Lara 092B/13
DDH Logs
90-271- 90-319 827726

HOLE NUMBER: 90-271

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 2
LOCATION: 92B13\W

PLOTTING COORDS GRID: MINE
NORTH: 10400.00N
EAST: 9000.00W
ELEV: 658.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 206.34m
START DEPTH: 0.00m
FINAL DEPTH: 206.34m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: April 20, 1990
DATE COMPLETED: April 24, 1990
DATE LOGGED: April 24, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 31.2
CORE STORAGE: CHEMAINUS

PURPOSE: TO TEST A STRONG VLF ANOMALY IN THE CORONATION EXTENSION ZONE

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
35.66	-	-54° 0'	ACID	OK		-	-	-	-	-	
72.23	-	-52° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 31.20	«OB»					
31.20 TO 72.13	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: light to medium green Grain Size: medium to coarse grained -thick bedded, moderately foliated 5 to locally 10% light green epidote altered feldspars to 1 mm,3-5% light green epidote alteed lithic fragments to 7 mm; <1% to 6 cm; minor qtz-carb veining 32.05-32.32 -felsic dyke, bleached white 32.70-33.15 -felsic dyke, bleached white CAF @ 34.00 39.25-39.27 -shear 40.35-42.16 -felsic dyke, bleached white 42.16-42.76 -possible Sicker diorite 48.51-49.52 -felsic QFP dyke 51.36-52.12 -fault; very rubbly, very poor core recovery 52.12-53.65 -minor felsic dykes to 10 cm		-weak to moderately well developed chlorite on foliation surfaces weak to locally moderately calcareous	-<1 - 1% diss. fine grained pyrite; trace diss. chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		53.65-53.70 -fault, abundant gouge				
		53.70-55.50 -andesite ash				
		58.00-58.21 -fault, minor gouge, core very rubbly				
		58.45-58.54 -felsic dyke				
		58.54-58.89 -locally strongly sheared			-abundant hematite on shear surfaces	
		58.89-60.96 -fault, abundant gouge, core very rubbly, very poor core recovery				
		61.16-72.13 -rare epidotized lapilli to 1 cm				
		61.64-62.48 -abundant minor faults and shears, local gouge, poor core recovery				
		64.90-65.30 -locally strongly sheared				
		65.30-66.75 -fault, strongly sheared, minor gouge; very poor core recovery				
		66.75-71.26 -fault; intensly sheared and minor gouge zones				
		71.26-72.13 -fault; abundant gouge				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
72.13 TO 73.23	«FAULT,FP» Rhyolite	-fault, gouge and very rubbly; rhyolite (FP?, strongly silicified) fragments				Southern Rhyolite Fault
72.23 TO 115.10	«DIORITE»	Colour: medium to dark green Grain Size: medium to coarse grained -massive; weakly foliated; equigranular; rare leoucoxene development 72.23-74.37 -fault; abundant gouge 74.37-76.90 -local faults, shearing and minor gouge 77.48-79.70 -local shearing and minor gouge 98.50-98.75 -minor shearing 101.40-104.24 -minor shearing				
115.10 TO 118.80	«QP TUFF» Rhyolite Quartz Porphyry Tuff	Colour: white to very light grey Grain Size: medium grained -Thick bedded, moderately foliated; 1-2% quartz eyes to 2 mm; 5% white to light grey lithic fragments to 3 mm 11.50-115.22 -sheared contact 116.14-116.15 -shear 117.37-117.38 -shear 117.96-118.80 -strongly sheared, abundant gouge zones; contact @	 38 55 35 30	-moderately developed sericite on foliation surface	-trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
118.80 TO 187.79	«AND LITH TUFF» And. Lithic Tuff	Colour: medium to dark green Grain Size: medium to coarse grained -massive bedded; moderately foliated; 2-3% feldspar crystals, weakly epidote altered; predominately broken; 5% felsic fragments white to translucent to 4 mm; rare to 1 cm; generally subrounded to subangular; 5-10% medium to dark green andesite gragments to 6 mm; rare to 1 cm, subrounded -between 123.00-124.05 m there is hematite staining along fractures		-weak chlorite sericite development on foliation surfaces; a weak pervasive epidote alteration	<1% diss. fine grained py; a 1 cm felsic fragment at 121.60 m contains abundant pyrite (5%)	
		124.95-125.55 -felsic fragments to 9 cm, also andesite fragments to 4 cm				
		130.0-143.97 -up to 1% felsic fragments, up to 5 cm locally these are weakly epidote altered				
		143.97-156.80 «And LaT» -Andesite Lapilli Tuff -this is a coarser grained equivalent to the overlying interval; contains 5-10% felsic fragment bleached white to green and silicified and also epidote altered; ranging in size from <1 cm - 8 cm; subrounded to subangular -there is also possibly up to 5% fragmental fragments to 5 cm, fragments are andesitic and felsic varying in size up to 2 cm; these fragmetns are very similar to the overlying interval; these are also 5-10% andesitic fragments up to 1 cm; ther may be longer fragments that are indistinct		-some of the felsic fragments have alteration halоes around them; (generally a bleaching)	fragments rarely contain appreciable pyrite; internal contain <1% diss. pyrite 151.50-156.50 -local intense epidote alteration, patchy? or large fragments up to 75 cm	
		156.8-160.08 -fragment size genrally decreagin 5-7% felsic fragments to 2 cm, rare to 6 cm; generally bleached white to light green and siliceous; also epidote altered, subrounded to fsubangular; ther is also a nubmer of fragmental fragemtns, these				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		are gnerally indistinct though; 50% andesitic fragments to 2 cm; generally <1 cm				
		160.08-164.20 -this interval becomes more finer grained, grain size decreases down hole; between 164.19 and 164.20 is varved mud, interval with bedding at 30 deg.				
		164.20-168.35 -fine grained to medium grained lithic tuff; grain size increases downhole (rare epidote altered); 5-10% white to light grey to translucent felsic fragments up to 8 mm; subrounded; 3-5 % andesitic fragments to 3 mm		-weak chlorite and sericite development on foliation surfaces	-@162.68 m is a 2 cm felsic fragment with 50% pyrite	
		162.35 -small shear	52			
		168.35-181.60 -5-10% felsic fragments, white to translucent to 8 mm; 5% epidote altered lithic fragmetns 2 mm - 3 cm; subangular to subrounded; 5-10% medium to dark green fragments to 6 mm; possible small percentage of epidote altered feldspar crystals to 1 mm, generally broken 177.50-181.60 -rare silicified felsic fragments to 5 cm 173.95 -shear	25	-weak chloite, serictie development of foliation surfaces; local minor biotite development; the interval has a weak pervasive epidote alteration	-<1% diss pyrite, also minor chalcopyrite, predominantly proximal to quartz veining	
		181.60-185.01 -fine to medium grained; 10-15%; white to translucent felsic fragments to 3 mm; 1-2% light green epidote altered lithic fragments to 5 mm gravelly to 1 cm; 5% medium to dark green andesite frags to 3 mm		-interval is weakly silicified; minor biotite development		
		185.01-187.79 -this interval is a more strongly silicified version of the above noted version				
		185.01-185.20 -Fault, strongly sheared, minor gouge				
		187.65-187.79				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-minor shearing				
187.79 TO 202.89	«DIORITE»	Colour: dark green Grain Size: coarse -massive Karmutsen style -contact 192.50-202.89 -core is generally very borken; abundant minor shears and gouge sections; local intense epiditization	87			
202.89 TO 206.34	«NANAIMO» E.O.H.	Colour: black Grain Size: fine -siltstone; local minor shear and gouge sections		-minor quartz and carbonate veining		

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
	0.00	0.00	0.00	PPM	PPM	PPM	PPM	PPB	PPM													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16926	35.66	39.66	4.00	18.53	0.025	6.51	8.04	0.19	5.01	0.2	3.82	0.21	51.54		0.8		0.01	94.88	1.3	25	132	102	26	4	63	5
16927	115.22	117.96	2.74	13.25	0.065	2.43	2.01	3.09	0.84	0.06	1.64	0.09	71.87		0.21		0.34	95.9	0.1	36	109	16	20	1	34	5
16928	126.00	129.00	3.00	18.18	0.035	4.08	8.91	1.36	4.93	0.12	2.89	0.33	53.52		0.99		0.01	95.34	2.1	9	67	72	16	1	89	5
16929	162.50	165.50	3.00	16.66	0.07	1.91	6.66	3.05	4.09	0.09	1.44	0.19	61.14		0.73		0.01	96.04	1.4	19	102	18	13	1	44	5

HOLE NUMBER: 90-272

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 2
LOCATION: 92B13\W

PLOTTING COORDS GRID: MINE
NORTH: 10700.00N
EAST: 8800.00W
ELEV: 648.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -70° 0' 0"
LENGTH OF THE HOLE: 160.63m
START DEPTH: 0.00m
FINAL DEPTH: 160.63m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: April 23, 1990
DATE COMPLETED: April 25, 1990
DATE LOGGED: April 25, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 12.19
CORE STORAGE: CHEMAINUS

PURPOSE: A 165.00m EAST AND DOWNDIP STEPOUT FROM DDH89-262

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
81.38	-	-67° 0'	ACID	OK		-	-	-	-	-	
157.00	202° 0'	-66°30'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 12.19	«OB»					
12.19 TO 63.40	«F TUFF» Felsic Tuff	Colour: light grey Grain Size: fine Thick bedded; mod. to locally str. foliated; texturally indistinct, has a fine gritty appearance that may be fine felsic frags or detritus to <1 mm		Moderate to well developed sericite on foliation surface	<1 to 1% diss. to stringers of f.g. pyrite, rare trace of chalcopyrite and sphalerite	
		12.19-14.32 -core ground, <10 cm recovered				
		14.32-17.37 -core badly broken, local gouge; very poor recov. <60 cm				
		18.20-18.89 -core very rubbly, poor recov. minor fault gouge	45			
		19.50-19.52 -shear, minor gouge	35			
		21.35-21.36 -shear, minor gouge	43			
		21.65-21.80			-3% pyrite stringers, trace chalcopyrite	
		20.45 CAF	40			
		22.45-22.86 -core rubbly, very poor recov., minor gouge				
		21.65-25.29		-this interval has a weak chlorite content and up of 1% quartz veins to 7 cm	-1-2% pyritic stringers, rare trace chalcopyrite	
		25.29-30.78			-1-2% pyritic stringers, rare trace	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					chalcopyrite and sphalerite	
		27.16-27.20 -fault, predominantly gouge	40			
		27.70-27.72 -fault, predominantly gouge	40			
		29.26-29.30 -fault, predominantly gouge	50			
		30.78-30.79 -fault, gouge	53			
		31.10-31.11 -fault, gouge	50			
		32.85-32.92 -shear, minor gouge	55			
		35.05-35.32 -interval more siliceous, and appears brecciated insitu, chert?				
		35.32-35.06 -strongly sheared, minor gouge	55			
		37.30-37.60 -Intermediate Tuff -may be a gradational phase from the overlying felsics to the Andesite below				
		37.60-38.71 -Andesite Ash; fine grained; medium grained		-weak to mod. calcareous; minor quartz carbonate veining; well developed chlorite on foliation surfaces		
		38.71-38.72 -fault, gouge	40			
		40.15-40.17 -fault, gouge	59			
		41.16-41.23 -sheared				
		41.76-41.77 -shear	70			
		42.73-42.90 -sheared, minor gouge	65			
		43.36-43.37 -shear, gouge	75			
		43.45-44.19 -fault, abundant gouge, very poor recovery				
		45.07-45.23 -fault, strongly sheared, abundant geuge	60			
		45.40-47.24 -fault, intensely sheared, abundant gouge, poor recov.	35			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		52.87-56.99			-2-3% pyritic stringers with trace chalcopyrite, 1% diss. f.g. pyrite	
		56.99-58.34			-3-5% pyritic stringers with minor chalcopyrite; 1% diss. fine grained pyrite	
		58.34-59.05			-massive sulphides	
		58.34-58.58 -5% chalcopyrite stringers with 3% pyrite 58.58-58.87 -massive pyrite with 8% chalcopyrite 58.87 -shear 58.87-59.05 -35% pyrite and 15-20% chalcopyrite, stringer	30			
		59.05-59.95			-1-2% pyritic stringers with minor chalcopyrite	
		59.95-61.35			-1% pyritic stingers with minor chalco-pyrite	
		61.35-62.24			-1-2% pyritic stringers with minor chalcopyrite	
		62.24-63.40 -fault, possibly an intermediate unit; intensely sheared, abundant gouge			-2-3% pyrite and pyrite fragments with minor chalcopyrite	
63.40 TO 64.97	«I TUFF» Intermediat e Tuff	Colour: med. grey green Grain size: med. Thick bedded, moderately foliated		Moderately developed sericite and chlorite on foliation surface	-2-3% disseminated and stringer pyrite; minor chalcopyrite	
64.97 TO 72.48	«DIORITE»	Colour: med. to dark green Grain Size: med to coarse Karmutsen; well developed upper chill margins				
		72.46-72.48 -fault	60			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
72.48 TO 75.94	«F ASH,TUFF »Felsic Ash ,Tuff	Colour: light to meidum grey; weak green cast Grain Size: fine Moderate to thick bedded; moderate to locally strongly foliated Interval contain numerous shears 73.61 75.27-75.38 -fault; abundant gouge	 40 65	Moderately developed sericite on foliation surfaces	-2-3% pyrite, dissem. and in stringers, minor chalcopyrite	
75.94 TO 83.70	«I Ash» Intermed. Ash	Color: med. grey, weak green cast Grain Size: fine 76.26-76.80 -fault, core very rubbly, abundant gouge 76.80-77.10 -this interval contains 10% of what appears to be felsic Ash frags. 77.26-79.85 -10-15% , very thin to thinly interbedded chert, and chert fragments hosted in the Intermediate Ash, 77.50 CA? 78.05 CAF 79.70-79.85 -fault gouge	 60 52 40		-cherts contain 1-2% disseminated fine grained pyrite	Core throughout this interval in broken with numerous minor shears and gouge zones
83.70 TO 102.84	«I Tuff» Intermed. Tuff	Colour: med. grey, weak green cast Grain Size: medium Medium bedded; moderately foliated; 5-10% fragment detritus to 2 mm 83.70-85.23 -numerous thin Andesitic XLT interbeds <10 cm thick		Moderately weak to moderate developed sericite and chlorite developed on foliation surfaces	83.70-86.30 -1% dissem. stringers of fine to med. grained pyrite, trace chalcopyrite	Not a sharp clear cut contact with the overlying interval

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		85.23 CAB 85.80-86.05 -thin felsic ash interval, finely laminated, possible bedding 89.72-89.81 -fault, abundant gouge 87.98-88.04 -fault, abundant gouge 90.60-90.70 -fault, abundant gouge 95.48 -there is a 4 cm white felsic fragment 101.41-102.84 -interval is becoming more andesitic in nature, contains minor feldspar frags epidized 101.42 CAF	50 75 50 53 48 41		86.70-96.71 -5% pyritic stringers with minor chalcopyrite 96.71-98.25 -5% med. to coarse grained pyritic stringers with 1% chalcopyrite 98.25-99.88 -5-7% med. to coarse grained pyritic stringers with 1% chalcopyrite 99.88-101.41 -10% med. to coarse grained pyritic stringers with 1% chalcopyrite	
102.84 TO 112.66	«AND LITH TUFF» Andesite Lithic Tuff	Colour: med. to dark green Grain Size: med. to coarse Thick bedded; massive; moderately foliated; 3-5% ghostly to epidote altered felspar crystals to 1.5 mm; 5% epidote altered lithic fragments to 3 mm, locally to 8 mm; 5% dark green to black lithic fragments and or crystals to 2 mm		Weakly developed chlorite on fracture surfaces	<1% dissem. fine to medium grained pyrite, minor stringers, local trace chalcopyrite	
112.66 TO 135.97	«AND LITH, LAP TUFF» Andesite Crystal Lithic to	Colour: med. to dark green Grain Size: med. to coarse grained Thick bedded; massive; weak to mdoerately foliated		Local, weak pervasive epidote	<1% to 1% disseminated fine to medium	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	Lapilli Tuff	3-5% epidote altered feldspar to 2 mm; 5-10% epidote altered lithic fragmetns to 8 mm; 1% 8 mm to 3 cm; 10% dark green to black lithic frags + crystals to 4 mm; interval contains minor crystal rich lithic Tuff interbeds 120.63 shear 123.66 -fault, minor shear 123.91-123.93 -fault, gouge 126.8 CAB 127.10 -thrust fault, weak CS fabric, up hole is upthrust along 50 deg. plane 130.00 CAF 131.32 -thrust fault, weak CS fabric, up hole is upthrust along 90 deg. plane	35 60 75 50 27	alteration; weakly developed chlorite on foliation surfaces	grained pyrite; local minor chalco-pyrite blebs and with pyritic stringers	
135.97 TO 141.40	«AND LITH T UFF» Andesite Lithic Tuff	Colour: med. to dark green Grain Size: med. Thick bedded, moderately foliated; 3-5% white to ghostly predominantly epidote altered felspar crystals to 1 mm, 1-2% epidote altered lithic frags to 2 mm; 2-3% dark green to black lithic fragments and or crystals to 2mm		Weakly developed chlorite on foliation surfaces	1% disseminated to patchy fine to med. grained pyrite, minor chalcopyrite	A gradational contact from the overlying LAT unit; downhole fining; also a gradational contact inot the lower unit
141.40 TO 152.70	«AND XL,LAP TUFF» Andesite crystal lithic to lapilli tuff	Colour: med. to dark green Grain Size: med. to coarse Thick bedded, massvie; weak to moderately foliated 3-5% light green epidote altered feldspar crystals to 1.5 mm; 5-10% epidote altered lithic frags 2 mm - 1 cm; 1-2% 1 cm to 4 cm; 5-10% dark green to black lithic fragment and or crystals to 3 mm 142.27 Fault plane 143.30 CAF 148.90 CAF	25 15 30	Wek to moderately developed diorite on foliation surfaces	Up to 1% dissem., patchy fine to medium grained pyrite; trace chalcopyrite; rare pyrite stringers with trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
152.70 TO 160.63	«DIORITE» E.O.H.	Colour: med. to dark green Grain Size: medium Thick, massive, well developed upper chill margins lower portions of the interval contain occasional screens of Andesite XLT.				

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
13801	28.66	30.78	2.12	250	189	153	1.2	4														
13802	52.87	54.59	1.72	355	14	168	0.7	6														
13803	54.59	55.63	1.04	182	22	180	0.9	3														
13804	55.63	56.99	1.36	42	17	106	0.5	3														
13805	56.99	58.34	1.35	1600	5	58	1.2	5														
13806	58.34	59.05	0.71	23700	70	158	6.4	170		2.37												
13807	59.05	59.95	0.90	440	15	110	0.8	5														
13808	59.95	61.35	1.40	410	18	168	0.8	7														
13809	61.35	62.24	0.89	525	21	215	0.7	24														
13810	62.24	63.40	1.16	215	25	83	0.6	26														
13811	63.40	64.97	1.57	475	325	238	0.8	3														
13812	77.27	78.63	1.36	138	17	94	0.8	2														
13813	78.63	79.85	1.22	250	16	98	0.7	1														
13814	94.00	95.50	1.50	760	24	115	1.2	26														
13815	95.50	96.71	1.21	1200	25	113	1.3	25														
13816	96.71	98.25	1.54	3400	26	141	1.9	41														
13817	98.25	99.88	1.63	3250	27	134	1.6	48														
13818	99.88	101.41	1.53	900	31	82	1.3	22														
13819	101.41	102.84	1.43	780	28	112	1.2	22														
AVE.	56.99	64.97	7.98	2684.1	81.841	148.62	1.33	24.810		0.21												
AVE.	95.50	99.88	4.38	2736.4	26.096	130.66	1.62	39.185														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16930	18.89	21.65	2.76	13.52	0.215	0.23	1.95	1.91	2.49	0.12	2.79	0.01	71.93		0.29		0.71	96.16	0.1	1	152	25	20	1	43	5
16931	47.20	50.20	3.00	12.78	0.1	0.25	3.77	2.12	4.27	0.16	0.97	0.02	69.75		0.26		1.8	96.25	0.2	1	62	110	35	1	98	10
16932	81.38	83.70	2.32	18.28	0.085	0.53	8.72	1.66	9.25	0.28	1.91	0.18	51.58		0.78		1.68	94.93	1.2	1	57	164	8	1	104	5
16933	91.00	94.00	3.00	14.81	0.085	0.52	10.35	0.86	7.4	0.21	2.02	0.11	55.64		0.59		3.77	96.36	1.1	1	104	1212	11	1	117	5
16934	108.81	111.81	3.00	16.51	0.08	2.29	9.71	0.28	7.19	0.4	3.25	0.1	53.66		0.65		1.57	95.69	1.1	1	82	270	8	1	119	10
16935	142.34	145.35	3.01	16.55	0.045	5.1	8.72	0.06	6.5	0.4	3.02	0.19	52.98		0.66		0.19	94.41	1.3	1	33	214	8	1	178	5

HOLE NUMBER: 90-273

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 2
LOCATION: 92B/13W

PLOTTING COORDS GRID: Mine
NORTH: 10654.00N
EAST: 8350.00W
ELEV: 648.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 197.20m
START DEPTH: 0.00m
FINAL DEPTH: 197.20m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: April 28, 1990
DATE COMPLETED: May 2, 1990
DATE LOGGED: May 2, 1990

