

HOLE NUMBER: C91-7

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS:

METRIC UNITS: X

PROJECT NAME: SAM
PROJECT NUMBER: 247
CLAIM NUMBER:
LOCATION: CANA

PLOTTING COORDS GRID: SAM GEOL
NORTH: 903.77N
EAST: 12880.48W
ELEV: 1079.75

ALTERNATE COORDS GRID: EST.
NORTH: 9+20N
EAST: 129+ 0W
ELEV: 1100.00

COLLAR DIP: -89° 0' 0"
LENGTH OF THE HOLE: 370.90m
START DEPTH: 0.00m
FINAL DEPTH: 370.90m

COLLAR GRID AZIMUTH: 180° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 225° 0' 0"

DATE STARTED: May 15, 1991
DATE COMPLETED: May 19, 1991
DATE LOGGED: May 16, 1991

COLLAR SURVEY: YES
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: FRONTIER
CASING: PULLED
CORE STORAGE: SAMEX

PURPOSE: TO TEST DOWNDIP OF TET. SHOWING IN C90-6

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
0.00	-	0° 0'	ACID	no		-	-	-	-	-	
74.10	-	-87° 0'	ACID	OK		-	-	-	-	-	
92.40	-	-87° 0'	ACID	OK		-	-	-	-	-	
163.80	-	-87° 0'	ACID	OK		-	-	-	-	-	
218.50	-	-86° 0'	ACID	OK		-	-	-	-	-	
263.00	-	0° 0'	ACID	NO	BAD ETCH	-	-	-	-	-	
303.90	-	-82° 0'	ACID	OK		-	-	-	-	-	
346.60	-	-78° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 21.30	«CSG»					
21.30 TO 72.60	«ARG/SILT»	<p>Black, shades of grey. Fine grained. Strongly deformed, interbedded arg and siltstone - ratio 75:25%. Siltstone commonly occurs as thin laminae to 1cm, locally to 10cm. Rock type subintervals occur between:</p> <p>42.8-45.6m: 90% siltstone.</p> <p>64.9m: 10cm of grey chert minor cherty laminae above this point.</p> <p>Qtz/dol (80/20) concordant and crosscutting veins, stringers and patches and alteration. Vein material generally comprises less than or equal to 5%.</p> <p>Between 51.3-52.8m 15% veining. Bedding is contorted. Asymmetrically folded producing locally bullseye structures, broken bedding, minor boudins locally tectonic? flame structures.</p> <p>27m: well developed cleavage at..... increasing to 70degs at 28m.</p> <p>31.9-33.2m: fold hinge zone.</p> <p>49m: BEDDING at.....</p> <p>58.0-60.0m: fold hinge zone at 65.5m:cleavage at offsets and folds bedding. Movement along cleavage</p> <p>66.3-68.7m: possible fold hinge zone.</p> <p>Core is frequently very blocky; local minor, weak to intense faulting with some clay gge developed.</p> <p>‡25.0-31.9‡ intermittent moderate to intense «Flt zones»</p> <p>54.3-54.9m: intermittent weak fault gouge.</p> <p>‡72.0-72.6‡ moderate to intense, intermittent «Flt gouge»</p>	60 50 50	<p>Sil/dol alt is pervasive throughout, but patchy. Weak to moderate in intensity silicification exceeds dolomitization. Some argillite has been weakly silicified, but alt. largely in and adjacent to veining and in silty zones.</p> <p>66.5-69.3m: weak sericite alteration of silts.</p>	<p>Pyrite is the only sulphide present and occurs primarily with Qtz/dol. Occurs as cubic crystals to 1mm but generally very fine to fine grained. Minor wispy pyrite structures caused by deformation. Overall py content less than 1%, locally to 10% over small intervals or patches.</p>	<p>21.3-22.9m: 80% recovery.</p> <p>24.7-26.4m: 66% recovery.</p> <p>27.7-28.7m: 77% recovery.</p>
72.60 TO 86.50	«SIL ARG»	<p>Black. Fine grained. Core is extremely blocky to 80.5m; local clay fault gouge; <5% Qtz/dol veining stringers to 5mm, pervasive crackle style Qtz/dol stringer infilling.</p> <p>84.4-86.3m: Qtz/dol content increases to 20%, concordant veins and patches to 6cm.</p> <p>Core becomes more competent at 79.5m.</p> <p>Lower contact at</p>	60	<p>Weak to moderate silicification. Non-bleached, argillite is graphitic.</p> <p>79.5-81.7m: weak to moderate dol. alteration bands core (similar in appearance to the over lying unit).</p>	<p>1% fine grained py minor coarse grains to 2mm; py generally occurs as coarse dissemination.</p>	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		contacts at.. 127.8-128.2m: fault brecciated zone; sed and tuff clasts in clay gouge. 128.2-128.4m: qtz/dol veining.	30		No base metals.	
133.70 TO 173.20	«TUFF?»	Greyish green. Fine grained. Primarily a massive unit; textures washed out by alteration. A weak sense of foliation given by sericitic patches at.. Minor thin beds/lenses of argillite and silt? at 167.5m, BEDDING @ 1% white qtz/dol veins and patches. ‡143.3-148.4‡ intermittant moderate to intense. «Flt Bx» 172.35-172.9m: interval of silt/argillite, gradational contacts at....	40 50 65	Patchy moderate to intense dolomitization. Streaky brown to mustard yellow sericite alteration. Localized talc silicification associated with veins. Where dolomitization is weak dol occurs as nodules within the core.	Pyrite occurs as fine to coarse disseminations and patches. Pyrite content varies between 1% to 15% over narrow intervals.	Washed out textures similar to 'Dol Seds'.
173.20 TO 183.60	«SIL ARG»	Black and white. Fine grained. Argillite bedding is concordant; locally disrupted and folded. 173.2-181.6m: interval contains 5-15% white qtz/dol (80/20%) veins and patches. Veins are concordant & crosscutting. Some veins are folded - bullseye structures are common. At 176m offsetting cleavage at..... 176.5-176.7m: moderate fault zone. Graphitic clay gouge. 181.6-183.6m: argillite is interbedded with silt and/or tuff which gives core a grey/green tint. BEDDING ORIENTED @	40 70	173.2-181.6m: moderate silicification. Argillite is intensely graphitic. 181.6-183.6m: large argillite beds are weakly silicified. Coarser seds/tuffs are weakly dolomitized.	1-3% fine grained pyrite occurs as disseminations, patches and seams. 181.6-183.6m: 1% py.	
183.60 TO 184.60	«TUFF?»	Greyish green. Fine grained. Massive unit with minor qtz/dol patches.		Patchy moderate dol alt. Brown sericite locally developed. Minor silicification.	<1% py.	May be an immature volcanic clastic sediment.
184.60 TO 201.90	«SER ARG/SILT»	Black, grey, buff. Fine grained. Interbedded or laminated argillite and siltstone with minor ribbon chert. Bedding is commonly contorted, folded stretched or weakly boudined. Composition of interval is 70% argillite, 29% silt, <1% chert, 3% white qtz/dol veining to 3cm. Veins are contorted. Seds range from thin laminae to 1cm wide beds. ‡190.8-192.6‡ intermittant weak to intense «Flt Bx» with locally developed clay gouge.		Argillite is strongly graphitic where it is not intensely silicified. The silts are generally weakly altered to yellow sericite with minor grey sericite. Local zones of intense sericite alteration occur between: 192.9-193.1m: associated with qtz vein, and 197.4-199m.	2% fine grained coarsely disseminated py.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
86.50 TO 106.40	«TUFF?/SEDS»	Greyish green. Fine grained. Unit is primarily a massive unit of tuff? which contains minor argillite clasts and very fine, disrupted argillite laminae locally but argillite for the most part has a similar appearance to a fine crackle breccia in filling. Minor qtz/carb veinlets. ‡101.1-102.2‡ «Arg/Silt» CONTACTS @ Subinterval is finely bedded but beds are largely disrupted. Where beds are relatively undisturbed they are oriented at 50degs. to core axis.	.50	Pervasive moderate to intense dol., non-silicified, local pale green small sericite clots.	<1% fine grained, fine to coarsely disseminated py.	Possibly an immature volcanoclastic sed. May be a less altered equivalent to the qtz/ser interval (85.5-91.2m) of C90-6.
106.40 TO 117.80	«SIL ARG»	Black/grey. Fine grained. Unit predominantly arg but contains <10% silty material. Locally silicification and dolomitization has bleached the core. Bedding is indistinct and locally contorted. 10% white qtz/dol (60/40) stringers and veins to 3cm veins are both concordant and crosscutting. Veins are locally vuggy - open bladed structures. ‡112.6-113.7‡ «Arg/Volc.» 75% sil/arg is interbedded with 25% altered volc-brownish green in color.		Weak to moderate silicification of arg. throughout interval; patchy weak to mod dol. Argillite is moderately to intensely graphitic. 112.6-113.7m: moderate grey sericite alt. of volc.	<1% fine to coarse grained pyrite is locally disseminated through core between 116.7-117.4m there is 5% pyrite. 107.0-107.2m: minor fine grained sp & cp in qtz/dol veins. Oriented @ 30degs to core axis.	Between 115.8-122.8m footage blocks inaccurate get 3.4m between 115.8-118.9m and only .6m between 121.3-122.8m. So some core loss - 65% recovery. It is likely that this interval plus the next (ie 106.4-125.4m) corresponds to the interval 91.2-110.5m.
117.80 TO 125.50	«FLT'D SIL ARG»	Black. Fine grained. Argillite as in the above unit which has been moderately to intensely fault brecciated. Locally clay gouge is well developed; gradational faulted lower contact. 15% white qtz/dol veining (as above), vein are fractured by fault action. 124.5-125.1:Qtz/Dol vein with arg inclusions.		Argillites are strongly graphitic. Weak to moderate silicification of argillites.	<2% fine grained disseminated py in the arg. Py bands, blebs and coarse dissem of py associated with veins. Minor fine grained honey sphalerite dissem in veins. ‡124.5-125.1‡ «1%sp+cp,7% py in vn» Sp, cp are very fine grained, approx. equal amounts. Py occurs as patches & coarse dissem in and adjacent to vein.	
125.50 TO 133.70	«SED/VOL? T RANS ZONE»	Black/green/grey. Fine grained. Finely laminated argillite is interbedded with a grey/green altered tuff? Compositional ratio 1:1. Bedding in argillite is locally contorted. General sense of bedding at Offset by crenulation cleavage at Contacts parallel bedding. Tuffs? are locally bedded and bedding is contorted and folded. Tuffaceous and argillite intervals can exceed 1m widths. 5% irregular qtz/dol veining, locally vuggy veins are stretched and boudined. Sericite foliation is subparallel to bedding. 126.8-127.0m: concordant qtz/dol (95/5%) vein,	30 20	Argillite is graphitic. Tuffs? have been moderately altered to grey sericite.	<5% coarsely dissem. py overall; primarily in and adjacent to veins. 126.8-127.0m: 10% py in qtz/dol vein.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
201.90 TO 251.60	«ARG/SILT/TUFF?»	Black/grey. Fine grained. Similar to the overlying unit but lacking the sericite alt. Some subintervals may be tuffaceous. Beds can exceed 1m thicknesses. Composition 60% arg, 40% silt/tuff minor chert. Qtz/dol veining content varies between 2-10%. Some veins have been brecciated and rehealed by late fluids. Veins reach 10cm but generally occur as narrow patchy zones. 222.1-223.0m: intermittent moderate to intense fault gouge. Interval contains brecciated & healed qtz veins. Faulting is most intense at base of interval. 232.1-232.9m: fine grained tuff? 242.3-243.9m: silt or tuff interval; patchy bleaching. 247.-248.1m: Hinge Zone. Cleavage at... causes bedding offsets and drag folding. 248.2-249.3m: 35% patchy white qtz (dol) veining.	55	Where argillite is not intensely silicified it is weak to intensely graphitic. Patchy weak brown sericite alt'n of tuff? Intervals are moderately dol. 219.15-219.85m: patchy intense brown sericite alt and patchy silicification. 230.8-231.5m: intensely silicified 1% 1mm porphyroblasts of dol? (possibly after feldspar.) 232.1-232.9m: weak dol alt. 233.6-234.05m: intense silicification. 238.5-238.9m: intense silicification & veining. 242.3-243.9m: weak to moderate dol. 243.9-245.7m: intense silicification & qtz veining. 249.7-250.2m: intense silicification.	Pyrite content varies markedly throughout interval. Py is fine grained, dissem to local semi-massive textures. Minor laminae of py. 210.1-211.9m: 10% py overall with concentrations to 20% associated with qtz veining. 219.15-219.85m: 20% py coarsely dissem. ‡233.6-234.05‡ «tr tt, <1% gn+cp, 1% sp» Mineralization is very fine grained dissem, 3% py.	
251.60 TO 270.30	«SIL ARG»	Black/white. Fine grained. Finely laminated argillites with 10% silt, <30% white qtz veining (with <20% dol). Veins to 11cm. Veins are crosscutting. Veins and bedding is often strongly deformed, and broken. Minor fault brecciation and clay gouge. 266.9-267.8m: Hinge Zone.		Patchy weak to mod. silicification of seds associated with veining.	<1% fine grained dissem. py.	
270.30 TO 283.70	«ARG/CHT FL T BX»	Black/grey. Fine grained. 85% argillite containing <10% silty laminae and 15% grey cherty argillite. White qtz/dol (65/25%) comprises 30% of interval in veins up to 40cm. Veins are locally fractured, faulted, some rehealing of veins locally present. Interval is strongly but intermittently fault brecciated. Clay gouge locally developed. Bedding and veins are offset and warped by slippage along cleavage, at 274.4m cleavage oriented @ 272.8-274.2m: cherty argillite. 278.7-279.5m: subinterval of altered tuff? 281.6m: minor ribbon chert 282.4-283.0m: intermixed cherty? argillite.	75	Argillite is graphitic. Weak to moderate. Minor weak silicification.	2% disseminated fine to 1/2mm cubes of pyrite, local pyrite seams. ‡272.7-273.1‡ «1% sp, tr gn» fine grained disseminated in late stage qtz (dol) veins (sweats?) in cherty arg. ‡277.5-277.8‡ «<2% sp+cp+gn» fine grained coarsely dissem in qtz/dol veinlets.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
283.70 TO 295.30	«DOL ARG/SILT»	Black/grey. Fine grained. Interbedded arg (40%) and siltstone (60%). Bedding is stretched. Local fragmental textures present. Appears to be some movement subparallel to bedding. General sense of bedding @ (30-40degs). <5% qtz/dol/kspar veining to 12cm and patches in ratio 80:5:15. Localized open fracturing of vein material. Lower contact is faulted. 294.2-295.3m: interval contains clastic sediments which range from very fine grained to 1cm clasts. Some elongation of larger clasts. Possible down hole fining of sediments. Tops down-hole?	35	Argillite is locally weakly graphitic. Silts are pervasively moderately to intensely dolomitized.	Pyrite content varies from 1-15% over narrow intervals. Pyrite is fine grained, fine to coarsely disseminated. 290.5m: minor fine grained, coarsely disseminated. Sp, gn on margin of qtz/dol/kspar vein.	294.2-295.3m: clasts may be partly primary.
295.30 TO 315.70	«ARG/CHT»	Black/grey. Fine grained. Interbedded argillites and cherty argillites. 70% argillites, 30% chert. Argillites contains 5% white qtz/kspar/dol veining. Veins contain clots of sericite. Bedding in arg is locally folded. Veins are concordant & cross-cutting. Veins affected by deformation. Veins reach 30cm width. 295.3-295.9m: qtz/kspar/dol vein.		Argillite is weakly graphitic locally; patchy weak silicification.	1-5% py; 3% overall. Pyrite is fine grained, coarsely disseminated.	
315.70 TO 321.60	«SIL CHT»	Grey. Fine grained. Thick cherty interval unit is criss-crossed by numerous fine fractures, which have largely been healed by qtz. Minor brecciation healed by qtz. Unit contains numerous fine cubic crystals - feldspar? Up to 10% white qtz veining and patches. Relict bedding varies, but is generally at very low angles to core axis.		Very intense silicification throughout interval, washes out most original textures.	<2% fine grained coarsely dissem pyrite 1% fine grained sphalerite overall, coarsely disseminated. Associated with white qtz veining; minor fine grained galena and chalco pyrite. Local concentrations to 1%, trace tetrahedrite. ‡315.71-321.59‡ «1%sp, tr.cp+gn+tt»	
321.60 TO 322.90	«SIL ARG/CHT»	Black/grey. Fine grained. Interbedded silicified argillite and chert. Fine fracture system filled by quartz. BEDDING @	35	Moderate to intense silicification.	2% coarsely disseminated pyrite.	
322.90 TO 335.30	«SIL CHT»	Grey. An argillaceous chert unit similar to the interval 315.7-321.6m.		Unit is silicified, minor talc present.	<1% sp, gn, cp between 329.1-330.3m. 3% pyrite overall, pyrite is frequently concentrated in narrow pyritiferous zones og up to 20%.	
335.30 TO 346.80	«SIL ARG/CHT»	Grey/black. Fine grained. Interval consists of 50% argillite, 50% argillaceous chert from fine laminations to 1cm beds. Bedding is folded, warped and disrupted. At 337m off setting cleavage oriented at (40-50degs).	45	Pervasive moderate to intense silicification. Silicification increases down-hole in sheared zones. Argillite is moderately graphitic. 342.8-346.8m: abundant qtz flooding and	1% very fine grained pyrite in dissemination and seams; trace sphalerite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Chert content decreases down-hole. 335.3-342.8m: 3% white qtz veining to 3cm. 342.8-346.8m: 20% qtz veining/flooding.		veining and silicification.		
346.80 TO 356.20	«GR ARG FLT BX»	Black. Fine grained. Massive to laminated argillite containing 5% white qtz (95%) dol (5%) veining to 10cm. Gradational contacts with adjacent intervals. Interval is strongly but intermittently fault brecciated. Faulting increases down-hole. Bedding and veinlets are strongly deformed.		Moderately silicified argillites. Very intense graphite. Minor localized bleaching with weak dol alteration.	1-2% coarsely disseminated pyrite, trace sphalerite in veins.	
356.20 TO 370.90	«ARG/CHERT»	Grey/black. Fine grained. Laminated cherts and argillites (20/30%); chert content increases down-hole. Bedding is highly contorted with folds being affected by further folding. 40% of the bedding is oriented at low angles to the core axis. 3% qtz/dol veining. END OF HOLE.		Patchy weak silicification of argillite.	1% disseminated pyrite. 358m: 10cm wide interval containing 20% Very fine grained bedded pyrite - primary textures.	

