py	
					269.2-269.5 Pyrite soaked mafic 20 to 30% fgr diss Py.	
		270.0-271.0 «PY + SER» Pyrite-sericite zone.			30% fgr. bleby to 2 to 3cm stringer Py	
		271.8-272.2 «SHEAR ZONE» Fgr dark greeny banded with grey on a 1 to 3cm scale @	90	Strong sericite +/- chlorite.	1 to 2% diss Py.	
		Locally brecciated (kinked).				
		Sharp contact at 271.8 @	85			
		Sharp contact at 272.2 @	80			
		272.2-315.2 Well foliated altered amygdaloidal mafic, intense foliation @	60	Strong chlorite and sericite.	Minor Py and Po - 1% combined. Trace sphalerite associated with Py stringer at 283.3 meters.	
		Amygdule content decreasing and more sporadic as you proceed downhole.				
		Minor Qtz-carb veining on a 2cm to 2cm scale.				
		300.2-300.3 Felsic Dykelet - light beige with a pseudo- spherulitic texture.				
		Upper and lower contacts @	65			
		303.4-306.0 Felsic Dyke? - altered.		Strong Chlorite.		
		Grey-green, fgr and soft.				
		10% 2 to 5cm Qtz-carb veining.				
		310.5-311.5 Intensely amygdaloidal and altered mafic (very soft)		Very strong sericite and chlorite.		
		- minor Qtz-carbonate veining.				
		315.2-315.8				

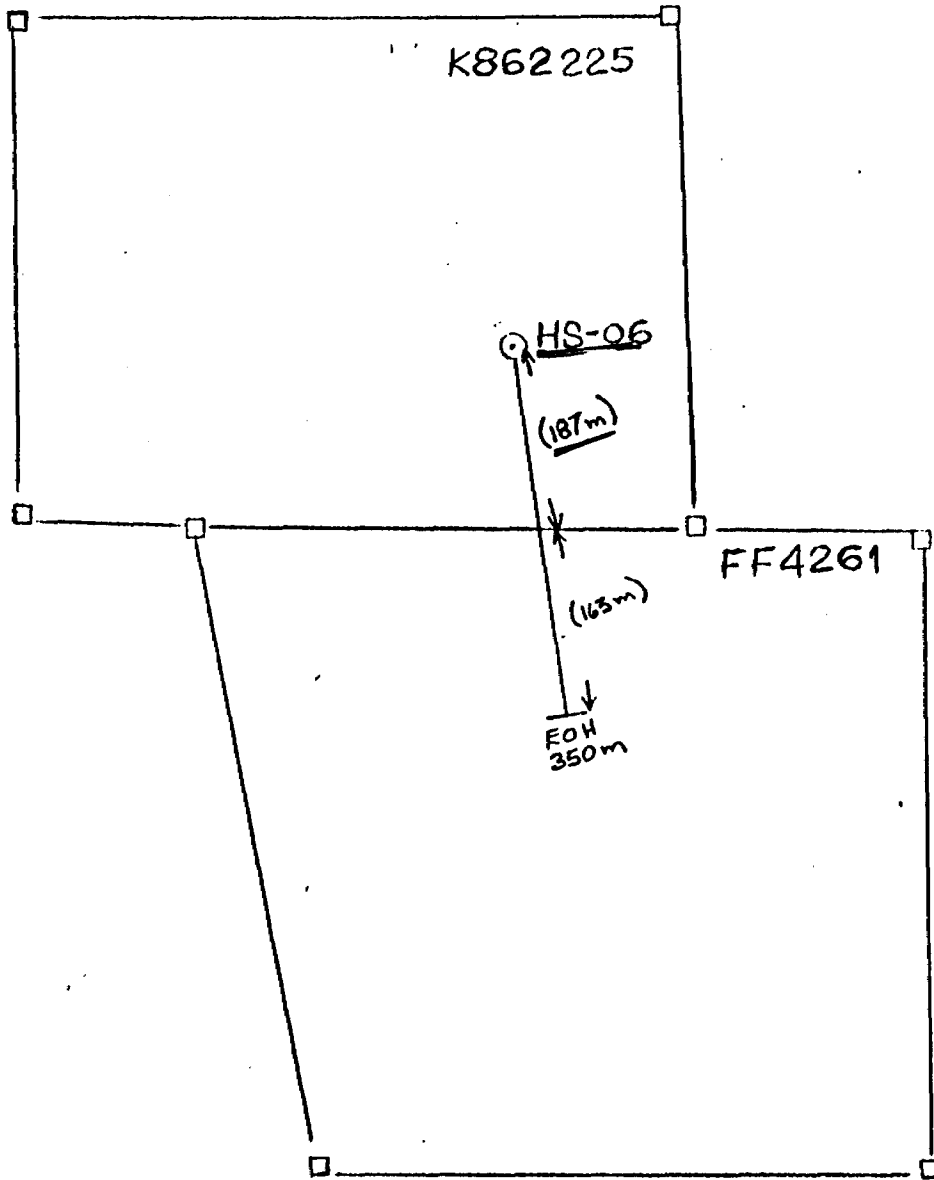
HOLE NUMBER: HS-06

DRILL HOLE RECORD

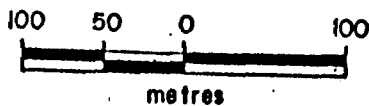
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		Felsic Dyke - grey fgr. massive, and hard to foliated @	80			
		Sharp upper and lower contacts @	80			
		315.8-316.1 Altered Amyg Mafic.		Strong chl + sericite.		
		316.1-317.9 Felsic Dyke ? (Altered) Fgr grey and quite soft.		Strong sericite.		
		317.9-320.7 Altered amygdaloidal mafic. Well foliated @	70	Strong chlorite.		
		320.7-327.0 «GB DYKE» Gabbro Dyke. Greeny grey agr., massive moderately magnetic dyke. 5% Qtz-carbonate veining. Contact at 320.7 gradational over 10cm. Contact at 327.0 @	65	Moderate chlorite.		
		327.0-343.7 Altered amygdaloidal mafic. Locally up to 30% 2mm to 1cm Qtz-carbonate amygdules over 0.5 meters. Foliated @ 3 to 5% Qtz-carbonate veining.	60	Strong chlorite.		
343.70 TO 349.70	«QE'D GB» E.O.H.	Greeny grey agr massive and fresh, good salt and pepper texture. 10% light blue (foggy) 2 to 3 mm QES. Local epidote as 2 to 3cm wide stringers (1% Ep). 2 to 3% 2 to 5mm white Qtz-carb veining at various angles to CA.				
		End of Hole.				