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

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

CONTRACTOR: Frontier Drilling Ltd.
CASING: 6.75m
CORE STORAGE: Chemainus

PURPOSE: To test the Coronation Zone Felsic package

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
81.00	-	-49° 0'	ACID	OK		-	-	-	-	-	
91.00	-	-49° 0'	ACID	OK		-	-	-	-	-	
148.00	-	-50° 0'	ACID	OK		-	-	-	-	-	
197.00	-	-49° 0'	ACID	OK		-	-	-	-	-	
155.48	208° 0'	-50°50'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.75	«OB»					
6.75 TO 76.47	«AND LITH, LAP TUFF» Andesite crystal, lithic to lapilli tuff	Colour: light to medium green Grain Size: coarse Thick bedded, massive; weakly foliated; 5% white to ghostly to weakly epidote altered feldspar crystals to 1 mm; 2% hornblende amphibole crystals to 5 mm; 5% light green epidote altered lithic fragments to 1 cm; 1% 1 cm to 5 cm; 5% medium green lithic fragments to 3 mm		Very weakly developed chlorite on fracture surfaces; locally weakly calcareous	<1% pyrite; diss. and along fractures; minor quartz veins with trace chalco-pyrite	
		10.53-11.27 -core very rubbly				
		11.91-13.41 -core very rubbly				
		16.47-16.75 -felsic dyke				
		23.75-23.83 -fault, gougy	55			
		23.83-25.17 -felsic, QFP dyke				
		24.95-25.00 -fault, gouge	72			
		CAF @ 26.20	60			
		27.54-27.55 -fault, gouge				
		Below 22.00 m, the hornblende and amphibole crystals are no longer evident				
		27.70-29.20 -numerous small felsic dykes; core locally broken with minor gouge and sheared sections				
		32.46 -minor magnetite in a epidotized fragment				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		34.85-35.66 -felsic, FP dyke				
		36.20-42.63 «And LaT» -Andesitic Lapilli Tuff: 5-10% epidote altered lithic fragments to 4 cm		-locally hematitic on fracture surfaces	-minor amounts of magnetite are present in the core	
		39.05-39.11 -fault, gouge	25			
		42.63-54.25 «QFP Dyke» -interval has 5% quartz veining		-local abundant hematite staining on fractures and throughout the core	-possible trace sphalerite along fractures	-interval has a weak shear texture throughout
		48.76-49.65 -inclusion of andesite lapilli tuff				
		56.42-56.58 -fault, strongly sheared, minor gouge				
		54.25-59.55 «And LaT» -Andesite Lapilli Tuff		-locally abundatn hematite staining; minor amounts of magnetite; locally intense epidote alteration		
		54.57-54.59 -fault	40			
		59.55-68.34 «QFP Dyke» -2-3% quartz veining; sheared upper and lower contact -between 64.50 and 66.20 is an inclusion of And LaT		-local abundant hematite staining on fractures and throughout the core; possible trace sphalerite on fracture surfaces		Interval has a weak shear texture throughout
		66.05-66.20 -fault, strongly sheared	45			
		68.34-76.47 «And LaT» -Andesite Lapilli Tuff		-local hematite staining on fracture surface; moderate to locally strongly calcareous		
		70.20-70.21 -shear	25			
		72.50-72.53 -fault, gouge	50			
		72.53-72.64				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-QFP dyke 73.07-73.77 -QPF dyke 75.40-76.47 -QFP dyke 76.02-76.12 -fault, gouge 76.24-76.26 -fault, gouge	 60 70			
76.47 TO 77.69	«FAULT»	Colour: Grain Size: Fault: predominately intensely sheared felsic material, abundant gouge				Extension of the Southern Rhyolite Fault
77.69 TO 87.47	«DIORITE»	Colour: medium to dark green Grain Size; coarse Karmutsen Age; local fine grained phases		Abundant leucoxene development; minor hematite staining on fracture surfaces		Upper contact is mylonized into the fault
87.47 TO 89.32	«I TUFF» Intermed. Tuff	Colour: medium grey-green Grain Size: fine to medium grained Moderately bedded, moderately foliated, weak shear texture throughout 87.47 -fault 88.76-89.32 -interval coarsens, minor white lithic fragments, (feldspar xls?) to 1.5 mm 89.27-89.32 -fault	 60 50	Weak chlorite, sericite development on foliation surfaces -weakly siliceous	1% disseminated pyrite; also in minor stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
89.32 TO 92.77	«Q(F)P»	Colour: white to light grey Grain Size: medium to coarse Thick bedded, massive; weakly foliated; pervasive shear texture throughout; 5% quartz eyes to 2 mm 3-5% white lithic fragments to 2 mm (possibly a small percentage of these are feldspar crystals)		poor sericite development on foliation surfaces; interval is weakly bleached	only very minor pyrite in fractures	
		89.32-89.52 -quartz vein		-weakly siliceous		
		89.64-89.68 -fault, gouge	45			
		90.62-91.73-fault -faulted, intensely sheared interval @90.62 @91.15 @91.73	 45 55 60			
		92.60-92.77 -fault, strongly sheared	85			
92.77 TO 95.79	«QFP» Felsic Qtz Feldspar Porphry	Colour: light grey, weak green cast Grain Size: medium to coarse grained Thick beddied, massive; weakly foliated; 2-3% qtz eyes to 2 mm; 3% white to ghostly feldspar crystal to 2 mm; 3-5% white to light grey felsic fragments to 3 mm (some of these may be feldspars); 2-3% greenish grey lithic fragments to 2 mm		Weak sericite development on foliation surfaces; weakly bleached	No visible sulphides	
		95.35-95.37 -fault, gouge	40			
		95.47-95.57 -fault, gouge	70			
		95.70-95.71 -shear	70			
		95.78-95.79				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		134.62-134.70 -Fault, gouge	 30			
137.55 TO 141.89	«AND LITH T UFF» Andesite Lithic Tuff	Colour: medium green Grain Size: medium to coarse Thick bedded; moderately foliated; 2-3% light green epidote altered lithic fragments to 5 mm, locally to 1 cm; 10-15% dark green lithic frags to 4 mm, locally these are flattened to 1 cm x 2 mm 137.55-137.56 -shear CAB 142.42 m	 47 42	Weakly developed chlorite on foliation surfaces	<1% diss f.g. pyrite	
141.89 TO 145.74	«AND LITH T UFF» Andesite Lithic Tuff	Colour: medium green Grain Size: fine to medium Very thin to moderately bedded, moderately foliated; 5-10% dark green lithic fragments to 2 mm; 1-2% white to light grey felsic fragments to 3 mm; local interbeds containing up to 10% light green epidote altered lithic fragments to 2 mm, rare to 1 cm; the interval contains approx. 5% very thin to thin interbeds of chert and ash CAB @ 143.17 @ 143.99 @ 144.58	 35 50 45	Poor chlorite development on foliation surfaces	<1% disseminated fine grained pyrite	
145.74 TO 148.15	«AND TUFF» Andesite Crystal Lithic Tuff	Colour: medium to dark green Grain Size: fine to medium Thick bedded, moderately foliated 2-3% white to ghostly to epidote altered feldspar crystals to 1 mm; 15% dark green lithic fragments and or crystal to 1.5 mm; 1% light green epidote altered lithic		Weakly developed chlorite on foliation surfaces; moderate to locally strong carbonate content	<1% disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-fault	90			
95.79 TO 96.27	«ARGILLITE»	Colour: black Grain Size: fine Interval is intensely sheared, numerous minor faults and gouge seams; 80% of the interval is comprised of argillite and 20% felsic to intermediate ashs 96.20-96.27 -fault, abundant gouge	 65		-<1% fine grained pyrite with the argillite	
96.27 TO 102.80	«QFP» Quartz Feldspar Porphyry	Colour: white to light grey Grain Size: coarse Thick bedded, massive; weakly foliated; 5-7% qtz eyes to 3 mm; 5 to locally 10% white to ghostly feldspar crystals to 2 mm 102.71-102.80 -Fault, abundant gouge	 35	Bleached	No visible sulphides	
102.80 TO 118.99	«QP TUFF» Quartz Porphyry Felsic Tuff	Colour: white to light grey Grain Size: medium grained Thick bedded; massive, weakly foliated; 5-10% quartz eyes to 4 mm to ghostly feldspar xls to .5 mm; 1-2% white to medium grey lithic fragments to 2 mm; <1% medium grey green lithic fragments to 3 mm 109.31-110.10 -weakly to moderately sheared, minor gouge @ 110.1 110.88-111.00 -sheared, minor gouge 114.97-114.98 -Fault, gouge	 50 40 65	Bleached; weakly silicified; weak sericite development on foliation surfaces	No visible sulphides; only rare pyrite on fractures	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		115.18-115.19 -Fault 118.28-118.99 -locally strongly sheared, minor gouge 118.28 118.60	 90 30 20			
118.99 TO 123.09	«QFP TUFF» Felsic Qtz feldspar Porphyry Tuff	Colour: light to medium green Grain Size: medium grained Thick bedded; massive; weakly foliated, 5% qtz eyes to 6 mm; 2-3% white to ghostly feldspar crystals to 1 mm; 5-10% medium to dark green lithic fragments to 4 mm 119.70-120.13 -strongly sheared, abundant gouge @ 120.0 121.03-121.10 -fault gouge 122.10-123.09 -minor fine gr. Andesite Ash to Tuff fragments to 9 cm 123.08-123.09 -fault	 40 60 40	Weak to moderately developed sericite on foliation surfaces	No visible sulphides	Entire interval has a well developed shear texture
123.09 TO 137.55	«AND LITH T UFF» Andesite Lithic Tuff	Colour: medium to dark green Grain Size: fine to medium Thick bedded, weak to moderately foliated, gritty-granular appearance 125.81-125.91 -fault, gouge 134.10-134.15 -Fault, gouge	 50 88	Weak to moderate chlorite development on foliation surfaces; moderately calcareous	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fragments to 3 mm, rare to 8 mm 146.81-147.10 -50% thinly interbedded chert CAB @ 146.81 m 148.14-148.15 -fault	 20 65			
148.15 TO 157.47	«DIORITE»	Colour: medium green Grain Size: medium Thick, moderately foliated		Strongly calcareous, minor leucoxene development		
157.47 TO 189.77	«DIORITE»	Colour: medium green Grain Size: coarse Massive Karmutsen Diorite 172.75-175.10 -abundant quartz veining		Local well developed leucoxene		
189.77 TO 197.20	«AND TUFF» E.O.H.	Colour: medium to dark green Grain Size: fine to medium grained Moderate to thick bedded; moderately foliated; 10-15% medium to dark lithic fragments generally flattened to 4 mm x 1 mm; 2-3% granular felsic fragments to 1.5 mm; <5% light green epidote altered lithic fragments to 10 mm, rare to 2 cm; the interval contains minor Ash interbeds CAB @ 194.00 194.80 196.20	 28 30 26	Weak to moderate chlorite development on foliation surfaces; a weak pervasive epidote alteration	Trace disseminated pyrite	This sequence generally has a sedimentary look to it

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
13820	141.89	143.21	1.32	43	18	45	0.6	2														
13821	143.21	144.58	1.37	87	21	49	0.9	6														
13822	144.58	145.74	1.16	107	19	38	0.8	5														
13823	146.57	147.10	0.53	29	17	29	0.6	4														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16936	13.41	16.00	2.59	18.31	0.035	7.33	8.75	0.48	4.98	0.21	3.16	0.25	49.99		0.77		0.14	94.4	2.6	14	110	172	19	3	54	5
16937	37.50	40.50	3.00	16.24	0.015	8.65	11	0.27	5.57	0.22	1.39	0.23	47.27		0.64		0.08	91.58	1.4	1	86	12	15	2	47	5
16938	51.81	53.94	2.13	13.9	0.245	2.82	2.18	1.13	1.18	0.05	4.19	0.13	69.52		0.22		0.08	95.64	0.3	8	1323	6	12	1	5	5
16939	69.79	72.79	3.00	15.55	0.06	7.41	10.22	0.35	5.14	0.23	2.27	0.23	47.51		0.61		0.54	90.12	0.9	1	623	55	18	4	38	5
16940	93.57	95.35	1.78	14.25	0.045	2.64	2.65	2.71	2.26	0.08	2.41	0.11	66.31		0.22		0.04	93.72	0.4	12	50	8	18	1	21	5
16941	99.00	102.00	3.00	14.98	0.06	1.55	1.63	4.46	0.77	0.03	1.23	0.11	71.07		0.21		0.07	96.16	0.1	4	181	9	11	1	5	5
16942	127.00	130.00	3.00	17.97	0.02	3.02	7.03	1.41	5.47	0.1	4.59	0.26	52.23		0.85		0.03	92.99	0.9	11	35	87	14	2	56	5
16943	148.43	151.43	3.00	14.27	0.005	8.27	12	0.37	5.01	0.19	3.01	0.29	43.98		2.24		0.09	89.73	3.9	1	29	148	5	1	79	5

HOLE NUMBER: 90-274

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 2
LOCATION: 92B/13W

PLOTTING COORDS GRID: Mine
NORTH: 10880.00N
EAST: 8300.00W
ELEV: 675.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -70° 0' 0"
LENGTH OF THE HOLE: 425.81m
START DEPTH: 0.00m
FINAL DEPTH: 425.81m

COLLAR GRID AZIMUTH: 172° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 200° 0' 0"

DATE STARTED: May 3, 1990
DATE COMPLETED: May 8, 1990
DATE LOGGED: May 8, 1990

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

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

CONTRACTOR: Frontier Drilling Ltd.
CASING: 5.18m
CORE STORAGE: Chemainus

PURPOSE: To test both the 162 and Coronation Zone Felsic Packages

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
103.00	-	-68° 0'	ACID	OK		-	-	-	-	-	
405.00	-	-62° 0'	ACID	OK		-	-	-	-	-	
31.00	201° 0'	-69° 0'	SING.SHOT	OK		-	-	-	-	-	
221.00	209° 0'	-64° 0'	SING.SHOT	OK		-	-	-	-	-	
308.00	213° 0'	-63°30'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 5.18	«OB»					
5.18 TO 13.92	«AND TUFF» Andesite Tuff	Colour: medium green Grain Size: fine to medium Thick bedded, moderate to locally strongly foliated 5.18-5.20 -fault gouge 7.00-7.32 -fault gouge CAF @ 8.50 m 11.25-11.27 -fault 13.87-13.92 -fault	 60 45 50 50	Weak to moderately calcareous; moderate chlorite development on foliation surfaces	1% dissem., patchy fine to medium grained pyrite; rare trace chalcopyrite minor stringers 13.35-13.50 -minor chalcopyrite stringers	
13.92 TO 34.46	«I TUFF» Intermed. Tuff	Colour: light greyish white, weak green cast Grain Size: fine to medium Thick bedded, moderately foliated 15.62-15.63 -fault CAF @ 17.00 m 17.17-17.37 -fault gouge 19.00-19.54 -foliation contorted, numerous small scale folds 19.54-20.15 -intensely sheared, minor gouge zones @ 20.15 20.42-34.46	 30 25 50	Moderate sericite, minor chlorite development on foliation surfaces	1-2% disseminated, patchy fine grained pyrite; minor stringers; local trace chalcopyrite	Contoured foliation throughout this interval numerous small scale F2 fold

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-1% quartz eyes to 2 mm CAF @ 22.80	 20			
34.46 TO 36.90	«DIORITE»	Colour: medium to dark green Grain Size: medium grained Moderately foliated 36.90 -fault	 50	Local abundant fine grained leucoxene		
36.90 TO 56.21	«F TUFF,ASH » Felsic Tuff	Colour: white to light grey Grain Size: fine Thick bedded; moderate to strongly foliated 36.90-38.71 -strong fault, abundant group 40.42-45.22 -silicified or cherty interval 45.22-45.90 -sheared 45.85-45.90 -shear 46.43-46.68 -fault, abundant gouge	 42 40	Moderately to well developed sericite on foliation surfaces local strong silicification -local well mineralized pyrite chalcopyrite fragments in the gouge	2-3% dissem. and stringer fine to med. grained pyrite; with minor chalcopyrite 40.42-45.22 :3-5% Py,trace cp	Foliation is highly contorted through out numerous F2 folds Horizon?
56.21 TO 64.74	«F ASH,CHT» Chert to Felsic Ash	Colour: light grey to white Grain Size: fine grained Thick bedded, weakly foliated; local shearing abundant gouge seams, interval locally is insitu brecciated		Local sericite development on foliation surfaces	2-3% pyrite, disseminated and in stringers, local minor chalcopyrite and trace sphalerite	No distinct contact with the over-lying interval

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		The interval probably represents a sequence of interbedded chert and ash that's been brecciated May have also locally contained intermediate interbeds				
		57.59-57.63 -gouge zone	40			
					62.15-63.19 -5-7% fine grained dissem. pyrite, also stringers and minor chalcopyrite	
		63.15-63.19 -gouge	30			
64.74 TO 95.40	«I,QP TUFF» Intermed. Qtz Porph. Lithic Tuff	Colour: light greenish grey Grain Size: medium grained Thick bedded, moderately foliated 3-5% white to light grey felsic fragments to 2 mm; 2-3% qtz eyes to 2 mm; 5% medium green lithic frags to 2 mm		Weak to moderate chlorite sericite development on foliation and fracture surfaces	3% disseminated and stringer pyrite, local trace chalcopyrite	
		64.74-66.46 -appears to have been insitu brecciated			-5% disseminated and stringer pyrite minor chalcopyrite	
		65.63-65.68 -healed fault	45			
		66.46-67.83 -Intermediate Ash			-5-10% fine grained, disseminated py minor stringers; also fine grained bedded sulphides	-bedding is highly contorted
		CAF @ 76.44	30			
		81.09-81.77 -Fault, intensely sheared, abundant gouge 81.09 81.77	 30 30			
		82.26-84.42 -strongly sheared, local gougy sections				
		87.20-90.15 -Fault, intensely sheared, local gouge seams 87.20	 20			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		89.00	10			
		91.80-93.69 -interval more felsic in composition still a lithic tuff				
		91.80 -contact	43			
		93.69-95.40 -fault, intensely sheared, local gouge seams				
		93.69	35			
		95.40	70			
95.40 TO 131.80	«AND TUFF» Andesite Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded, moderately foliated, 5% ghostly to epidote altered feldspar crystals to 1 mm; 5-10% dark green to black lithic fragments and or crystals to 2 mm; 5% light green epidote altered lithic fragments to 4 mm		Weak chlorite development on foliation surfaces	1-2% pyrite, disseminated and in stringers; local trace chalcopyrite	
		95.40-95.80 -intensely sheared				
		96.45-96.59 -diorite				
		97.00-97.10 -fault, gouge	48			
		104.50-106.46 -2% light green epidote altered lithic fragments to 3 cm				
		CAB 105.80	50			
		108.87-115.12 «Felsic Ash» -very thin chert lamination at upper contact		-moderate to well developed sericite on foliation surfaces	-1% disseminated to minor stringers of pyrite	
		CAB 108.87	52			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		111.24-111.55 -diorite				
		111.86-114.32 -10% diorite, 10% felsic ash				
		114.40-115.12 -fault, intensely sheared, abundant gouge 114.78	55			
		115.12-115.50 -fault, mixture of felsic and andesitic gouge and strongly sheared rock 115.50	55			
		117.47-117.49 -fault, gouge				
		117.86-117.91 -fault, gouge				
		118.28-118.37 -fault, gouge	40			
		123.67-127.77 -1-2% light green epidote altered lithic frags to 1.5 cm; also a minor percentage of And XLT fragments to 3 cm CAB 124.50	59		-minor pyrite chalcopyrite stringers	
		126.58-126.59 -fault	30			
		127.77-131.80 «Int Tuff» -intermediate lithic tuff -upper contact, erratic	85	-minor chlorite sericite development on foliation surfaces	-minor disseminated pyrite	
131.80 TO 138.68	«AND LITH TUFF» Andesite Lithic Tuff	Colour: medium green Grain Size; fine to medium Thick bedded, moderately foliated; 10-15% dark green lithic fragments to 1 mm; 5-10% quartz grain		Moderate chlorite, minor sericite development on foliation surfaces	2% disseminated fine grained pyrite, minor stringers, local trace chalco-	Foliation locally contorted, numerous minor F2 folds

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		to 1 mm			pyrite	
138.68 TO 139.94	«F ASH,CHT» Felsic Ash & Chert	Colour: light grey to white Grain Size: fine Thin to moderately bedded; moderately foliated; interval contains minor interbeds of andesite to intermediate crystals lithic tuff		Weak sericite development on foliation surfaces	Minor disseminated pyrite	Bedding is disrupted
		138.68-138.70 -fault, gouge	65			
					139.77-139.94 -pyritic stringer, 10% pyrite	
		139.93-139.94 -fault, gouge	88			
139.94 TO 158.23	«AND LITH,L AP TUFF» Andesite Crystal Lithic to Lapilli Tuff	Colour: medium to dark green Grain Size: medium to coarse Thick bedded, moderately foliated to epidote altered feldspar crystals to 1.5 mm; 15% medium to dark green lithic fragments to 2 mm; 2% light green epidote altered lithic fragments to 4 mm; <1% to 3 cm		Weakly developed chlorite on foliation surfaces	2-3% disseminated medium grained pyrite minor stringers local trace chalcopyrite	Sequence coarsens down hole
		146.64-148.82 -10-15% light green epidote altered lithic fragments to 5 cm		-local intense pervasive epidote alteration	-fragments may contain abundant pyrite and minor chalcopyrite	
					148.82-150.45 -5-7% disseminated and stringer pyrite, local trace chalcopyrite	
		150.45-151.86 -Andesite Ash and Chert, minor interbeds of x lithic material			-minor pyrite	
		CAB 151.86	49			
		151.86-157.14 -2-3% light green epidote altered lithic frags to 5 cm				
					157.14-158.23 -3-5% patchy coarse grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
158.23 TO 162.10	«I TUFF,ASH » Interm.Tuff to Ash, local chert	Colour: light grey to white Grain Size: fine Thin to moderately bedded; moderately foliated; interbedded sequence of Tuff, Ash and chert CAB 161.00	52	Local well developed sericite on foliation planes	Minor disseminated and stringer pyrite	159.51-162.10 -the core is all jumbled, drillers dropped box
162.10 TO 170.24	«I LITH T» Intermed. Lithic Tuff	Colour: light greyish green Grain Size: medium Thick bedded, moderately foliated; 1-2% light green epidote altered lithic fragments to 1 mm 162.30-162.41 -fault 169.00-170.24 -core badly broken 169.30-170.24 -possible chert or intensely silicified Ash	55	Local weak to moderate sericite, minor chlorite development on foliation surfaces	1-2% pyrite, disseminated and minor stringers	Foliation locally contorted
170.24 TO 262.89	«AND LITH,L AP TUFF» Andesite Crystal Lithic to Lapilli Tuff	Colour: medium to dark green Grain Size: medium to coarse Thick bedded, moderately foliated; 3-5% locally epidote altered feldspar crystals to 1 mm; 5-10% medium to dark green lithic fragments and or crystals to 1 mm; 5% light green epidote altered lithic fragments to 5 mm; 5-10%, 5 mm to 10 cm CAB 177.20 189.80-190.00 -intensely sheared 190.00-191.10 -interval is badly broken and silicified	60	Moderate chlorite development on foliation surfaces; generally a weak pervasive epidote alteration	2% disseminated, patchy fine to medium grained pyrite, local stringers trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		194.15-194.80 -predominantly a silicified andesite Ash with 5% epidote altered lithic fragments to 1.5 cm				
		210.95-210.97 -fault	60			
		213.95-217.90 -intensely silicified, local FP (Felsic) dykes, dyke boundaries hard to distinguish due to the silicification in the Andesite				
		221.31-222.78 -same as the interval between 213.95-217.90				
		222.72-222.78 -fault, gouge	48			
		Felsic Dyke 224.72-226.50 228.09-228.28 229.12-231.90				
		232.94-239.15 «And XLT» -Andesite Crystal Lithic Tuff; minor frags to 2 cm		-moderate chlorite development on foliation surfaces	-3-5% disseminated, patchy fine to medium grained pyrite	
		Felsic Dyke 233.78-233.90 246.10-247.53 250.55-251.50				
		251.60-251.77 -lapilli fragments have a strong hematite staining				
		252.72-253.35 -core badly broken, local gouge				
		255.20-255.25 -hematite stained lapilli fragments				
		255.40-256.43 -core badly broken, abundant gouge seams				
		259.30-260.07 «Chert» -light greyish green			-no visible sulphides	-bedding highly contorted