Sample	From (m)	To (m)	Length (m)	ASSAYS							GEOCHEMICAL							COMMENTS						
				CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM		BA PPM	BA %	SB PPM	AG PPM	AU PPB	
BCD31231	0.00	0.00	0.00																					
BCD31233	84.50	86.50	2.00									71	74	12				26			1	1.1	2	
BCD31234	106.40	107.90	1.50									73	223	39				52			1	1.0	1	
BCD31235	117.00	118.50	1.50									38	40	13				25			1	1.3	3	
BCD31236	118.50	119.80	1.30									42	53	9				1			1	1.2	2	
BCD31237	119.80	122.90	3.10									38	63	29				14			1	1.5	2	
BCD31238	122.90	124.50	1.60									80	98	40				177			1	1.0	18	
BCD31239	124.50	125.10	0.60	.050	.30	.06	3.8	.02				500	3001	616				668			42	3.8	18	
BCD31240	125.10	126.60	1.50									165	111	48				209			1	1.2	22	
BCD31241	126.60	128.10	1.50									74	123	49				142			1	1.2	6	
BCD31242	132.50	134.00	1.50									43	103	136				797	100		10	0.8	17	
BCD31243	134.00	135.50	1.50									200	233	520				2091	72		32	2.5	99	
BCD31244	135.50	137.20	1.70	.034	.05	.02	4.4	.22				344	520	239				3260			1	4.4	217	
BCD31245	208.40	209.90	1.50									68	80	20				145			1	1.4	1	
BCD31246	209.90	211.40	1.50									158	141	30				72			1	1.9	3	
BCD31247	211.40	212.90	1.50									128	100	20				103			1	1.0	3	
BCD31248	212.90	214.40	1.50									63	56	21				69			1	1.0	2	
BCD31249	219.10	220.70	1.60									142	92	28				62			1	1.6	22	
BCD31250	233.60	234.50	0.90	.014	.21	.09	2.6	.02				140	2093	939				92			1	2.6	17	
BCD31251	271.20	272.70	1.50									44	562	263				53			1	1.5	12	
BCD31252	272.70	273.10	0.40									38	652	147				95			1	1.3	42	
BCD31253	273.10	274.60	1.50									23	87	69				48			1	1.2	9	
BCD31254	274.60	276.10	1.50									27	59	26				41			1	0.8	3	
BCD31255	276.10	277.60	1.50									23	50	57				38			1	0.8	6	
BCD31256	277.60	278.70	1.10	.030	.14	.07	2.1	.02				296	1445	731				79			2	2.1	19	
BCD31257	289.70	291.20	1.50									70	68	72				69			1	1.7	15	
BCD31258	315.70	317.20	1.50									203	879	395				29			3	2.2	2	
BCD31259	317.20	318.70	1.50	.004	.15	.06	2.0	.01				43	1544	566				127			3	2.0	2	
BCD31260	318.70	320.20	1.50	.003	.18	.06	1.7	.01				25	1805	618				14			2	1.7	1	
BCD31261	320.20	321.60	1.40	.003	.10	.04	2.0	.01				32	995	361				47			1	2.0	4	
BCD31262	327.30	328.80	1.50									26	359	353				46			2	1.0	3	
BCD31263	328.80	330.30	1.50	.018	.17	.08	3.1	.01				175	1690	761				142			2	3.1	2	
BCD31264	330.30	331.80	1.50	.010	.16	.08	2.9	.01				103	1639	768				161			4	2.9	13	
BCD31265	351.60	353.20	1.60									160	290	74				65			7	1.7	6	
BCD31266	357.70	358.40	0.70									36	72	62				54			1	1.2	2	

HOLE NUMBER: C91-7

GEOCHEM. SHEET

DATE: 9-October-1991

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	BA %	Zr %	Cu PPM	Zn PPM	Pb %	TOTAL %	Au PPB	BA PPM	Ag PPM	Pb PPM	P2O5 %	SR %	S %	TOTAL %	AS PPM	SB PPM
BCD31232	89.30	92.30	3.00	41.94	14.79	7.72	6.43	.38	1.25	10.31	.18	1.24			91	80			5	52	1.4	6	.04		.34	84.70	1	1
BCD31242	151.40	153.40	2.00	52.59	17.22	2.57	3.03	.74	2.26	9.59	.20	1.65			157	68			35	71	2.1	32	.04		2.31	92.27	1152	4