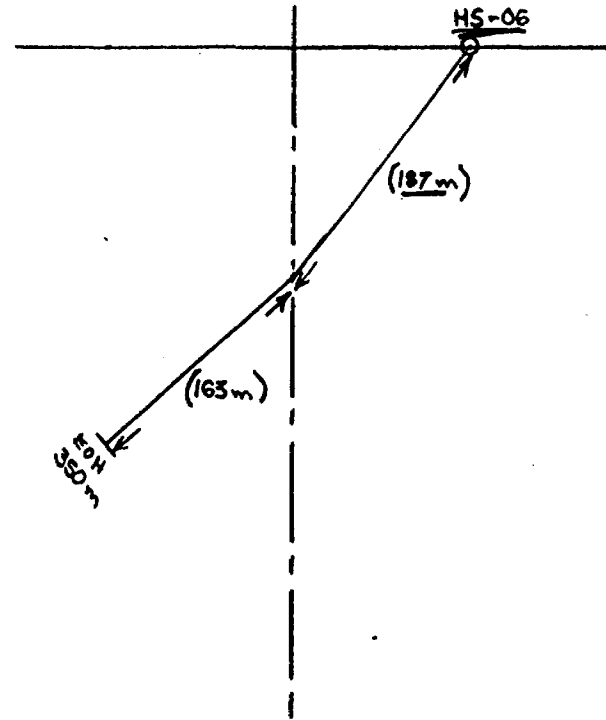
SWELL BAY
DRILL PLAN



For Bob...

FF 4261

K 862 225



SWELL BAY
DRILL SECTION



From Data

HOLE NUMBER: HS-07

MINNOVA INC.
DRILL HOLE RECORD

DATE: 14-December-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		Dark grey feldspar porphyritic dyke, trace blue glassy Qtz Xlls. Sharp intrusive contacts @	60			
		130.0-131.0 MAFIC DYKELET Well foliated @	60			
		- foliation kinked by mini-fault, feldspar porphyritic. Sharp contacts @	60			
		131.0- 139.0 Pronounced rice-crispy to cauliflower spherulitic and texture.				
		139.7-140.3 Blocky-broken core, looks drill induced.				
143.00 TO 165.40	QP-QFP QFP	Heterogeneous mixture with pronounced variations in colour grain size and texture, change in texture over 10ca to a few meters. Colour varies from grey to green to pinky-red, cgr to mgr to fgr, massive to intensely foliated.		«Ser-Chl» Local moderate to strong sericite or chlorite.	Trace diss cubic Py in some sub units.	QP-QFP DYKE Swarm mixed with QE'D Rhyolite and non QE'D Dykes (flows).
		143.0-149.7 Bluey grey to greenish, bleached light beige in first meter, mgr to cgr. massive and quite hard. 30% 3mm subrounded blue QES. Locally 10% 1 to 3mm anhedral mafic Xlls that are moderately magnetic. Sharp contact at 143.0 @	45			Sharp contact at 143.0 indicates intrusive.
		145.1-145.4 Grey cgr massive hard QFP. Quite sharp upper and lower contacts.			Tr diss Bleby Py.	Cgr QFP within QP.
		148.9-149.0 SERICITIC DYKELET Narrow well foliated beige altered dykelet. Sharp upper and lower contacts @	65			
		149.7-150.3 Non QE'D felsic inclusion? Grey fgr to mgr massive, relatively soft with no QES. Sharp upper and lower contacts @	70	Moderate to strong thread like sericite.		
		150.3-150.7 MAFIC DYKELET (Zenolith?) Dark green fgr and soft and well foliated @	70	Strong chlorite.	IZ diss Py.	

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DRILL HOLE RECORD

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HOLE NUMBER: HS-07

MINNOVA INC.
DRILL HOLE RECORD

DATE: 14-December-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		20% qtz veining parallel to foliation. Sharp contact at 150.7 @	70			
		150.7-152.6 «DP Dyke» Grey cgr to mgr hard and massive. 10 to 50% 2 to 4mm blue QES. Cut by 2 fgr felsic dykelets. 2cm and 4cm wide - both have contacts at 70 degrees to CA. Very siliceous plus grey qtz veining in first 0.5 meters. Minor white carbonate blotching.			Trace to 1% diss cubic Py.	Looks intrusive.
		152.6-153.0 FELSIC DYKELET Beige-grey fgr moderately soft and foliated @ ... no QES. Sharp upper and lower contacts @	60			
		153.0-153.4 FELSIC DYKE? (Zenolith). Grey to beige mgr and well foliated @ First 10cm cgr qtz-chlorite breccia, 1 to 3cm irregular grey quartz fragments sitting in a fgr chlorite matrix. Sharp contact at 153.4 @	60			
		153.4-154.0 Grey mgr massive and hard containing 5 to 10% pseudo QES. 75% 2 to 5mm angular grey to white qtz Xls in a fgr chloritic matrix. 10% 2 to 3mm long light brown feathery mineral.				What is this light brown mineral?
		154.0-155.0 Grey, mgr and foliated @ 2 to 5% 1 to 3mm blue QES.	60		1% diss Py.	
		155.0-156.7 Similar to section - 153.4-154.0.				
		156.7-159.5 Grey mgr and foliated @ 5 to locally 25% 1 to 3mm rounded blue QES. 0.5 meter section contains 10 to 15% 1mm anhedral black mafic Xls (weakly magnetic).	60		1% bleby Py.	
		159.5-160.2 Similar to section 153.4-154.0.				