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
262.89 TO 289.00	«DIORITE»	Colour: medium to dark green Grain Size: fine to medium Local andesite inclusions 279.00-279.96 -fault, well developed gouge and intensely sheared rock (35 to 60 deg) 279.22-279.50 -milled felsic material 279.96-289.00 -strongly sheared Felsic Dykes 280.92-281.15 281.34-282.67 282.78-282.92 283.42-283.78 285.75-285.80 -fault, gouge 285.80-289.00 -felsic dyke	40 25	Strongly calcareous; abundant leucoxene minor hematite staining		
289.00 TO 330.42	«AND TUFF» Andesite Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium to coarse Thick bedded, moderately foliated, 5-10% ghostly to epidote altered feldspar crystals to 1 mm, 10-15% dark green to black lithic fragments and or xls to 2 mm; 5% light green epidote altered lithic fragments to 5 mm; <1% to 1 cm; rare dark grey felsic fragments to 1 cm 289.00-302.63 -weak shear texture throughout 291.69-291.77 -fault, gouge	25	Weak to moderate chlorite development on foliation surfaces; minor quartz carbonate veining throughout; local hematite staining on fractures; weak to locally moderately calcareous	<1% to 1% disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		296.58-296.74 -fault, gouge	20			
		296.90-297.07 -Felsic Dyke				
		297.40-302.09 «And XLT-LaT» -5% epidotized lapilli to 4 cm				
		297.90-298.56 -Felsic Dyke				
		298.17-298.56 -Fault; intensely sheared, minor gouge	70			
		302.08-309.63 -Felsic Dyke				
		302.63-309.63 -Fault; intensely sheared, numerous gouge zones; local badly broken core; shattered quartz carbonate veins to 50 cm; minor andesite inclusions; mylonatized secions; locally healed				
		309.63-310.21 -Fault; intensely sheared Andesite; abundant gouge, local hematite stained gouge	45			
		310.21-330.42 «Diorite» -intensely sheared Andesite?; Diorite?; abundant local gouge seams; local hematite staining				
		313.99-314.46 -intensely sheared Felsic Dyke				
		318.40-320.69 -Felsic Dyke; intensely sheared upper contact	35			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
330.42 TO 335.20	«F TUFF» Felsic Tuff	Colour: white to light grey Grain Size: fine to medium Thick bedded; moderately foliated; moderate shear texture throughout 330.42-331.31 -intensely sheared, abundant gouge sections -Felsic Dyke 331.50-331.60 331.87-332.45 332.90-333.06		Moderate sericite development on foliation surfaces	334.36-335.02 -<1% disseminated and stringer pyrite possible trace sphalerite	CZ Felsic Package
335.20 TO 342.65	«Q(F)P TUFF » Qtz Feldspar Porphyry Tuff	Colour: white to light grey Grain Size: medium Thick bedd, moderately foliated; 1-2% quartz eyes to 1 mm; possible 1-2% feldspar xls to 1 mm, ghostly 335.80-338.47 -Diorite		Moderate to well developed sericite on foliation surfaces	Trace disseminated pyrite possible trace sphalerite between 335.02-335.80	
342.65 TO 367.89	«QFP» Quartz Feldspar Porphyry	Colour: medium grey Grain Size: fine to medium Thick bedded, weak to moderately foliated, 2-3% quartz eyes to 1 mm; 3-5% white to ghostly to clay altered feldspar xls to .5 mm; locally to 1 mm; 1-2% medium green lithic fragments to 1.5 mm rare felsic fragments to 1 cm 343.50-344.00 -Andesite Tuff 357.00 -CAF 367.35-367.37	 40	Weak sericite development on foliation surfaces	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Fault	40			
		367.77-367.89 -sheared, Fault	70			
367.89 TO 420.19	«QFP» Quartz Feldspar Porphyry	Colour: light to medium grey Grain Size: medium Thick bedded; massive; moderately foliated; 5-10% quartz eyes to 8 mm; rare to 1 cm, locally 3-5% white to ghostly feldspar crystals to 1 mm		Poor sericite development on foliation surfaces; locally strongly silicified	No visible sulphides	Footwall QFP
		369.90-370.63 -Fault, strongly sheared, abundant gouge	33			
		371.67-372.75 -Fault, strongly sheared, abundant gouge 25-84 deg				
		373.95-373.96 -Fault, gouge	70			
		374.67-375.06 -Diorite				
		379.27-379.59 -Fault, strongly sheared, abundant gouge	48			
		387.00-409.65 -minor light to dark green lithic fragments to 2 mm				
		396.40-396.75 -sheared	68			
		400.20-402.15 -Fault, local strong sheared and gouge @ 402.15	85			
		409.65-420.19 -interval has a weak green cast, minor medium to dark green lithic frags to 2 mm				
		416.60-416.97 -Fault, strongly sheared, minor gouge	50			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		417.75-417.87 -sheared 418.43-418.92 -sheared 419.25-420.19 -sheared, lower portion mylonized				
420.19 TO 425.81	«NANAIMO» E.O.H.	Colour: black Grain Size: very fine Black siltstone; minor carbonate veins and gash fillings 420.19-420.12 -fault, gouge	84			

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
13824	24.83	25.75	0.92	151	32	122	0.6	5														
13825	33.50	34.46	0.96	1340	15	80	0.8	5														
13826	38.71	40.78	2.07	400	77	44	0.7	10	2440													
13827	40.42	45.22	4.80	510	10	34	0.6	20														
13828	56.21	57.59	1.38	10	12	43	0.4	5	1790													
13829	60.36	62.15	1.79	11	10	37	0.4	5														
13830	62.15	63.19	1.04	77	20	70	0.6	5														
13831	63.19	64.74	1.55	60	12	148	0.4	10														
13832	66.46	67.83	1.37	15	16	82	0.8	20														
13833	138.68	139.94	1.26	60	12	67	0.4	10														
13834	150.45	151.86	1.41	625	12	100	0.8	5														
13835	259.30	260.07	0.77	12	6	8	0.2	5	460													
13836	334.36	335.02	0.66	13	9	12	0.3	5														
13837	335.02	335.80	0.78	170	25	97	1.2	5														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16944	8.53	11.25	2.72	16.86	0.105	2.43	8.02	2.04	4.77	0.33	2.33	0.19	55.42		0.57		1.07	94.13	0.8	11	89	189	28	3	377	5
16945	29.57	32.57	3.00	14.06	0.165	0.75	5.4	1.86	3.31	0.12	3.09	0.12	64.87		0.3		4.22	98.28	0.3	19	128	860	26	1	67	5
16946	34.46	36.90	2.44	14.04	0.095	7.98	11.46	0.14	6.11	0.23	1.48	0.27	47.65		1.7		1.04	92.2	3.6	1	814	203	13	1	62	5
16947	51.50	54.50	3.00	9.86	0.2	1.33	3.75	2.61	1.54	0.06	0.28	0.07	74.86		0.13		3.41	98.1	0.2	15	148	14	19	1	6	5
16948	75.28	78.28	3.00	14.33	0.09	0.57	5.24	1.99	3.67	0.11	2.05	0.1	66.41		0.33		1.77	96.65	0.2	23	63	53	35	1	31	5
16949	101.58	104.58	3.00	16.74	0.04	3.61	8.45	0.35	5.24	0.21	3.79	0.19	55.8		0.62		0.84	95.88	0.9	1	34	13	18	1	41	5
16950	108.87	111.24	2.37	12.96	0.23	0.37	2.15	3.49	1.92	0.03	0.98	0.06	73.67		0.21		0.65	96.72	0.5	16	273	32	15	1	13	5
16976	127.77	130.77	3.00	15.06	0.2	0.43	3.79	3.09	5.65	0.15	1.22	0.16	64.18		0.35		0.91	95.18	1.2	29	158	16	22	1	59	5
16977	152.51	155.51	3.00	16.73	0.01	4.9	8.98	0.1	5.46	0.32	3.35	0.24	54.32		0.67		0.49	95.58	2	25	12	298	25	2	91	5
16978	159.51	162.10	2.59	14.38	0.16	0.8	4.82	2.68	4.06	0.11	1.59	0.16	65.84		0.36		2.04	96.99	1.3	31	176	31	20	1	27	5
16979	163.67	166.67	3.00	14.05	0.18	1.28	6.32	2.62	4.18	0.12	1.96	0.13	62.45		0.3		3.31	96.9	0.8	30	175	41	21	1	28	5
16980	199.00	202.00	3.00	17.21	0.075	4.65	10.66	0.93	5.16	0.18	3.06	0.27	50.08		0.7		2.89	95.87	1.5	28	69	528	24	1	25	5
16981	234.00	237.00	3.00	17.58	0.045	2.46	12.06	0.85	7.13	0.19	3.24	0.25	47.24		0.73		3.36	95.12	1.3	25	48	138	22	3	38	10
16982	256.43	259.30	2.87	16.76	0.035	2.82	9.29	0.83	5.54	0.14	3.46	0.24	53.42		0.65		1.25	94.45	0.5	21	62	49	24	1	29	5
16983	321.00	324.00	3.00	17.28	0.03	7.09	8.88	0.52	4.72	0.19	3.49	0.28	46.79		0.83		0.15	90.25	2.1	54	114	22	29	10	26	10
16984	339.00	342.00	3.00	13.5	0.07	3.6	1.82	3.17	0.98	0.05	1.71	0.17	69.07		0.22		0.23	94.59	0.1	60	56	5	5	1	8	5
16985	363.32	366.32	3.00	13.66	0.075	3.65	3.19	3.31	1.04	0.08	1.68	0.18	66.7		0.35		0.15	94.05	0.1	13	87	13	11	1	8	10
16986	392.35	395.35	3.00	13.27	0.11	2.27	1.14	7.2	0.6	0.07	0.36	0.14	70.52		0.19		0.12	96	0.6	35	61	7	8	1	9	30

HOLE NUMBER: 90-275

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 2
LOCATION: 92B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10684.00N
EAST: 8160.00W
ELEV: 660.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -60° 0' 0"
LENGTH OF THE HOLE: 175.87m
START DEPTH: 0.00m
FINAL DEPTH: 175.87m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 8, 1990
DATE COMPLETED: May 10, 1990
DATE LOGGED: May 10, 1990

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

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

CONTRACTOR: Frontier Drilling
CASING: 6.70m
CORE STORAGE: Chemainus

PURPOSE: To test Coronation Zone Felsic Package

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
84.00	-	-59° 0'	ACID	OK		-	-	-	-	-	
148.50	-	-57° 0'	ACID	OK		-	-	-	-	-	
175.87	-	-56° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.70	«OB»					
6.70 TO 20.11	«QFP DYKE» Qtz Fspar Porphyry Felsic Dyke	Colour: medium grey Grain Size: medium Thick, massive, weakly foliated; 5 to locally 15% quartz eyes (blue coloration) to 8 mm; up to 5% epidote altered feldspar xls to 1 mm; 2-3% medium to dark green xls? to 2 mm; those are locally to 4 mm but appear to be lithic fragments (intensely silicified and altered Andesite?); minor inclusions of Andesite LaT 13.33-14.02 -Fault; abundant gouge, very poor core recovery 14.02-14.25 -strongly sheared, local gouge 14.73-16.18 -Andesite LaT inclusion 17.71-18.10 -core badly broken 19.20-20.11 -core badly broken, fracture surfaces strongly oxidized		Poor sericite development on foliation surfaces; hematite staining on fracture surfaces and in local quartz veins; local hematite altered fragments in andesite inclusions	Local trace pyrite	Surface weathering on fractures throughout
20.11 TO 56.99	«AND LITH T UFF» Andesite Lithic Tuff	Colour: medium green Grain Size: medium to coarse Thick bedded, weak to moderately foliated; 5% white to ghostly to clay and weakly epidote altered feldspar crystals to 1.5 mm; 3-5% dark green to black lithic fragments from 2 mm to 1 cm; some of these appear to be uralite crystals <5% white felsic fragments to 3 mm 20.11-23.90 -Andesite LaT; 5-10% light green epidote altered lithic fragments from 2 mm to 3 cm		Minor chlorite development on fracture surfaces; local hematite staining on fracture surfaces; local hematite staining in quartz veins -abundant hematite staining on fracture surfaces	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		20.11-21.00 -core locally broken and fractured, minor gouge				
		28.63-56.99 «And XLT-LaT» -Andesite crystal lithic to lapilli tuff; same as main unit but contains up to 5% light green epidote lithic fragments 3 mm to 4 cm		-locally a weak pervasive epidote alteration		
		32.00-32.90 -QFP Felsic Dyke				
		32.90-32.91 -Fault, gouge	60			
		34.70 -CAF	27			
		34.88-34.95 -Felsic Dyke				
		36.76 -CAB?	70			
		38.00-38.60 -possibld diorite				
		39.30 -CAF	40			
		41.42 -CAF	55			
		42.20-44.30 -Felsic Dyke				
		44.50-45.10 -Fault, strongly sheared, abundant gogue	75			
		47.43-47.44 -Fault	65			
		49.12 -CAF	43			
		50.97-51.27				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Quartz vein 53.15 -CAF 53.66-55.00 -Andesite lithic tuff 54.20-54.44 -Fault 54.67-54.68 -Fault 55.00-56.99 -Felsic Dyke 55.90-56.99 -Fault; strongly sheared, abundant gouge, poor core recovery	 50 70	51.27-52.34 -intensely silicified		
56.99 TO 65.86	«AND LITH T UFF» Andesite Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded; massive; weakly foliated, <5% white to ghostly to clay altered feldspar xls to 1 mm; 5-10% medium to dark green lithic fragments and or xls to 3 mm; <5% granular quartz to 2mm; <5% light green epidote altered lithic fragments to 3 mm 59.18-59.33 -Fault, strongly sheared, gouge 64.15-66.86 -intensely sheared, abundant gouge	 65	Interval has a weak pervasive silicification common hematite staining on fracture surfaces, lithic fragments hematite stainred; 1-2% quartz carbonate veining, crosscutting stock work, veins <3 mm wide	Trace disseminated, patchy pyrite 64.80-65.00 -20% pyrite; coarse grained stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
65.86 TO 66.60	«FAULT»	Colour: grey green Grain Size: Gouge, mixture of Anesite and Felsic gouge				
		66.60 -contact	50			
66.60 TO 101.40	Felsic Qtz (Feldspar) Porphyry Tuff «Q(F)P TUFF »	Colour: light to medium grey Grain Size: medium grained Thick bedded; massive; weak to moderately foliated 5-10% quartz eyes ,1 mm to 5 mm, rare to 8 mm (local blue tinge); 1-2% white to ghostly to clay altered felspar xls to 1 mm; rare white felsic fragments up to 3 cm x 4 mm		Weak developed sericite on foliation surfaces	Rare trace disseminated pyrite	
		72.23-72.45 -Fault, gouge	22			
		77.40-77.48 -minor quartz veins			-5% pyrite, trace chalcopyrite, galena and sphalerite	
		79.50-81.05 -95% quartz vein				
		82.14-82.20 -Fault, gouge	50			
		82.35-82.40 -large felsic ash to f.g. tuff fragment				
		82.50-82.53 -fault, gouge	60			
		82.40-101.40 -local felsic ash to f.g. tuff fragments up to 3cm x 4 mm; dark grey to black				
		89.45-89.64 -Fault, gouge	57			
		91.12-91.13				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Fault, gouge	50			
		91.13-101.40 -local medium to dark green lithic fragments up to 3 cm x 3 mm				
		91.38-91.39 -Fault, gouge	55			
		91.56-91.57 -Fault, gouge	70			
		92.00-92.01 -Fault, gouge	50			
		92.14-92.21 -Fault, gouge	45			
		94.24-94.25 -Fault, gouge	90			
		95.68-95.73 -Fault, gouge	70			
		95.97-95.99 -Fault, gouge	75			
101.40 TO 140.67	«QP TUFF» Felsic Qtz Porphyry Tuff	Colour: very light grey Grain Size: fine to medium Thick bedded, moderately foliated, <5% quartz eyes to 1 mm		Moderate developed sericite on foliation surfaces; bleached patchy silicification		Coronation Zone; foliation locally contorted
					101.40-101.70 -6 cm band of black massive sulphide (sulphide content 50%)	
		101.70-103.20 -local fragmental look, medium grey green fp frags			-1% disseminated pyrite, tr. sphalerite	
					103.20-105.00 -1-2% disseminated pyrite, tr. sphalerite	
					105.00-106.44 -1-2% disseminated pyrite, tr. sphalerite	
		105.05-105.09 -Fault, gouge	42			
		106.44-108.00			-2-3% disseminated patchy local	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-foliation shows gently folds to base of unit			stringers fine to medium grained py, trace sphalerite	
					108.00-109.66 -2-3% disseminated, patchy, fine to medium grained pyrite; trace sph.	
		109.66-121.16 «Diorite» -lower contact	48			
				121.16-139.12 -moderate to well developed sericite on foliation surfaces	-<1% disseminated fine grained pyrite	
		129.55-129.75 -Fault, local gouge	65			
		130.89-130.90 -Fault, gouge	50			
		131.30-132.00 -interval is medium to dark green in colour, abundant minor faults; CS at 131.65, down hole up along a 75 deg plane				
		139.12-140.67 -abundant minor gougy fault zones; 140.60-140.70	70		-1% fine grained pyrite, local trace sphalerite, galena and chalcopyrite	
140.67 TO 166.39	«F LAP TUFF » Felsic Lap Tuff, Tuff Bx	Colour: light grey, local weak green cast Grain Size: coarse Massive bedded; weakly foliated; clast supported; groundmass appear to be a QFP, medium grey with a weak green cast; fragments make up at 65% of the interval; the majority of those are bleached white felsic Ash to fine grained tuff, very siliceous, subangular to subrounded; from <1 cm to 50 cm; these fragments contain mediumt to dark green lithic fragments		Weak sericite development on foliation surfaces	<1% pyrite, predominantly along fractures, rare trace sphalerite	
		141.20-141.45 -Diorite				
		149.00-152.00 -interval is weak to moderately sheared				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		152.00-152.18 -Fault, abundant gouge 152.18-166.39 -moderate to strong shear texture throughout 154.34-154.85 -very strongly sheared; 40% argillite frags; possibly infaulted slabs, its's possible these are felsic ash frags that contain sulphides that have been smeared out giving them a black colour 158.43-158.75 -Diorite 161.34-161.60 -Diorite 166.38-166.39 -Fault	80			
166.39 TO 175.87	«NANAIMO» E.O.H.	Colour: black Grain Size: fine Predominantly fine grained black siltstones 116.39-117.58 -medium grey green sandstone 117.58-118.30 -strongly sheared, abundant volcanic fragments				

				ESTIMA			ASSAYS									GEOCHEMICAL						COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		
13838	99.50	101.40	1.90	15	5	57	0.2	5														
13839	101.40	101.70	0.30	3610	10000	16300	20.8	370		0.361	1.00	1.63	0.61	20.8	0.011	0.37						
13840	101.70	103.20	1.50	142	435	2050	1.2	10	2700													
13841	103.20	105.00	1.80	70	78	660	1	30	2570													
13842	105.00	106.44	1.44	88	87	575	1	35														
13843	106.44	108.00	1.56	320	100	625	2	50														
13844	108.00	109.66	1.66	244	29	690	1.4	290														
13845	139.12	140.67	1.55	140	165	730	1.6	1400														
AVE.	101.40	109.66	8.26	296.97	499.07	1465.1	2.0247	95.617														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16987	28.63	30.63	2.00	17.07	0.025	9.4	9.98	0.01	5.07	0.23	2.3	0.36	47.92		0.85		0.15	93.38	2.9	6	156	89	18	2	75	210
16988	59.40	62.40	3.00	14.06	0.04	2.88	5.57	0.15	3.04	0.14	3.72	0.27	63.6		0.45		0.31	94.24	0.4	22	150	7	18	1	18	10
16989	69.18	72.18	3.00	12.31	0.075	2.36	2.73	2.07	1.16	0.12	2.68	0.16	70.38		0.24		0.22	94.52	0.5	54	369	4	14	1	13	5
16990	96.50	99.50	3.00	13.11	0.115	1.3	2.69	2.39	1.19	0.08	2.46	0.17	72.43		0.26		0.22	96.42	0.5	303	183	10	11	1	25	5
13842	105.00	106.44	1.44	12.24	0.265	0.3	3	3.56	2.05	0.03	0.1	0.11	73.45		0.27		1.74	97.17	1.2	34	246	86	88	1	544	25
16991	124.05	127.10	3.05	13.11	0.06	1.42	1.58	1.85	1.08	0.04	3.57	0.21	72.99		0.21		0.17	96.28	0.6	117	86	3	13	1	6	5
16992	135.00	138.00	3.00	12.8	0.08	1.92	1.93	2.62	1.43	0.06	1.77	0.2	72.5		0.22		0.22	95.76	0.9	97	166	8	13	1	31	10

HOLE NUMBER: 90-276

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER I
LOCATION: 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10930.00N
EAST: 8100.00W
ELEV: 722.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 193.54m
START DEPTH: 0.00m
FINAL DEPTH: 193.54m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 10, 1990
DATE COMPLETED: May 12, 1990
DATE LOGGED: May 12, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 6.04m
CORE STORAGE: CHEMAINUS