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 18.30	«CSG»					
18.30 TO 38.00	«SIL ARG»	Black. Fine grained. Massive argillite; minor bedding textures; 5% white qtz/dol patches & veins to 5cm; 2 stages of qtz veining. Late stage qtz fills fine tension fractures in the argillite and early veins. 25.2-25.6m: weak to moderate fault brecciation.		Late stage qtz stringers and minor qtz flooding weakly to moderately silicifies argillite. Localized patchy moderate dolomitization associated with veining. Patchy weak graphite particularly in sheared zones. 19.9-21.6m: intense silicification and veining. 23.7-24.65m: patchy intense green sericite and talc alteration.	2% fine to medium grained pyrite. Pyrite occurs as fine to coarse disseminated and minor seams; local small intervals with up to 10%. ‡20.9-21.6‡ «minor cp, tr tt?» very fine grained, in veins. 34.6-34.8m: 10% coarsely disseminated pyrite; minor sphalerite.	Core is quite blocky.
38.00 TO 50.90	«ARG/SILT»	Black/grey. Fine grained. Finely interbedded argillites and siltstones. Bedding has been highly disrupted. Stretching, folding and fragmentation of beds common. Interval is comprised of equal parts argillite and siltstone; 5% qtz/dol (80/20%) veining/flooding. Minor qtz/dol veining is late stage, crosscutting.		Patchy weak silicification; patchy weak dolomitization of silts. Pervasive weak dol intervals between 38.2-39.4m & 40.2-41.9m.	2% fine grained coarsely disseminated pyrite. Minor pyritic seams.	
50.90 TO 55.60	«ARG/SILT F LT BX»	Black/grey. Fine grained. Similar to overlying unit except the unit is very blocky due to fault activity - very little clay gouge.		Minor graphite, patchy weak silicification and dolomitization.	<1% disseminated, fine grained pyrite.	
55.60 TO 83.60	«ARG/SILT»	Black/grey. Fine grained. Unit is identical to the unit between 38-50.9m, except that argillite comprises 60% of the interval. 70-70.3m: argillaceous chert interval. 72.0-72.2m: fault bx.		Patchy weak dol, locally intense dol over narrow widths.	<1% disseminated pyrite. ‡76.4-76.8‡ «<1% cp, tr.tt+sp» sulphides are very fine grained, locally cp rims pyrite. Mineralization occurs in qtz (dol) veins.	75.3-78.3m: core blocks indicate a 70% core recovery, but there doesn't appear to be any core loss.
83.60 TO 87.80	«ARG/SILT F LT BX»	Black/grey. Fine grained. Argillite & siltstone as in the overlying intervals which have been strongly fault brecciated. Clay gouge developed between 84.8-86.3m. Interval is comprised of 80% argillite.		Faulted argillite surfaces are moderately graphitic.	<1% pyrite.	
87.80 TO 88.80	«SIL ARG»	Black. Fine grained. Argillite is blocky, slippage along cleavage planes caused? by overlying fault zone. 3% stretched, boudined white qtz veining.		Weak to moderate silicification. Fracture surfaces are weakly graphitic.	3% very fine grained pyrite in dissemination and thin seams.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
88.80 TO 89.70	«CHERT»	Grey. Fine grained. Argillaceous laminated cherts; bedding orientations convoluted; 3% white cross-cutting qtz veining.				3% very fine grained pyrite in dissemination and lenses. Pyrite is primarily found in argillite partings.
89.70 TO 93.80	«SIL ARG FL T BX»	Black. Fine grained. Siliceous argillites are weakly to moderately fault brecciated. No clay gouge developed. Minor cherty bands. 15% white to grey qtz stringers as brecciation in-filling and flooding. Bedding is convoluted.		Argillites are moderately silicified.		3-10% very fine grained pyrite into dissemination and seams. Pyrite content is highest from 91.7-93.8m.
93.80 TO 96.70	«CHERT»	Grey. Fine grained. Locally laminated cherts with 5% argillite partings; 10% diffuse white qtz crosscutting veining. Unit is in fault contact with adjacent units.		Interval may have been silicified.		1% fine grained pyrite blebs, coarse disseminations and minor seams.
96.70 TO 97.30	«FLT GOUGE»	Grey. Interval is intensely faulted sericitically altered sediments. Clay gouge is well developed.		Intense yellow sericite alt'n becoming prevalent downhole.		1% pyrite.
97.30 TO 104.20	«QTZ/SER ALT SEDS»	Grey, yellow/grey. Fine grained. Intense alteration of sediments is prevalent. Where alteration is less intense the host rock is primarily argillite. 10% of the interval is qtz veining and flooding. Veins reach 10cm widths. FOLIATION @ 97.3-102.4m: interval is intermittantly fault brecciated; minor chert.	75	Intense yellow sericite alteration is prevalent throughout the majority of the interval. Minor yellow sericite alt'n between 100.3-102.0m.		5% fine grained pyrite in blebs, disseminations and seams. Local concentrations to 15% over 10cm.
104.20 TO 105.70	«QTZ VEIN»	White/grey. Fine grained. Massive qtz vein with 3% altered argillite partings. Minor dolomite along fractures.		Argillite is moderately to intensely sericitically altered, 3% talc in final 10cm of interval.		2% fine grained pyrite patches.
105.70 TO 116.30	«SER/SIL ARG»	Black/white/grey/yellow. Fine grained. Unit is a bedded argillite which has been variably altered. Bedding is highly contorted - orientation varies between 0-70degs to core axis. General sense of CLEAVAGE is at 10% disrupted white qtz veining. Lower contact is gradational.	60	Argillites are weakly silicified locally. Intermittant weak to moderate yellow sericite alt'n. Principal zones of sericitic alteration are located between: 105.7-106.4m, 108.5-109.9m, 114.0-116.3 Minor weak dol alt'n. Between 110.4-112.5m there is 2% of a brilliant green soft mineral - talc. Minor weak dol alt'n.		<5% fine grained patches of pyrite.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
116.30 TO 132.10	«QTZ-SER AL T SEDS»	Grey/yellow. Fine grained. Intensely altered sediments; gradational contacts; a few cherty laminae and beds to 20cm present at base of interval, 7% patchy irregular white qtz veining to 25cm widths. Bedding irregular cleavage. ‡126.1-130.1‡ «ALT'D TUFF?» - massive unit.	60	Intense yellow sericite alteration, minor talc. 126.1-130.1m: patchy yellow, brown ser alt'n, patchy moderate dolomitization.	2-20% py; pyrite concentrations over 10cm widths. Pyrite is fine to medium grained and commonly occurs as patches of semi-massive pyrite.	
132.10 TO 139.40	«SIL ARG/CH T»	Black/grey. Fine grained. Interval consists of 55% argillite laminated and interbedded with 45% grey chert. Bedding is strongly contorted with some fold noses, stretched and boudined beds/qtz stringers. There are 4 qtz/dol (90/10%) veins to 16cm. The argillite are pervasively crosscut by small discontinuous qtz stringers. Argillites are locally friable. Principal cleavage orientation at 136.8m.	75	Argillite is moderately silicified. Argillite partings are moderately graphitic.	2% fine grained pyrite clots. Some of these clots are rounded indicating some movement along cleavage planes. ‡138.4-138.6‡ «1% sp+gn» coarse grained occurs in qtz vein. ‡139.2-139.27‡ «20%py, 7% BM+tt» Tet is very fine grained coarsely disseminated. Pyrite, gn is fine to med grained, coarsely disseminated. Mineralization is associated with silicification.	
139.40 TO 142.40	«SIL CHT»	Grey/white. Fine grained. Laminated cherts are crosscut by 20% white qtz veins. These veins are irregular and contain some argillaceous stylolites. Qtz veining increases down-hole. Some veins contain up to 10% dolomite.			<1% fine grained pyrite associated with argillite remnants. Trace coarse grained sphalerite in qtz veins.	
142.40 TO 146.20	«ARG/SILT/CH HT»	Black. Fine grained. Interval contains 90% argillite and 10% silts and cherty laminae. Bedding is non conformable. Cleavage plane at Minor white qtz veins except for a twinned vein between 145.2-145.6m surrounding an argillite remnant. 145.2-145.6m: core has been weakly fault brecciated.	65	Interval is weakly silicified. Local weak graphite associated with highly fractured rock.	3% very fine grained pyrite occurring in disseminations, patches & seams paralleling bedding. 145.86-145.9m: 25% semi massive pyrite.	
146.20 TO 148.90	«CHERT»	Grey. Fine grained. Laminated ribbon cherts. Bedding is somewhat disrupted but general sense of bedding is at ... 5% white qtz veining. Veins are irregular.	70		<1% pyrite patches.	
148.90 TO 161.40	«SIL ARG/CH T»	Black/grey. Fine grained. 90% argillite, 10% chert. The principal chert interval occurs between 149.1-149.9m and 150.6-151.1m. Bedding is generally highly disrupted to the point where texture resembles a Het Frag, but clastic texture		Argillites are weak to moderately silicified local graphite.	6% pyrite overall. Pyrite occurs as fine to medium grains. Pyrite is found in disseminations through to pyrite seams 4mm wide.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		probably caused by tectonic brecciation. 15% white qtz veining present. Principal qtz occurrences are between 152.0-152.75m and 157.7-158.3m. Interval is quite blocky and is affected by some late fault activity - no fault gouge found. 156.1-156.3m: intensely altered volcanics? †155.5-155.8‡ Possible zone of «Het Frg?» clasts of sil, arg, qtz, alt volc? to 1cm. Clasts are subangular.		156.1-156.3m: sericite, talc alteration	155.5-155.8m: 7% pyrite. 156.1-156.3m: 15% coarsely disseminated pyrite. 157.8m: trace sp, gn, in quartz.	
161.40 TO 170.70	«DOL VOLC»	Green/grey. Fine grained. Massive volcanic unit. Upper contact is gradational, lower contact is sharp at ... Original textures indistinct. Minor white to grey quartz veining.	70	Patchy brown sericite, moderate dol alteration, local; patchy intense dolomitization bleaches the core.	Pyrite content is very fine to fine grained. Content varies between 1-5% in dissem to pyritic patches.	
170.70 TO 178.30	«ARG»	Black. Fine grained. 90% of interval is comprised of argillites, 10% silts. Bedding highly contorted Cleavage at (70-90degs) 10% qtz/dol (80/20%) in veins to 2cm, abundant qtz/dol in filled fractures. Core is blocky; †174.2-175.8‡ «Flt bx», fault bx is moderate, intermittant occurrences.	80	Patchy weak silicification and dolomitization of argillite.	1-2% fine to medium grained pyrite dissem and blebs.	
178.30 TO 186.30	«DOL SEDS»	Black/grey. Fine grained. 50% of interval is black argillite, 50% dolomitized sediments, minor altered volcanics? Altered volc intervals occurs between 182.2-182.35m; minor qtz veining, <1cm wide.		Patchy moderate dolomite alteration. Minor, moderate graphite.	1% coarsely disseminated pyrite.	
186.30 TO 200.40	«ARG/SILT»	Black/grey. Fine grained. Black argillites are finely laminated by 15% grey silt, 15% white qtz veining with <20% dolomite. Veining primarily occurs between 190.7-194.8m. Bedding is highly contorted. †191.9-193.2‡ «Flt Bx» local clay gouge developed †195.2-196.8‡ «Flt Bx» Minor clay gouge. Minor intervals of altered volcanics? occur between 187.8-188.25m and 190.4-190.5m.		Patchy weak silicification dolomitization; patchy brown sericite and dol alt'n of volcanics? Minor talc. Argillite are weakly graphitic.	2% pyrite dissem and blebs.	
200.40 TO 200.75	«HET FRAG»	Grey. Silty matrix hosts 50% subangular clasts to 2cm. Clast composition is primarily qtz and sediments with minor amounts of altered volcanics and pyrite lithoclasts. Clasts are weakly elongated in plane of foliation at	80		2% pyrite disseminations and trace lithoclasts.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Locally the interval is framework supported.				
200.75 TO 239.80	«ARG/SILT»	Black/grey. Fine grained. Argillites and silts similar to these in the interval 186.3-200.4m, except that there are occasional cherty laminae.		Patchy weak silicification and dolomitization.	1% coarsely disseminated pyrite. 238.2-238.5m: 1% coarsely disseminated sphalerite, 3% pyrite.	
239.80 TO 245.10	«DOL VOLC?/ SIL ARG»	Green/black. Fine grained. 60% of interval is comprised of green altered volcanics? Original textures 'washed' out. 10% patchy white quartz; 40% of interval comprised of silicified black argillites. Argillites contain 30% white, irregular qtz veining and patches; a few possible qtz clasts present.		Volcanics? are (brown) sericitically altered, and moderately dolomitized locally. Argillites are moderately to intensely silicified. Minor talc alteration of volcanics.	Overall pyrite content is 2%; local concentrations to 5%. Pyrite is fine to medium grained. ‡243.2-244.6‡ «<1% sp+cp+gn» Cp, gn occur in trace amounts. Sphalerite is fine to medium grained, coarsely to finely disseminated. Principal base metal sulphide occurrence is between 243.2-243.7m.	
245.10 TO 249.70	«SIL ARG FL T BX»	Black. Fine grained. Laminated argillite bedding is locally weakly brecciated/contorted, general sense of bedding at (80-90degs) Core is blocky. 247.1-249.7m: core is increasingly fault brecciated with depth.	85	Argillites contain patchy weak silicification.	5% medium grained disseminated pyrite. 245.3m: 5cm wide interval contains. 5% coarsely disseminated sphalerite.	
249.70 TO 303.50	«QTZ SER AL T SEDS»	Greyish yellow. Fine grained. Intensely altered sediments original rock constituents indeterminate; FOLIATION 10% white qtz veining & patches, vein orientations are highly variable; max vein width intersection is 18 cm. 277.6-277.9m: weakly fault brecciated. Lower contact is fault brecciated, moderate clay. ‡302.9-303.5‡ «Flt Bx»	70	Intense pervasive yellow sericite alterations.	5% very fine grained to medium grained pyrite occurs as fine disseminations to discontinuous contorted seams & patches. Minor arsenopyrite associated with pyrite in some qtz veins. Minor sp, gn, cp in some qtz veins. Concentrations of base metals as indicated below: 264.7-265.1m: interval contains a 9cm band of semi massive pyrite overall pyrite content 15%. ‡281.-281.1‡ «1%sp, tr gn+cp» in qtz vein. 282.2-294.7m: 7-10% pyrite in contorted discontinuous seams and patches, minor arsenopyrite. 285.3-285.47m: qtz vein with minor sphalerite. ‡293.1-293.5‡ silicified and veined rock containing minor cp, tr sp, 2% gn. «2% gn, tr cp+sp»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
303.50 TO 304.30	«SER HET FR AG»	Dark grey. Fine grained to 25mm. Aphanitic, pyritiferous matrix supports stretched to rounded clasts of arg, sericitically altered seds, qtz, & minor pyrite lithoclasts. FOLIATION plane @ Minor qtz veining, massive white fractured qtz veining between 303.57-303.78m. 304.1-304.2m: silicified, sericitically altered seds.	90	Interval is intensely altered to yellow and grey sericite.	7-15% very fine grained pyrite in matrix and as patches. ‡303.5-303.85‡ «10% gr» galena is fine to medium grained, in coarse disseminations. The greatest concentrations are in the foot wall of the major qtz veining.	
304.30 TO 305.30	«GREY SER SEDS»	Dark grey. Fine grained. Intensely altered sediments; original textures destroyed. 5% white qtz veining.		Patchy weak silicification; pervasive moderate to intense grey sericite alt'n	3% coarsely disseminated pyrite.	
305.30 TO 343.20	«QTZ/SER ALT SEDS»	Yellow/grey/black. Fine grained. Similar to the unit between 249.7-303.5m, except that the alteration is not as complete, which results in 20% of the interval consists of black argillite laminae in sericitically altered sediments. The proportion of argillite increases down-hole. Where bedding is distinct it is commonly highly contorted-tight isoclinal folds present. Fol axis at 338.4m @ 5% massive white qtz veins/patches to 25cm. Veins are generally conformable to BED/FOL (70-85degs). Veins contain minor dolomite; approx 15% qtz sweats silicification with vague boundaries in ground mass. Small intervals of fault gouge locally developed. ‡330.9-331.9‡ patchy, moderate «Flt Gouge»	85 78	Pervasive to patchy yellow sericite alt'n. Patchy moderate to weak silicification.	2-5% fine grained disseminated pyrite.	"Yellow and Black" unit.
343.20 TO 348.60	«SIL ARG CH T»	Black. Fine grained. Bedding is indistinct cleavage plane oriented at Chert comprises 5% of interval; chert occurs as disrupted laminae, primarily in top half of the unit; 5% white, irregular quartz veining. 348.1-348.6m: weak shear.	70	Patchy weak locally moderate, silicification; argillites are strongly graphitic, intensity increases down-hole.	4% pyrite in patches disseminations and seams associated with quartz stringers; locally seams are folded.	
348.60 TO 351.10	«QTZ VEIN»	White. Fine grained. Massive white quartz vein. Upper contact is weakly sheared and intermixed with graphitic argillite. Vein is fractured and rehealed with quartz and minor dol. Vein contains 5% argillite inclusions and stylonitic partings. ‡350.3-350.95‡ «Flt Bx» interval consists of faulted fragment of argillite and quartz in a clay gouge matrix.		350.3-350.95m: patchy yellow sericite alteration of argillite.	<1% pyrite; pyrite occurs in argillite inclusions; no sulphides seen in the quartz vein.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
351.10 TO 366.20	«SER ALT SE DS»	Yellow/black/grey/green. Fine grained. Similar to the interval 305.3-343.2m. Laminated black argillite (25%) is interbedded with intensely altered seds. Argillaceous chert between 354.9-355.15m. 7% quartz veining. Some veins have been strong brecciated and rehealed. The two largest veins occur at: 356.2-357.0m: 98% massive quartz. 364.4-364.75m: healed quartz vein, possibly a silicified chert. Fault brecciation and gouge common in narrow occurrences throughout interval and increasing in frequency down-hole.		Patchy intense grey and yellow sericite alt'n.	1% pyrite.	
366.20 TO 367.60	«ARG/FLT BX »	Black. Fine grained. Argillite and cherty? sediments have been strongly fault brecciated; 10% white to grey brecciated quartz vein.		Argillite is strongly graphitic; patchy weak silicification of argillite.	3% fine to medium grained pyrite, finely disseminated.	
367.60 TO 368.80	«QTZ VN»	White/grey/black. Fine grained. White to grey quartz veining contains 15% argillite inclusions & argillite/graphite stylolites; fracture surfaces are graphitic.			5% medium grained coarsely disseminated pyrite & patches. Pyrite is primarily associated with argillite.	
368.80 TO 375.20	«ARG/SILT/C HT»	Black/grey. Fine grained. Interval consists of 85% argillite, 10% silty material and 5% cherty laminae. General sense of Bedding at (60-75degs). Minor quartz veining. Between 371.7-375.2m the core is increasingly friable, local fault gouge.	68	Patchy weak silicification argillites are graphitic.	7% coarsely disseminated pyrite patches fine to medium grained.	
375.20 TO 379.30	«ARG FLT BX »	Black. Fine grained. Fault brecciated argillite containing 25% white quartz veining, flooding and fragments. Quartz veining does not appear to have a preferred orientation. 378.5-378.8m: strongly altered volcanics.		Argillite is strongly graphitic. 378.5-378.8m: chloritic and sericitic alteration of volcanics; patchy weak dolomitization - minor; minor talc.	2% coarsely disseminated pyrite.	
379.30 TO 381.80	«ALT VOLC»	Green. Fine grained. Massive green altered volcanics - possibly tuffs or volcanic epiclastics; minor shearing, minor argillite.		Patchy weak to moderate dolomite alteration and brown sericite alt'n. Minor talc.	1% disseminated fine grained pyrite.	
381.80 TO 383.80	«SIL ARG FL T BX»	Black/white. Fine grained. Black argillites are brecciated by 40% quartz veining and flooding. Interval exhibits brittle fault brecciation; clay gouge developed in top 40cm.		Patchy weak silicification, weak to moderate graphite.	2% pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
383.80 TO 387.00	«ALT SED/TU FF?TRANS»	Black/green. Fine grained. 50% black to grey argillite intimately intermixed with green altered tuff?; 3% quartz veining and patches; minor localized fault gouge.		Argillites are weak to moderately graphitic, patchy weak to moderate green and grey sericite alteration in volcanics.	1% disseminated pyrite.	Green seds? may be tuffaceous. Possibly a less altered member of the 'black & yellow' unit with green to grey sericite development rather than yellow or weakly developed 'MUT'.
387.00 TO 392.40	«ARG FLT BX »	Black/grey. Fine grained. >80% argillite intermixed with <20% altered sediments. Interval is intermittantly brecciated by faulting with development of clay gouge. 3% white quartz veining except between: 387-388.3m: 50% quartz veining and silicification.		Patchy weak yellow and grey sericite alteration.	1% disseminated pyrite.	
392.40 TO 404.60	«ARG/ALT TU FF?»	Black/green/buff/grey. Fine grained. 35% argillite intermixed with green to buff altered tuffs(?); 3% of interval is faulted in narrow zones; 3% qtz veining.		Alteration consists of yellowish to green sericite. Interval of most intense alteration occurs between 392.4-399.5m. Alteration is moderate to intense yellow to green sericite. 399.5-402m: interval contains only minor alteration. 402-404.6m: banded green sericite alteration.	Minor disseminated pyrite.	
404.60 TO 420.50	«SIL ARG»	Black. Fine grained. Black argillite beds have been fractured and then infilled by quartz. 15% quartz veining and stringers. No preferred orientation. Two green tuffaceous intervals occur between 410.2-410.8m and 412.7-413.0m. Other minor beds of tuff to 5cm also present. Core is blocky throughout. Principal zones of faulting occur between: 406.5-406.9m «Flt Bx» 414.2-415.1m «Flt Bx» Foliation orientation ranges widely 55-80degs to core axis.		Patchy weak silicification; argillite is moderately graphitic. Tuffs are weakly dolomitic.	1% disseminated pyrite.	
420.50 TO 426.20	«ARG FLT BX »	Black/grey. Fine grained. Similar to the overlying unit; interval is strongly by fault brecciation localized fault gouge. Minor tuff intervals. 15% quartz veining and fracture fillings.		Argillite is graphitic. Minor weak silicification. Between 421.5-422.7m: patchy moderate grey, dol alteration.	1% coarsely disseminated pyrite.	423.6-425.8m: 30% core recovery.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
426.20 TO 430.30	«ARG/SILT»	Black/grey. Fine grained. 90% of interval is argillite in which is finely interbedded silt. Beds are disrupted, 5-10% quartz which primarily occurs as stringers and fracture infilling.		Patchy weak silicification of argillite occurs sporadically throughout interval Minor brown sericite.	1% disseminated pyrite.	
430.30 TO 435.60	«DOL VOLC»	Green. Fine grained. Intensely altered mafic volcanics; minor argillite; 10% white and grey quartz/dol veinlets. Veins exhibit no preferred orientation.		Intense dolomitic alteration; minor brown sericite.	Trace chalcopyrite in veinlets, 1% pyrite.	
435.60 TO 442.80	«ARG FLT BX »	Black. Fine grained. Intervals is primarily argillite. Brittle fault breccia common throughout. Upper contact is faulted. Contact orientated at	60	Argillite is graphitic.	1% coarsely disseminated pyrite.	440.9-443.2m: 10% core recovery.
442.80 TO 447.10	«DOL VOLC»	Green. Fine grained. As in interval 430.3-435.6m except that there is 15% quartz/dol veining and flooding. END OF HOLE.		Intense dol alt'n. Minor brown sericite.	Trace chalcopyrite in veinlets; 1% pyrite.	