HOLE NUMBER: HS-07

DRILL HOLE RECORD

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		160.2-163.0 Grey to greeny to pink, foliated to massive and relatively soft containing 5 to locally 50% 2 to 4mm blue QES. Grades from well foliated in first 0.5 meters to green massive chloritic QP (central portion) to bleached pinky hard QP-QFP in last meter downhole. Foliated (bonded) contact at 163.0, contact @ ...	50	Moderate to strong chlorite.		Pinky-hematitic QFP looks like QFP Dyke at PA Cu!
		163.0-163.6 MAFIC DYKE Grey-black fgr-mgr and well foliated @ Weakly feldspar porphyritic near strat top. 5 to 10% 1 to 3mm anhedral black biotite phenos (from 163.3-163.6). Sharp contact at 163.6 @	60			
		163.6-165.4 Grey to locally pinkish, fgr, massive to foliated (banded) @	60		Overall 3% fgr diss Py.	
		Quite strong hematite staining from 163.6 to 163.9. Sharp contact at 165.4 @	60	164.8-165.4 Strong chlorite.	165.0-165.4 10 to 15% fg diss Py plus minor mgt.	
165.40 TO 241.80	FRESH GABBRD (QED 6D)	Green fgr massive and quite soft with a speckled texture, in first 2 meters. 30 to 40% 1mm white speckles, (retro-feldspar), proceeding down hole thru section overall 20% tiny 0.5mm white speckles (dusting of retro - feldspar) 5% very irregular oriented Qtz-carbonate veining. Rarely observed tiny < 0.5mm blue Qtz Xlls (don't really look like QES). Locally moderately magnetic. 189.5-192.7 Soaked with 10% tiny 0.5mm pinky anhedral Xlls (gnt?) - sphal? 197.6-201.0 Lighter green cut by 30 to 40% Qtz-carbonate veins and brecciated veins. 201.0-204.0 Fgr dark green mafic soaked with 10 to 15% 0.5mm		Moderate incipient strong chlorite.	Trace fgr diss Py.	Check geochem MSD-3165. Could be fgr QE'D GABBRD. No textures to indicate volcanic ie. (anygs). Check geochem MSD-3166. Fgr QE'D Gabbro?

HOLE NUMBER: HS-07

MINNOVA INC.
DRILL HOLE RECORD

DATE: 14-December-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		<p>pinky anhedral XlIs (gnt) (sphal ??) and 1 to 22 0.5mm - deep blue Qtz XlIs (QES?)</p> <p>214.4-215.1 White Qtz-carbonate vein containing 20% chloritic inclusions.</p> <p>239.3-239.4 Breccia - 2mm to 2cm subrounded to lozenge lighter green frags in chlorite matrix. Not sharp contact at 241.8</p>				
241.80 TO 246.60	SEDIMENT TUFF «TUFF»	<p>Light grey to green fgr, soft and well bedded (banded) on 2mm to 5cm scale, alternate light grey and green bands.</p> <p>Bedding @ 65</p> <p>Local pseudo spherulitic texture over a few cms (look more like boudinaged beds).</p> <p>246.6-246.65 Grey bedded chert.</p>		«Ser-Chl» Strong sericite and chlorite.	Trace cubic Py. Trace Cpy?	Lack of mineralization.
246.60 TO 247.00	CHERTY EXHALITE HYALOTUFF «CHTY EXH»	<p>Grey to beige to greeny grey fgr to mgr, cherty exhalative hyalotuff capped by a 1 to 2cm wide chert bed.</p> <p>20 to 30% aphanitic grey cherty frags (and or boudinaged beds) in a mgr moderately chloritic matrix.</p> <p>Contact at 246.6 @ 70</p> <p>Contact at 247.0 @ 70</p>		Moderate to strong interfragment chlorite.	2% diss cubic Py. Trace fgr diss sphalerite.	
247.00 TO 259.50	ALTERED QED RHYOLITE FLOW BRECCIA AND SEDIMENT (WITH CHERTY BEDS AND FRAGS) «QER»	<p>Fragmental and cherty sed flow breccia.</p> <p>Grey fgr to mgr, generally heterogeneous zone, predominantly frateental to frothy looking, locally massive to foliated.</p> <p>1x 1 to 3mm round blue QES.</p> <p>0.5 meter QED zones are possibly narrow dykes.</p> <p>Locally amygdaloidal containing up to 20% creamy white 1 to 5mm rounded qtz-carb amygdules.</p> <p>Within downhole half of zone we find 10 to 50cm wide interbedded sediments - chert and py + mgt</p>				

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DRILL HOLE RECORD

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HOLE NUMBER: HS-07

MINNOVA INC.
DRILL HOLE RECORD

DATE: 14-December-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CAI	ALTERATION	MINERALISATION	REMARKS
		beds.				
		246.7-253.2 Grey mgr locally brecciated (fragmental) to locally froth containing 1% 2mm rounded blue QES. Commonly foliated @ 60 1% weak to moderately magnetic 1mm black mafic XlIs (not magnetite) (-ilmanite?)		Moderate sericite.	1% Po + Py Trace sphalerite.	
		253.2-253.7 Grey vfg massive DE'D Rhyolite Amygdaloidal in uphole half of unit. 10X-2mm to 2cm creamy white elongated qtz-carb amygdules. Sharp contact at 253.2 @ 65 Gradational contacts at over 10cm at 253.7. 1% tiny black (weakly magnetic) mafic XlIs.			Trace diss and an stringer sphalerite.	
		253.7-254.2 Similar to section 246.7-253.2.				
		254.2-255.0 Similar to section 253.2-253.7 but no anygs.				
		255.0-256.7 Similar to section 246.7-253.2.				
		256.7-258.8 Similar to section 253.2 to 253.7 contains 10% 2mm to 2cm anygs over 0.5 meters.			No visible sphalerite.	
259.50 TO 262.20	DE'D RHYOLITE AND CHERTY PY BEDS. (EXHALITE BEDS). (DE BI-EXH)	Grey mgr massive amygdaloidal DE'D Rhyolite containing 3cm to 10cm wide cherty sulphide sed. (EXHALITE BEDS).				
		259.5-259.65 Chert-Py EXHALITE BED 70% chert, 30% sulphide 2 distinct sulphide beds 1 to 2cm wide, one feathers out into chert.			25% Py, 5% at, Tr sph	
		259.85-259.88 Cherty Hyalo-tuff Bed.			50% Py, 5% at, Tr sph	
		260.9-261.3 Cherty Hyalo-tuff Bed.			20% stringer to bleby Py	