PURPOSE: TO TEST CORONATION ZONE FELSIC PACKAGE

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
17.00	-	-75° 0'	ACID	OK		-	-	-	-	-	
63.00	-	-73° 0'	ACID	OK		-	-	-	-	-	
127.00	-	-73° 0'	ACID	OK		-	-	-	-	-	
191.00	-	-72° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.04	«OB»					
6.04 TO 7.93	«QFP» Felsic Qtz Fsp Porph.	Colour: medium grey Grain Size: medium Thick bedded; moderately foliated; 5% qtz eyes to 4 mm; <5% feldspar xls .5 mm, ghostly to clay altered; 5-10% medium to dark green pumice frags up to 2 cm x 6 mm		Moderate to well developed sericite, minor chlorite on foliation surfaces	1% disseminated, fine grained pyrite	
7.93 TO 16.14	«QP TUFF» Qtz Porph. Felsic Tuff	Colour: light to med. grey Grain Size: fine to medium grained Thick bedded, moderate to well foliated; 5-10% qtz eyes to 2 mm, locally to 4 mm; 5% qtz grains <1 mm 1-2% clay altered feldspar xls; local dark green pumice fragments 10.72 -CAF 15.26-15.33 -shear	 45 64	Moderate to well developed sericite on foliation surfaces	2% disseminated fine to medium grained pyrite 8.44-10.00 -5-7% fine to medium grained pyrite, minor stringers	
16.14 TO 27.00	«QP TUFF» Quartz Porphyry Tuff	Colour: medium grey, weak green cast Grain Size: medium Thick bedded, moderately foliated; 5% qtz eyes to 5 mm abundant quartz xls <1 mm; minor amount of ghostly to clay altered feldspar crystals to .5 mm; possibly up to 5% medium to dark green pumice fragments 22.80-24.56 -interval contains 50 deg interbedded white to light grey felsic ash to 20 cm		Moderate developed sericite on foliation surfaces; also minor chlorite interval is weak to locally moderately calcareous	1% disseminated fine grained pyrite -felsic ash contains 5-10% very fine grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-CAB @ 24.56 24.56-25.80 -Intermediate Ash 26.90-27.00 -Fault, strongly sheared, local gouge	62 75		-3-5% fine to med. grained pyrite	
27.00 TO 44.04	«AND ASH,TU FF» Andesite Ash - Tuff	Colour: medium to dark green Grain Size: fine Moderately bedded; moderately foliated; <5% dark green flattened pumice fragments 1 cm x 1 mm; local sections containing up to 5% feldspar crystals to .5 mm 27.00-27.10 -Fault, gouge CAB @ 29.85 CAB @ 33.26 33.75-34.44 -Fault, gouge 35.80-35.85 -Fault, gouge 36.04-36.57 -intermediate ash CAB @ 37.17 37.77-38.40 -Fault, strongly sheared, gougy sections	 45 55 60 40	Local well developed dark green to black chlorite on foliation surfaces; minor hematite staining on foliation and fracture surfaces	Up to 1% disseminated to patchy fine to medium grained pyrite -3-5% very fine grained pyrite	
44.04 TO 71.36	«F LAP TUFF »Felsic Lap Tuff	Colour: medium grey, weak green cast Grain Size: coarse Thick bedded, massive weakly foliated; possibly 15-20% white to light grey felsic fragments, flattened 5 cm x 4 mm; and are generally siliceous locally fragments are to 2 cm in width		Weak sericite development on foliation surfaces	Minor disseminated, patchy and stringer pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		CAB @ 47.60 {53.35-58.33} «Diorite» -well foliated, Sicker? feldspar porphyritic; well developed upper and lower chill margins 58.33-71.36 -fragment size and percentage generally decreases down hole, somewhat obscured by alteration; minor dark green lithic fragments, pumice? 66.55-66.65 -Fault, gouge 71.06-71.36 -Fault, abundant gouge 71.06 71.36	30 20 65 50	-moderate to well developed sericite on foliation surfaces well bleached	69.00-71.06 -trace sphalerite with pyrite stringers	
71.36 TO 77.70	«I ASH» Intermed. Ash	Colour: medium grey green Grain Size: fine Moderately bedded; moderately foliated		Moderately developed, sericite on foliation surfaces 77.0-77.70 -strongly silicified	3-5% disseminated fine grained pyrite, local stringers -interval contain a 9 cm stringer of coarse grained pyrite	
77.70 TO 80.67	«CHT,F ASH» Felsic Ash & Chert	Colour: very light grey, weak green cast Grain Size: fine Thin to moderately bedded, weak to moderately foliated; locally the thin chert interbeds appear to be fragments? 77.00-77.60 -this interval is miexed Intermediate Ash, Felsic Ash and chert bedding is disrupted		Felsic Ashes are strongly silicified	1-2% fine grained disseminated pyrite -1-2% disseminated pyrite, between 77.45-77.53, semi-massive pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		CAB @ 79.32	70		stringers	
80.67 TO 95.50	«F LAP TUFF »Felsic Lap Tuff	Colour: light grey, weak green cast Grain Size: coarse Thick bedded, massive, weak to moderately foliated groundmass is a felsic ash to fine grained lithic Tuff, light greysih green in colour; interval may contain 60% felsic Ash and or chert fragments up to 10 cm wide; locally the interval has a bedded appearance?		Fragments strongly silicified; local moderate to well developed sericite on foliation surfaces	2-3% disseminated pyrite, local stringers; rare chalcopyrite	In hole 274, this interval may have been logged as an interbedded chert, ash sequence that was disrupted
		80.67-80.69 -Fault, gouge	41			
		84.40-84.46 -Fault	70			
		87.41-87.42 -Fault, gouge	50			
		91.38-95.50 -fragments become indistinct, predominantly Felsic Ash - f.g. Tuff; <5% quartz eyes to 1 mm, lots of feldspar and quartz xls fragments		-moderate sericite development on foliation surfaces	-2-3% disseminated pyrite, minor stringers to 2 cm, local trace chalco-pyrite	
		92.24-92.50 -Fault	15			
		94.40-95.50 -strongly sheared, local gogue zones				
95.50 TO 105.84	«CHT»	Colour: light grey, weak green cast Grain Size: fine Thin to moderately bedded; weak to moderately foliated; minor felsic ash interbeds		Weak to moderete sericite development on foliation surfaces	3 to locally 5% fine grained pyrite; disseminated and laminated trace chalcopyrite; minor pyrite stringers to 3 cm	
		CAB @ 96.25	50		95.50-96.98 -5-10% fine grained pyrite	
		96.98-97.22				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Fault, strongly sheared, abundant gouge CAB @ 96.70 98.63-98.64 -Fault, gouge 96.75-105.84 -bedding generally disrupted, possible fragmental 102.28-102.29 -Fault, gouge 102.61-102.65 -Fault, gouge	65 57 60 70 70		97.40-97.80 -10-15% fine grained disseminated, bedded pyrite, trace chalcopyrite	
105.84 TO 123.33	«F LAP TUFF »Felsic Lap Tuff	Colour: white to light grey, weak green cast Grain Size: coarse Thick bedded; weak to moderately foliated, groundmass is a felsic ash with minor quartz eyes <1 mm, and abundant broken feldspar and quartz crystals; fragments are silicified felsic ash and or chert, up to 3 cm wide; 114.50-118.87 -Fault, local intense shearing and abundant gouge seams 120.35-120.75 -Fault, abundant gouge		Moderate to well developed sericite on foliation surfaces	1-2% disseminated fine grained pyrite, trace chalcopyrite, minor pyritic stringers	
123.33 TO 130.16	«I TUFF» Intermed. Tuff	Colour: light to medium green Grain Size: fine to medium Moderately bedded; moderately foliated; minor thin felsic ash interbeds 128.32-128.45 -Fault, abundant gouge 130.00-130.16		Weak to moderate sericite and minor chlorite development on foliation surfaces	3-5% disseminated fine to medium grained pyrite; local to trace chalcopyrite; minor pyrite stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Fault, abundant gouge	25			
130.16 TO 142.34	«F ASH» Felsic Ash	Colour: light grey, weak green cast Grain Size: fine grained Thin to moderately bedded; moderately foliated; local chert interbeds		Moderate developed sericite on foliation surfaces	-2-3% disseminated fine grained pyrite; minor chalcopyrite	Bedding generally highly contorted, numerous F2 folds
		130.16-130.34 -pyrite stringers			-10-15% fine to medium grained pyrite with 1-2% chalcopyrite	
		130.34-130.60 -chert				
		CAB @ 130.55 CAB @ 131.65	55 65			
		133.63-133.90 -10% dark green pumice fragments				
		CAB @ 135.50	60			
		136.11-137.89 -Diorite				
		137.89-139.29 -3-5% dark green pumice fragments				
		138.19-138.34 -Fault, gouge	60			
		139.29-139.57 -finely bedded felsic to intermediate ashes				
					139.57-140.66 -5% coarse grained pyrite stringers, minor chalcopyrite	
					140.66-141.16 (0.5 m) -60% medium to coarse grained pyrite, 2% chalcopyrite -5% disseminated, patchy, medium grain pyrite, trace chalcopyrite	
		141.50-141.60				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-sheared		141.66-141.91 (0.25 m) -intensely silicified	-35-40% pyrite; 10% chalcopyrite, tr galena	
				141.91-142.34 (0.43 m) -well developed sericite	-15% medium to coarse grained pyrite 2% chalcopyrite, 1% galena	
		141.93-142.04 -Andesite Lithic Tuff upper contact faulted	35			
142.34 TO 193.54	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded; moderately foliated; 5% ghostly to epidote altered feldspar xls to 1 mm; very granular in appearance; <1% light green epidote altered lithci fragments to 3 mm		Weak to moderate chlorite developed on foliation surfaces	2% disseminated pyrite local coarse grained stringers; trace chalcopyrite	
		145.20-145.92 -local shearing and minor gouge zones	60			
		154.80-154.90 -large felsic fragments to 4 cm				
		155.10-156.87 -intermediate ash to lithic tuff			-5% disseminated, patchy, medium grained pyrite, minor stringers; local chalcopyrite to 1%	
		156.87-157.94 -intermixed sequence of felsic tuff, and andesite tuff				
		157.94-158.74 -Felsic Tuff?		-well developed sericite	-trace disseminated pyrite and sphalerite	
		158.74-159.70 -intermediate Tuff?, bleached andesite				
				163.80-164.07 -intensely bleached		
		167.86-169.80 -foliation is almost parallel to core axis, minor F2 folds		-intensly bleached		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				169.80-170.50 -silicified; minor hematite staining of fragments		
		170.50-171.34 -strongly sheared, felsic ash material between 170.70-171.16		-local hematite staining		
					171.34-172.92 -possible trace sphalerite	
		172.92-174.28 -Felsic ash		-well developed sericite on foliation surfaces	-1% disseminated and stringer pyrite	
					174.28-175.18 -possible trace sphalerite	
		174.88-174.93 -chert, fragment or disrupted bed			-30% fine grained pyrite	
		177.04-178.70 -minor shearing		-bleached, weakly silicified common hematitic staining throughout	-3-5% coarse grained pyritic stringers, trace chalcopyrite	
		178.70-179.22 -minor shearing	45			
				178.70-193.54 -minor hematite staining on fracture surfaces		
		185.70-186.80 -minor shearing				
	E.O.H.	193.14-193.29 -felsic fragments or a disrupted felsic interbed				

				ESTIMA	ASSAYS								GEOCHEMICAL								COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %	
13846	8.44	10.00	1.56	102	87	250	1.5	30													
13847	22.80	23.46	0.66	212	25	90	1.1	120	1100												
13848	23.46	24.56	1.10	241	40	79	1.6	37													
13849	24.56	25.80	1.24	1500	27	210	2.6	22													
13850	36.04	36.57	0.53	370	150	350	1.4	33													
13926	69.00	70.00	1.00	57	50	505	0.8	2													
13927	70.00	71.06	1.06	30	33	605	0.6	5													
13928	76.00	77.00	1.00	16	23	167	0.6	2													
13929	77.00	77.70	0.70	275	17	137	0.7	3													
13930	77.70	78.80	1.10	240	16	90	0.6	2	1300												
13931	78.80	79.73	0.93	97	16	82	0.4	1													
13932	79.73	80.67	0.94	460	20	110	0.5	5													
13933	85.86	87.00	1.14	22	25	122	0.4	3													
13934	87.00	88.50	1.50	400	14	127	0.6	2													
13935	88.50	90.32	1.82	332	17	182	0.5	3													
13936	92.70	93.87	1.17	62	45	164	0.6	4													
13937	93.87	95.50	1.63	180	44	111	0.8	2													
13938	95.50	96.98	1.48	710	15	147	1	2	1080												
13939	96.98	98.40	1.42	1180	15	195	1.2	119													
13940	98.40	100.00	1.60	595	17	88	0.6	29													
13941	100.00	101.57	1.57	17	14	82	0.5	13													
13942	101.57	103.60	2.03	173	25	130	0.8	14													
13943	103.60	104.59	0.99	78	80	230	0.9	19													
13944	104.59	105.84	1.25	151	14	40	0.4	18													
13945	130.16	130.60	0.44	1100	20	93	0.8	48													
13946	130.60	132.00	1.40	121	12	55	0.4	17													
13947	132.00	133.41	1.41	412	14	41	0.4	17													
13948	133.41	134.80	1.39	555	31	112	0.6	23													
13949	134.80	136.11	1.31	396	26	192	1	22													
13950	137.89	139.57	1.68	170	15	48	0.6	5													
13951	139.57	140.66	1.09	50	30	22	0.6	1													
13952	140.66	141.16	0.50	8300	246	200	3.6	71													
13953	141.16	141.66	0.50	890	33	36	0.7	15													
13954	141.66	141.91	0.25	62700	94	930	12.4	450		6.27											
13955	141.91	142.34	0.43	9300	1080	660	4.5	190													
13956	142.34	143.70	1.36	475	50	160	1.2	2													
13957	155.10	156.87	1.77	1200	20	89	1.3	24													
13958	156.87	157.94	1.07	464	12	40	0.6	10													

Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %
13959	157.94	158.74	0.80	210	11	52	0.6	6												
13960	171.34	172.92	1.58	328	15	89	0.6	12												
13961	172.92	174.28	1.36	32	7	20	0.4	12												
13962	174.28	175.18	0.90	143	17	86	0.8	3												
AVE.	69.00	71.06	2.06	43.107	41.252	556.46	0.70	3.5437												
AVE.	87.00	100.00	13.00	403.74	19.001	117.68		18.057												
AVE.	130.16	136.11	5.95	424.29	20.587	97.971		21.795												
AVE.	140.66	142.34	1.68	14446	373.45	377.56	4.28	141.19												

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16993	10.34	12.70	2.36	13.67	0.2	0.38	2.43	3.27	1.15	0.05	1.12	0.17	73.48		0.26		1.15	97.32	0.4	19	234	19	47	1	13	5
16994	30.00	33.00	3.00	17.62	0.12	4.43	12.72	0.69	6.16	0.59	2.45	0.34	47.45		0.87		0.77	94.23	1.7	1	242	621	22	1	211	5
16995	63.00	66.00	3.00	12.19	0.125	0.94	2.64	1.45	2.21	0.15	1.8	0.25	74.45		0.31		1.17	97.7	0.6	23	144	76	35	1	80	5
16996	73.00	76.00	3.00	14.54	0.12	0.22	4.76	1.48	4.64	0.21	1.38	0.23	66.9		0.4		1.53	96.4	0.2	19	109	11	20	1	130	5
13935	88.50	90.52	2.02	12.79	0.225	0.93	3.2	2.19	2.75	0.11	1.24	0.11	71.07		0.28		1.71	96.61	0.7	19	566	326	30	1	148	5
16997	123.80	125.80	2.00	12.56	0.09	0.62	6.97	0.48	4.44	0.14	1.63	0.26	67.21		0.43		2.78	97.6	0.3	46	131	78	22	1	106	5
16998	148.43	151.43	3.00	15.61	0.035	2.62	11.07	0.01	6.64	0.33	3	0.31	53.32		0.71		1.72	95.36	1.2	10	61	257	16	1	68	10
13957	155.10	156.87	1.77	15.85	0.155	0.77	10.82	1.78	7.09	0.18	1.96	0.17	54.1		0.62		3.67	97.17	0.8	14	172	1119	19	2	54	15
13959	157.94	158.74	0.80	18.67	0.295	1.69	5.8	3.29	4.74	0.14	2.36	0.28	55.48		0.6		1.81	95.15	0.5	22	311	204	20	2	32	5
13961	172.92	174.28	1.36	13.69	0.23	0.96	3.12	2.7	2.58	0.07	2.02	0.15	70.68		0.3		1.14	97.63	0.5	25	589	27	22	1	9	10
16999	187.00	190.00	3.00	14.63	0.08	2.33	11.2	0.01	6.19	0.34	3.06	0.32	53.8		0.7		2.66	95.31	0.7	10	249	395	22	2	80	5

HOLE NUMBER: 90-277

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER I
LOCATION: 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10830.00N
EAST: 8100.00W
ELEV: 690.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 252.07m
START DEPTH: 0.00m
FINAL DEPTH: 252.07m

COLLAR GRID AZIMUTH: 180° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 12, 1990
DATE COMPLETED: May 14, 1990
DATE LOGGED: May 14, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 9.87m
CORE STORAGE: CHEMAINUS

PURPOSE: DOWNDIP TEST OF 90-275, CORONATION ZONE FELSIC PACKAGE

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
23.50	-	-55° 0'	ACID	OK		-	-	-	-	-	
100.00	-	-53° 0'	ACID	OK		-	-	-	-	-	
167.00	-	-53° 0'	ACID	OK		-	-	-	-	-	
212.40	-	-53° 0'	ACID	OK		-	-	-	-	-	
61.00	206° 0'	-54° 0'	SING.SHOT	OK		-	-	-	-	-	
252.00	205° 0'	-55° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.87	«OB»					
9.87 TO 28.95	«F LAP TUFF »Felsic Lap Tuff	Colour: white to very light grey; weak green cast Grain Size: coarse Thick bedded, massive; weakly foliated; groundmass appears to be a fine grained; light grey green felsic tuff; possibly up to 70% felsic fragments, there are very fine grained to aphanitic and very siliceous 9.87-10.19 -Diorite 10.61-10.97 -Diorite 9.87-20.60 -moderate to locally intensely sheared local gouge seams, foliation generally highly contorted 14.50-14.90 -Diorite 20.60-28.95 -local minor shear and gouge zones 25.60-26.26 -gouge 28.94-28.95 -shear	80	Well developed sericite on foliation surfaces	2-3% disseminated and stringer, fine to medium grained; rare trace chalcopyrite 13.0-14.5: -5% pyrite stringers, tr. chalcopyrite	Chert Frags?
28.95 TO 41.26	«QP TUFF» Felsic Qtz Porph. Tuff	Colour: light grey, weak green cast Grain Size: fine to medium Thick bedded, moderately foliated; <5% qtz eyes generally <1 mm 31.10-31.17 -Fault 32.70-32.90	90	Weak to moderate sericite development on foliation surfaces	2-3% disseminated and stringers of fine to medium grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Fault CAF @ 37.60	43			
41.26 TO 48.80	«F LAP TUFF »Felsic Lap Tuff	Colour: light greyish green Grain Size: coarse Thick bedded; moderately foliated; matrix is a light greyish green felsic Tuff; with 5% silicified felsi Ash or chert fragments to 2 cm wide; locally these appear to be disrupted beds Entire interval is weak ot moderately sheared, local gouge sections and healed fault structures 48.10 -F2 fold axis at 24 deg 48.75-48.80 -Fault, gouge	57	Weak sericite development	1% fine grained disseminated pyrite	Foliations contorted
48.80 TO 50.39	«AND ASH» Andesite Ash	Colour: dark grey Grain Size: fine Moderately bedded; moderately foliated 49.96-50.28 -felsic ash, light grey CAB @ 50.00 50.28-50.33 -chert, light to medium grey CAB @ 50.28	43 41	Poor sericite development on foliation surface	5-10% v.f.g. disseminated pyrite	Foliation appears very strong locally parallel to core axis
50.39 TO 63.09	«I ASH,TUFF » Intermed. Ash to Tuff	Colour: medium grey green Grain Size: medium grained Thick bedded; moderately foliated, rare qtz eyes to 2 mm		Poor sericite development on foliation surfaces	2 to locally 3% disseminated patchy fine to medium grained pyrite; trace chalcopyrite	Foliation contorted, local F2 folds.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		57.56-59.24 -QP felsic tuff, foliations contorted, minor F2 folds; <5% qtz eyes up to 2 mm; locally appears fragmental; possible chert between 58.78-58.83		-strongly silicified	-3 to locally 5% medium grained patchy to disseminated pyrite	
		59.13-59.24 -shear	60			
		62.15-63.09 -felsic tuff, foliation folded, well developed F2 fold		-moderate to well developed sericite	-1-2% medium grained pyrite	-upper contact is not distinct
63.09 TO 96.69	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: light to medium green Grain Size: fine to medium Thick bedded; moderately foliated possibly up to 5% white to ghostly feldspar crystals to 1 mm; 5% qtz granules, local light green epidote altered lithic fragments to 2 mm		Weak to moderate developed chlorite on foliation surfaces	2-3% disseminated fine to medium grained pyrite, local coarse grained pyritic stringers; local trace chalco-pyrite	Locally foliation contorted minor F2 folds
		66.86-66.88 -Fault, gouge	80		68.00 -unknown black sulphide mineral in stringer	
					71.92-72.02 -pyrite stringer, minor cp 75.57-75.64 -pyrite stringer, minor cp	
		77.90-78.33 -possibly felsic fragments		-intensely bleached, white to light greyish green		
		78.82-88.30 -up to 5% light green epidote altered lithic fragments to 6 mm				
				82.77-83.90 -intensely bleached	83.90-84.18 -pyrite stringer	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		86.75-86.81 -Fault, gouge 96.59-96.68 -possible felsic tuff are strongly bleached and silicified Andesite 96.68-96.69 -Fault	38 90	86.55-87.62 -intensely bleached	89.65-89.70 -pyrite stringer, minor cp 90.70-91.10 -up to 1% patchy chalcopyrite 94.10-94.17 -pyritic stringer, minor chalcopyrite	
96.69 TO 108.34	«AND TUFF» Andesite Crystal Tuff	Colour: medium to dark green Grain Size: medium Thick bedded, massive, weak to moderately foliated 10% white to ghostly to predominantly epidote altered feldspar xls to 1 mm; up to 5% ganular qtz 5-10% medium to dark green lithic fragments and or xls to 2 mm; <5% light green epidote altered lithic fragments to 5 mm; rare to 1 cm; rare white felsic fragments to 8 mm		Weak to moderate chlorite development on foliation surfaces 99.17-99.30 -intense epidote alteration	1-2% pyrite, predominantly coarse grained in stringers; local minor chalcopyrite 107.24-108.34 -.5 to 1% patchy chalcopyrite	Local contorted foliation minor F2 fold
108.34 TO 112.63	«AND TUFF» Andesite Tuff	Colour: medium to dark green Grain Size: fine to medium Thick bedded, moderately foliated; very granular in appearance; <5% white to ghostly feldspar xls to .5 mm; minor clay alteration; 10-locally 15% quartz granules and shattered xls to .5 mm; 15 to locally 20% dark green to black lithic frags		Moderate chlorite development on foliatin surfaces; local hematitic alteration	2-3% disseminated, patchy fine to medium grained pyrites up to .5% chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		and or xls to 2 mm			108.34-109.60 -1% disseminated, patchy chalcopyrite 3-5% pyrite	
112.63 TO 120.46	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded; massive; weak to moderately foliated up to 5% white to ghostly to epidote altered feldspar xls to 1 mm; 10% medium green lithic fragments to 2 mm; 5% dark green to black lithic fragments and or xls to 2 mm; 5-10% quartz xls and grains to 1 mm 114.58-114.90 -Fault, core very rubbly, poor recovery 119.00-120.46 -locally intensely bleached, silicified insitu brecciated		Moderate chlorite development on foliation surfaces; hematite staining on fractures common and of fragments	1% disseminated pyrite	
120.46 TO 126.40	«DIORITE»	Colour: dark green Grain Size: medium to coarse Thick, massive, well developed chill margins, feldspar pophyritic		Local abundant leucoxene		
126.40 TO 150.94	«AND LITH, LAP TUFF» Andesite Crystal lithic to Lapilli tuff	Colour: dark green Grain Size: coarse Thick bedded, weak to moderately foliated; 5% light green epidote altered feldspar xls t 1 mm; 5% light green epidote alterd lithic fragments to 6 mm; 3-5% 6 mm to 5 cm; 15% dark green lithic fragments to 4 mm; 10% quartz granules to 2 mm 126.40-126.44 -Fault 137.60-143.65 «And XLT» -Andesite crystal lithic tuff	54			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		146.34-148.08 -Andesite tuff; rare epidotized lithic fragments to 3 cm 148.80-149.44 -Andesite tuff CAB @ 149.44	 65			
150.94 TO 161.36	«AND LITH TUFF» And. Lithic Tuff	Colour: dark green Grain Size: medium Moderate to thickly bedded; moderately foliated 1-2%, locally up to 5% white to ghostly to epidote altered feldspar xls to 1 mm; 1-2% light green epidote altered lithic fragments to 3 mm; rare to 4 cm; 10% quartz granules and broken xls CAB @ 151.79 156.57-156.70 -Fault	 75 25	Moderate to well developed chlorite on foliation surfaces; common hematite staining throughout	1-2% disseminated pyrite, minor chalcopyrite	
161.36 TO 181.29	«AND TUFF» Andesite Tuff	Colour: dark green Grain Size: fine to medium Thick bedded, weak to moderately foliated; very granular in appearance; <55 white to ghostly feldspar xls to .5 mm; 10% quartz xls and granules to 1 mm; 20% dark green to black lithic fragments and or xls to 1 mm 163.90-164.28 -locally strongly sheared, bleached and silicified 166.12-166.32 -strongly bleached and silicified 168.50-170.76 -local strong bleaching and silicification 170.76-177.28 «Felsic Dyke»		Moderate chlorite development on foliation surfaces	1-2% disseminated fine grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		177.28-179.50 -patchy silicification 179.5-181.29 -patchy bleaching and silicification				
181.29 TO 189.00	«QP DYKE» Felsic Qtz Porphyry Dyke	Colour: white to light grey Grain Size: coarse Massive; weakly foliated; 5% quartz eyes up to 1 cm; minor andesite inclusions				
189.00 TO 190.58	«FAULT»	Colour: white to light grey green Grain Size: Abundant gouge and intensely sheared felsics 190.58 -Contact	60			
190.58 TO 227.69	«Q(F)P» Felsic Qtz (Feldspar) Porphyry	Colour: medium grey, weak green cast Grain Size: coarse Thick bedded; massive; weakly foliated 5-10% qtz eyes (weak blue tinge) to 8 mm, rare to 1 cm; minor amoutn of clay altered; white to ghostly felspar xls to 1 mm; minor dark green wisps, flattened pumice fragments 190.58-193.50 -moderately, minor gouge seams 193.50-204.30 -weaky sheared, minor gouge scams 200.44-200.49 -diorite 205.80-206.30 -fault, gouge 208.88-208.89 -fault, gouge	40	Poor sericitic development on foliation surface; minor chlorite along micro-fractures	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		212.33-212.38 -Fault	80			
		214.07-214.94 -moderately sheared, minor gouge				
		211.92-211.96 -Fault	60			
		223.39-223.70 -Fault, strongly sheared, minor gouge	60			
		223.70-227.69 -up to 5% white to very light grey siliceous fragments				
		227.60-227.69 -Fault, strongly sheared	70			
227.69 TO 246.54	«F LAP TUFF »Felsic Lap Tuff	Colour: white to very light grey Grain Size: coarse grained Thick bedded, massive moderately foliated; groundmass is light greyish green felsic tuff, 75% fragment; 95% of these are silicified felsic Ash, bleached white to very light grey; the remaining fragments are also strongly silicified, and contain up to 80% dark green clots (sericite?)		Well developed sericite on foliation surfaces	Siliceous felsic fragments locally contain minor disseminated fine grained pyrite with traces of sphalerite, galena and chalcopyrite	Zone: entire interval has a weak to moderate shear texture
		237.32-240.40 -80% of fragments contain dark green clots				
		238.68-238.70 -Fault, gouge	25			
		240.40-244.12 «Diorite»				
		240.40 -Contact	60			
		244.12 -Contact	80			
		244.12-246.54 -intensely sheared felsics, predominantly QP's				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		locally silicified, local gouge seams 246.53-246.54 -Fault, gouge	80		245.70-246.05 -15-20% pyrite	
246.54 TO 252.07	«NANAIMO» E.O.H.	Colour: black Grain Size: fine Siltstone, locally sheared 246.54-247.14 -sandstone				