Sample	From (m)	To (m)	Length (m)	ASSAYS								GEOCHEMICAL											COMMENTS		
				CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM	BA PPM	BA %	SB PPM	AG PPM	AU PPB			
BCD31265	20.40	21.60	1.20									46	53	40				1				10	1.5	1	
BCD31266	23.70	24.65	0.95									252	82	15				244				1	0.6	3	
BCD31267	34.20	35.70	1.50									46	380	16				15				3	1.9	2	
BCD31268	74.90	76.40	1.50									62	39	28				47				1	1.4	2	
BCD31269	76.40	76.80	0.40									714	316	36				21				30	2.8	1	
BCD31270	76.80	79.40	2.60									41	59	37				18				1	2.0	7	
BCD31271	91.70	93.20	1.50									44	143	82				1063				42	2.0	98	
BCD31275	95.20	96.70	1.50									19	51	18				94				7	0.6	3	
BCD31272	100.30	102.10	1.80									60	53	72				1091				42	2.1	250	
BCD31273	102.10	103.60	1.50									16	448	40				222				8	.08	21	
BCD31274	104.20	105.70	1.50									27	128	37				127				6	.07	10	
BCD31276	121.60	123.10	1.50									17	72	41				113				2	1.5	9	
BCD31286	136.60	137.70	1.10									95	228	137				173				52	7.2	65	
BCD31278	137.70	139.20	1.50	.021	.12	.07	9.0	.06				207	1181	731				165				77	9.0	61	
BCD31279	139.20	139.27	0.07	1.741	1.43	5.75	454.0	2.2																	
BCD31280	139.27	140.80	1.53									40	80	61				144				12	1.5	82	
BCD31287	140.80	142.30	1.50									11	177	41				43				4	0.6	17	
BCD31281	145.20	146.20	1.00									56	251	91				2360				64	2.9	280	
BCD31282	151.50	152.70	1.20									37	92	36				177				6	1.1	24	
BCD31283	155.50	155.80	0.30	.013	.07	.06	4.9	.86				127	655	634				4819				90	4.9	860	
BCD31284	155.80	156.60	0.80									104	345	425				5475				141	5.0	338	
BCD31285	157.30	158.70	1.40									50	299	248				294				5	2.3	100	
BCD31288	190.60	192.10	1.50									60	60	25				34				2	1.2	4	
BCD31289	198.90	200.40	1.50									52	87	57				90				1	1.4	19	
BCD31290	200.40	200.75	0.35									72	525	123				156				4	1.3	8	
BCD31291	200.75	202.25	1.50									82	108	64				34				4	1.2	3	
BCD31292	226.40	227.60	1.20									49	66	28				25				3	1.2	2	
BCD31293	238.00	238.70	0.70									74	649	274				503				18	2.0	26	
BCD31294	241.40	242.90	1.50									67	481	232				611				5	2.2	51	
BCD31295	242.90	244.10	1.20	.019	.88	.17	3.6	.04				195	8781	1672				251				14	3.6	43	
BCD31296	244.10	245.10	1.00	.017	.24	.25	4.5	.06				176	2402	2524				806				25	4.5	61	
BCD31297	245.10	246.60	1.50									19	404	474				660				16	1.2	55	
BCD31299	264.60	265.40	0.80									69	137	63				2233				52	2.7	113	
BCD31300	267.70	269.40	1.70									66	122	28				358				9	1.3	23	
BCD31301	280.60	281.70	1.10									99	367	63				1949				43	2.2	330	
BCD31302	284.10	285.70	1.60									74	93	31				1232				17	1.2	1	
BCD31303	291.30	292.80	1.50									40	72	54				1612				32	1.2	3	
BCD31304	292.80	293.50	0.70									271	266	754				2035				49	3.9	136	

HOLE NUMBER: C91-8

ASSAY SHEET

DATE: 9-October-1991

Sample	From (m)	To (m)	Length (m)	CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM	BA PPM	BA %	SB PPM	AG PPM	AU PPB
BCD31305	295.70	297.20	1.50								63	89	96				924			9	1.4	42
BCD31306	303.50	304.30	0.80	.025	.01	1.57	34.8	.13			253	83	15730				527			81	34.8	127
BCD31307	304.30	305.30	1.00								20	56	150				313			7	1.8	63
BCD31308	306.60	307.30	0.70								103	137	241				85			7	3.7	9
BCD31309	344.50	346.10	1.60								94	109	53				190			7	2.0	22
BCD31310	348.60	349.80	1.20								34	38	42				35			3	0.6	4
BCD31311	349.80	351.10	1.30								56	63	59				54			4	1.1	2
BCD31312	367.60	368.80	1.20								49	222	37				204			14	1.7	17
BCD31313	387.00	388.30	1.30								60	190	97				108			10	1.6	1

HOLE NUMBER: C91-8

GEOCHEM. SHEET

DATE: 9-October-1991

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	MnO2 %	TiO2 %	BA %	ZR %	CU PPM	ZN PPM	PB %	TOTAL %	AU PPB	BA PPM	AG PPM	PB PPM	P2O5 %	SR %	S %	TOTAL %	AS PPM	SB PPM
BCD31277	126.40	128.20	1.80	53.86	17.49	1.16	2.71	.01	4.22	11.37	.56	2.33			91	69			5	31	2.0	29	.04			93.83	158	1
BCD31278	254.90	257.90	3.00	64.36	14.90	2.69	1.71	.466	3.36	5.55	.15	.66			21	85			5	84	1.3	31	.01			93.93	120	1