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DRILL HOLE RECORD

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MINNOVA INC.
DRILL HOLE RECORD

DATE: 14-December-1987

HOLE NUMBER: HS-07

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE (TO CA)	ALTERATION	MINERALISATION	REMARKS
		262.1-262.2 Cherty exhalite hyalo tuff.			10% stringer to bleby Po 1% diss Sphalerite *10% Po, 10% Py, Tr sph*	
262.20 TO 264.50	QE'D RHYOLITE *QE'D RHYD*	Grey fgr massive hard to foliated and moderately soft containing 2mm blue QES mainly visible in aphanitic hard massive zones. 2 to 3% irregular Qtz-carb veining and blotching. Locally 10% creamy 1 to 3mm qtz carbonate amygdules.		Moderate sericite in foliated zones.	1% Po + Py Trace sphalerite.	
264.50 TO 265.70	CHERTY FRAGMENTAL HYALO-TUFF *CHTY TUFF*	Grey-green fgr to mgr with 25 to 30% 2mm to 3cm scale irregular cherty frags in a fgr QE'D matrix.			2% Py, 1% Po, Tr sph 265.5-265.7 10% Py	
265.70 TO 266.20	ZINC-RICH CHERT *ZN-RICH CT*	Sphalerite dusted chert bed. - grey to reddish grey vfg and very hard.			3 to 5% Po + Py, 3% Sph as disseminated stringers 3% fgr dusting of brown red sphalerite predominatly from 266.0 to 266.2.	
266.20 TO 273.80	QE'D RHYOLITE & SED BEDS *QER & EXH*	Grey to greeny to bleached QE'D. Rhyolite containing numerous sulphide sed beds, rhyolite generally foliated locally massive. Contacts between sed beds and QE'D Rhyolite @ ... 60 271.1-271.3 Cherty halo-tuff bed. 271.7-272.0 Creamy sed bed (chert?). 272.7-273.0 Creamy sed. bed (chert?). 273.3-273.4 Creamy Py - agt sed.		Patchy moderate sericite and chlorite.	Overall 1 to 2% Py 1% Po Trace sphalerite 2% agt. 5% Py, 5% Po, 1% sphalerite 5% Py, 5% Po, 5% agt, 1% sphalerite Trace Cp 10% agt, 5% Py, Trace sphalerite *70% Py, 10% Mt*	

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MINNOVA INC.
DRILL HOLE RECORD

DATE: 14-December-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CAI	ALTERATION	MINERALISATION	REMARKS
		273.6-273.8 Creamy (cht?) Py-Po sed bed.			*25% Py, 10% Po, 10% Mt*	
273.80 TO 292.70	AMYG MAFIC *AMYG MA*	Greeny-grey, fgr, relatively soft amygdaloidal mafic 10 to 15% 2mm to 2cm white to bluish qtz +/- carbonate amygdules, locally frothy-up to 50% amys. Foliated @	65	Moderate chlorite.	Overall 1 to 2% Po + Py as 5mm to 10cm wide interpillow sediment.	
		276.3-276.4 *Interpillow sediment* Interpillow sed?, bleached beige.			*3% Py, 2% Po, 5% Mt*	
292.70 TO 302.40	SILICIFIED MAFIC *SIL MA*	Bluey-grey fgr to mgr massive to foliated amygdaloidal silicified mafic with interpillow - (intro-lobe) sulphide rich sediment beds. Sharp contact at 292.7 @	60			Could be DE'D RHYO!
		292.7-294.5 *Cherty with sulphides* Cherty and sulphides.			*5% fg Py 5% Po as cm scale beds* (lozenges). 5% mgt associated with Py.	
		296.9-297.8 *HYALD* Sulphide rich Hyaloclastite breccia.			At 293.2 massive Po.	Very conductive.
		299.9-300.0 *MGT SED* Mgt rich bleached beige sediment.			5% Po, 5% Py as wispy blebs. 5% mgt	
		300.9-301.3 *SED* Banded sediment. Cherty + Pyritic beds on 0.5 to 1cm scale.			20% mgt. *5% Py + 5% mgt.*	
302.40 TO 402.40	AMYG DE'D RHYOLITE *AMYG BER*	Grey to greeny-grey fgr to mgr., generally massive, locally foliated @	60	Patchy moderate chlorite.		
		Generally moderately hard. Amygdaloidal and totally frothy. 1 to 2% 2mm to 5mm Qtz-carb veining.				
		305.5-305.8 White qtz-carb vein containing 2 to 3% black tourmaline xls.				

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MINNOVA INC.
DRILL HOLE RECORD

DATE: 14-December-1987

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CAI	ALTERATION	MINERALISATION	REMARKS
		Very irregular contacts.				
		309.5-311.9 Chlorite-Py zone. Chloritic and quite frothy, up to 40% 3 to 5mm sub rounded qtz and qtz-carb amygdules.		Strong patchy chlorite.	309.5-310.2 5% diss to bleby lozenge, possible 1.5cm wide fgr Py bed at 310.1 flanked by 2cm wide grey qtz (chert?) beds.	
		310.1 Possible chert-Py sed. bed.				
		311.9-314.2 «Felsic Dyke» Felsic Dyke. Grey fgr to mgr, quite soft and well foliated @ . Contains 10% qtz carbonate veining mainly one distinct 20cm wide vein and one 20cm length of irregular 1 to 3cm veinlets, vein contacts very irregular. Sharp contact at 311.9 @ Sharp contact at 314.2 @	65 80 60	Moderate sericite.	1 to 2% fgr diss Py.	
		312.0-314.0 Frothy - 25% amygdules.		Patchy chlorite.	2% fgr diss Py.	
		322.4-322.7 Bleached Pyritic zone.			322.4-322.7 25% vfg Py	
		329.4-330.0 Frothy and fragmental looking.			1% Py.	
		342-402.4 «Spherulitic» Mini spherulitic texture begins to appear at approximately 342m. By 354 meters well defined amygdaloidal spherulitic rhyolite. - low concentration of amygs within spherulitic phase of BE'D Rhyo - only 1 to 2% amygs. - 1 to 3% blue QES masked by spherulitic textures.		Moderate inter-spherulite sericite.		Gradational evolution from Amyg. BE'D Rhyol (locally frothy) to Spherulitic BE'D Rhyo (weakly amygdaloidal).
		381.7-384.0 10% 2mm to 20cm wide irregular qtz-carb veining.				
402.40 TO 404.00	BP DYKE «BP DY»	Grey-slightly pinky fgr massive and hard containing 35% 1 to 5mm subrounded grey qtz phenocrysts. Sharp contact at 402.4 @ Sharp contact at 404.0 @	80 80			Same Dyke as in HS-06.