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
13963	13.00	14.50	1.50	40	20	52	0.4	4														
13964	48.80	49.96	1.16	135	50	130	0.8	2														
13965	57.56	59.24	1.68	97	18	129	0.6	9														
13966	107.24	108.34	1.10	2700	22	120	1.3	2														
13967	108.34	109.60	1.26	2900	25	137	1.4	2														
13968	109.60	110.65	1.05	1100	14	136	0.9	1														
13969	110.65	111.66	1.01	720	15	130	0.8	2														
13970	150.94	152.01	1.07	410	17	120	1	1														
13971	152.01	153.45	1.44	1300	15	170	1	4														
13972	227.69	229.37	1.68	170	35	370	1.3	48														
13973	229.37	230.73	1.36	67	44	400	1	58	2900													
13974	230.73	232.49	1.76	300	25	765	1.7	60	2480													
13975	232.49	233.94	1.45	58	20	322	0.8	62	1730													
14001	233.94	235.65	1.71	74	18	920	1.4	1170	2280													
14002	235.65	237.32	1.67	37	17	144	0.8	2	1850													
14003	237.32	238.95	1.63	25	12	35	1.8	1555	3200													
14004	238.95	240.40	1.45	30	37	470	1	260	3400													
AVE.	107.24	110.64	3.40	2284.7	20.665	131.19	1.21	1.6941														
AVE.	227.69	235.65	7.96	140.12	27.942	571.87	1.2676	295.94	1848.8													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17000	22.50	25.50	3.00	10.61	0.175	0.44	2.84	1.38	1.78	0.05	0.12	0.18	78.41		0.15		1.37	97.5	0.2	16	197	19	13	1	15	5
17001	38.00	41.00	3.00	12.9	0.25	1.08	3.89	0.75	3.94	0.12	1.58	0.32	70.07		0.36		1.5	96.75	0.7	30	174	13	21	1	26	5
13964	48.80	49.96	1.16	16.33	0.12	0.38	7.57	2.3	6.02	0.23	1.86	0.18	57.51		0.61		2.87	95.98	0.4	5	89	133	45	1	120	10
17002	53.50	56.50	3.00	12.33	0.08	0.99	7.18	0.01	5.89	0.3	2.18	0.35	64.15		0.45		1.93	95.82	0.4	28	86	315	24	1	116	5
17003	66.90	69.90	3.00	14.03	0.085	1.02	11.15	0.01	6.53	0.24	2.09	0.35	57.25		0.68		2.89	96.31	1	14	136	272	16	1	120	5
17004	93.26	96.26	3.00	14.79	0.06	1.14	11.66	0.59	8.5	0.25	2.19	0.15	51.91		0.62		3.79	95.66	0.7	5	44	354	27	3	78	5
17005	131.67	134.67	3.00	16.9	0.08	3.77	9.02	0.6	6.15	0.31	3.26	0.18	52.6		0.64		0.73	94.25	0.7	7	388	108	23	1	89	5
17006	195.00	198.00	3.00	14.13	0.035	1.78	2.54	3.06	0.77	0.09	2.66	0.09	70.67		0.26		0.12	96.2	0.1	1	74	11	14	1	21	5
13972	227.69	229.37	1.68	12.21	0.22	1.5	2.46	3.62	1.19	0.05	0.76	0.1	72.38		0.27		1.52	96.28	1.3	14	349	177	31	1	327	50

HOLE NUMBER: 90-278

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 1
LOCATION: 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10867.00N
EAST: 6900.00W
ELEV: 684.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 163.70m
START DEPTH: 0.00m
FINAL DEPTH: 163.70m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 13, 1990
DATE COMPLETED: May 15, 1990
DATE LOGGED: May 15, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 6.10m
CORE STORAGE: CHEMAINUS

PURPOSE: To test a weak IP anomaly east of the Road showing,Coronation Zone felsic package.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
99.70	-	-45° 0'	ACID	OK		-	-	-	-	-	
163.70	-	-46° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.10	«OB»					
6.10 TO 19.35	«F TUFF» Felsic tuff minor lap tuff	Colour: light grey green Grain Size: fine Weakly foliated, aphyric, weak brecciated appearance with minor white calcite veinlets and clots 7.6-7.85 -darker green Andesite Tuff 7.85-10.3 -Diorite; fsp porphyritic; faulted lower contact 10.3-10.65 -Fault zone; with 2-4 cm wide fault gouge zones and 5 cm of dark grey smeared sulphides, contact with fault gouge 80-90 deg Fragmental zones as follows: 12.6-13.4 & 15.7-17.9 -irregular outlined, grey very siliceous frags some of which look like broken and distorted cherty ash layers <1 cm thick and parallel to weak foliation -fragments <1 x 4 cm and up to 4-5 cm -groundmass softer, rare sericite 13.5 -0.5 cm fault gouge 17.8-17.9 -Fault zone; crushed rock, minor gouge; lower boundary to zone 60 deg folded foliations in footwall to zone 17.0-19.35 -foliated at 75-80 deg to core axis sharp lower contact	 40 80	Nil 14.15-14.35 -white massive quartz vein	<1-1% py 14.15-14.35 -<1% clots of intergrown chalcopyrite and pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
19.35 TO 54.85	«AND LITH T UFF, ASH» Andesite lithic tuff ash	Colour: dark green Grain Size: fine to medium Pervasive fine granular texture from 10-25% <1 - 1 mm grey siliceous felsic granules in a dark green finer grained groundmass, working down hole also set fine andesitic grains; granular sandstone -like texture throughout Patchy diss. hematite also fracture coatings Below 27.0 occasional 0.5 cm rounded epidotized fragment Narrow fine grained, light grey felsic screens		Patchy pervasive calcite, weak chlorite alteration of groundmass, patchy epidote as discrete epidotizes grains	<1% disseminated pyrite, trace disseminated chalcopyrite	Massive, patchy weak foliation accented by calcite
		22.9-23.1 -contact	50			foliation @ 29.8: 70 deg
		31.75-32.2 -contact	70			
		42.13-42.23 -siliceous felsic fragments with py-cpy-sp-gn mineralization			42.13-42.23 -1% combined py-cpy-sp-gn within felsic fragments; main sulphide = sphalerite	
		42.9-45.0 -Felsic lithic tuff; similar to Andesite lithic tuff but with a light grey felsic ground mass; gradational upper and lower contacts				
		21.3 & 21.4 & 28.5 (60 deg) -<1 cm green gouge zones				
		35.0-38.5 -coarse granular texture up to 15% epidotized grains and occasional <0.5 cm epidote fragments				
					47.05-47.7 -1-2 cm quartz vein clots with blebs of chalcopyrite and minor pyrite	
		51.6-51.9 -1x4 cm rounded felsic fragments; groundmass supported				
		53.95-54.85 -fine grained ashy transitional zone of felsic to			54.4	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		intermediate Ash and intermediate-Andesite Ash Faulted lower contacts			-1 mm wide py-sp veinlet	
54.85 TO 56.30	«F TUFF,ASH » Felsic Tuff Ash	Colour: light grey Grain Size: fine Rather indistinct tuff, cherty ash, aphyric, very weak fragmental appearance in last 20 cm 7 cm fault gogue at upper followed by 7 cm brecciated/milled zone with a 56 deg lower boundary		Moderate bleached appearance	<0.5% sphalerite as 1 mm wisps/veinlets and disseminated grains, trace chalco-pyrite; 2-3% fine diss. pyrite	
56.30 TO 61.30	«F LITH TUF F» Felsic Tuff lithic Tuff	Colour: light green Grain Size: fine 56.3-57.8 -weakly foliated, weak indistinct fragmental and granular texture 57.8-59.15 -3-5%, 1 mm quartz grains, weak granular texture 59.15-61.3 -weakly foliated fine grained aphyric tuff/ash		negligble	<1% py, trace sphalerite; sp as rare 1 mm veinlets and rare grains	
61.30 TO 85.15	«AND LITH T UFF» Andesite Tuff, lithic tuff	Colour: med. green Grain Size: fine to medium Fine granular texture from mm grey siliceous felsic granules and rare quartz eyes; weakly foliated 72.1-74.35 75.45-76.0 -2-5 mm siliceous grains and rarely to 8 mm; some larger grains with fne sp, gn or cp grains within 75.0 m -2 cm fault gouge @ 80 deg; fault gogue truncate 1 cm cp-py stringer		Weakly chloritic groundmass weak pervasive calcite	<1% diss pyrite; trace chalcopyrite disseminated within grey siliceous felsic grains occasionally within groundmass	foliation 65 m 65 deg

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		77.0-85.15 -mixing of felsic and intermediate material; occasional 10-20 cm zones of felsic tuff with gradational contacts to felsic to intermediate and intermediate tuffs 79.2-79.6 -weak sheared appearance at 63 deg to core axis			77.35 -3-4 mm discontinuous sp stringers 77.35-85.15 -<1-3% diss. py, tr. diss sp	
85.15 TO 87.55	«AND TUFF?» Andesite Tuff, dyke margin	Colour: dark green Grain Size: fine Fairly massive, very weak indistinct granular texture, 1-3% brownish disseminated grains may be leucoxene - if so dyke margin indistinct lower contact		Ocassional qtz-calcite veining		
87.55 TO 109.00	«DIORITE»	Colour: dark green Grain Size: fine 87.55-88.00 -fine grained, leucoxene phyric margin in sharp contact at 88.0 m @ 48 deg with feldspar porphyritic diorite; 3-5% up to 8 mm fsp phenocrysts sharp lower contact	65			
109.00 TO 114.80	«F TUFF» Felsic Tuff	Colour: light green Grain Size: fine 109.0-109.6 -strongly brecciated and sheared @ 55-65 deg to core axis; minor fault gouge development Remainder of unit fairly massive fine aphyric siliceous tuff/Ash; weak-moderate pervasive brecciated texture; patchy fragmental appearance from siliceous grey felsic frags in a grey green		Weak white calcareous stockwork, veining gashes	1-3% fine pyrite diss and as fine stock work	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		groundmass - may also be a result of brecciation sharp lower contact	 42			
114.80 TO 120.20	«DIORITE» Diorite	Colour: med - dark green Grain Size: fine to medium 114.8-115.9 -finer grained margin to dyke, weak to mod. sheared at 53 deg 115.9-119.8 -fsp porphyritic, weak milled brecciated texture 119.8-120.2 -finer grained lower margin				
120.20 TO 124.25	«F LITH TUF F,NANAIMO» Felsic Lithic Tuff	Colour: light to med. green Grain Size: fine to medium A real mess of a unit; two varieties of felsic lithic tuffs cut by numerous < 10 cm mafic dykes, occasional faulted screens of soft black Nanaimo argillites; detailed breakdown of interval as follows: 120.2-120.35 -light creamy green felsic tuff 120.35-120.4 -Nanaimo Arg. 120.4-121.05 -Felsic Lithic Tuff, med. green, abundant soft round grains 3 m to fragments 1x3 cm in a darker green groundmass; similar lthic tuff also from 121.5-122.05 and 122.7-123.05 121.05-121.48. 122.05-122.35 -fine grey lithic tuff with mm grey siliceous felsic lithics			Trace pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		123.05-123.7 -Mafic Dyke 123.7-124.05 -granular lithic tuff, weak fragmental appearance 124.05-124.25 -Nanaimo argillite 124.05 124.25	 57 72			
124.25 TO 140.10	«F LITH TUF F» Felsic Lithic Tuff	Colour: med. grey Grain Size: fine to coarse 124.25-131.0 -very fine indistinct granular texture with slight coarsening down hole 131.0-140.1 -coarse gr. granular texture (lithic sandstone) from abundant round 1-3 mm grey siliceous felsic lithics and patchy white feldspar grains; occasional 1-3 cm felsic fragments 127.3-127.8 -mafic dyke		-Nil	-<1% py 139.4-139.7 -2-4% very fine dark py within ground-mass	
140.10 TO 152.50	«QP LITH TU FF» QP, QFP Lithic Tuff	Colour: med. grey Grain Size: coarse Similar to previous unit from 131.0-140.1; however this interval contain 1-5% rounded to irregular quartz eyes 140.1-145.5 -patchy QFP with up to 5% white fsp crystals; fairly massive becoming weakly foliated below 147.0		Nil	<1% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		149.5-152.5 -streaky fragmental appearance from 1-2 cm flattened greenish felsic fragments foliation 151.5 m	50			
152.50 TO 156.95	«AND LITH TUFF» Andesite Lithic Tuff	Colour: med. green Grain Size: fine to medium Fine to medium grained granular textue from <1 - 1 mm epidotized grains and grey siliceous felsic and/or fsp grains 152.5-152.7 -Mafic Dyke 152.7-153.4 -moderate sheared appearance strong pervasive calcite shearing Sharp, lower faulted contact, no fault gouge	 48 70	Weak epidote as alteration of grains	Nil	
156.95 TO 163.70	«NANAIMO» Nanaimo Argillite	Colour: black Grain Size: fine Massive, soft, homogenous argillite, minor irregular x-cutting calcite veinlets				

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
13993	54.85	56.30	1.45	22	32	389	0.4	30														
13994	56.30	57.80	1.50	70	15	540	0.4	23														
13995	57.80	59.15	1.35	44	7	256	0.3	15														
13996	59.15	60.20	1.05	76	25	292	0.4	15														
13997	60.20	61.30	1.10	150	57	350	0.6	30														
13998	79.15	79.65	0.50	330	65	226	2.4	120														
13999	139.40	140.40	1.00	97	39	330	0.6	2														
AVE.	54.85	61.30	6.45	68.388	25.938	373.84	0.41	22.791														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17026	11.00	14.00	3.00	14.16	0.085	1.5	3.05	1.87	1.99	0.12	3.85	0.12	68.99		0.3		0.43	96.46	0.2	11	239	11	21	1	39	5
17027	38.70	41.70	3.00	16.8	0.1	5.04	8.01	2.54	5.2	0.3	2.01	0.19	52.09		0.63		0.63	93.53	1.4	13	97	114	23	1	180	5
13995	57.80	59.15	1.35	13.77	0.13	0.68	2.71	3.14	1.71	0.14	2.91	0.09	71.01		0.26		0.51	97.06	0.4	17	121	53	16	1	251	5
17028	69.20	72.20	3.00	16.19	0.185	3.26	6.62	3.26	3.85	0.29	1.86	0.21	57.17		0.67		0.7	94.25	1.1	36	123	63	46	1	151	5
17029	110.00	113.00	3.00	14.48	0.06	2.82	2.25	2.2	1.17	0.04	3.2	0.11	68.94		0.31		0.07	95.65	0.4	7	176	15	16	1	12	5
17030	141.70	144.70	3.00	13.52	0.07	1.55	1.59	2.15	0.31	0.03	4.11	0.06	73.19		0.18		0.06	96.84	0.2	1	88	7	13	1	7	5

HOLE NUMBER: 90-279

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 1
LOCATION: 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10740.00N
EAST: 7745.00W
ELEV: 695.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -52° 0' 0"
LENGTH OF THE HOLE: 178.90m
START DEPTH: 0.00m
FINAL DEPTH: 178.90m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 14, 1990
DATE COMPLETED: May 16, 1990
DATE LOGGED: May 16, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 6.1 m
CORE STORAGE: CHEMAINUS

PURPOSE: TO TEST CORONATION ZONE FELSIC PACKAGE.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
14.30	-	-51° 0'	ACID	OK		-	-	-	-	-	
114.90	-	-50° 0'	ACID	OK		-	-	-	-	-	
178.90	-	-50° 0'	ACID	OK		-	-	-	-	-	
172.20	214° 0'	-50°30'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.10	«OB»					
6.10 TO 18.50	«AND LAP TU FF» Andesite lapilli tuff	Colour: dark green <4cm epidotized, irregular to rounded fragments in a fine granular groundmass with 1 mm epidotized grains; groundmass supported Occasional hematitic fracture surfaces 11.9-14.0 -Felsic Dyke -gougy, rubbly fault zones @ 15.4-15.6 16.0-16.2 18.2-18.25 18.5		Strong epidote alteration of fragments	<1% pyrite	
18.50 TO 38.70	«FELSIC DYKE» Felsic Dyke	Colour: light grey Grain Size: fine 7-10% and locally 15% <1-2 mm green epidotized fsp crystas and <1-3% up to 8 mm round blueish quartz eyes; fairly siliceous, massive 33.5-33.6 -Fault gouge 34.6-35.1 -gougy milled felsic dyke 38.7 -3 cm grey fault gouge at end of unit		33.6-34.6 -barren white quartz vein; 10 cm gouge at upper contact 35.1-35.65 -barren white quartz vein		
38.70 TO 41.75	«AND LAP TU FF,FAULT» Andesite Lapilli Tuff and fault gouge	Colour: dark green, light grey Grain Size: fine Andesite Lapilli Tuff (as described previously)				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		41.1-41.75 -light grey green fault gouge				41.1-41.75 -Southern Rhyolite Fault
41.75 TO 96.40	«Q(F?)P LIT H TUFF»	Colour: creamy grey Grain Size: medium Pervasive granular texture throughout from abundant 1-2 mm indistinct rounded granules; some which are probably clay and calcite altered fsp, 1-5% rounded 1-3 mm quartz eyes; rare <1 x 3 cm felsic fragments			tr py	Similar to hanging wall of Coronation Zone
				41.75-62 -weakly bleached		
		51.6-52.35 -Mafic Dyke		62-96.4 -moderate - strong bleached appearance		
		54.5 -5 cm fault gouge				
		58.5-59.2 -2-7 cm felsic fragments				
		-gougy crushed zones from 63.8-64.0 69.0-69.1 69.0 76.5-76.6 77.6-78.0 84.4-86.2 86.2	 35 15			
		83.95-84.4 -bleached mafic dyke				
		94.4-95.0 -possible fragmental zone; felsic quite unlike host rock			94.4-95.2 -4-5% py, tr cpy, sp, gn	
		95.0-95.2 -lithic tuff				
		95.2-95.43 -siliceous sulphide veining brecciating the core; host rock maroonish grey ashes?			95.2-95.9 -7-8% py, <1% cpy, up to 1-2% sp and gn combined	
		95.6-95.7				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		95.75-95.8 -bands of siliceous sulphide veining 96.0-96.25 -Fault zone, milled sheared texture, some layers of crushed black sulphides				
96.40 TO 107.80	«DIORITE» Diorite	Colour: medium green Grain Size: fine 96.4-98.9 -fsp porphyritic Diorite 98.9-105.8 -finer grained dyke with up to 5-7% leucoxene 105.8-107.4 -fsp porphyritic diorite 107.4-107.8 -leucoxene phyric sharp lower contact	57			
107.80 TO 114.30	«FP TUFF» FP Tuff, lapilli tuff	Colour: speckled light grey green Grain Size: fine Up to 7-8% white subangular to subrounded 1-2 mm feldspar crystals in a very fine grained grey green groundmass; towards base of unit indistinct 2-4 cm feldspar phyric fragments in a greenish groundmass Broken lower contact		Weakly bleached	<1% py as rare <1 mm wide veinlets	
114.30 TO 118.60	Intermed. to Felsic Lapilli Tuff «I-F LAP TU FF»	Colour: mottled creamy grey, dark green Grain Size: coarse 1.5-6 cm rounded, creamy white felsic frags and occasional weakly epidotized creamy green FP fragments in a dark green granular groundmass with		Weak epidote		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		occasional siliceous grey grains and rare white fsp crystals; hematitic fracture coatings sharp lower contact	 75			
118.60 TO 132.50	«FP TUFF,LAP TUFF» FP Felsic Tuff, Lap Tuff	Colour: med. grey Grain Size: fine 1-3%, 1-2 mm whitish fsp crystal, distinctive 5-10%, 1-3 mm green soft sericitic/epidote grains in a fine silicified groundmass 124 -unit grades downhole into a weak fragmental; occasional creamy grey green bleached, weakly epidotized fragments 125.1-129.45 -QP Tuff; tan grey, 4-7% round, 2-5 mm qtz eyes and indistinct 2-3 mm rounded, lithic grains; sharp upper contact sharp lower contact 129.45-132.5 -up to 10%, 2-3 mm epidote grains, weak felsic fragmental appeazance in a med. grey felsic groundmass	 90 60	Moderately silicified - primary features?	Trace	
132.50 TO 157.60	Felsic Tuff «F TUFF»	Colour: light grey with green spots Grain Size: fine Up to 10% , 2-4 mm light green sericitic +/- epidote spots and dark green chlorite spots in a fine grained silicified grey felsic groundmass with 1-2 mm indistinct siliceous grains 141.65-141.85 -Fault Zone, milled gougy core 141.85 143.4-147.6 -brecciated appearance to core -Mafic Dykes	 64	141.85-147.6 -moderately bleached including green spots; spots are still present but ghostly -patchy bleaching below 147.6	Trace py 142.1 -0.5 cm clot of pyrite and sphalerite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		150.35-150.65 154.5-155.2				
157.60 TO 162.40	«F TUFF» Felsic Tuff	Colour: creamy tan Grain Size: fine Fine, indistinct ghosted granular texture and fine aphyric felsic tuff 157.6-158.5 -granular, almost fragmental or brecciated texture giving away to a finer aphyric tuff 161.05-162.4 -Mafic Dyke, leucoxene		Strong, bleached appearance	Trace pyrite as <1 mm veinlets 158.9 -5 mm wide chalcopyrite - pyrite - sphalerite sericite stringer	
162.40 TO 173.35	«F LITH TUF F, FAULT» Felsic Lithic Tuff Fault Zone	Colour: light to medium green Grain Size: medium Strong, granular texture form 2-4 mm lithich grains and patchy 1-2% white fsp; granular texture compounded by sheared milled texture of fault zone 168.5-173.0 -Mafic Dyke; fairly massive, weakly brecciated with calcite gashes contact @ 168.5 shearing @ 162.6 @ 163.2 @ 167.4	 30 65 60 60			
173.35 TO 178.90	«NANAIMO»	Colour: black Grain Size: fine Massive, weakly brecciated with calcite veining and gash fillings				