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 92.00	«CASING»					
92.00 TO 103.20	«ARG/SILT/W ACKE»	Grey, black. Interbedded argillites and siltstones and greywackes, BEDDING at 80-90 degs. Local graded bedding and load casting indicates tops are uphole. Overall composition 55% greywackes, 45% argillite/silt, gradational contact. Unit is blocky. Grain size to 2mm. ‡92.96.6‡ «Flt Bx» minor local clay gouge.	85	Faulted argillite is weakly graphitic.	Minor disseminated pyrite.	
103.20 TO 113.70	«SER ALT SE DS»	Grey, pale yellow, pale green. Fine grained. Sediments are derived from sediments similar to those above. Original textures are largely destroyed. FOLIATION oriented at 55-65 degs. ‡103.7-106.8‡ «Flt Bx» interval is strongly fault brecciated, clay gouge is common. 103.8-106.0m: subinterval consists of 70% bull quartz. Veining is strongly brecciated (brittle) and fractured. Veins are barren of sulphides. 111.0-113.7m: interval is intermittantly altered to fault gouge along fracture surfaces. 112.1-112.9m: weakly altered cherty black argillite.	60	Seds are intensely altered to pale yellow to buff and grey sericite.	10% finely disseminated pyrite.	
113.70 TO 123.90	«ARG/CHT FL T BX»	Black. Fine grained. Interval has been subjected to intermittent intense brittle fault brecciation; clay gouge developed locally; 35% of the interval is laminated ribbon cherts @ argillite partings. General BEDDING orientation 15% white quartz veining and flooding with associated base metals. Veins contain 1% white xtals (<1mm) of feldspar? ‡117.1-117.25‡ silicified interval of what appears «Het Frag»; clasts of argillite and altered rock comprise 10% of interval.	65	Minor patchy weak silicification. 113.7-115.3m: intermittent moderate sericitic alteration of argillite. 119.9-120.9m: intense quartz flooding/silicification.	Background sulphide content of unit consists of 1-3% coarsely disseminated pyrite, trace sphalerite. 114.6m: 4cm wide silicified zone containing 20% very coarse grained coarsely disseminated pyrite, <1% sp, cp. ‡115.6-115.7‡ «1%tt, 1%sp+cp+gn» 5% pyrite, sulphides are in a silicified interval; sx are fine grained, fine to coarsely disseminated. ‡117.1-117.2‡ «5%py, 2%sp, 1%tt» sp is coarse grained; SX are coarsely dissem. in silicified Het Frag. ‡119.9-120.1‡ «1% sp, tr gn» ;5% py at top of silicified interval.	114.6-117.5m: 67% recovery. 117.5-121.0m: 60% recovery. 121.0-122.8m: 90% recovery. 122.8-124.0m: 75% recovery. 115.6-115.7m and 117.1-117.2m: strike extension of the C90-6 mineralized intersection? Poor core recovery in this interval.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
123.90 TO 129.85	«DOL/SER AL T VOLC?»	Grey. Fine grained. Original textures are destroyed except for minor argillite interbeds. Minor quartz/dol veining. FOLIATION at	50	Pervasive moderate to intense dolomite alteration. Pervasive weak to moderate grey sericite alteration gives foliation a phyllitic sheen. Trace fuchsite.	2% pyrite.	
129.85 TO 134.40	«ARG/VOLC FLT GOUGE»	Black, grey. Fine grained. Black argillites are interbedded with altered volcanics similar to that of the overlying interval. Argillite occurs between: 129.85-131.0m & 131.6-132.2m. Contacts at 35-45 degrees..... 129.85-132.3m: the core intensely faulted with abundant clay gouge developed. 132.3-134.4m: patchy clay gouge, more of a brittle fault zone.	40	Dol and sericite alt'n of volcanics. Argillite is weakly graphitic.	Minor pyrite.	
134.40 TO 175.20	«TUFF/LAP TUFF»	Green. Fine to 5cm. 134.4-150.0m: massive fine grained unit, no noticeable clasts. 150.0-173.0m: lapilli tuff, 5% clasts at top of interval, 25% clasts at base of interval. Clasts are more altered than the groundmass. 173.0-175.2m: massive, dark green.		134.4-150.0m: patchy weak dolomitization bleaches core, minor brown sericite. 150-175.2m: unit is calcareous, patchy weak dol. alt'n. Clasts are sericitically altered, groundmass is still weakly chloritic. 173.0-175.2m: moderate patchy dol; alt'n, very fine grained brown sericite alt'n.	Minor disseminated pyrite.	
175.20 TO 177.90	«ARG FLT BX»	Black. Fine grained. Black argillites containing 10% white quartz fracture fillings, patches and veinlets. Minor silty to tuffaceous interbeds. Pervasive brittle fault brecciation throughout.		Patchy weak silicification; graphitic	5% fine grained pyrite local concentrations to 20%, semi-massive.	
177.90 TO 179.50	«MAF VOLC»	Grey, green. Fine grained. Massive unit moderately altered, original textures indistinct. Lower contact is brecciated and ground.		Trace fuchsite, patchy dol and brown/green sericite alt'n.	Minor pyrite except in 4cm silicified interval at base of unit which contains 10% coarse grained pyrite.	177.6-179.8m: 70% core recovery.
179.50 TO 191.50	ARG/SILT FLT BX»	Black. Fine grained. Interval is extensively fault brecciated, patchy clay gouge. Argillite comprises 85% argillite with 15% interbedded siltstone. Bedding is contorted. At 184m offsetting cleavage plane at..... 5% white fractured quartz veining. Some quartz in filling of fractures.	70	Patchy weak silicification. Argillite is strongly graphitic in strongly faulted areas.	1% disseminated pyrite local concentrations to 5%. 189.8-190.1m: 10% fine - coarse grained pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
191.50 TO 198.80	«FLT'D ARG/TUFF»	Black, green. Fine grained. 10% fine grained altered tuffs are interbedded with argillite +/- silt. Tuff beds are generally 40cm wide. Principal tuff bed occurs between: 193.7-194.4m. Bedding is contorted, varies between 55-90 degs. Interval is brittlely fault brecciated, minor clay gouge. 195.6-196.3m: quartz/feldspar? vein. 80% quartz; the feldspar have been altered to a pale green clay and sericite.	73	Tuffs are dolomitic. Mixer graphitic argillite. Trace fuchsite.	1% coarsely disseminated pyrite.	
198.80 TO 212.70	«ARG FLT BX »	Black. Fine grained. Argillites are laminated by 5% chert and 5% silts; 10% massive and fractured white quartz veins to 20cm. Locally abundant quartz stringers and flooding silicifies core. Core is intermittantly but strongly fault brecciated over 80% of the interval.		Faulted argillite is strongly graphitic Minor grey to green sericite in faulted intervals. 201.8-205.6m: moderate silicification of argillite.	2% fine grained coarsely disseminated pyrite. ‡201.8-203.1‡ «10% py» local concentrations of 40% semi-massive pyrite over 5cm.	
212.70 TO 226.50	«ARG/SILT»	Black, grey. Fine grained. Argillite is laminated by 20% grey siltstone and cut by 5% white quartz veining. Minor cherty laminae. Bedding is strongly contorted by small scale disharmonic folds. CLEAVAGE at 75-90 degs. Core is blocky; 5% narrow brittle fault zones; fault bx and clay gouge increases downhole. Lower contact is faulted. At 224.2m BEDDING at..... 212.7-213.3m: intermixed argillite and altered volcanics.	83 75	Minor dol. alt'n of silts and silic. of argillites. Minor graphite.	1% pyrite disseminations.	
226.50 TO 232.60	«ALT HET FR AG»	Grey. Fine to 4cm. Argillite to silty matrix supports upto 40% angular to subangular clasts. Clast composition in order of decreasing abundance is, chert quartz, argillite/silt sericite altered clasts. Interval has been weakly sheared to moderately altered to gouge. Core is FOLIATED at Clasts show weak alignment and stretching parallel to foliation. Some clasts are brecciated. 228.0-229.6m: massive, fractured white quartz vein. Somewhat vuggy with minor white kaolinite vein is intermittant throughout interval, oriented sub-parallel to core axis.	70	Interval is weakly phyllitic due to formation of grey sericite; local green sericite.	4% disseminated pyrite. 228.4-229.6m: minor fine to coarse grained, coarsely disseminated galena.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
232.60 TO 233.60	«DOL TUFF?/ ARG»	Grey, black. Fine grained. 70% intensely altered tuffs? interbedded with black argillite and minor Het Frag; 5% white quartz veining.		Tuffs? are intensely dol. altered, patchy brownish sericite alteration. 232.6-232.9m: moderate grey sericite alteration in sheared core.	2% pyrite.	
233.60 TO 237.10	«CHERT»	Grey. Fine grained. Top of interval has been brecciated and healed by white quartz fracture in filling. 235.1-235.9m: core is fault brecciated with moderate fault gouge. 235.9-237.1m: fractured relatively clean laminated cherts. BEDDING at Cherts at top of interval are grey ribbon cherts. Sharp lower contact	55 60	235.1-235.9m: patchy weak sericite alteration.	Minor pyrite.	
237.10 TO 239.00	«HET FRAG»	Black, grey. Fine to 3cm. Het Frag is locally well developed with up to 30% subangular clasts of chert/quartz, sediments and sericitically altered volc?. Overall the clastic texture is poorly developed. Matrix is silty. 237.4-237.6m: fault gouge.		Patchy moderate silicification & dolomitization.	3% fine grained disseminated pyrite.	
239.00 TO 242.20	«DOL TUFF?»	Grey buff. Fine grained. Intense alteration destroys original textures. 15% patchy quartz/dol. Rock was volcanic in origin - tuff?		Tuffs? are intensely but sporadically dol altered. Dol alt'n is interspersed with brownish sericite alt'n.	5% very fine grained, finely disseminated pyrite.	
242.20 TO 243.70	«TUFF?/ARG TRAN ZONE»	Grey, black, white. Fine grained. Tuffs? are interbedded with 2% argillite and flooded with quartz/dol. Tuffs? are as in the overlying interval.		Qtz/dol flooding of and associated with argillite. Tuffs? are dol altered.	3% pyrite.	
243.70 TO 246.90	«HET FRAG»	Shades of grey. Fine to 4cm. 243.7-244.6m: interval is primarily silt which contains <5% quartz (dol) clasts. Rock contains 5% spotty dol. alt'n. FOLIATION at 244.6-245.4m: well developed clastic texture. Clasts are angular to subangular. In order of decreasing abundance, clasts composition is quartz dol, argillite, sericite altered clasts. Clasts are matrix supported. Matrix is silty with a few thin argillite interbeds; 8cm quartz vein at 245.1m. 245.4-245.6m: faulted, and ground core.	65	243.7-244.6m: moderate grey sericite alt'n gives core foliation and phyllitic sheen. Patchy mod. dol. alt'n 244.6-245.4m: patchy moderate dol alteration.	243.7-244.6m: 7% very fine grained, finely disseminated pyrite. <5% disseminated pyrite between 244.6-245.4m.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		245.6-246.1m: intensely altered tuff?, dark green brown color. 10% quartz/dol flooding/veining. 246.1-246.9m: Het Frag as in 244.6-245.4m.		245.6-246.1m: strong green/brown sericite alt'n gives rock phyllitic sheen streaky moderate silicification.	245.6-246.1m: 5% disseminated pyrite.	
246.90 TO 248.50	«ALT VOLC»	Green/grey. Fine grained. Intense alteration has destroyed original textures. 3% white quartz veining cross cutting foliation. FOLIATION poorly developed	50	Strong streaky brownish sericite alteration. Initial 30cm are moderately to intensely silicified.	10% disseminated pyrite.	
248.50 TO 250.40	«QTZ/DOL VE IN»	White. Massive white quartz contains 20% grey, coarsely disseminated dolomite & 5% altered feldspar? Well developed fracture 40-45 degs. Minor talc inclusions.	43	Feldspar? alter to calcite and clay.	1% combined sulphides - pyrite, galena, calcopyrite.	
250.40 TO 254.00	«DOL/SER/QTZ ALT VOLC»	Grey. Fine grained. Intense alteration destroys original textures. 15% white quartz veining to 3cm. Vein orientation varies. 250.4-250.9m: silicified, quartz veined argillite.		Volcanics are intensely dolomitically & (brown) sericitically altered in banded zones with sporadic moderate silicification.	5% fine - coarsely disseminated pyrite. 250.9-251.05m: 10% pyrite.	
254.00 TO 268.50	«ARG/VOLC»	Black, grey. Fine grained. 80% of interval is comprised of silty argillite which is interbedded with 20% grey/green volcanics-tuffs?. 3% irregular quartz veins. Beddings is clastic locally tectonically brecciated (soft sed slump?). FOLIATION at 259.0-263.5m: interval is intermittantly sheared and fault brecciated minor clay gouge.	65	Volcanics are calcareous; phyllitic sheen caused by development of green to grey sericite; minor talc. Argillites are weakly graphitic, graphite content increases in faulted intervals.	2-3% pyrite.	
268.50 TO 274.30	«SIL ARG/CHERT»	Black, grey, white. Fine grained. Interval consists of well silicified and quartz veined argillite interbedded with <15% ribbon chert. Local FOLIATION Some veins contain grey to pink dolomite? and base metals.	70	Intense silicification, quartz flooding some phyllitic surfaces.	Minor cp, sp in some quartz/dolomite veins. Base metals are fine grained, fine to coarse disseminated. Principal mineralized zones occur between: 269.8-270.0m, 272.5-272.8m, & 273.3-273.45m. «3% sp+gn+cp» Interval contains 1% coarsely disseminated pyrite.	
274.30 TO 283.10	«ARG/VOLC TRAN ZONE»	Black, grey. Fine grained. 60% silty argillite is interbedded with altered volcanics. Bedding in argillites is clastic - fine localized folds, tectonic brecciation present. Argillites are laminated by silts and some fine quartz/dolomite stringers. Alt'n of volcanics has obliterated original textures but volcs. are similar to underlying unit. 2% quartz veining.		Argillites locally moderately graphitic minor weak silicification. Volcanics are intensely dol. altered with bands of brown sericite.	1% coarsely disseminated pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
283.10 TO 300.90	«DOL VOLC»	Grey. Intensely altered mafic volcanics. Narrow zones (<5cm) of translucent to white quartz flooding occur locally which are associated with base metals. The major veined interval occurs between 284.1-285.5m. 294.0-299.4m: intermittent narrow shear and fault gouge zones.		Core is intensely dol. altered & banded by brown sericitic alteration, minor fuchsite.	Narrow quartz veins can carry upto 7% combined base metals gn,>sp,>cp. Base metal content over entire interval is minor. 284.1-285.5m: <1% galena, minor sp, cp. <2% pyrite overall, concentrations to 5%.	Principal mineralized zones have been sampled.
300.90 TO 315.60	«SED/VOLC TRAN ZONE»	Black, grey, green. Fine grained. Interval consists of 70% argillite with silty laminae and beds and 30% grey green altered volcanics. Bedding in seds is chaotic, a few bullseye structures present. Volcanic intervals are <1m in thickness. 5% irregular white quartz veining crosscutting argillites		Minor brown sericite, trace fuchsite alt'n of volcanics. Volcs are calcareous, fe-dol alt'n. Argillite is locally graphitic minor moderate silicification of argillite.	1% coarsely disseminated pyrite.	
315.60 TO 352.50	«ARG/QTZ ST WK»	Black, white. Fine grained. Black argillite which is locally silty contains up to 40% quartz stockwork. Veins reach a width of 4cm. Veins have no preferred orientation and are generally barren of sulphides; some veins are vuggy or contain clay altered feldspar? minor dol. Two stages of quartz veining. 345.6-352.5m: quartz veining decreases to <15%, minor altered volcanics? 346.8-351.4m: intermittent narrow fault gouge zones and gouge along fractures.		Argillite is strongly graphitic, local weak to moderate silicification. 345.6-352.5m: minor talc/fuchsite in altered volcanics. Weak dol. alt'n of silty laminae/volc.	1-2% disseminated pyrite. ‡332.7-332.8‡ «20%py,7%sp,2%gn+cp» Sphalerite is iron poor, sx are medium grained coarsely disseminated. Associated with intense quartz flooding.	Base of interval is typical argillite.
352.50 TO 363.30	«HET FRAG/ARG/ALT VOLC»	Black, grey, green. Fine grained. Interval consists of a rapidly changing lithology which includes: argillite, sil arg, altered volcanics, and Het fragmental as described below: 352.5-352.85m: Het Frag interval consists of 25% clasts between 1mm to 30mm in silty matrix. Clasts are angular to subrounded. Some alignment of elongate clasts parallel to FOLIATION (bedding?) Clast composition 50% sericite altered, 35% quartz dolomite, and 15% argillite. 352.85-354.8m: argillite and sil arg; black argillites is flooded/veined by 3% white to grey quartz and dolomite (60/40%); minor altered volc. 354.8-355.3m: altered volc, original textures destroyed.	65	352.5-352.85m: weak dol/ser alt'n of clasts. 352.85-354.8m: patchy moderate silicification patchy weak dol. alt'n. 354.8-355.3m: brown/green sericite alt'n, 1% fuchsite/talc; phyllitic sheen.	352.5-352.85m: 7% fine to med. grained disseminated pyrite. 352.85-354.8m: minor fine to medium grained disseminated sphalerite <5% pyrite, coarsely disseminated except. ‡352.9-353.25‡ «1%sp, tr.gn, 7%py» in quartz and 354.5-354.8m where there is 20% pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		<p>355.3-355.9m: silty argillite minor altered volc. 355.9-356.0m: Het frag as in 352.5-352.85m. 356.0-357.05m: Sil Arg; black argillites, 20% white quartz veining and flooding.</p> <p>357.05-357.9m: 80% altered volcanics interbedded with poorly developed Het Frag with silty matrix supporting 2% clasts. 357.9-362.85m: Sil/Chty Arg: 30% irregular quartz veining/flooding, local chert laminae.</p> <p>362.85-363.3m: Alt Vol Flt Bx: volcanics have altered to clay gouge.</p>		<p>355.3-355.9m: weak patchy dol alt'n.</p> <p>356.0-357.05m: moderate to intense silicification. Minor graphite.</p> <p>357.05-357.9m: volcanics are moderately dol., massive patchy brown sericite, minor talc/fuchsite present. 357.9-362.85m: patchy silicification.</p> <p>362.85-363.3m: patchy grey/white silicification/veining.</p>	<p>354.8-355.3m: 5% coarsely disseminated pyrite. 355.3-355.9m: 2-3% pyrite.</p> <p>356.-357.05m: «1% sp» fine to medium grained, coarsely disseminated sphalerite associated with silica. 5% coarsely disseminated pyrite except, 356-356.35m where there is 20% pyrite. 357.05-357.9m: 3% disseminated pyrite.</p> <p>357.9-362.85m: 1% sphalerite, minor cp galena in quartz veins. Sp, gn, cp are fine to medium grained, coarsely disseminated, 5% pyrite. 362.85-363.3m: 4% pyrite.</p>	<p>357.05-357.9m: volc. may be large clasts in Het Frag.</p>
363.30 TO 365.70	«HET FRAG»	<p>Grey. Fine to 4cm. Silty matrix, interval is largely framework supported. 363.3-364.1m: clasts are elongate and possibly stretched parallel to FOLIATION at Clast composition is approximately 70% white to grey quartz (dol)/chert, 20% argillite, 10% pale, weakly sericitic fragments of volc? From 364.1-365.7m core is unfoliated. 363.5-363.75m: qtz vein with argillite inclusions (<10%) and stylolites. 364.2-364.7m: quartz veined and flooded sericitically altered and veined argillite (70%/30%).</p>	80		<p>The final 20cm of the interval contains 1% medium grained disseminated sphalerite in quartz; 2-5% medium grained pyrite.</p>	
365.70 TO 372.05	«INTERB ARG /VOLC»	<p>Black, grey, brown. Fine grained. 60% argillite, 40% altered volcanics. Bedding in argillites are contorted. CLEAVAGE at 15% quartz veining and flooding in argillite. Volc contain 10% patchy, irregular quartz/dolomite veining.</p>	75	<p>Volcanics are intensely dolomitically altered with patchy brown sericite alt'n. Argillites are generally moderately silicified. Argillites are graphitic.</p>	<p>2% pyrite in argillite. 5% pyrite in volcanics in coarse disseminated, patches and bands.</p>	
372.05 TO 373.10	«HET FRAG»	<p>Grey. Fine to 7cm. Silty to sandy matrix (minor argillite) supports up to 40% but coarse clastic content decreases downhole. 5% patchy quartz veining with dol along fractures. Minor shear texture.</p>		<p>Matrix is calcareous - Fe-dol, bleached patchy brown sericite alt'n.</p>	<p>3% disseminated pyrite.</p>	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
373.10 TO 375.50	«INTERB ARG /VOLC»	Black, green. Fine grained. 373.1-373.65m: primarily volc. tuff, minor argillite component. Argillite occurs as irregular patches and streaks in the volc. Volc. are otherwise massive, gradational contact with Het Frag. 373.65-375.6m: primarily argillite with 5% volc? component. 15% white to grey crosscutting quartz stringers and veins. At least 2 stages of quartz veining. Veins are contorted, brecciated. Minor fault gouge.		373.1-373.65m: volc are calcareous, patchy minor brown sericite. 373.65-375.6m: patchy weak silicification.	373.1-373.65m: 2% disseminated pyrite. 5% very coarsely disseminated pyrite - barren intervals are interspersed with highly mineralized intervals.	
375.50 TO 377.65	«HET FRAG»	Grey. Fine to 6cm. Silty to sandy matrix supports up to 70% clasts, clasts are angular to subrounded. Minor narrow zones of stretching. Clasts are 70% white, grey, pinkish quartz/cherty fragments with the remainder made up of argillite and minor sericite altered clasts.		Matrix is locally weakly sericitic.	3-5% medium to fine grained disseminated pyrite.	
377.65 TO 380.40	«DOL VOLC»	Grey. Fine grained. Intensely altered volcanic minor narrow zones of fault gouge, 5% argillite beds.		Moderate to intense dol alteration; patch brown sericite.	2% disseminated & stringers of pyrite.	
380.40 TO 386.80	«HET FRAG»	Grey. Fine to 5cm. Poorly developed heterolithic texture due at least in part to tectonism. Clasts are quartz/chert, argillite/sericite altered clasts. Locally clasts appear to have been created by shippage along cleavage planes subparallel to bedding, causing elongate slivers of different lithologies to be emplaced adjacent to one another. Intense sericitic, altered angular clasts can not have been moved any great distance 35% remnants of argillite and volc beds. Matrix is indistinct due to extensive alteration. FOLIATION at Sil. Chert: 384.5-384.7m. ‡380.4-380.9‡ «Flt Bx»	75	Patchy silica flooding (weak) of matrix and pervasive moderate yellowish sericite alteration which gives phyllitic surfaces. 384.1-386.1m: intense silicification of cherty? interval. Some clastic textures.	Pyritic content varies between 3-10%. Pyrite is fine grained and occurs as coarse disseminated, patches and bands. 382.0-386.1m: <1% combined sp, cp, gn with total concentrations between: ‡384.6-386.1‡ «2%sp+cp+gn» Base metals occur in white quartz.	Resembles a weak yellow/black alteration (ie. quartz/ser alt. seds) with the exception that interval is clastic.
386.80 TO 389.10	«INTBED ARG /VOLC»	Black, grey. Fine grained. Argillite is interbedded with minor Het Frag between 387.8-387.9m and altered volcanics between 388.85-389.1m. Bedding within argillites has been disrupted with minor tect breccia. CLEAVAGE PLANE at Patchy quartz veining/flooding in 3% of interval.	60	Patchy intense yellow to brownish sericite alt'n of argillite. Volc are dol altered with brownish sericite and minor talc.	3% coarsely disseminated pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
389.10 TO 391.65	«HET FRAG»	Grey. Fine to 3cm. Matrix to framework supported; subangular to subrounded clasts. Much of the clastic textures appears to be caused by movement along cleavage planes oriented..... Clasts are predominantly quartz/chert, 10% argillite, minor pyrite lithoclasts and 10% weak sericite altered clasts; matrix is pyritiferous. 390.6-391.3m: strongly altered argillite and Het Frag.	65	Interval is weakly sericitically grey to green - giving core phyllitic texture. 390.6-390.9m: quartz flooded and veined 390.6-391.3m: moderate grey/green sericite.	7% disseminated pyrite blebs & patches in the matrix. 390.6-391.3m: 10-15% pyrite.	
391.65 TO 397.40	«ARG/CHERT»	Black, grey. Fine grained. Black argillites are interbedded with ribbon cherts & cherty argillites at 393m and 397m. BEDDING is 80-90 degs. Between 394.1-397.1m bedding is strongly contorted and frequently subparallel to core axis. CLEAVAGE at 60-80 degs.	85 70	Black argillites are weakly graphitic. 391.65-392.5m: white quartz flooded/veined interval. 393.5-393.9m: quartz flooded/veined interval.	‡391.65-392.8‡ «3%sp, tr.cp+gn» Sphalerite is fine to coarse grained, coarsely disseminated in quartz, 10% pyrite in the same interval. 393.1m: 3cm wide, 1% cp, gn, 7% pyrite. ‡393.4-393.9‡ «2%sp+gn+cp, 15%py» Sulphides in quartz.	394.1-397.1m: possible hinge zone.
397.40 TO 400.40	«HET FRAG»	Grey. Fine to 2cm. Similar to overlying Het Frag intervals. Clastic texture is weak-silty matrix supports upto 40% clasts but generally <20% clasts Clastic textures become more pronounced downhole.		Weakly developed sericite produces phyllitic surfaces.	2% disseminated pyrite.	
400.40 TO 402.40	«ARG/HET FRAG»	Black, grey. Fine grained. Black to altered grey argillite is interbedded with minor sandy beds and 2 Het Frag intervals of 7cm width. Minor quartz veining, 40% quartz veining and flooding between 401.8-402.4m. General sense of BEDDING	60	Patchy moderate grey to yellow sericite alteration. Yellow sericite occurs with quartz in the final 60m of the interval.	1% pyrite.	
402.40 TO 405.10	«HET FRAG»	Grey. Fine to 2cm. Similar to overlying Het Frag intervals matrix is silty. Clasts are 30% argillite, 50% quartz/chert, 20% sericitic clasts, matrix supported. Matrix is locally pyritiferous or silicified. 10% white quartz veining veins to 8cm. Clasts are subrounded to angular.		Interval is weakly sericitic, patchy weak silicification.	<5% pyrite; fine to coarse grained, in disseminations. Trace sphalerite.	May be caused in part by tectonism.
405.10 TO 423.20	«ARG TECT B X»	Black, grey, yellow. Fine grained. Black argillites exhibit some tectonic breccia textures. Bedding is disrupted; clasts include altered mafic clasts. 406.1-406.7m: silicified chert? 408.1-409.0m: 70% mafic volc.		406.1-406.7m: weak to mod silic. if original rock was chert, very intense silic. if argillite.	2% coarsely disseminated pyrite and pyrite stringers. 406.1-406.7m: minor medium grained brown sphalerite in white quartz silic. in chert?	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				‡410.9-415.6‡ patchy «qtz/ser alt» sericite is yellow, intense to moderate alteration. 415.6-423.2m: minor moderate yellow sericite alt'n.		410.9-415.6m: weak "YELLOW + BLACK" unit.
423.20 TO 428.10	«SIL ARG/CH T»	Black, grey. Fine grained. Silicified argillite is interbedded with 20% argillaceous ribbon chert and minor coarse silt? 5% white quartz veining & minor flooding. Veins have no preferred orientation. 10% silt to sandy? beds. Bedding is contorted. 426.3-427m: minor gouge.		Argillites are moderately graphitic locally weak - moderate silicification.	Trace sphalerite and chalcopyrite in quartz veins. 1-2% stringers and dissem of pyrite.	
428.10 TO 442.80	«MIXED SEDS »	Grey, black. Fine grained. Interval consists of 5% grey wacke? 15% argillaceous and locally silicified ribbon cherts and 85% argillites laminated locally with ribbon chert or silt. Bedding is contorted, locally weakly tectonized. 5% white quartz veining to 30cm with argillite inclusions, minor dol. Some quartz sweats? in chert cut by more recent quartz stringers. Minor narrow gouge zones and shears.		Patchy, minor weak silicification, argillites are locally weakly graphitic Weak sericite alt'n of wackes. Localized fine dol. growths-porphroblastic.		
442.80 TO 443.90	«DOL SEDS»	Grey. Fine grained. Grey silty sediments are pervasively altered by dolomitic/feldspathic? modular growths giving much of the core a spotted appearance. 5% white quartz patches and veinlets. Minor argillite patches. Original textures destroyed.		Near gradational contacts there is patchy green brown sericite. Body of interval is weakly to moderately dolomitized.	Minor pyrite except: ‡443.15-443.75‡ «6%sp, 1%gn, 3%py» Sphalerite occurs as both very pale brown and medium brown. Sulphides are fine to medium grained, coarse disseminations.	
443.90 TO 454.90	«ARG/SAND»	Black, grey. Fine grained. Black argillite is interbedded with siltstones and fine grained sandstone. Bedding is contorted locally tectonically bx. Local strong FOLIATION 15% quartz veining. Quartz veinlets exhibit minor small scale folding - axial plane parallel to foliation. Minor cherty intervals. Principal quartz vein zones. ‡449.5-450.4‡ «Qtz Vn» 80% vein material with argillite inclusions and stylolitic sutures. 452.7-454.4m: 35% quartz veining. Veins contain minor feldspar, dol; some veins well fractured. 450.6-451m: fine sandstone contains 10% subangular quartz/chert and minor argillite clasts to 1cm. 454.0-454.9m: intermittent fault gouge zones over	50	Argillite within quartz veins is intensely graphitic. Weak sericite developed in faulted, sheared & tectonized zones.	1% pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		60% of interval.				
454.90 TO 463.90	«SIL ARG/CH T»	Black, grey. Fine grained. Black argillites are laminated by grey cherts. Bedding is disrupted by tectonism, particularly between 454.9-456.3m; where tectonic bx is pervasive. CLEAVAGE PLANE at Where bedding is undeformed ie. frequently parallels cleavage.	75	Locally argillite is weakly graphitic. Argillite is weak to moderately silicified.	2-5% coarsely disseminated pyrite with local concentration to 20%.	2 most pyritiferous intervals sampled.
463.90 TO 477.80	«MIXED SEDS VOLC?»	Black, grey. Fine grained. 463.9-472.2m: interbedded black argillites with minor cherty laminae and silt/sandstone. The coarser sediments have a greenish tint - possibly a tuffaceous component. CLEAVAGE PLANE 35% of interval is argillite/chert, 65% sand/tuff? 2% quartz patches and veins. 472.2-477.8m: 90% argillite, cherty argillite and argillaceous chert. 10% coarse sedts/tuff. Abundant small discontinuous quartz stringers. Minor fault bx, bedding is disrupted, CLEAVAGE	70 85	463.9-472.2m: argillite is graphitic, sedts/tuffs are locally bleached, calcareous. 472.2-477.8m: argillite is intensely graphitic & mod to int. silicification.	<2% coarsely disseminated pyrite. 475-475.15m: 20% semi-massive patches of pyrite. 477.55-477.77m: 20% semi-massive patches of pyrite.	
477.80 TO 486.80	«DOL MAF»	Grey. Fine grained. Pale grey altered mafic volcanics; 1% quartz/dol veins and patches. Local nodules of quartz/dol. Minor narrow fault gouge/bx zones. Contact is faulted. END OF HOLE.		Patchy moderate to intense dol. alteration with streaks of brownish sericite. Minor talc.	1% pyrite in coarse disseminated and stringers.	