HOLE NUMBER: HS-07

DRILL HOLE RECORD

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MINNOVA INC.
DRILL HOLE RECORD

DATE: 14-December-1987

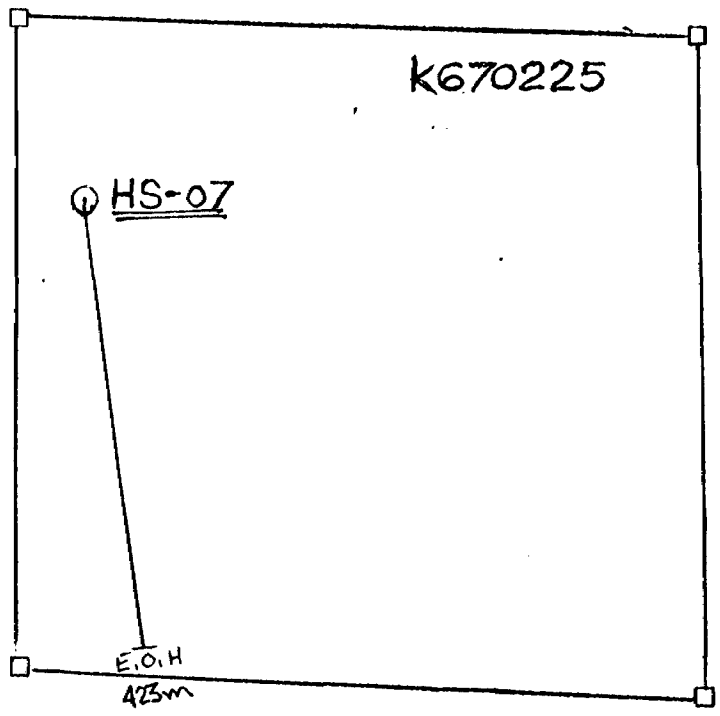
FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CAI	ALTERATION	MINERALISATION	REMARKS
404.00 TO 423.00	ALTERED AMYGDAL- DIDAL MAFIC «AMYG MA» E.D.H.	Green to grey-green fgr, soft and foliated @ Overall 10% lam to 10cm white Qtz-carb amygdules, locally frothy with 10 to 30cm zones containing 30 to 50% anags.	80	«Strong chlorite.»		
		404.0-406.0 Bleached zone - light grey with 10% anags, soft.		Strong chlorite.	404.0-410.0 1% on stringer Py.	
		406.5-408.5 Same as section 404.0-406.0.				
		408.5-411.4 10% 5cm to 10cm bleached silicified zones.				
		408.5-423.0 10 to locally 25% white Qtz-carbonate amygdules in altered mafic.		Strong chlorite.		
		End of Hole.				

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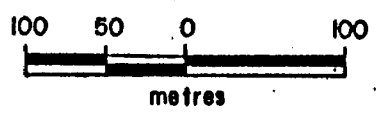
DRILL HOLE RECORD

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SWELL BAY
DRILL PLAN



From Bob's list.

HOLE NUMBER: HS-08

MINNOVA INC.
DRILL HOLE RECORD

DATE: 13-October-1987

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	(ANGLE) TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 5.40	DVERBURDEN «CASINGS»	MUD.				
5.40 TO 66.30	DE'D RHYOLITE «DE'D RHYO»	Grey with local zones from a few cm to a meter with a pinky-reddish stain (Fe, hematite staining) fgr to agr, massive to locally foliated @ and hard. 5.4-13.0 Intensely foliated to banded on a 0.5 to 1cm scale, core broken in 10 to 30cm long chunks, fracture parallel to foliation. Locally intense rust staining of fractures. 5% lam to 1cm qtz-carbonate veining generally parallel to foliation. At 12.3 - 4cm wide qtz-carb vein containing 5% tourmaline veining. Vein oriented @ This vein truncated by second 1cm wide qtz vein @ At 16.5 5cm wide qtz-carb + 5% tour oriented @ 17.0-19.0 Hematite (red) staining. 22.3-25.0 5% lam to 5cm wide qtz-carb with associated hematite (red) oriented @ 49.0-53.5 Pervasive Hematite staining. 57.9-58.2 30% Moray qtz-carb + chl veining. 59.8-60.5 Intensely foliated and altered, injected with 10% qtz-carbonate veining (locally 25%). Rusty (boundinaged) bands FeCoz ? 60.5-66.3 20% irregular blotchy 2mm to 5cm wide qtz-carbonate veining, numerous veins offset by minor faulting from 0 to 80 degrees to CA.	50 60 60 50	Strong sericite on fracture (foliation) planes. Strong sericite rims vein.	Trace bleby Py. Minor bleby Py.	Possible fault zone.