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14005	94.40	95.20	0.80	184	26	172	1.2	21														
14006	95.20	95.90	0.70	2800	1100	3550	12.60	353														
14007	95.90	96.40	0.50	148	90	420	1.3	108														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17007	7.60	10.60	3.00	17.97	0.005	10.24	8.67	0.01	4.86	0.27	2.8	0.27	46.6		0.81		0.09	92.57	1.8	4	15	95	21	1	36	5
17008	44.80	47.80	3.00	13.94	0.06	1.24	2.25	3.25	1	0.05	2.37	0.11	70.85		0.26		0.12	95.5	0.1	1	182	4	13	1	45	5
17009	78.30	81.30	3.00	13.65	0.05	1.82	2.64	2.99	0.78	0.09	2.97	0.1	69.84		0.25		0.06	95.23	0.2	1	175	7	12	1	26	5
17010	114.90	117.90	3.00	14.47	0.085	2.66	2.88	1.87	1.36	0.09	3.83	0.12	68.91		0.32		0.1	96.68	0.5	7	127	14	19	1	19	5
17011	120.00	123.00	3.00	14.47	0.06	3.08	2.9	1.36	1.02	0.07	4.88	0.12	69.03		0.34		0.18	97.5	0.9	4	39	6	17	1	9	10
17012	142.30	145.30	3.00	16.44	0.105	3.1	2.48	3.49	1.4	0.05	2.32	0.13	62.87		0.36		0.28	93.03	0.7	18	95	7	24	1	38	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 1
LOCATION: 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10927.00N
EAST: 6800.00W
ELEV: 675.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 148.40m
START DEPTH: 0.00m
FINAL DEPTH: 148.40m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 16, 1990
DATE COMPLETED: May 17, 1990
DATE LOGGED: May 17, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 6.1 m
CORE STORAGE: CHEMAINUS

PURPOSE: To test a weak IP anomaly east of the Road showing,Coronation Zone felsic package.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
93.60	-	-50° 0'	ACID	OK		-	-	-	-	-	
148.40	-	-48° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.10	«OB»					
6.10 TO 14.05	MAFIC DYKE «M DYKE»	Colour: dark green Grain Size: fine Massive, moderate - strongly magnetic		Patchy epidote, possible andesite xenoliths; weak calcite veinlets		
14.05 TO 27.15	«F LAP TUFF » Felsic Lap Tuff	Colour: streaky light - med grey Grain Size: fine 1x4cm flattened felsic fragments giving core a weak layered, streaky appearance; indistinct fragmental appearance at top of unit Layering 18.3 19.7 21.2 22.2-22.6 -Mafic Dyke	 45 40 42	Weakly sericitic	Trace pyrite Occasional semi-massive to massive chloritic stringers as follows: 14.9-14.95 18.8-18.9 23.2-23.45 -7-8% stringery pyrite	
27.15 TO 51.90	«F TUFF, LI TH TUFF» Felsic Tuff Lithic Tuff	Colour: light to med grey and green Grain Size: fine to medium Sequence of finer grained felsic tuff/Ash and coarser granular +/- fragmental lithic tuffs Detailed breakdown of unit as follows: 27.15-31.9 -lithic tuff, coarser granular texture 27.3-27.5 -milled gougy zones 27.5 31.7-31.9 -milled looking core 31.9-33.25 -Felsic Tuff; fine grained aphyric	60			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		33.25-35.4 -Felsic Tuff; rare quartz eyes; cherty or silicified from 33.25-33.8		33.25-35.4 -moderate bleached appearance		
		35.4-36.85 -Lithic Tuff with 3%, 2 mm soft green hematitic sericite spots				
		36.85-38.7 -Felsic Tuff				
		38.9-39.6 -Lithic Tuff, weak indistinct fragmental appearance				
		39.6-40.3 -Andesite and Felsic Tuff 39.6-39.8 -Andesitic Tuff changing to Felsic Tuff, last 20 cm brecciated and distorted felsic beds in a more andesitic groundmass contact @ 39.8	48		39.6-40.3 -3% disseminated pyrite	
		40.3-45.0 -Felsic Tuff; rare quartz eyes, weak fragmental appearance from 43.3-43.6				
		45.0-45.9 -Andesite Tuff; 2-3% diss pyrite				
		45.9-47.2 -Felsic Tuff; patch 2-3% green sericite spots distorted grey chert and ash in first 20 cm				
		47.2-47.85 -Andesite Tuff				
		47.85-48.75 -Felic Lithic Tuff				
		48.75-49.65 -Andesite Tuff				
		49.65-51.4 -Distinctive mottled layered appearances; from				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		dark green and light grey banding; possibly a distorted or brecciated Ash, cherty ash				
		51.4-51.9 -Felsic Tuff				
51.90 TO 85.25	«AND LITH TUFF» Andesite Lithic Tuff	Colour: dark green Grain Size: fine to medium				
		51.9-62.45 -up to 10% ,1 - 1 mm epidote grains in a finer grained groundmass; occasional 2-3 mm and 1-2 cm epidote grains and fragments; screens of felsics as follows:		-weak sericite	-1-2% disseminated pyrite	-Equivalent to Andesite lithic tuff at top of hole 90-278
		53.7-53.95 59.05-59.8 -Lithic Tuff, fragmental				
		62.45 -sharp contact = bedding with an andesitic lithic tuff with abundant mm grey felsic grains and patchy zones with epidote grains; locally felsic grains up to 2 mm and locally f.g. aphyric ash zones	50	62.45-85.25 -weak chlorite, patchy epidote; weak sericite alteration of felsic screens		
		63.55-67.15 -Felsic Tuff; light grey green, fine grained aphyric				
		67.95-68.35 -occasional 1-2 cm felsic fragments				
		73.35 -clay slip plane @ 75				
		73.45-73.5 -zone of smeared sulphdie, shearing, rare sulphide fragments shearing	78			
		73.5-75.15 -Andesite Ash; fine aphyric ash, moderately chloritic			73.5-75.15 -3-5% fine diss. py includes: 74.2 5 cm, 30% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		75.15-76.8 -Felsic Tuff; fine granular texture, rare qtz eyes 76.5-76.8 -mixing of felsic and andesite, possibly bedding at 58 deg 76.8-77.5 -occasional felsic fragments lower contact @ 85.25	50		74.3-74.5 10-15% fine diss. py 76.25-76.4 -7-10% brassy pyrite as 1 cm stringers	
85.25 TO 93.57	«F TUFF» Felsic Tuff	Colour: light grey, light green Grain Size: fine to medium Pervasive granular texture with finer grained patches; patchy mixing of felsic and intermed. material 86.75-88.15 -Shear zone; smeared sulphde, dark grey, 1 cm muddy intervals shearing 60-65 deg 91.75-91.85 -light green fault gouge 91.75 91.85	35 62	Weak to moderate sericite	1-3% diss. pyrite and as 1-2 mm siliceous veinlets; trace sphalerite within siliceous veinlets 93.45-93.57 -7-8% diss pyrite, 3% sphalerite, trace chalcopyrite and galena sphalerite, trace chalcopyrite and galena; sphalerite disseminated but mainly within a 1 cm wide calcite veinlets	93.45-93.57 -possible Horizon as it sits at an Intermediate Felsic Contact
93.57 TO 103.45	«I TUFF» Intermed. Tuff	Colour: med. green Grain Size: fine Fine grained foliated aphyric tuff/Ash with <1-2%, 1-3 mm and locally .5-1 cm rounded grey felsic lithic grains; patchy white mm grains possible fsp? weakly foliated		Weakly sericitic	<1% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		foliations 100.4 95.0 gradational lower contact	 63			
103.45 TO 111.86	«I LITH TUF F» Intermed. Lithic Tuff	Colour: light grey Grain Size: fine Pervasive fine granular texture from ,1 mm felsic lithic grains and quartz eyes; fine sericite rich groundmass 109-111.86 -loose granular texture, fine felsic tuff/ash		Weak - moderate sericite	1-2% fine diss pyrite trace diss sp and cp	
111.86 TO 117.20	Intermed. Tuff «I TUFF»	Colour: med. green Grain Size: fine Fine granular texture from indistinct grains some of which are fine grey felsic lithics		Weak sericite	111.86-112.2 -4-5% disseminated pyrite Remainder of unit, 3% fine disseminated pyrite	
117.20 TO 120.20	«F LAP TUFF » Felsic Lap Tuff	Colour: light grey Grain Size: coarse Indistinct, 1-3 cm fine grained aphyric felsic fragments in a granular groundmass; unit characterized by 1-3 mm dark green sericite clots Faulted lower contact		Weak sericite	Trace py	
120.20 TO 128.85	«F LITH TUF F, NANAIMO»	Colour: light green Grain Size: coarse Coarse pervasive granular texture, weak fragmental appearance enhanced by milling of rock due to faulting; patchy 1-2% qtz eyes 120.2-120.3				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Nanaimo Argillite 125.85-126.55 -Nanaimo Argillite with slivers of felsic tuff 126.55-128.85 -Nanaimo conglomerate; 4-6 mm subrounded to sub-angular fragments of Sicker volcanics in a black argillite groundmass; rare fragments over 10 cm and up ot 20 cm; clast supported Lower contact	 40			
128.85 TO 141.35	«FP LITH TUFF» FP Lithic Tuff	Colour: light grey green Grain Size: fine to medium Granular lithic tuff with 3-4% and up to 15% whitish fsp; fsp begin around 132.7m 128.55-130.35 -Mafic Dyke 133.95-135.9 -fine grained tuff, weakly brecciated with a fine blue grey stockwork 138.68-139.9 -QFP Tuff includes 3-4% round 2-3 and up to 5 mm qtz eyes 139.9-140.7 -dark grey wisp of Nanaimo within groundmass 140.7-141.0 -Faulted sliver of Nanaimo Argillite Faulted lower contact	50			
141.35 TO 148.40	«NANAIMO» Nanaimo Argillite	Colour: black Grain Size: fine Massive, occasional 1-5 mm calcite veinlets				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	E.O.H.					

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %	COMMENTS
14035	18.50	18.90	0.40	58	27	108	1.2	140													
14008	39.60	40.30	0.70	197	14	136	0.7	322													
14009	73.45	74.65	1.20	100	23	108	1	42													
14010	85.25	86.75	1.50	32	17	79	0.5	60													
14011	86.75	88.15	1.40	116	168	240	0.7	80													
14012	88.15	89.40	1.25	51	25	320	0.7	12													
14013	89.40	90.20	0.80	200	35	1000	0.8	15													
14014	90.20	91.70	1.50	170	45	118	1.2	22													
14015	91.70	93.37	1.67	360	25	590	1.5	82													
14016	93.37	93.57	0.20	1950	1160	6200	6	273	1220												
AVE.	86.75	93.57	6.82	239.35	93.211	577.46	1.1730	53.305													

Sample	From (m)	To (m)	Length (m)	Al_2O_3 %	Ba %	CaO %	Fe_2O_3 %	K_2O %	MgO %	MnO_2 %	Na_2O %	P_2O_5 %	SiO_2 %	Sr %	TiO_2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17031	19.50	22.20	2.70	14.76	0.08	1.27	4.52	1.39	2.81	0.07	4.17	0.13	65.77		0.34		1.23	96.54	0.6	28	93	6	31	1	45	5
17032	41.80	44.80	3.00	13.84	0.11	1.1	2.91	3.07	1.84	0.09	2.28	0.1	70.26		0.27		0.94	96.82	0.7	21	170	154	25	1	56	5
17033	54.00	57.00	3.00	17.45	0.06	4.04	9.17	0.86	5.96	0.37	3.94	0.23	50.76		0.68		1.03	94.56	1.3	1	118	193	29	1	122	10
17034	81.40	84.40	3.00	17.11	0.145	3.06	8.36	1.87	4.91	0.3	3.91	0.2	53.15		0.71		1.09	94.82	1.1	9	289	208	31	1	163	5
14014	90.20	91.70	1.50	13.84	0.19	1.28	4.45	3.14	2.79	0.2	1.81	0.13	67.06		0.4		1.25	96.55	1	19	204	201	62	1	126	20
17035	96.60	99.60	3.00	15.63	0.12	3.18	8.87	2.6	7.24	0.35	0.97	0.21	51.87		0.75		1.48	93.26	2.2	4	143	358	39	3	222	30
17036	105.70	108.70	3.00	15.58	0.25	0.8	6.11	4.11	5.16	0.25	0.4	0.2	59.77		0.6		2.25	95.47	0.7	31	222	95	45	1	417	30

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 1
LOCATION: 92B13/W

PLOTTING COORDS GRID: MINE
NORTH: 10850.00N
EAST: 7700.00W
ELEV: 720.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -62° 0' 0"
LENGTH OF THE HOLE: 291.69m
START DEPTH: 0.00m
FINAL DEPTH: 291.69m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 16, 1990
DATE COMPLETED: May 20, 1990
DATE LOGGED: May 20, 1990

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 6.70
CORE STORAGE: CHEMAINUS

PURPOSE: TEST CORONATION ZONE FELSIC PACKAGE

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
17.40	-	-61° 0'	ACID	OK		-	-	-	-	-	
90.50	-	-61° 0'	ACID	OK		-	-	-	-	-	
148.00	-	-61° 0'	ACID	OK		-	-	-	-	-	
185.00	-	-60° 0'	ACID	OK		-	-	-	-	-	
231.00	-	-59° 0'	ACID	OK		-	-	-	-	-	
273.00	-	-57° 0'	ACID	OK		-	-	-	-	-	
291.69	-	-56° 0'	ACID	OK		-	-	-	-	-	
172.80	213° 0'	-61° 0'	SING.SHOT	OK		-	-	-	-	-	
246.00	218° 0'	-58° 0'	SING.SHOT	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.70	«OB»					
6.70 TO 93.46	«AND LITH TUFF» And. Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium to coarse Thick bedded, massive, moderately foliated; 5% white to ghostly to predominantly epidote altered feldspar xls to 1.5 mm; 15% medium to dark green lithic fragments and/or xls to 2 mm; 5-10% qtz grains to 2 mm; 5-10% light green epidote altered lithic fragments to 6 mm; rare to 4 cm		Poor chlorite development on foliation surfaces; minor hematite staining on fracture surfaces, and along micro-fractures	2-3% disseminated, fine to medium grained pyrite, minor chalcopyrite; minor pyritic stringers to 3 cm	
					18.26-19.70 -up to .5% chalcopyrite, disseminated patches and in stringers	
		CAB @ 19.90	35			
				23.92-24.70 -intensely bleached; strongly epidotized		
		24.70-26.0 -80% interbedded Andesite Ash and f.g. Tuff			-3-5% medium grained pyrite, stringers patches and disseminations; .5-1% chalcopyrite, patches and stringers	
				30.40-38.30 -weakly bleached, weak pervasive epidote alteration	-3-5% pyritic stringers to 2 cm, trace chalcopyrite	
		47.92-49.59 -Andesite Lapilli Tuff; 5-10% epidote altered lithic fragments to 3 cm				
		55.00-58.20 -60-70% Andesite ash to fine grained tuff				
		66.40-69.10 -minor epidote altered lithic fragments to 5 cm				
		CAB @ 71.15	46			
		71.86-89.05 «Diorite» -diorite, coarse grained; feldspar porphyritic;		-minor leucoxene		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		well developed upper chill margin; upper contact 77.55-84.32 -Diorite, fine grained 84.32-89.05 -medium to coarse grained	60	-strongly calcareous, abundant leucoxene		
93.46 TO 113.88	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded; moderately foliated; 3-5% white to ghostly to weakly epidote altered fedlspar xls to 1 mm; 10% medium to dark green lithic fragments and xls to 2 mm; 2-3% light green epidote altered lithic fragments to 2 mm CAB @ 90.54 109.46-110.20 -20% quartz veining	40	Poor to moderate chlorite development on foliation surfaces	1-2% disseminated, patchy fine to medium grained pyrite	
113.88 TO 123.00	«AND LITH,L AP TUFF» Andesite Crystal Lithic to Lapilli Tuff	Colour: medium to dark green Grain Size: medium to coarse Thick bedded; massive, oderately foliated, 3% white to ghostly to epidote altered feldspar crystals to 1 mm; 10 to 15% medium to dark green lithic fragments and or xls to 2 mm; 10% light green epidote altered lithic fragments to 1 cm, 2-3% 1 cm to 4 cm		Poor chlorite development on foliation surfaces	1% disseminated, patchy fine to medium grained pyrite	
123.00 TO 129.69	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded; moderately foliated; 3-5% white to ghostly to epidote altered feldspar xls t 1 mm; 10-15% medium to dark green lithic fragments and or crystals to 2 mm; 5% light green lithic fragments to 5 mm; rare to 2 cm		Poor chlorite development on foliation surfaces; local patchy epidote alteration	1% disseminated, patchy fine to med. grained pyrite; rare trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
129.69 TO 153.62	«AND LITH,L AP TUFF» Andesite Lithic to Lapilli Tuff	Colour: medium to dark green Grain Size: medium to coarse Thick bedded; moderately foliated 2-3% white to ghostly to epidote altered feldspar xls to 1 mm; 15% medium to dark green lithci fragments and or xls to 3 mm; 5% light green epidote altered lithic fragments to 1 cm, 2% to 4 cm 141.00-148.76 - 5-10% epidote altered lithic fragments to 7 cm 148.76-150.87 -Andesite Crystal Lithic Tuff 150.87-151.48 -Intermediate lithic tuff 151.48-153.62 -Andesite lithic tuff		Poor chlorite development on foliation surfaces	1% disseminated patchy fine to medium grained pyrite 132.52-134.00 -5% patchy medium to coarse grained pyrite, .5% chalcopyrite 134.95-135.00 -possible pyrite fragment to 1 cm 147.60-148.30 - 5-10% pyrite, predominantly stringers - 3-5% pyrite, patchy and in stringers	1% disseminated pacthy fine to medium grained pyrite; rare trace chalcopyrite
153.62 TO 166.93	«AND LITH,L AP TUFF» Andesite Lithic to Lap. Tuff	Colour: medium to dark green Grain Size: coarse Thick bedded, massive, weak to moderatly foliated; 2-3% white to ghostly to epidote altered feldspar xls to 1 mm; 10% dark green to black lithic frags and or slx to 3 mm; 5% light green epidote altered lithic to 1 cm, generallly well rounded; 5-10% 1 cm to 6 cm (possible to 12 cm) larger frags are andesite crystal lithic material; locally fragments are well rounded 158.19-159.29 -predominantly a QFP dyke, with local inclusions of silicified Andesite		Poor to moderate chlorite development on foliation surfaces; local hematite staining on fractures and along micro-fractures	2% disseminated, patchy fine to medium grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		166.86-166.93 -Fault, black gouge	80			
166.93 TO 172.86	«F TUFF» Felsic Tuff	Colour: medium grey, weak green cast Grain Size: fine to medium Thick bedded, moderate to strongly foliated; well developed shear texture throughout; 1-2% medium to dark green lithic fragments to 2 mm 166.93-168.02 -intensely sheared 168.02-168.61 -moderate to strongly sheared Andesite lithic Tuff 170.14-170.18 -Andesite Lithic Tuff		Weak sericite development on foliation surfaces; minor quartz carbonate veining and local patchy silicification	Trace disseminated pyrite	Coronation Zone Felsic Package
172.86 TO 176.55	«QP TUFF» Felsic Qtz Porph. Tuff	Colour: white to very light grey Grain Size: fine to medium Thick bedded; moderate to strongly foliated; well developed shear texture throughout; 2-3% quartz eyes to 3 mm; rare felsic fragments to 2 cm, silicified and contain dark green clots (sericite) 174.80-176.55 -intensely sheared, abundant gouge seams		Well developed sericite on foliation surfaces	1% disseminated fine grained pyrite; local trace disseminated sphalerite and chalcopyrite	
176.55 TO 185.85	«DIORITE»	Colour: medium to dark green Grain Size: fine to medium Thick, massive; weak to moderately foliated upper contact faulted 177.73-178.52 -Felsic inclusion	48	Abundant leucoxene development; 5-10% quartz carbonate veining, common hemtite staining throughout		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
185.85 TO 189.20	«QP TUFF» Felsic Qtz Porph. Tuff	Colour: very light grey, weak green cast Grain Size: fine to medium Thick bedded; moderately foliated; 2-3% quartz eyes, 1 mm to 4 mm; possible minor percentage of indistinct feldspar xls to .5 mm		Moderate sericite development on foliation surfaces; bleached 185.85-187.07 -abundant quartz carbonate veining	-trace disseminated pyrite 187.07-188.57 -<1% disseminated pyrite, trace sph. 188.57-189.20 -2-3% pyrite, disseminated and in stringers; .5 - 1% sphalerite, trace chalcopyrite	Possibblya bleached version of the lower interval
189.20 TO 191.41	«I-QP TUFF» Intermed. Quartz Porph Lith to Lap Tuff	Colour: medium grey green Grain Size: medium to coarse grained Moderately bedded, moderately folated; 3-5% qtz eyes 1 mm ot 4 mm; 1-2% dark green andesite tuff fragments to 3 cm, minor siliceous fragments (felsic) to 1 cm 191.30-191.41 -sheared		Moderate sericite chlorite development on foliation surfaces	1-2% disseminated fine grained pyrite; possible trace sphalerite	Contact with the overlying interval not sharp
191.41 TO 196.18	«Q(F)P» Felsic Qtz (Feldspar) Porphyry	Colour: medium grey green Grain Size: medium to coarse Thick bedded, moderately to strongly foliated; 5-10% quartz eyes (shattered; with a blue tinge) to 5 mm; 3-5% dark green lithic fragments (flattened parallel to foliation) to 3 mm, rare to 2 cm; possibly <5% feldspar xls, ghostly to 1 mm		Moderate sericite, minor chlorite development on foliation surfaces; locally bleached 195.75-196.18 -strongly bleached	1% disseminated fine grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
196.18 TO 198.83	«I LITH TUFF» Interm. Lithic Tuff	Colour: light to medium green Grain Size: fine to medium Moderately bedded; moderately foliated; very granular in appearance, possible felsic ash fragment 197.20-197.38		Well developed chlorite and sericite on foliation surfaces	Minor disseminated pyrite	
198.83 TO 204.27	«I LITH,LAP TUFF» Intermed. Lithic Tuff	Colour: light greenish grey Grain Size: medium to coarse Thick bedded; moderately foliated matrix appears to be a fine greained lithic to crystal lithic tuff with up to 5% white to light greyish green felsic ash to lithic tuff fragments to 4 cm		Well developed chlorite to sericite on foliation surfaces 198.83-199.91 -bleached fragments weakly silicified 199.91-201.58 -patchy bleaching proximal to qtz veins 201.58-203.19 -patchy bleaching; proximal to qtz vein 204.17-204.27 -possible large fragments with dark green clots	-minor to 1% pyrite, disseminated and in stringers; minor sphalerite in stringers -minor pyritic stringers, possible trace sphalerite -minor disseminated pyrite 203.19-204.27 -minor disseminated pyrite	Foliation locally contorted, minor shear texture throughout
204.27 TO 205.97	«AND LITH TUFF» And. Lithic Tuff	Colour: medium to dark green Grain Size: medium Moderately bedded; moderately foliated; very granular in natrue		Moderate chlorite development on foliation surfaces	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
205.97 TO 216.89	«Q(F)P) Quartz (Feldspar) Porphyry	Colour: white to light grey Grain Size: medium Thick bedded; moderately foliated; 10% quartz eyes, 1 - 9 mm; 3 to possibly 5% ghostly to clay altered feldspar xls to 1 mm 205.97-206.21 -quartz vein 206.21-208.63 -as above but light to medium grey green in colour progressively becoming light down hole; 5% medium to dark green lithic fragments? decreasing in percentage downhole 212.25-212.48 -siliceous felsic fragment to 5 cm containing 20% dark green clots (sericite?) 214.30-214.41 -Fault, gouge	70	Well developed sericite on foliation surfaces	Trace disseminated pyrite	Hanging wall formation to zone
216.89 TO 224.70	«F LAP TUFF » Felsic lap tuff	Colour: white to very light grey (with a weak green cast Grain Size: medium to coarse Thick bedded; strongly foliated; matrix consists of light greyish green sericitic material; frags may compose up to 70% of the interval; the frags are a fine grained felsic tuff to ash; that are locally silicified 222.64-224.70 -fragments locally contain emerald green patches		Well developed sercite on foliation surfaces	Minor disseminated pyrite; local trace sphalerite and chalcopyrite; minor stringers of pyrite and chalcopyrite; localy siliceous fragments are well mineralized with sphalerite, chalco-pyrite and pyrite stringers 218.90-219.66 -2-3% pyrite, 1% sphalerite, trace chalcopyrite 222.23-222.64 -2% pyrite, 2% sphalerite, minor chalcopyrite	Foliation generally highly contorted