Sample	From (m)	To (m)	Length (m)	ASSAYS							GEOCHEMICAL											COMMENTS		
				CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM	BA PPM	BA %	SB PPM	AG PPM		AU PPB	
BCD31314	114.50	115.53	1.03	.021	.07	.04	3.0	.14				207	660	359				1294			21	3.0	138	
BCD31315	115.53	115.70	0.17	.112	.24	.21	24.6	.06				1123	2441	2082				155			425	24.6	64	
BCD31316	115.70	117.05	1.35									41	59	101				72			7	0.7	23	
BCD31317	117.05	117.20	0.15	.171	.60	.31	72.4	.28				1711	5989	3106				1112			734	72.4	278	
BCD31318	117.20	118.80	1.60	.020	.03	.01	5.6	.07				197	311	141				189			60	5.6	66	
BCD31319	120.00	120.90	0.90	.034	.09	.04	4.5	.01				344	889	356				105			132	4.5	3	
BCD31320	122.00	123.90	1.90									34	107	65				168			6	0.6	26	
BCD31321	175.20	176.70	1.50									118	127	111				168			1	1.0	46	
BCD31322	201.80	203.10	1.30									60	192	129				374			3	0.1	24	
BCD31323	228.00	229.60	1.60									42	143	149				23			1	0.8	13	
BCD31324	237.10	239.00	1.90									114	257	164				58			1	0.9	5	
BCD31325	243.70	245.40	1.70									141	308	128				59			1	0.8	16	
BCD31326	245.40	246.90	1.50									117	153	112				55			1	0.9	9	
BCD31327	246.90	248.50	1.60									80	113	80				86			1	0.6	17	
BCD31328	248.50	249.50	1.00									12	30	15				1			1	1.5	3	
BCD31329	249.50	250.40	0.90									7	59	179				5			1	1.5	2	
BCD31330	250.40	251.90	1.50									59	583	256				93			1	1.6	18	
BCD31331	251.90	253.40	1.50									42	66	121				36			1	1.0	4	
BCD31332	269.30	270.80	1.50									23	410	335				34			4	1.6	2	
BCD31333	270.80	272.30	1.50									22	83	116				46			1	1.0	17	
BCD31334	272.30	273.80	1.50									126	1595	253				70			1	1.0	25	
BCD31335	284.50	286.20	1.70									213	410	703				109			1	2.4	18	
BCD31336	296.50	298.00	1.50									124	449	347				88			1	0.7	66	
BCD31337	298.00	299.50	1.50	.102	.36	.16	5.1	.02				1015	3625	1555				126			3	5.1	19	
BCD31338	332.60	333.00	0.40	.028	.87	.39	13.3	.42				278	8739	3866				376			38	13.3	418	
BCD31339	352.90	353.30	0.40									61	1467	523				155			1	2.0	36	
BCD31340	353.30	354.80	1.50									65	777	301				128			1	1.6	20	
BCD31341	355.90	357.05	1.15									70	2328	812				216			14	2.4	56	
BCD31342	358.40	359.90	1.50									41	1113	563				172			4	1.9	46	
BCD31343	359.90	361.40	1.50	.012	.17	.09	3.2	.08				119	1721	850				193			9	3.2	82	
BCD31344	361.40	362.85	1.45	.023	.06	.08	5.0	.13				227	583	790				186			9	5.0	126	
BCD31345	364.30	365.70	1.40									16	284	293				60			1	0.9	1	
BCD31346	372.05	373.10	1.05									29	154	279				8			1	0.6	3	
BCD31347	373.80	375.50	1.70									168	2864	1663				96			2	2.2	18	
BCD31348	375.50	377.00	1.50									17	71	65				45			1	0.2	4	
BCD31349	381.60	383.10	1.50	.020	.06	.04	7.2	.07				201	584	485				446			22	7.2	65	
BCD31350	383.10	384.60	1.50	.055	.08	.07	11.2	.11				551	846	720				310			22	11.2	112	
BCD31351	384.60	386.10	1.50	.072	.34	.15	29.0	.08				720	3434	1472				415			88	29.0	84	