HOLE NUMBER: HS-08

DRILL HOLE RECORD

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA1	ALTERATION	MINERALISATION	REMARKS
		64.6-64.8 Very irregular Qtz-carbonate vein trending sub-parallel to CA. - cgr carbonate xls in Qtz.			Possibly SX dark brown cgr sphalerite.	May just be FeCo3.
66.30 TO 74.40	GABBRO «GB»	Dark green fgr massive with foliated contact zones @ Contains SX erratically oriented lam to lca Qtz-carbonate veins, trace to 1X tiny (lam blue Qtz Xls. Contact at 66.3 marked by 10cm wide brecciated Qtz-carbonate zone, contact @ Can't put your finger on contact at 74.4, contact ? marked by increase in banding and felsic component.	70 70			
74.40 TO 77.80	FELSIC PYRITIC SEDIMENT «FEL PY-RICH SED»	Grey to beige (intense bleaching over zones up to 0.5 meters) fgr and well foliated (banded) on 1 to 5cm scale @ Alternate very light and darker grey bands. Local brecciated Qtz injection zones. Intensely bleached zones from lca to 0.5 meters.	65	Strong sericite.	SX fgr silvery Py predominantly in an wide beds (stringers) parallel to foliation. Trace to 1X diss and stringer no.	Not sure if actually sediment or shear zone. Could be contact zone of aqy felsic flow below.
77.80 TO 183.60	ALTERED ANYG RHYOLITE «ANYG RHYD»	Grey fgr, quite soft and moderately to intensely foliated @ Amygdaloidal with the highest concentrations Qtz-carbonate, Qtz carbonate anygs from 77.8 to 90.0m, locally up to 30X 2mm to lca subround and amygdules overall. 77.8-93.0 5 to 10X 3mm to 10cm Qtz carbonate veining, commonly FeCO3 or hematite associated with veining. 82.8-83.2 «HEMATITIC SED» Grey to red, fgr and banded (bedded) on a 2mm to lca scale. Bedding @ Contact at 81.8 @ Contact at 82.2 @ 83.2-83.3 Mgr green gabbroic dyke.	65 70 70 70	«Strong ser»		SX diss Py in beds parallel to bedding

HOLE NUMBER: HS-08

MINNOVA INC.
DRILL HOLE RECORD

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		15% 2m to 3cm wide pinky-red qtz veining @	70			
		43.8-84.0 «HEMATITIC SED» Hematitic Sediment - similar to section 82.8-83.2				
		At 90.7 2 to 3cm wide qtz vein subparallel to CA.			Vein contains 3% Py and 2% Cpy.	
		95.7-96.0 Strong hematite staining.				
		97.0-98.5 36% 2 to 3mm subrounded pinkish hematitic sagdules.				
		105.9-106.0 Mineralized mini-shear-bx zone.		Strong sericite.	5% Py 1 to 2% splashy Cpy.	
		At 110.5 3 to 5mm wide light caramel brown stringer, possibly sphalerite?				
		112.1-112.9 Intense blocky broken core to foliated fractured core @	70	Strong chlorite.		Fault zone?
		114.9-115.15 «QTZ VEIN» Grey mineralized qtz vein - irregular contacts.			«6% large splashes of Cpy.» 1% Py	
		117.0-165.0 «D RHYOLITE - locally pronounced rice-crispy spherulitic texture.		Moderate to locally strong sericite +/- chlorite.	Trace to 1% fgr to agr diss. and stringer Py (stringers) up to 1cm wide. Trace blobby Cpy.	
		129.7-129.75 «PY BED? (STRINGER)» Narrow pyritic massive sulphide bed? (stringer). Contacts @	80		122.7-123.0 «5% CPY STRINGERS» 5% 2mm Cpy stringer cut S Rhyolite sub-parallel to CA. «70% fgr Py.»	
		At 155.4 2 to 3cm wide Qtz vein containing.		147.5-153.5 «5% CHL» Strong chlorite.	«5% cgr brown sphalerite.»	Similar to section 64.6 to 64.8.
		160.3-160.5 «SED BED» Greeny-grey fgr well banded (bedded) on a 2 to 5mm scale inter-flow sediment. Sharp upper and lower contacts and foliation @ ..	70	Strong chlorite.	«3 to 5% diss Py, 5% light brown sphalerite?»	
				160.3-169.5		

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DRILL HOLE RECORD

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MIMMOVA INC.
DRILL HOLE RECORD

DATE: 13-October-1987

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	(ANGLE) (TO CA)	ALTERATION	MINERALISATION	REMARKS
		167.0-168.4 Light green fgr with spotted (speckled) texture, 30 to 40% 1 to 3mm light grey subrounded spots.		Strong chlorite.		
		168.9-169.5 «QTZ-CARB-CHL VEIN» QTZ - carbonate - chlorite vein. 5% black tourmaline xls 50% zone is chlorite and 50% Qtz carbonate - plastic deformation texture. Broken core at 168.9 contact. Contact at 169.5 @	60	Strong chlorite.	1% bleby Py. 1 to 2% splashy Cpy. Trace Mo.	Possibly mafic. Possible fault zone.
		169.5-172.5 Cauliflower - rice crispy spherulatic texture.				
		174.0-176.0 Pseudo - rice crispy speckled texture, trace tiny blue QES.				
		177.8-183.2 «D Rhyolite cut by a combination of white qtz veins and brecciated qtz-carb-chlorite veins, width of veins vary from 0.5cm to 25cm and make up 25% of unit. Veins cut host at various angles to CA.			1 to 2% Py in veins.	Sample thickest vein for Au, check results. May have to sample rest!
183.60 184.40	INTER- MEDIATE DYKE «INT DY»	Green to greeny grey, agr., massive hard dyke, weakly magnetic. Sharp contact marked by 3cm of massive chlorite at 183.6 @	75			
		184.1-184.45 Banded zone - likely inclusion of sediment.				
184.40 203.00	ALTERED TUFF SED «ALT TUFF»	Dark green (locally almost black) to grey, fgr, and soft, well foliated to banded to bedded on a 1cm to 1cm scale. Foliation, banding and bedding @	75	«CHL-SER» Strong chlorite to strong sericite.	«2-3% PY» Overall 2 to 3% Py predominantly as fgr to agr disseminations within 2cm to 1cm wide beds.	
		Fabric defined by alternating light grey and green bands (beds) and boudinaged beds. 2 to 3% qtz carb veining parallel to bedding. 184.5-184.6 Felsic Dykelet.				