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		224.37-224.70 -strongly sheared, local gouge	75			
224.70 TO 231.00	«QP TUFF» Felsic Qtz Porphyry Tuff	Colour: medium grey, weak green cast Grain Size: medium to coarse Thick bedded; massive; moderately foliated; 3-5% quartz eyes to 2 mm; 5% medium green lithic fragments to 3 mm; 5-10% felsic granules to 3 mm; 3% white to light grey felsic fragments to 2 cm; these are somewhat obscured by shearing		Poor to moderate sericite development on foliation surfaces	Minor disseminated pyrite	Possible Lapilli Tuff; weak shear texture throughout interval
231.00 TO 239.00	«DIORITE»	Colour: medium to dark green Grain Size: fine to medium Lower half of the interval is intensely bleached upper contact lower contact	 75 48	Minro leucoxene development abundant quartz carbonate veining		
239.00 TO 243.79	«QP TUFF» Quartz Porphyry Tuff	Colour: white to very light grey Grain Size: medium grained Massive; weakly foliated; abundant quartz carbonate microveins; patchy silicification gives the interval a weak fragmental look 240.86-241.12 -sheared, minor gouge seams 242.30-243.79 -possibly a LaT interval	 60	Intensely bleached and locally silicified	Minor sulphide stockworks throughout 241.75-242.30 -5-10% pyritic stockwork	
243.79 TO 245.40	«I LITH TUF F» Interm. Lithic Tuff	Colour: medium grey green Grain Size: medium grained Thick bedded; massive; weakly foliated; very granular in appearance, 15% medium green lithic		Patchy silification; minor quartz carbonate veining	Minor disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fragments to 2 mm				
245.40 TO 245.97	«FAULT»	Colour: Grain Size: Mylonized Zone				
245.97 TO 257.23	«SS, F TUFF » Lithic Tuff ?	Colour: white to light grey Grain Size: medium to coarse Massive bedded; weakly foliated, very granular in appearance, abundant felsic detrital material <1 mm to 2 cm		Local quartz and quartz carbonate stockwork	20% light brown mineral, possibly a silicate; trace pyrite, chalcopyrite and arsenopyrite 246.58-246.77 -60% light brown mineral? 246.77-248.40 -2-3% light brown mineral, trace pyrite chalcopyrite and arsenopyrite 248.40-249.79 -1-2% arsenopyrite (stibnite?); 1% light brown mineral; trace pyrite, chalcopyrite; between 249.25 and 249.46 5-10% arsenopyrite 249.79-250.66 -2-3% light brown mineral? 1-2% arsenopyrite (stibnite?); minor pyrite, trace chalcopyrite 250.66-251.76 -2% light brown mineral? 3-5% arseno-pyrite (stibnite?) between 251.50-251.66, 25% arsenopyrite 251.76-253.44 -1-2% light brown mineral?, 5% arseno-pyrite (stibnite), trace pyrite 253.44-255.02 -minor light brown mineral?, <1% arsenopyrite	Cameron River Formation "epithermal system"

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		256.95-257.23 -possible healed fault structure			255.02-257.23 -minor light brown mineral and arseno-pyrite	
257.23 TO 261.58	«QP TUFF» Felsic Qtz Porphyry Tuff	Colour: white to very light grey Grain Size: medium Thick bedded, massive moderate to strongly foliated; 5 to locally 10% Quartz yees from 1 mm to 8 mm; possible minor percentage of highly altered feldspar x.s 258.30-258.65 -brecciated and healed 258.63-259.00 -upper contact -lower contact 260.83-260.93 -Fault, gouge	 65 45 75	Intensely bleached	Trace pyrite; minor light brown silicate mineral; minor arsenopyrite -10% light brown silicate mineral; 1-2% arsenopyrite (? stibnite); trace chalcopyrite, minor pyrite	
261.58 TO 265.80	«Q(F)P» Qtz Feldsp. Pophyry	Colour; medium green grey Grain Size: medium to coarse Thick bedded massive, moderately foliated; 5-10% quartz eyes to 7 mm; <5% (?) ghostly to clay altered feldspar xls to .5 mm, 10% light to med. green lithic fragments to 2 mm 262.70-262.80 -large bleached, siliceous fragment to 6 cm 263.30-263.31 -Fault, gouge 263.60-264.13	 60	Moderate to well developed sericite on foliation surfaces; minor carbonate and quartz carbonate veins 263.31-263.60 -bleached	Trace disseminated pyrite	The interval above may be a strongly altered version of this

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-50% quartz veining, locally hematite stained 264.13-264.64 -50% quartz veining, host is highly sheared 265.52-265.55 -Fault, gouge 265.55-265.78 -Andesite Lithic Tuff 265.78-265.80 -Fault, gouge	 55 50		-15 pyritic stringers	
265.80 TO 273.58	«I TUFF» Intermed. Tuff	Colour: medium grey green Grain Size: medium grained Thick bedded; moderately foliated; very granular in appearance; rare quartz eyes to 1 mm; may possibly contain 5% feldspar clay altered feldspar xls to .5 mm; 5-10% medium to dark green lithic fr agmetns to 2 mm; generally flattened parallel to foliation; possible light grey green felsic fragments to 2 cm, flattened parallel to foliation generally indistinct. 269.95-270.10 -minor quartz carbonate veining 270.10-272.40 -intermediate Ash		Moderate to well developed sericite and chlorite on foliaton surfaces; minor quartz and quartz carbonate veining -abundant mariposite	-minor disseminated pyrite	
273.58 TO 285.80	«QFP» Quartz Feldspar Porphyry Felsic Tuff	Colour: light to medium grey, weak green cast Grain Size: medium to coarse Thick bedded; massive, weakly foliated; 5% to locally 10% quartz eyes to 6 mm; 5 to locally 10% ghostly to predominantly clay altered feldspar xls to 1.5 mm; locally 3% light to medium green lithic fragments to 3 mm 276.40-277.22 -5-10% felsic fragments to 4 cm		Weak to moderate sericite development on foliation surfaces; minor quartz veining throughout; patchy bleaching and silicification; local mariposite alteration	Trace disseminated pyrite	Weak to moderate shear texture throughout

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		278.14-285.80 -feldspars become indistinct 279.55-279.61 -Fault, intensely sheared 279.61-285.80 -local well developed shear texture	30	-intensely bleached, patchy silicif- ication		
285.80 TO 291.69	«NANAIMO» E.O.H.	Colour: black Grain Size: fine Siltstone		Minor quartz and quartz carbonate micro-veining fracture surfaces graphitic		

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14017	18.26	19.70	1.44	1485	9	121	1.2	2														
14018	24.70	26.00	1.30	2600	12	118	1	1														
14019	132.52	134.00	1.48	1240	18	48	1.1	6														
14020	172.86	174.22	1.36	105	7	61	0.2	2														
14021	174.22	175.46	1.24	55	10	67	0.1	3	2000													
14022	175.46	176.55	1.09	27	14	72	0.2	1	1300													
14023	185.85	187.07	1.22	8	10	46	0.2	1	1020													
14024	187.07	188.57	1.50	20	22	78	0.4	2	950													
14025	188.57	189.20	0.63	245	620	5350	0.8	20	1210													
14051	189.20	191.41	2.21	47	26	335	0.5	3														
14052	191.41	193.53	2.12	23	9	174	0.4	1														
14053	197.38	198.83	1.45	133	15	178	0.6	2														
14054	198.83	199.91	1.08	136	19	495	0.8	13														
14055	199.91	201.58	1.67	145	16	215	0.8	2														
14056	201.58	203.19	1.61	152	26	172	0.7	4														
14057	203.19	204.27	1.08	213	16	178	0.8	11														
14058	216.89	217.88	0.99	103	27	79	1	21	2000													
14059	217.88	218.90	1.02	46	42	122	0.6	29	2150													
14060	218.90	219.66	0.76	92	205	745	1.7	62	1950													
14061	219.66	221.16	1.50	45	158	146	1.2	94														
14062	221.16	222.23	1.07	67	74	415	0.8	22	3700													
14063	222.23	222.64	0.41	115	174	2450	2.8	80	2100													
14064	222.64	223.56	0.92	41	34	355	0.7	18	3290													
14065	223.56	224.70	1.14	35	25	255	0.8	78	2760													
14066	239.00	240.46	1.46	10	14	22	0.5	2														
14067	240.46	241.74	1.28	8	12	20	0.4	1														
14068	241.74	242.30	0.56	6	11	13	0.3	2														
14069	242.30	243.79	1.49	11	9	16	0.4	2														
14070	243.79	245.40	1.61	12	15	18	0.4	1														
14071	245.40	245.97	0.57	26	11	41	0.6	2														
14072	245.97	246.77	0.80	48	6	70	0.5	37														
14073	246.77	248.40	1.63	16	13	35	0.4	2														
14074	248.40	249.79	1.39	22	7	27	0.4	29														
14075	249.79	250.66	0.87	19	16	31	0.4	48														
14076	250.66	251.76	1.10	20	10	38	0.4	41														
14077	251.76	253.44	1.68	25	13	47	0.4	56														
14078	253.44	255.02	1.58	35	9	67	0.4	13														
14079	255.02	257.23	2.21	34	6	35	0.6	4														

Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %
14080	257.23	258.63	1.40	7	5	24	0.2	2												
14081	258.63	259.00	0.37	178	19	87	0.8	5												
14082	259.00	260.83	1.83	12	7	36	0.2	1												
AVE.	218.90	224.70	5.80	57.566	103.98	491.56	1.15	60.334	2150.9											

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17013	7.00	10.00	3.00	17.11	0.01	4.35	9.05	0.31	5.95	0.34	3.73	0.19	52.55		0.66		0.69	94.93	0.6	1	12	204	28	1	109	5
17014	40.82	43.82	3.00	16.44	0.005	3.67	8.95	0.25	7.19	0.35	3.14	0.21	53.6		0.66		0.31	94.76	1	1	4	744	23	1	109	5
17015	63.00	66.00	3.00	17.03	0.025	3.07	10.44	0.63	6.21	0.24	3.59	0.18	51.5		0.68		2.28	95.86	0.6	1	28	64	26	1	81	5
17016	98.14	101.14	3.00	15.5	0.005	3.72	9.79	0.29	6.3	0.29	3.19	0.18	53.19		0.62		0.63	93.7	0.6	1	13	309	28	2	97	10
17017	142.68	145.68	3.00	15.83	0.03	4.54	10.31	0.3	7.22	0.24	1.62	0.2	52.91		0.6		0.13	93.94	0.7	1	62	7	25	1	51	5
14020	172.86	174.22	1.36	12.9	0.2	2.09	2.81	2.98	1.73	0.1	2.39	0.57	68.35		0.26		0.7	95.07	0.1	10	641	101	7	1	54	5
14051	189.20	191.41	2.21	15.27	0.115	1.18	4.38	3.31	3.08	0.14	1.66	0.55	64.08		0.39		0.26	94.43	0.1	23	200	43	21	1	299	5
14052	191.41	193.53	2.12	15.15	0.12	0.62	3.74	3.4	2.81	0.11	1.18	0.52	67.68		0.34		0.08	95.74	0.1	15	119	20	10	1	155	5
14053	197.38	198.83	1.45	16.59	0.1	2.88	8.33	2.98	4.78	0.23	1.55	0.58	50.65		0.67		0.38	89.74	0.6	36	285	139	23	3	161	5
14054	198.83	199.91	1.08	14.5	0.135	3.11	7.47	2.88	3.81	0.22	1.2	0.52	45.56		0.56		1.15	81.1	0.4	50	448	146	22	3	511	5
14057	203.19	204.27	1.08	16.93	0.115	1.71	9.29	3.36	5.49	0.33	0.27	0.58	31.93		0.69		1.29	91.98	0.6	19	301	219	22	1	164	10
17018	212.50	215.50	3.00	16.1	0.065	1.3	3.29	3.4	1.74	0.07	2.31	0.1	65.23		0.31		0.14	94.07	0.1	15	128	8	17	1	39	5
14061	219.66	221.16	1.50	12.91	0.265	1.41	3.08	3.65	1.76	0.07	0.04	0.53	68.96		0.31		2.82	95.8	1.4	17	541	45	148	1	159	85
14066	239.00	240.46	1.46	13.32	0.095	2.7	3.52	2.6	1.6	0.06	2.33	0.54	66.88		0.31		2.67	96.63	0.6	22	210	8	14	1	27	5
14070	243.79	245.40	1.61	13.31	0.1	2.76	3.57	2.57	1.6	0.06	2.33	0.54	67.41		0.31		0.6	95.16	0.6	28	266	9	12	1	23	5
14082	259.00	260.83	1.83	11.84	0.09	4.08	2.27	2.99	1.71	0.04	0.04	0.53	67.9		0.19		0.04	91.73	0.5	88	327	8	7	1	31	5
17019	267.00	270.00	3.00	16.14	0.06	3.24	4.08	3.52	1.94	0.1	1.64	0.15	60.91		0.39		0.22	92.38	0.4	18	134	7	19	1	24	5

HOLE NUMBER: 90-282

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: Silver 1
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10910.00N
EAST: 6700.00W
ELEV: 661.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 93.60m
START DEPTH: 0.00m
FINAL DEPTH: 93.60m

COLLAR GRID AZIMUTH: ~~180° 0' 0"~~

COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 17, 1990
DATE COMPLETED: May 19, 1990
DATE LOGGED: ~~0, 0~~ May 19, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 6.7 m
CORE STORAGE: CHEMAINUS

PURPOSE: To test a weak IP anomaly east of the Road showing, Coronation Zone Felsic Package

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
63.10	-	-44° 0'	ACID	OK		-	-	-	-	-	
93.60	-	-44° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.70	«OB»					
6.70 TO 18.60	«F TUFF,LAP TUFF» Felsic Tuff Lapilli Tuff	Colour: light creamy grey, grey green Grain Size: 6.7-15.8 -light creamy grey with weak darker green patchy mottled texture; patchy indistinctly outlined grey felsic fragments 10.8 m well defined 2-3 cm aphyric felsic fragments 6.7-7.65 -medium green felsic tuff; 1-2% faint epidote grains; faulted lower contact, 2 cm fault gouge 15.8-18.6 -Tuff breccia; up to 35 cm zones (fragments) of grey siliceous felsic tuff with reddish green 2 mm spots and brecciated with white calcareous gashes; possible dykes?		6.7-15.8 -weak bleached appearance	<1% pyrite 9.65 -1 cm wide pyrite-sphalerite-chalco-pyrite stringer	
18.60 TO 28.60	«AND TUFF,L AP TUFF» Andesite Tuff, Lap Tuff	Colour: dark green Grain Size: fine to coarse 18.6-20.5 -fine grained andesite tuff with patchy 1 cm sub-rounded completely epidote altered fragments 19.9-20.1 -Felsic Dyke?; 2 m epidote grains, sharp upper and lower contacts a 60 and 55 deg respectively 20.5-23.25 -Felsic tuff, possible Dyke?; weak fragmental appearance, up to 5 mm epidote grains; sharp upper contact	60	Epidote alteration of groundmass fragments	<1 - 1% pyrite 19.8-19.9 -5-7% very fine grained disseminated pyrite within a finer ashier interval	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-occasional calcite gash fillings 23.25-28.6 -Andesite Lapilli Tuff; grey siliceous fragments with epidote grains in a more strongly epidotized epidote granular groundmass				
28.60 TO 32.50	«M DYKE» Mafic Dyke	Colour: dark green Grain Size: fine Massive, fairly abundant narrow calcite veinlets, occasional dark 1 cm patches = fragments?; therefore volcanics? 31.05-31.3 -possible fault; zone of abundant very fine grained pyritite mud (ie smeared sulphides in fault structures?) 31.3-31.9 -Felsic Dyke; light green, massive, silicified, white calcite veinlets - gashes 32.15-32.2 -zone of smeared sulphide mud (fault) similar to 31.05-31.3 lower contact	15			ICP to check rock types
32.50 TO 34.25	«F TUFF,FAULT» Felsic Tuff Fault	Colour: light grey green Grain Size: fine 32.5-33.3 -Felsic tuff, indistinct fragmental appearance 33.3-34.25 -Fault Zone; irregular 4-6 cm felsic fragments in a darker green chlorite milled groundmass with fine milled sulphides		weak sericite		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
34.25 TO 38.55	«AND TUFF,F DYKES» Felsic Dyke Andesite Tuff	Colour: light green, dark green Grain Size: fine Light grey felsic dykes, silicified, fine calcite and quartz veinlets, massive and screens of fine grained dark green andesite Detailed breakdown of unit: 34.25-34.65 -Mafic Dyke similar to dyke from 28.6-32.5 Felsic Dykes 34.65-35.05 35.65-36.8 37.05-37.9 also contains green sericite spots - possible volcanics? 38.1-38.2		-Weak chlorite alteration of Andesites	36.0 -3 cm of py veinlets associated with qtz veining in a felsic dyke	
38.55 TO 43.65	«F TUFF» Felsic Tuff	Colour: light creamy green Grain Size: fine ash Fine grained, aphyric tuff, weakly foliated 39.3-39.95 40365-41.3 41.8-42.05 -Fragmental or brecciated zones 2x5 cm fragments of aphyric felsic tuff, with zones of distorted broken layering lower contact	80	Weakly sericitic	1-2% pyrite	
43.65 TO 50.80	«AND TUFF» Andesite Tuff	Colour: dark green Grain Size: fine Fine granular appearance, <1 - 1 mm epidote grains 46.0-47.65		Weakly chloritic	1-3% diss. pyrite	Similar to Andesite at top of 278 and 280

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-fine grained light-med green felsic tuff 48.55-50.8 -Fault zone; milled sheared core, zones of dark grey to black pyritic muds (smeared sulphides); angular felsic and chert fragments; intervals of ground milled felsic and more intermediate tuff shearing 48.55 49.2	 60 35			
50.80 TO 59.20	«F TUFF,LIT H TUFF» Felsic Tuff Lithic Tuff	Colour: light grey green Grain Size: medium Pervasive granular texture which may be a result of shearing and faulting in the hole weak foliation/shear fabric 53.7 m Occasional <10 cm zones of grey smeared sulphides 56.8 -unit becoming more massive, silicified, white calcite veinlets	 50	Weak to moderately sericitic	1-3% py diss and as occasional mm siliceous veinlets 53.6-54.7 -<1% cp, sp within narrow siliceous py veinlets	Possible grounded equivalent of mineralized felsic in holes 278 and 280
59.20 TO 66.55	«DIORITE» Diorite	Colour: dark green Grain Size: fine grained Massive, weakly equigranular, blocky core, slickensides along fracture surfaces				
66.55 TO 74.95	«F LAP TUFF » Felsic Lap Tuff	Colour: light green Grain Size: fine Possible large (up to 15 cm) fragments of calcite veined felsics, spotted felsics and aphyric felsics in a granular felsic groundmass; fragment supported 67.6-68.2		Weak to moderate sericite in groundmass	<1% py as siliceous veinlets	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-fine blueish siliceous veining/stockwork 74.45-74.75 -Diorite dyke			74.75-74.95 -3-4% sphalerite, <1% chalcopyrite, and 2-3% pyrite as narrow siliceous veinlets folded and distorted throughout 20 cm	Possible equivalent to sp mineralization hole 280 @ 93.45-93.57
74.95 TO 77.75	«F-I LITH TUFF» Felsic to Intermed. Lithic Tuff	Colour: med. green, grey green Grain Size: fine Pervasive fine granular texture from mm lithic grains, 1-2% felsic lithic grains to 4 mm 75.25 -3 cm fault gouge		Weakly sericitic	1-2% pyrite, trace sp, gn, cp and within narrow siliceous veinlets	Similar to the F-I package in holes 278 and 280
77.75 TO 86.40	«NANAIMO BX ?» Nanaimo Breccia	Colour: light grey, light green, dark grey black Grain Size: coarse to block size A real mess of a interval interpreted to be blocks of felsic Sicker volcanics and mafic dykes from 20 cm to 1.4 m in size; with screen of fine grained argillite groundmass 77.75-78.05 -Intense milling, minor shearing 82.5-83.3 -abundant quartz carbonate veining within discrete fragments		Majority of felsic blocks bleached creamy coloration	Bleached felsic 2-3% py as fine veinlet stockwork 83.9-84.0 -trace diss sphalerite 84.6-84.7 -3-4% sphalerite within narrow siliceous veinlets	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
86.40 TO 93.60	«NANAIMO AR G» Nanaimo Argillite E.O.H.	Colour: black Grain Size: fine Massive with weak fine calcite veining; weak sheared appearance over first 40 cm oat 25-40 deg to c.a.				