HOLE NUMBER: C91-9

ASSAY SHEET

DATE: 9-October-1991

Sample	From (m)	To (m)	Length (m)	CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM	BA PPM	BA %	SB PPM	AG PPM	AU PPB
BCD31352	389.10	390.60	1.50								32	73	66				229			2	0.5	36
BCD31353	390.60	391.65	1.05								66	93	204				356			8	1.0	54
BCD31354	391.65	392.80	1.15	.027	1.00	.36	13.7	.05			266	10045	3589				396			11	13.7	46
BCD31355	392.80	393.90	1.10	.032	.39	.18	8.0	.01			323	3923	1752				316			11	8.0	1
BCD31356	393.90	395.40	1.50								18	94	65				108			1	0.6	16
BCD31357	400.90	402.40	1.50								9	102	44				67			1	0.5	2
BCD31358	402.40	403.90	1.50								44	77	88				125			1	0.5	20
BCD31359	403.90	405.10	1.20								22	51	44				110			1	0.2	17
BCD31360	423.70	425.20	1.50								27	169	111				65			4	0.9	8
BCD31361	430.50	432.00	1.50								49	163	88				69			3	0.5	6
BCD31362	441.30	442.80	1.50								37	75	126				40			6	0.8	4
BCD31363	442.80	443.90	1.10	.005	.47	.30	5.9	.02			51	4745	3042				1			6	5.9	18
BCD31364	455.90	457.50	1.60								47	61	55				108			5	0.2	1
BCD31365	462.40	463.90	1.50								99	451	197				169			5	0.5	22
BCD31366	474.70	476.20	1.50								36	79	48				76			5	0.7	17
BCD31367	476.20	477.80	1.60								40	87	59				133			2	0.2	25

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 90.50	«CASING»					
90.50 TO 101.00	«ARG/SILT/W ACKE»	Black, grey. Fine grained. Sediments are finely bedded. BEDDING at Local weak FOLIATION at (eg. 93m). Tops are uphole indicated by graded bedding. Bedding is locally weakly contorted - axial plane parallel to core axis. Minor quartz veining. Core is very blocky. Local fault bx and gouge zones between: 91-91.5m, 95.9-96m, & 100.3-101m.	75 40	Argillite is weakly graphitic in faulted intervals.	Trace pyrite.	Clean H/W sediments.
101.00 TO 103.70	«SER HET FR AG»	Grey, yellow. Fine grained. Clast content varies between 1-20%. Clasts are subangular to subrounded. Clastic texture due to tectonism or slumping. Clast composition consists of quartz/chert and argillite (<10%) near upper contact. Local weak to moderate fault bx. Clastic textures are intermittent; minor fractured chert?		Pervasive weak to moderate yellow sericite, patchy moderate silicification.	3% fine to coarse grained pyrite disseminated and blebs.	102.1-104.5m: 90% core recovery.
103.70 TO 146.50	«QTZ/YEL SE R SEDS»	Yellow, grey. Fine grained. Intensely altered sediments generally destroys original textures. Some zones contain less sericite and appear to be more siliceous - altered argillite chert?? Core is very blocky to 129.3m & includes strongly faulted intervals. Principal fault zones: #108.5-111.2m intense pervasive «Flt Bx» minor gouge. #113.1-113.7m «Flt Gouge» #130.7-137.2m «Flt Gouge» contains intervals of sheared core, FOLIATION at 125.8-126.2m: dark grey chert.	65	Intense yellowish grey to mustard sericite alteration pervasive through interval except as noted below. 25% white quartz veins, veinlets and patches and some flooding. Some late stage? quartz veins to 20cm cut core. Other veins, sweats, flooding commonly have diffuse margins. 118.4-128.8m: 15% massive white quartz veins/flooding which stands out from host rock and which is associated with pyrite concentrations. 133.7-134.8m: core is locally a faulted black silicified argillite.	10% very fine grained pyrite disseminated throughout. In vicinity of some quartz veins pyrite occurs as semi-massive patches or discontinuous stringers. 124.4-125.8m: 15% fine grained pyrite patches.	120.5-124.6m: core has similar appearance to an altered felsic volcanic, which has been intensely sericitized. Possible cherty interval. Litho taken. 105.8-108.8m: 80% core recovery. 108.8-109.7m: 33% " recovery. 109.7-111.6m: 63% " recovery. 111.6-114.0m: 73% " recovery. 114.0-116.4m: 6% " recov.-triconed.
146.50 TO 171.70	«SER/DOL AL T SEDS/ARG»	Shades of grey, black. Fine grained. Interval has gradational 'contacts'. Interval is distinguished from adjacent intervals by style and degree of alteration. 10% laminated (locally dol) argillite patches to 1m thickness are found in sericitically, dol altered seds +/- minor volcanics. Bedding is chaotic, some tectonic brecciation. <5% white quartz veining. 157.2-159.8m: intermittent narrow fault bx/gouge		Alteration is predominantly weak to moderate grey sericite and dolomitization which grades into and out of black argillite with dol silty laminae and zones of yellow quartz/sericite alt'n. 167.8-168.0m: moderate fuchsite alteration and intense dol associated with quartz veins - altered volc?	Pyrite content reaches 20% over 5cm widths; overall content 5%. Pyrite is most abundant in sericitically altered rock.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		zones.				
171.70 TO 184.00	«QTZ/YEL SE R ALT SEDS»	Yellow, grey. Fine grained. As in interval 103.7-146.5m except that there is a minor amount of black argillite and the quartz and sericite is more banded. FOLIATION	70	Intense quartz/sericite alt'n.	5-10% fine grained disseminated pyrite in sericite.	
184.00 TO 187.50	«CHERTY ARG »	Black, grey. Fine grained. Black argillite is laminated by grey chert bands. Bedding is chaotic locally tectonized. CLEAVAGE 60-90 degs. 7% patchy white quartz veining and stringers. Some stringers exhibit small scale folding. 1% dolomite stringers and veinlets which are also contorted.	75	Minor graphite. Weak grey sericite patchy weak to moderate silicification. Weak dolomitization of some laminae.	1-3% very fine grained patches of pyrite. Minor brecciation of pyrite by quartz stringers.	
187.50 TO 190.00	«SER SEDS? FLT BX»	Yellow, grey. Fine grained. Intensely altered sediments which grade into black argillite in final 20cm of interval. Interval is strongly faulted brecciated and sheared with abundant fault gouge. 12% quartz veining and clasts. Principal vein intersection 188.9-189.2m.		Rock is pervasively and intensely altered to yellow sericite.	2% disseminated pyrite.	
190.00 TO 190.70	«SER/DOL VOLC?»	Grey, yellow. Fine grained. Intensely altered volcanics in which original textures have been destroyed.		Patchy moderate yellowish sericite and grey dolomite alteration, minor fuchsite.	4% fine grained disseminated pyrite.	This unit is very similar to the overlying interval but with slightly darker coloration, particularly towards base of unit. Possibly the units are derived from same protolith.
190.70 TO 191.40	«SIL ARG»	Black. Fine grained. Black argillites are cut by numerous quartz/dol stringers and veinlets. 190.7-191m: fault bx zone.		Patchy weak to moderate graphite. Pervasive weak silicification.	1% fine grained disseminated pyrite.	
191.40 TO 195.10	«DOL/SER VOLC»	Grey, green/brown. Fine grained. Intense alteration destroys original textures. Minor argillite inclusions. Minor quartz/dol stringers. Minor narrow gouge zones.		Pervasive intense dolomite alteration and patchy to pervasive moderate green/brown to grey sericite. Minor fuchsite.	3-5% fine grained disseminated pyrite; concentration increases downhole. 194.8-195.1m: 10% pyrite.	
195.10 TO 197.30	«SIL ARG FLT BX»	Black. Fine grained. Black argillite extensively cut by quartz veinlets and stringers. Two ages of quartz veining. Late stage veining fills tension fractures. Interval is moderately fault brecciated with minor fault gouge.		Argillite is moderately graphitic, weakly silicified.	1% disseminated pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
197.30 TO 200.80	«DOL/SER VO LC»	Grey, green/brown. Fine grained. Core is similar to that in the interval 191.4-195.1m except that ¶199-200.8¶ intense «Flt Gouge» and bx.		As in 191.4-195.1m.	2% fine grained disseminated pyrite.	
200.80 TO 203.00	«ARG FLT GOUGE»	Black. Fine grained. Intensely faulted argillite 15% fractured white quartz veining. 10% of interval is greyish clay possibly derived from volcanics.		Moderate graphite.	2% pyrite except in some quartz veins/clasts where semi-massive pyrite can occur. ¶201.35-201.4¶ «40% py, tr.gn» in siliceous/vein interval.	
203.00 TO 208.70	«ALT ARG/VO L/HET FRAG»	Black, grey. Fine to 2cm. Black argillites comprise 30% of interval, Het Frag makes up 8% of interval, 62% strongly altered volcanics?. Argillite is silicified by numerous small quartz stringers. Bedding is indistinct. Intense alteration of volcanics? destroys original textures. FOLIATION at Het Frag occurs between: 203.-203.3m and 208.2-208.6m. Upper most Het Frag is sheared in a continuation of the overlying fault zone. Lower Het Frag consists of elongate clasts of quartz, argillite and sericite in a quartz/sericite matrix possibly tectonic in origin. Narrow fault gouge zones; 204.5-206.6m, 25% massive, fractured white quartz veining. Local dolomite up to 30%. Some veins are weakly vuggy. Minor white clayey alteration - after feldspar?	55	Argillite is weakly silicified. Volcanics are intensely altered to a banded green sericite alternating with grey quartz +/- dol veinlets. Which are locally brecciated. Locally sericite is a pale yellow. Minor talc.	2% fine to medium grained disseminated pyrite in argillite and Het Frag. <5% pyrite dissem and stringers in alt. volc? 5% pyrite in lower Het Frag.	
208.70 TO 213.30	«DOL/SER VO LC?»	Grey, green/brown. Fine grained. Intense alteration has destroyed all original textures. 15% white to grey quartz/dol (90/10%) veining and lenses. The majority of the vein material occurs between 213.0-213.3 (30%). Minor argillite remnants present. Minor gouge.		Pervasive intense dol. alt'n which is banded by brownish sericite. Minor talc and fuchsite?	2-3% very fine grained disseminated pyrite. Some coarse disseminations in veins. Veins are associated with minor amounts of base metals, except. ¶212-213.3¶ «<2% gn+cp+sp» Which are fine grained and occur in coarse to fine dissemination in quartz veins.	
213.30 TO 214.70	«HET FRAG»	Grey, black. Fine to 3cm. Tectonically derived? Het Frag. Clasts are subangular to rounded. Clasts are comprised of quartz, argillite, and sericite and trace pyrite lithoclasts. Matrix is argillaceous. Minor narrow fault gouge zones. Gradational contact with underlying unit.		Some clasts (volc?) are intensely sericite altered. Matrix is weakly altered to grey sericite.	3% fine grained disseminations and blebs.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
214.70 TO 219.20	«SER/DOL SE DS»	Grey, black. Fine grained. 214.7-217.4m: interbedded argillite and siltstone? FOLIATION (Bedding?) at 70-85 degs. Seds contain irregular white to grey quartz/dol veins, patches and flooding. 217.4-219.2m: intense alteration destroys original textures; granular minor quartz/dol veinlets.	78	214.7-217.4m: intense patchy dol alteration. Minor weak silicification of argillite. Patchy weak to moderate grey/brown sericite banding. 217.4-219.2m: intense dol. alteration. Patchy minor, brown sericite alt'n.	214.7-217.4m: 2% coarsely disseminated pyrite. 217.4-219.2m: 1% disseminated pyrite.	
219.20 TO 262.10	«HET FRAG»	Grey. Fine to coarse grained. Silty matrix supports clasts ranging in size from 1mm to cobble size. Clasts are comprised of quartz, argillite and altered volcanics. Clasts are angular to sub-rounded and can make up 70% of the volume. Het Frag is locally interbedded with other seds-arg, silt,wacke & possibly volcanics (may be boulders), minor pyrite lithoclasts. Principal interbeds of sediments are: 220.4-221.7m: silt/wacke, upper contact is gradational; lower contact at a silicified Het Frag. 237.5-238.5m: intermixed altered seds with black argillites. 253.1-254.35m: grey highly altered volcanic? appear, to have some washed out cataclastic texture. The interval contains relatively little quartz veining (<3%) except between 245.3-247.6m. Which contains 15% veins.		Core is pervasively weakly altered to grey sericite. Local alteration includes weak to moderate patchy dol; local yellow sericite of some sed beds and clasts. Minor, moderate silicification. 220.4-221.7m: core is dol altered with weak grey sericite alt'n. 237.5-238.5m: 90% of interval is intensely yellow sericite altered seds banded by greyish quartz veinlets/patches. 253.1-254.35m: moderate dol alt'n, weak silicification, moderate grey to green sericite.	Pyrite content is variable but is generally in the range 2-5% which occurs as fine to medium grained disseminations and blebs. Concentrations occurs between: †224.9-225.3† «25% py» 225.8m: 4cm silicified zone with 1% gn, 3% sp. 227.15-227.4m: <1% sp, gn coarsely disseminated in silicified core. †222.6-222.9† «3%sp+gn, tr.tt, 20%py» Sp, gn, tt are very fine grained. Mineralization is associated with silica. 245.3-247.6m: quartz veins are barren outside of 1% pyrite. 255.6m: patch of quartz containing minor cp, sp, gn in a single patch.	237.5-238.5m: "Quartz/ser seds".
262.10 TO 269.80	«SER ALT SE DS»	Black, grey, yellow. Fine grained. Black argillite is banded with yellow to grey sericitically altered seds (former is prevalent). Minor quartz veinlets and stringers. Minor fault gouge. Bedding plane is locally chaotic but Foliation at due to banding (after bedding?). †264.25-264.7† argillaceous «Chert»	70	Patchy intense yellow sericite, alteration. Minor grey sericite.	1% disseminated pyrite.	Typical "Yellow and Black" unit.
269.80 TO 273.45	«HET FRAG»	Grey. Fine to 5cm. Similar to the Het Frag at 219.2-262.1m except clasts are smaller and sericitic clasts are less abundant.		Weak sericite (grey) formation causes phyllitic partings.	3% disseminated pyrite.	
273.45 TO 278.80	«ALTERED SE DS»	Black, grey. Fine grained. Protolith is primarily argillite with silty interbeds. Bedding is contorted with some tect. brecciation. Local bleaching of core. 5% quartz veining and patches. 277.9-278.3m: interval of intense tectonic bx; clasts primarily quartz. 278.3-278.8m: white to grey intensely fractured		Core has weak to intense patchy dolomitization which washes out textures. Small intervals of moderate to intense yellow sericite alteration. Very fine greyish sericite alteration common.	Trace cp in quartz veins. 1-2% very fine grained, coarse to finely disseminated pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		chert?				
278.80 TO 337.40	«QTZ/SER AL T SED/ARG»	<p>Black, grey, yellow. Fine grained. Black argillite is banded by intense yellow sericitically altered sediments. Bedding within argillite is contorted; CLEAVAGE offsets bedding. Banding sericite and argillite also oriented at 65-70 deg.....</p> <p>Core is generally competent with local narrow fault gouge zones. Abundant (20%) white quartz veining. Veins are massive to fractured. Some veins contain argillite or sericite inclusions/styolites.</p> <p>281.3-281.6m: quartz vein with brilliant green fuchsite? along fractures and inclusions. Strong silicification and veining in vicinity of vein.</p> <p>302.1-302.4m: white quartz veining with CLEAVAGE which has opposite sense of cleavage/foliation to that of the seds</p> <p>‡302.4-303.8‡ «Chert?» Weakly laminated with sericitic partings. Possibly an intensely silicified zone.</p> <p>316.8-317.4m: quartz vein</p> <p>320.2-320.6m: moderately altered to fault gouge.</p> <p>323.6-324.1m: intermittent narrow fault gouge zones.</p> <p>330.4-330.88m: 60% qtz veining & silicification.</p> <p>333.2-333.5m: intense fault bx in gouge matrix weak faulting and gouge in vicinity.</p>	65 68 40 60	<p>60% interval is strongly qtz/sericite altered. Alteration is generally intense, but at:</p> <p>328.3-337.4m: yellow sericite alteration weakens and becomes more patchy as alteration grades into that of the underlying unit.</p>	<p>1-3% fine grained disseminated pyrite.</p> <p>330.4m: 1% coarsely disseminated galena 5% pyrite in a 5cm wide zone in a sericite/quartz altered H/W to a quartz vein.</p> <p>330.45-330.63m: <1% combined fine grained coarsely disseminated sp, gn, 5% pyrite.</p> <p>‡331.63-331.88‡ «8% sp+gn+cp, 20% py» 6% sphalerite is fine to medium grained coarsely disseminated, 2% combined gn, cp coarsely disseminated. Gn>cp, <1% medium grained arsenopyrite. Pyrite is fine to medium grained, coarsely disseminated to semi-massive.</p>	Typical "Yellow and Black" texture.
337.40 TO 351.20	«QTZ/SER AL T SEDS?»	<p>Grey. Fine grained. Interval is pervasively altered. Banding where visible is weakly to strongly contorted. Banding is locally subparallel to core axis. Interval may be a hinge zone. Interval contains 10% late stage white quartz</p>		<p>Patchy weak to moderate dol. alteration</p> <p>Patchy silicification/veining;pervasive moderate to intense sericite alt'n.</p> <p>Sericite is grey to greenish, minor yellow sericite. Sericite becomes</p>	<p><4% fine to coarse grained pyrite occurring in patches, bands & disseminations.</p>	Original textures are totally destroyed by intense pervasive alteration. Where lithologics change is a subjective decision.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		veining. Interval has gradational contacts. ‡346.5-346.6‡ intense «Flt Gouge» 346.6-347.8m: fractured quartz vein with sericitic altered inclusions. ‡347.8-348.2‡ «Flt Bx», and gouge. ‡350.4-351.2‡ «Flt Bx» in moderate gouge matrix.		darker to green/brown downhole, toward base of interval. Rock may have a volcanic component.	‡348.5-348.6‡ «20% py» fine to medium grained; semi-massive to coarse dissemination.	
351.20 TO 370.10	«ALT TRANS ZONE»	Grey, black, white. Fine grained. 40% of interval is black argillite, silicified argillite, 55% altered volcanic tuffs? and 5% wacke? Bedding is disrupted. FOLIATION at Up to 20% white to grey veins, patches and clasts of quartz. ‡352.3-353.3‡ «Flt Bx, Gouge» interval includes brecciated quartz vein, which is partially healed. ‡358.2-358.4‡ «Het Frag» Clastic texture likely caused by tectonism elongate clasts of quartz, sericite, argillite comprise 45% of interval. 359.4-359.6m: fault bx and gouge. 361.4-361.7m: fault bx and gouge.	60	Argillites are locally weakly silicified except 361.9-362.4m where there is intense veining and silicification. Tuffs? locally contain abundant dolomite growth nodules/porphyroblasts growing over textures. Volc. are intensely dolomitic with patchy brown sericite and lesser amounts of talc.	Pyrite content varies over range 1-10% with some local quartz/brown sericite intervals associated with <25% semi-massive pyrite patches. Pyrite also occurs as fine dissemination to bands. Minor base metals in interval. BM are concentrated on margins of grey quartz veins. ‡358.4-361.3‡ «10% pyrite» associated with quartz veins and flooding. 359m: 2cm wide with 10% sp, gn, cp 2% arsenopyrite. 363.3m: 3cm wide siliceous zone with 20% BM. sp, >sp, >gn. BM are fine to medium grained coarsely disseminated.	This interval grades into thicker sequences of tuff and argillite indicated by the intervals below.
370.10 TO 372.50	«ARG TECT B X»	Black, grey. Fine grained. Black argillite contains 20-40% tectonized white to grey cherty? fragments. Minor competent but contorted quartz veinlets. Bedding destroyed, CLEAVAGE at ~5% altered volcanics. Minor gouge, lower contact is fault gouge.	55	Some grey sericite and clay.	5% fine to medium grained pyrite dissemination patches and wisps.	
372.50 TO 377.20	«MIXED ALT VOLC/SED»	Grey, brown, buff. Fine grained. Interval is largely altered but some remnant argillite patches present. Some core appears to be an altered wacke but appearance may be due to alteration. 3% white to grey dol/quartz veinlets.		Pervasive intense dol; weak to moderate patchy grey to brown sericite giving phyllitic surfaces. 377.0-377.2m: moderate silicification.	2% fine - coarsely disseminated pyrite. 377-377.2m: 12% fine grained, coarsely disseminated pyrite and pyrite patches.	
377.20 TO 385.90	«SIL/PY ARG »	Black, white, brass. Fine grained. Black argillite has been flooded by quartz which forms a stringer stockwork. Stringers and patches are discontinuous; quartz stringers are commonly fracture infilling. ccore is blocky throughout. ‡382.7-385.9‡ intermittent «Flt Bx» with minor gouge.		Argillites are pervasively moderately to intensely silicified. Argillite is graphitic - particularly in faulted intervals.	Fine grained, semi-massive patches and stringers of pyrite are common throughout. 15-20% pyrite overall but local concentrations to 40% over 10cm. Some pyrite appears to have been brecciated and deformed to wisps.	