MINNOVA INC.
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE (TO CA)	ALTERATION	MINERALISATION	REMARKS
		184.6-187.5 Intensely foliated mafic looking sediment-tuff, boudinaged felsic looking narrow (1 to 3m beds) give slight impression of frags or amygs. Contact at 184.6 with dykelet marked by 10cm wide siliceous zone (possible chert).		Strong dark green to black chlorite.	1% for silvery Py disseminations.	
		187.5-188.9 Similar to section 184.6-187.5 but felsic component increasing.		Strong chlorite plus sericite.	2 to 3% Py as frg aggregated in narrow lam to 0.5cm beds.	
		188.9-191.5 «PYRITIC TUFF» Similar to preceding sections but felsic component and sulphide concentration increasing. At 190.6 3cm wide qtz-carb vein containing - 1cm bleb of sphal?? > (heaatite??).			«10% PY BEDS» 10% Py as frg aggregates 2 to 3m to 5cm beds. Thicker beds could be considered massive pyritic beds. Trace frg brown sphalerite associated with Py beds.	May not be sphalerite - just oxidized Fe.
		191.5-203.0 Grey to greeny, frg, soft well foliated to bedded on a 1cm to 2cm scale @ Tiny blue DES begin to appear in last meter gradational contact > best guess 203 meters.	75	Strong sericite +/- strong chlorite.		
203.00 TO 228.00	QUARTZ PORPHYRY «QP» E.D.H.	Greeny grey to grey, agr. hard and massive cut by 5 to 10% erratically oriented 2cm to 20cm Qtz-carbonate veins. 20 to 50% 1 to 3mm subrounded blue DES. Size of DES, chlorite component, and grain size decreases thru unit downhole.				
		203.0-213.5 Green-grey agr QP containing 30% 2 to 5mm subrounded DES. Locally weakly magnetic. Contains 10% anhedral chloritic mafic phenos. Locally foliated @	80	Moderate chlorite.	1% disc agr cubic Py, locally in clusters. At 203.4 1 to 5mm wide Epy stringer.	
		215.1-215.5 Qtz-carbonate veining plus massive chlorite.		Strong chlorite.		
		At 216.8 Cut edge of qtz-carb-chlorite.			2 to 3% bleby Py 1 to 2% on stringer sphalerite.	
		217.8-218.4 Qtz-carbonate veining plus associated chlorite.		Strong chlorite.		

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DRILL HOLE RECORD

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MINNOVA INC.
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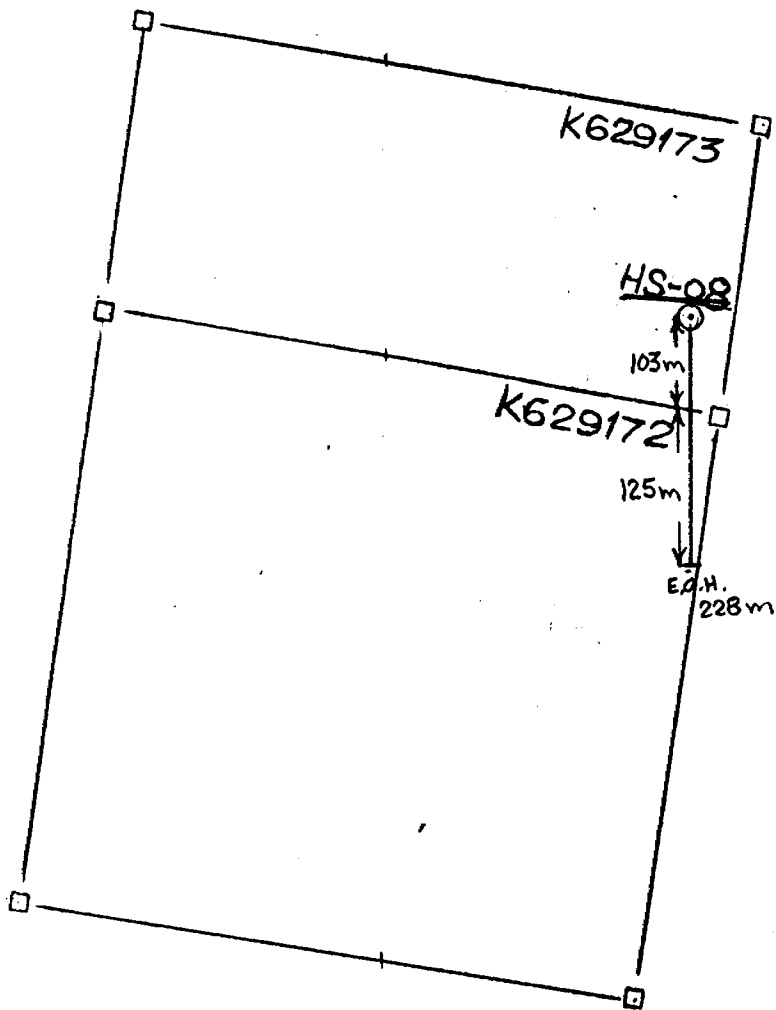
FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CAI	ALTERATION	MINERALISATION	REMARKS
		218.4-228.0 Light green, mgr, massive and hard GP, 25% to 2mm bluey-grey angular to subrounded Qtz Xlts				
		End of Hole.				

HOLE NUMBER: HS-08

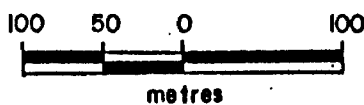
DRILL HOLE RECORD

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SWELL BAY
DRILL PLAN



For info

K 629172

K 629173

HS-08

(103m)

(25m)

228m

SWELL BAY
DRILL SECTION

100 50 0 100m.



For bore.



Name and Postal Address of Recorded Holder
MINNOVA Inc. I-556
SUITE 3970, P. O. BOX 91, COMMERCE COURT WEST, TORONTO, ONTARIO M5L 1C7

Summary of Work Performance and Distribution of Credits

Work Days Cr. claimed	Mining Claim			Work Days Cr.	Mining Claim			Work Days Cr.	Mining Claim		
	Prefix	Number	Work Days Cr.		Prefix	Number	Work Days Cr.		Prefix	Number	Work Days Cr.
19,511.8 17,797.28	K	629441	60	K	629449	60	K	670221	60		
		629442	60		629450	60		670222	60		
		629443	60					670223	60		
		629444	60		629476	60					
		629445	60		629477	60		670225	60		
		629446	60		629478	60		670226	60		
		629447	60		629479	60		670227	60		
		629448	60					670228	60		

for Performance of the following work. (Check one only)

- Manual Work
- Shaft Sinking Drifting or other Lateral Work.
- Compressed Air, other Power driven or mechanical equip.
- Power Stripping
- Diamond or other Core Drilling BQ
- Land Survey

All the work was performed on Mining Claim(s): K629137, 629172, K670225, K 695823, 695828, K777322, 777325

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

*K777333, 777334, 777337, 777338, K 812837, 812844, 812846, 812847, 812848, K 830403
 K 844958, K 846559, K 851617, 8511618, 8511619, K 862225, K 863634, K 873627

WORK PERFORMED BY: ST. LAMBERT DRILLING CO. LTD., P.O. BOX 473, VALLEYFIELD, QUEBEC J6S 4V7

DURING THE PERIOD: JANUARY 9th, 1987 to AUGUST 7th, 1987

DRILL HOLE NUMBERS, DATES AND FOOTAGE/METERS DRILLED ARE LISTED ON A SEPARATE PAGE:

TOTAL METERS/FEET DRILLED ~~19,511.8~~ 17,797.28 Feet ⁵⁴²⁶ (5.95) Meters x 3.28)

TO BE USED FOR THIS SUBMISSION

RETAINED FOR FUTURE SUBMISSION

KENORA MINING DIV.
 RECEIVED
 JAN 15 1988

ONTARIO GEOLOGICAL SURVEY
 ASSESSMENT FILES
 RESEARCH OFFICE
 JAN 29 1988
 RECEIVED

Date of Report: JANUARY 12, 1988
 Recorded Holder or Agent (Signature): *Frank Balint*

Certification Verify by: *Frank Balint*

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
FRANK BALINT c/o MINNOVA Inc. 2606 VICTORIA AVENUE, EAST, THUNDER BAY, ONTARIO

P7C 1E7

Date Certified
JANUARY 12, 1988

Certified by (Signature)
Frank Balint

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	629441	
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		Names and addresses of owner or operator together with dates when drilling/stripping done.	Work Sketch for

JANUARY 12th, 1988

- MINNOVA Inc.

LICENCE T-556

DIAMOND DRILLING ASSESSMENT FARRINGTON

TOWNSHIP etal

CLAIM LIST cont'd

<u>CLAIM NUMBER</u>	<u>DAYS</u>	<u>CLAIM NUMBER</u>	<u>DAYS</u>	<u>CLAIM NUMBER</u>	<u>DAYS</u>
K 670229	60 .	K 695831	60 .	K 812846	140 .
670230	60 .	695832	60 .	812847	140 .
670231	60 .	695833	60 .	812848	140 .
K 670232	60 .	K 695834	60 .	812849	140 .
				K 812850	140 .
K 670384	60 .	K 751312	100 .	812851	140 .
670385	60 .	751313	100 .	812852	140 .
670386	60 .	751314	100 .	812853	140 .
670387	60 .	751315	100 .	812854	140 .
670388	60 .	751316	100 .	812855	140 .
670389	60 .	751317	100 .	K 812856	140 .
K 670390	60 .	751318	100 .		
670391	60 .	K 751319	100 .		
670392	60 .			K 835126	122 . 80
670393	60 .	K 777322	100 .	835127	122 . 80
670394	60 .	777323	100 .	835128	122 . 80
K 670395	60 .	777324	100 .	835129	122 . 80
		777325	100 .	K 835130	122 . 80
K 695817	60 .	K 777326	100 .	835131	122 . 80
695818	60 .			835132	122 . 80
695819	60 .	K 812834	140 .	835133	122 . 80
K 695820	60 .	812835	140 .	835134	122 . 80
695821	60 .	812836	140 .	835135	122 . 80
695822	60 .	812837	140 .	835136	122 . 80
695823	60 .	812838	140 .	835137	122 . 80
695824	60 .	812839	140 .	K 835138	122 . 80
695825	60 .	K 812840	140 .		
695826	60 .	812841	140 .		
695827	60 .	812842	140 .	K 842194	140 .
695828	60 .	812843	140 .	842195	140 .
695829	60 .	812844	140 .	842196	140 .
K 695830	60 .	812845	140 .	K 842197	140 .

RECEIVED
 MINNOVA INC. / K 842197
 DRILLING DIV.
 JAN 15 1988
 AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

...../

JANUARY 12th, 1988

MINNOVA Inc.

LICENCE T-556

DIAMOND DRILLING ASSESSMENT - FARRINGTON

TOWNSHIP etal

<u>CLAIM NUMBER</u>	<u>DAYS</u>	<u>CLAIM NUMBER</u>	<u>DAYS</u>	<u>CLAIM NUMBER</u>	<u>DAYS</u>
K 842198	140 .	K 855206	140 .	K 939783	122 80
842199	140 .	855207	140 .	939784	122 80
K 842200	140 .	855208	140 .	K 939785	122 80
		855209	140 .		
K 844955	140 .	855210	140 .	K 939787	122 80
844956	140 .	855211	140 .	939788	122 80
844957	140 .	855212	140 .	939789	122 80
K 844958	140 .	855213	140 .	K 939790	122 80
		855214	140 .	939791	122 80
K 846551	140 80	K 855215	140 .	939792	122 80
				939793	122 80
K 846559	140 .	K 862220	122 81	939794	122 80
K 846560	140 .	862221	122 81	K 939795	122 80
		862222	122 81		
K 851617	140 .	862223	122 81	K 939798	122 80
851618	140 .	862224	122 81	K 939799	122 80
851619	140 .	862225	122 81		
K 851620	140 .	K 862226	122 81	K 965521	122 80
				965522	122 80
K 854776	180 .	K 863608	110 .	965523	122 80
854777	180 .	K 863609	110 .	965524	122 80
854778	180 .			965525	122 80
854779	180 .	K 863627	101.8 .	K 965526	80.48 122 80
K 854780	180 .				
854781	180 .	K 863634	140 .		
K 854782	180 .				
		K 939128	122 .		
K 855201	140 .	939129	122 .		
855202	140 .	K 939130	122 .		
855203	140 .	K 939131	122 .		
855204	140 .				
K 855205	140 .				

TOTAL 179 CLAIMS