HOLE NUMBER: C91-10

MINNOVA INC.
DRILL HOLE RECORD

DATE: 9-October-1991

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
385.90 TO 397.20	«ARG/SILT»	<p>Black, grey. Fine grained. Interval consists of 50% argillite, 50% altered silty seds. Where argillite is silicified it contains abundant discontinuous quartz stringers as in the overlying interval. Bedding is weakly contorted to tectonically bx (minor). Small scale axial planes oriented at low angles to core axis: 0-20 degs. General sense of BEDDING at <5% white to grey quartz veins and veinlets. Core is not quite as blocky as above. †394.8-397.2† intermittant weak to moderate, «Flt Bx, Gouge».</p> <p>END OF HOLE.</p>	10 65	<p>Argillite is moderately graphitic. Between 386.9-387.06m and 389.3-391.4m argillite is moderately silicified. Coarser silts are weakly, sericitically altered. Minor dol. alt'n and talc.</p>	<p>Pyrite is fine to medium grained and occurs as coarse disseminated patches, and bands. Concentrations to 5% overall content 3%.</p>	

Sample	From (m)	To (m)	Length (m)	ASSAYS								GEOCHEMICAL										COMMENTS		
				CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM	BA PPM	BA %	SB PPM	AG PPM		AU PPB	
BCD31370	118.40	119.90	1.50	.007	.01	.01	5.2	.24				69	128	120				536	25		37	5.2	240	
BCD31371	124.40	125.80	1.40	.014	.01	.14	12.7	.39				140	63	141				1945	38		66	12.7	391	
BCD31373	201.35	201.47	0.12	.023	.08	3.74	87.5	.87				229	762	37440				936	30		165	87.5	870	
BCD31374	204.50	206.00	1.50	.004	.01	.02	1.4	.02				35	47	199				50	61		3	1.4	16	
BCD31375	212.00	213.30	1.30	.084	.41	.24	5.5	.03				841	4141	2388				206	52		16	5.5	28	
BCD31376	213.30	214.80	1.50	.014	.05	.04	1.4	.03				144	519	397				71	76		1	1.4	28	
BCD31379	222.60	222.90	0.30	.107	.19	.14	11.5	.04				1066	1905	1448				168	28		588	11.5	38	
BCD31380	222.90	224.10	1.20	.052	.09	.09	6.0	.01				519	863	926				78	40		274	6.0	14	
BCD31377	224.80	226.40	1.60	.008	.16	.07	2.5	.02				79	1615	652				88	33		15	2.5	19	
BCD31378	226.40	227.90	1.50	.004	.09	.03	1.8	.02				35	941	330				23	34		1	1.8	15	
BCD31381	245.30	246.30	1.00	.003	.01	.01	0.8	.01				29	77	80				42	68		6	0.8	4	
BCD31382	246.30	247.60	1.30									18	55	74				48	58		1	0.8	7	
BCD31383	255.10	256.60	1.50									228	391	228				72	48		14	1.7	21	
BCD31384	256.60	258.20	1.60									38	106	192				45	53		1	0.9	4	
BCD31385	328.80	330.30	1.50									97	212	235				311	54		3	1.0	36	
BCD31386	330.30	331.63	1.33	.028	.09	.11	2.4	.09				284	943	1092				647	54		12	2.4	86	
BCD31387	331.63	331.88	0.25	.129	1.52	.74	21.8	.58				1291	15158	7449				6692	48		160	21.8	584	
BCD31388	331.88	333.50	1.62	.005	.03	.02	1.0	.02				51	329	204				172	64		5	1.0	18	
BCD31389	333.50	335.00	1.50									59	135	116				95	71		2	0.5	24	
BCD31390	355.70	357.50	1.80									21	97	151				70	98		4	0.5	2	
BCD31391	357.20	358.90	1.70									31	47	131				123	78		3	0.1	19	
BCD31392	358.90	360.20	1.30									152	269	243				782	72		9	0.9	58	
BCD31393	360.20	361.70	1.50									63	37	89				345	83		7	0.1	29	
BCD31394	361.70	363.20	1.50									28	55	95				73	105		3	0.7	10	
BCD31395	363.20	364.70	1.50									311	464	288				388	101		3	1.7	16	
BCD31396	368.60	370.10	1.50									101	127	117				742	121		6	1.1	44	
BCD31397	377.00	378.50	1.50									333	602	583				793	65		32	2.8	73	
BCD31398	378.50	380.00	1.50									124	367	75				117	130		28	1.5	12	
BCD31399	380.00	381.50	1.50									147	3022	190				853	54		108	2.1	127	
BCD31400	381.50	382.90	1.40									83	221	79				426	105		50	2.3	44	
BCD31401	382.90	384.40	1.50									87	103	136				207	179		19	1.5	40	
BCD31402	384.40	385.90	1.50									175	231	159				178	216		16	1.8	24	

HOLE NUMBER: C91-10

GEOCHEM. SHEET

DATE: 9-October-1991

Sample	From (m)	To (m)	Length (m)	SI02 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	MNO2 %	TIO2 %	BA %	ZR %	CU PPM	ZN PPM	PB %	TOTAL %	AU PPB	BA PPM	AG PPM	PB PPM	P2O5 %	SR %	S %	TOTAL %	AS PPM	SB PPM
BCD31372	121.00	124.00	3.00	80.79	7.97	.27	.47	.11	1.84	4.35	.01	.63			139	165			310	30	13.5	114	.01		.19	96.67	1264	83