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14026	33.30	34.25	0.95	142	3	59	0.6	1														
14027	50.80	52.10	1.30	22	17	215	0.7	42														
14028	52.10	53.60	1.50	42	27	157	0.8	37														
14029	53.60	54.70	1.10	230	98	515	1.2	50														
14030	54.70	56.20	1.50	119	40	245	0.9	46														
14031	56.20	57.50	1.30	29	22	189	0.5	22														
14032	74.75	74.95	0.20	700	1920	11500	5.5	138	1230			1.15										
14033	74.95	76.35	1.40	112	29	285	1	57														
14034	76.35	77.75	1.40	148	43	600	1.6	70														
AVE.	74.75	77.75	3.00	168.00	161.60	1179.7	1.5800	68.467				0.08										

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17037	8.20	11.10	2.90	12.83	0.135	0.89	1.54	2.19	0.96	0.04	3.28	0.09	74.59		0.19		0.55	97.29	0.5	13	214	25	17	1	64	5
17038	29.30	31.00	1.70	17.48	0.105	5.21	8.45	1.49	4.44	0.31	4.85	0.24	49.03		0.65		0.41	92.67	0.9	14	676	130	37	4	120	10
17039	39.00	42.00	3.00	13.66	0.185	1.67	2.9	2.79	2.47	0.08	1.85	0.11	69.46		0.26		0.92	96.35	0.4	18	420	9	22	1	36	15
14033	74.95	76.35	1.40	14.73	0.245	1.03	5.26	3.62	4.18	0.21	0.81	0.23	63.59		0.49		1.94	96.33	0.8	34	320	124	34	1	264	35

HOLE NUMBER: 90-283

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: Silver 2
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 11090.00N
EAST: 7200.00W
ELEV: 716.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -61° 0' 0"
LENGTH OF THE HOLE: 348.40m
START DEPTH: 0.00m
FINAL DEPTH: 348.40m

COLLAR GRID AZIMUTH: 177° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: ~~205°~~ 208° 0' 0"

DATE STARTED: May 19, 1990
DATE COMPLETED: May 24, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 9.1m
CORE STORAGE: CHEMAINUS

PURPOSE: Downdip test of DDH-85-71, Coronation Zone Felsic Package

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
59.40	-	-61° 0'	ACID	OK		-	-	-	-	-	
160.60	-	0° 0'	ACID		BAD ETCH	-	-	-	-	-	
258.20	-	-57° 0'	ACID	OK		-	-	-	-	-	
313.00	-	-52° 0'	ACID			-	-	-	-	-	
137.20	204° 0'	-60° 0'	SING.SHOT	OK		-	-	-	-	-	
274.30	0° 0'	-57°30'	SING.SHOT		NOT THROUGH RODS.	-	-	-	-	-	
335.30	206° 0'	-53° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.10	«OB»					
9.10 TO 21.75	«DIORITE» Diorite	Colour: speckled green Grain Size: medium Massive equigranular texture becoming fsp porphyritic below 20.0 m -10 cm chill margin at sharp lower contact	79	Patchy irregular 10-15 cm wide quartz-calcite-chlorite veining		
21.75 TO 26.00	«F-I ASH» Felsic Int. Ash	Colour: med. green Grain Size: fine Fine grained ash, <1-1% mm quartz grains, weakly foliated, patchy granular zones with mm quartz and lithic grains 22.95-23.95 -Mafic Dyke; medium green, fine grained		Moderately sericitic 23.55-23.85 -quartz-chlorite veining	2-3% diss. pyrite 23.55-23.85 -5% po-py stringery mineralization with quartz-chlorite veining	
26.00 TO 39.10	«F-I LITH T UFF» Felsic to Intermed. Lithic Tuff	Colour: med. green Grain Size: fine Very fine granular texture from mm qtz grains and mainly mm grey siliceous grains in a fine sericitic groundmass Occasional coarser grained granular lithic tuff with up to 1.5 mm grains - mainly grey siliceous lithics with 3-5%, 1.5 mm epidote grains 34.75-35.3 -Lapilli Tuff; <1-2 cm fragments of grey and green felsic lithics and green epidotized fragments; sharp upper contact	20	Moderately sericitic groundmass	2-4% disseminated pyrite, trace chalcopyrite; rare 2-3 cm brassy pyrite stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		less distinct lower contact foliation 32.2 m 36.0 m	40 50 50			
39.10 TO 186.50	«AND TUFF,LAP TUFF» Andesite xtal tuff, lap tuff	Colour: speckled med. to dark green Grain Size: fine to medium lapilli Up to 40% , average 10-15%, <1-2 mm epidote grains = feldspars, occasional zones with 1-2 mm grey siliceous lithic grains in a finer grained weakly chloritic groundmass Patchy, fragmental zones listed below with 1-5 cm (av. 1-3 cm) rounded epidotized fragments, occasional creamy grey felsic fragments; fragmental zones usually groundmass supported Top of unit zones of Felsic - Intermed. Lithic tUff of previous unit occuring to 45 m Fragmental Zones: 45.0-61.8 -within interval from 56.0-59.2 30% of fragments, creamy grey felsics 88.8-97.1 -epidote fragments generally < 1 cm 105.1-116.1 -rare, 1-4 cm epidotized frags. 148.8-158.1 -10-15%, 1-2 cm rounded epidote fragments		Strong epidote alteration of fragments and crystals, weak chlorite alteration of groundmass	1-2% diss. pyrite and trace chalcopyrite; occasional 1-3 cm siliceous or chlorite pyrite stringers with <1% chalcopyrite 68.1-69.6 -5% brassy pyrite aggregates and 1-3 cm chloritic stringers 77.15-77.3 -10% py <1% cpy in irregular chloritic siliceous stringer 87.0-87.7 -5-6% py, 3% cpy intergrown chloritic stringer veinlets	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		158.1-180 -1-5% epidotized fragments 121.3-124.9ning -granular more intermed. appearance 124.9-136.3 -Diorite and finer grained calcareous mafic dykes Diorite fsp porphyritic, weakly magnetic; mafic dykes weakly foliated texture from wispy calcite veining 146.8-147.2 -finer grained ashier chloritic zone Bedding measurements: 79.2: crystal rich- poor contact 85.55: contact with felsic-intermed. zone @ 180.3-186.5 -much finer grained, ashier tuffs and ashes	 83 80	147.2-147.4 -white quartz vein, one 4 mm cp clot 180.3-186.5 -weak - moderate chlorite	146.8-147.2 -25% py, <1% chalcopyrite within 3 siliceous stringers 146.8: 3 cm stringer, 7-8% py 146.9: 3 cm 10-12% py 147.12-147.2: 40-50% brassy py, <1% cp	
186.50 TO 189.10	«F TUFF» Felsic Tuff	Colour: med. grey green Grain Size: fine Very fine grained, granular texture from <0.5 mm grey grains 188.5-188.75 -light grey felsic tuff		Weakly sericitic	2-3% very fine disseminated pyrite	
189.10 TO 195.30	«F TUFF» Felsic Tuff	Colour: light grey Grain Size: fine Finer grained aphyric tuff/ash; indistinct fragmental appearance to 192.9 m with rare well outlined <1-1 cm grey felsic and chert fragments,		-Weak to moderate sericite	-2% py disseminated and as 2-5 mm veinlets	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		weakly foliated at 30 deg to core axis 189.1-189.25 189.6-189.9 -possible fault zones, rounded < 1 cm grains of host rock in a dark grey muddy looking ground-mass			190.6-190.8 -15-20% pyrite stringer mineralization	
195.30 TO 201.00	«CHT,F ASH» Chert, Cherty, Felsic Ash	Colour: light greyish green Grain Size: fine Massive, barren chert with interbedded felsic ash and cherty ash; chert zones often brecciated to fragmental in appearance lower contact	 75	Weak to moderate sericite within felsic ashes	1-2% pyrite as 2-10 mm chlorite stringers	
201.00 TO 205.50	«F TUFF» Felsic Tuff	Colour: medium grey Grain Size: fine Weakly foliated, fine grained tuff with weakly granular zones with <1-1 mm rounded grey granules Foliations 201.1 205.1	 40 40	Weakly sericitic	3-5% disseminated pyrite 201.5-201.8 -10-12% coarse, brassy pyrite as 1-2 cm chloritic and siliceous stringers 202.2 -6 cm siliceous chloritic stringer with 60% coarse brassy pyrite	
205.50 TO 216.75	«F LAP TUFF » Felsic Lap Tuff	Colour: mottled grey, grey Grain Size: 1-4 cm and up to 7 cm subangular to subrounded, fine grained light grey green aphyric felsic frags in a med. green, very fine granular felsic tuff		Weak sericite	1-3% py disseminated localized mm stringers within groundmass	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		groundmass; mainly groundmass supported 211.7 -layered impression from alignment of fragments at 60-70 deg. to c.a.			205.5-207.0 -moderately abundant 1-5 cm chloritic pyrite stringers	
216.75 TO 236.90	«AND LAP TU FF»	Colour: dark green Grain Size: fine to medium Same unit as described earlier from 39.1-86.5		Epidote alteration of fsp and fragments	1-2% py 216.75-217.0 -10% pyrite, wispy stringery py in chloritic groundmass	
				223.5-223.8 -barren white massive quartz vein 226.6-231.2 -weak to mod sericite		
		226.6-231.2 -Felsic Tuff; fine grained granular texture with <1-1 mm felsic grains in a fine sericitic ground-mass weakly foliated			227.4-228.3 -7% pyrite as disseminated aggregates, narrow wisps and narrow siliceous stringers	
		227.5	43			
		230.6	50			
		236.9 -faulted lower contact, 3 cm fault gouge				236.9 -Southern Rhyolite Fault
236.90 TO 241.90	«F TUFF» Felsic Tuff	Colour: light grey green Grain Size: fine Fairly massive aphyric, fine brecciated texture; 236.9-237.9: milled granular texture from proximity to Southern Rhyolite Fault			1% pyrite	
		239.1-239.75 -massive light green chert		239.75-241.25 -weakly brecciated		
		241.05-241.25 -Fault Zone; milled gougy core				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		241.05	68			
241.90 TO 256.10	«F TUFF,LAP TUFF» Felsic tuff Lapilli Tuff	Colour: light grey, light green Grain Size: fine to coarse 1.5-3 cm subangular fine grained felsic lithic fragments; generally fragment poor with more fragment supported zones from 241.8-242.9 and 245.8-247.2 -5-10 cm gougey milled fault zones at 245.2 246.1 250.3 254.7-256.1 -Felsic tuff; light creamy grey, very fine grained granular testure, <1% shattered <1 mm qtz eyes; considerably different from rest of unit sharp lower contact	 63 55 70	Weak sericite	1-2% diss. pyrite	
256.10 TO 262.50	«AND LITH T UFF» Andesite Lithic Tuff	Colour: med to dark green Grain Size: fine to coarse Fine, granular andesitic groundmass with occasional felsic lithic grains, more abundant towards base of units, epidote grains and frags up to 7 mm Sharp lower contact	 54	Weak epidote	2-4% disseminated pyrite	
262.50 TO 265.00	«F LAP TUFF » Felsic Lap Tuff	Colour: mottled grey green Grain Size: fine to coarse <1 - 10 cm creamy grey aphyric felsic lithic fragments in a light to medium green felsic groundmass; fragment supported			<1% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
265.00 TO 287.20	«F TUFF» Spotted Felsic Tuff	Colour: light to medium grey Grain Size: fine Unit characterized by up to 7%, 1-3 mm dark green sericite +/- hematite spots; unit massive but weakly brecciated with a fine white silica, calcite stockwork 265.0-275.6 -Patchy spotting and brecciation with a fine grained aphyric tuff with occasional 1-3 cm grey siliceous felsic lithic fragments 282.5-287.2 -Patchy spotted appearance, weak fragmental appearance; stronger from 286.2-287.2 285.4-285.55 -Fault zone; gougy milled core, upper contact 287.2 -sharp lower contact, minor fault gougy along contact	47 80	Patchy sericite in finer grained less massive zones	Trace pyrite	
287.20 TO 293.40	«M TUFF BX» Mafic Tuff Breccia	Colour: dark green Grain Size: coarse Irregular, indistinctly outlined fragments of green Andesite, block basalt, green epidote frags and rare felsic cherty fragment; groundmass poss. a coarse grained felsic lithic groundmass with siliceous felsic grains up to 5 mm, black mafic grains/frags Faulted lower contact	73	Weak calcite veining		
293.40 TO 296.75	«F LITH TUF F» Felsic Lithic Tuff	Colour: light green Grain Size: medium to coarse Strong granular texture from up to 3 mm grey siliceous grains, occasional quartz eyes and 1-2%				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		green soft sericitic clots 30 cm fault zone at top of unit, sheared gougy core; rare fragments of grey 2x4 cm barren chert and 10 cm mafic blocks				
296.75 TO 299.40	«F TUFF ASH » Felsic Tuff Ash	Colour: tan grey Grain Size: fine Fine grained aphyric tuff/Ash; occasional tannish brown, fine grained aphyric fragments		Weakly sericitic	<1% pyrite	
299.40 TO 304.65	«F TUFF,LAP TUFF» Felsic Tuff Lap Tuff	Colour: light greyk, grey green Grain Size: fine 299.4-301.05 -light to medium green f.g. tuff; rare grey chert frags, 3 cm 301.5-301.9 -streaky layered appearance, <1-3 cm layers = fragments; occasional grey green chert fragments 301.9-304.0 -fine grained; light grey, weaky silicified felsic tuff/ash; rare up to 5 cm QFP lithic frags 304.05 304.32-304.65 -5 mm - 2.5 cm mineralized fragments 304.32 -fault contact with zone of mineralized fragments; fault knife sharp with minor fault gouge along contact sharp lower contact faulted? 70-75 deg	70	Weakly sericitic	<1% py 304.05 -2.5 x 4 cm fragments with 7-8% py 304.32-304.64 -1-2% sphalerite, trace chalcopyrite disseminated within fragment	
304.65 TO 322.00	«QP TUFF»	Colour: medium greenish grey Grain Size: fine Weakly foliated, 1-3% rounded - subangular		Weakly sericitic		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		shattered 2-4 mm grey and whitish quartz eyes; patchy finer grained <1 mm calcareous grains; these zones weakly resemble Coronation zone HW QFP 321.0-322.0 -coarse granular texture resembling a lithic tuff but which may be the result of shearing/milling due to proximity to major fault zone			305.75-306.5 -5% disseminated pyrite Remainder of unit - trace pyrite	
322.00 TO 333.55	«F LAP TUFF ,FAULT» Felsic Lap Tuff, Flt. Zone	Colour: light grey Grain Size: fine - lapilli size grains 1-7 cm subangular to subrounded, fine grained aphyric weakly mineralized felsic ash/tuff fragments; groundmass strongly milled whereas fragments are untouched; faulting and milling strongest from 322.0-328 m with dark grey muddy zones 2-10 cm wide from 322.0-324.5 Faulting/shearing angles 322.0 322.75 324.5 328.75-330.85 -Mafic dyke; fine grained, fine leucoxene phyric, minor fault gouge at upper and lower contacts 330.85-333.55 -less fragmental appearance, strongly milled core and good fault gouge development from 332.4-333.0 sharp faulted lower contact	 75 60 50 48	Weak sericite within groundmass 330.85-333.55 -strongly bleached appearanee, mod. sericitic	1% fine pyrite trace sphalerite within fragments mainly from 324.5-327.4	
333.55 TO 339.25	«DIORITE» Diorite	Colour: dark specked green Grain Size: medium Massive, weakly equigranular up to 10% fsp crystals and 7-8% leucoxene to 3 mm				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
339.25 TO 340.45	«F TUFF,FAULT» Felsic tuff Fault	Colour: light green Grain Size: fine Strong milled faulted texture of fine grained, silicified felsics, possibly fragmental? sharp lower contact	 30		Nil	
340.45 TO 348.40	«NANAIMO» Nanaimo Argillite E.O.H.	Colour: black Grain Size: fine 340.45-342.3 -moderate faulted sheared appearance, occasional blocks, screens of light green Sicker felsics Remainder of unit, massive black argillite with fine white calcite veining 343.3 -clam shell fragment				

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	GEOCHEMICAL Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14036	87.00	87.70	0.70	10800	26	185	3.2	54														
14037	146.80	147.20	0.40	2850	32	182	1.8	83														
14038	227.40	228.30	0.90	62	23	64	0.6	19														
14039	303.30	304.32	1.02	39	60	430	1.3	22														
14040	304.32	304.65	0.33	1100	940	10050	9.7	189														
14041	304.65	305.75	1.10	210	29	125	0.9	35														
14042	305.75	306.50	0.75	142	150	485	2.9	189														
14043	324.55	326.00	1.45	124	268	550	1	16	1300													
14044	326.00	327.40	1.40	14	22	48	0.9	2	1250													
14045	331.00	332.40	1.40	7	10	32	0.6	1														
AVE.	324.55	327.40	2.85	69.965	147.16	303.40		9.1228	1275.4													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17040	24.00	26.00	2.00	16.73	0.135	0.98	9.9	1.69	7.88	0.23	1.63	0.16	53.22		0.64		2.14	95.33	0.5	5	122	162	20	1	66	10
17041	53.00	56.00	3.00	16.98	0.015	6.45	11.91	0.8	7.36	0.44	1.77	0.27	46.35		0.64		1.63	94.61	1.0	7	18	951	24	4	172	5
17042	81.40	84.40	3.00	18.1	0.01	4.44	9.43	0.67	6.97	0.37	3.68	0.2	49.89		0.7		0.35	94.79	1.3	10	14	163	23	2	95	5
17043	114.30	117.30	3.00	18.51	0.005	4.74	9.36	0.38	6.79	0.3	3.57	0.19	50.67		0.71		0.3	95.53	1.4	7	7	180	25	5	82	5
17044	148.40	151.40	3.00	18.09	0.01	4.78	7.43	0.59	6.09	0.25	3.81	0.16	53.38		0.62		0.12	95.34	1.5	9	18	229	22	2	83	5
17045	182.00	185.00	3.00	19.51	0.05	2.23	8.12	1.29	6.83	0.21	4.31	0.25	51.18		0.62		1.02	95.62	1.3	4	67	75	17	3	51	5
17046	202.00	205.00	3.00	16.25	0.1	1.54	7.01	1.76	5.63	0.15	2.78	0.13	57.43		0.48		2.57	95.84	0.4	29	92	24	24	2	63	5
17047	243.00	246.00	3.00	14.84	0.09	3.21	3.21	2.56	1.54	0.12	4.38	0.53	63.09		0.3		0.12	94	0.5	16	288	15	20	1	45	5
17048	277.00	280.00	3.00	14.39	0.15	0.77	3.59	2.79	2.29	0.06	3.04	0.55	67.94		0.29		0.14	95.99	0.2	18	476	15	22	1	28	5
17049	309.90	312.90	3.00	14.33	0.085	2.61	2.91	3.33	1.47	0.12	2.38	0.54	66.46		0.28		0.02	94.53	0.2	12	186	7	18	1	39	5
14045	331.00	332.40	1.40	14.49	0.11	1.53	1.62	2.92	1.51	0.03	2.7	0.18	70.99		0.29		1	97.38	0.3	12	179	6	25	1	22	5

HOLE NUMBER: 90-284 | MINNOVA INC. DRILL HOLE RECORD | IMPERIAL UNITS: | METRIC UNITS: X

PROJECT NAME: LARA PROJECT	PLOTTING COORDS GRID: MINE	ALTERNATE COORDS GRID:	COLLAR DIP: -70° 0' 0"
PROJECT NUMBER: 242	NORTH: 107.59N	NORTH: 0+ 0	LENGTH OF THE HOLE: 212.44m
CLAIM NUMBER: SILVER 1	EAST: 76.00W	EAST: 0+ 0	START DEPTH: 0.00m
LOCATION: 92B13\W	ELEV: 699.00	ELEV: 0.00	FINAL DEPTH: 212.44m

COLLAR GRID AZIMUTH: 180° 0' 0"   COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 20, 1990	COLLAR SURVEY: NO	PULSE EM SURVEY: NO	CONTRACTOR: FRONTIER DRILLING LTD.
DATE COMPLETED: May 22, 1990	MULTISHOT SURVEY: NO	PLUGGED: NO	CASING: 10.86
DATE LOGGED: May 22, 1990	RQD LOG: NO	HOLE SIZE: NQ	CORE STORAGE: CHEMAINUS

PURPOSE: TEST CORONATION ZONE FELSIC PACKAGE

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
66.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
130.15	-	-65° 0'	ACID	OK		-	-	-	-	-	
194.00	-	-63° 0'	ACID	OK		-	-	-	-	-	
212.45	-	-62° 0'	ACID	OK		-	-	-	-	-	
187.00	215° 0'	-63° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 10.86	«OB»					
10.86 TO 68.60	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium grained Thick bedded, massive, weak to moderately foliated 5 to locally 10% white to ghostly to weakly epidote altered feldspar xls to 1.5 mm; 10% medium to dark green lithic fragments and or xls to 3 mm <5% light green epidote altered lithic fragments to 5 mm; rare 5 mm to 4 cm ┤22.30-28.00├ «And XLT-LaT» -5% light green epidote altered felsic frags from 5 mm to 1 cm; 2-3% 1 cm to 4 cm 31.46-34.00 -core very rubbly, local gouge seams ┤42.86-68.60├ «And XLT LaT» -5% light green epidote altered lithic frags, 5 mm - 1cm; 3-5%, 1-5 cm; rare white felsic frags to 2 cm; also locally are Andesite XLT and LT fragments to 8 cm; interval locally appears clast supported Felsic Dykes between: 48.72-48.92 53.38-53.49 55.07-55.41 ┤65.20-68.60├ «Fault» -intensely sheared andesite XLT-LaT, local gouge sections to 12 cm		Poor chlorite development on foliation surfaces; local hematite staining on fracture surfaces 63.90-64.59 -intense epidote alteration	<1% disseminated pyrite; rare trace chalcopyrite	
68.60 TO 77.80	«QP TUFF» Felsic Qtz Porph. Tuff	Colour: medium grey Grain Size: medium Thick bedded, moderate to strongly foliated, 5% quartz eyes to 1 mm; <5% medium to dark green lithic fragments to 1 mm		Weak to moderate sericite development on foliation surfaces	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		68.60-71.07 -intensely sheared 74.80-74.83 -Fault, gouge 74.83-75.26 -Andesite Ash	 43			
77.80 TO 85.22	«AND LITH T UFF» And. Lithic Tuff	Colour: medium to dark green Grain Size: fine to medium Thick, massive, weak to moderately foliated 85.22 Contact	 75	Common hematite staining on fractures; minor quartz and quartz carbonate veins locally strongly calcareous	Minor disseminated pyrite	Possible Diorite
85.22 TO 114.94	«QP TUFF» Quartz Porph. Fel. Tuff	Colour: light grey Grain Size: medium Thick bedded, massive weak to moderately foliated, 5-10% quartz eyes to 5 mm; local weak blue colour possible minor percentage of clay altered feldspar 90.45-90.54 -diorite 94.48-94.55 -Fault, strongly sheared, minor gouge 94.55-96.00 -Felsic LaT; interval contains 10% bleached, silicified felsic fragments to 6 cm, these locally contain dark green clots (sericite?) 102.75-102.86 -diorite 102.86-114.94 -interval is a medium to dark grey colour (less altered?) and contains 1-2% locally 5% dark green		Weak sericite development on foliation surfaces; patchy bleaching -poor sericite development on foliation surfaces; minor quartz carbonate	Trace disseminated pyrite -trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		clots to 2 mm, rare to 4 mm (lithic fragment?) 109.54-110.00 -diorite upper contact, sheared lower contact, sheared 114.77-114.94 -interval moderately sheared	 17 40	veining		
114.94 TO 116.51	«F LAP TUFF »Felsic Lap Tuff	Colour: white to light grey; weak green cast Grain Size: coarse Thick bedded; moderate to strongly foliated; matrix is a light greyish green sericitic material fragments may compose up to 60% of the interval are generally light grey to bleached white felsic ash to fine grained tuff; generally silicified from 2 mm to 3 cm 114.94-114.98 -silicified ash or chert layer 115.75-116.51 -locally strongly sheared 116.51 -shear contact	 80	Moderate to well developed sericite on foliation surfaces; up to 10% quartz veining	Mineralization is predominantly disseminated patchy and stringers in the matrix; its not uncommon to be well mineralized 114.94-115.75 -2-3% py; 1% sphalerite tan to red; minor chalcopyrite; trace galena	
116.51 TO 126.08	«Q(F)P» Felsic Qtz (Feldspar) Porphyry	Colour: medium grey Grain Size: medium grained Thick bedded; weakly foliated, weak shear texture throughout; 2-3% quartz eyes to 2 mm, rare to 4; a small percentage of ghostly to clay altered fsp xls to .5 mm 116.51-116.71 -strongly sheared 117.68-117.70	 84	Poor sericite development on foliation surfaces	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-shear 118.13-119.54 -Felsic Lapilli tuff; up to 5% bleched white felsic ash to fine grained felsic tuff, silicified 2 mm to 4 cm 118.78-118.80 -shear 119.54-126.08 «Diorite» upper contact	60 40 45			
126.08 TO 128.91	«QFP» Quartz Feldspar Porphyry	Colour: medium grey, weak green cast Grain Size: medium grained Thick bedded; massive; weakly foliated; 5% quartz eyes from 2 mm to 4 mm; up to 5% white to ghostly feldspar xls to 1.5 mm; <5% light to medium green fragments to 2 mm 127.28-128.91 -Fault, abundant gouge seams, core badly broken		Poor sericite development, patchy silicification	Trace disseminated pyrite	
128.91 TO 137.20	«F LAP TUFF ,QFP»Felsic Lap Tuff Qtz Fsp Porphyry	Colour: light to medium grey green Grain Size: coarse Thick bedded, massive, weakly foliated; locally 5-10% quartz eyes (blue tinge) to 8 mm; 5% white to ghostly to epidote altered feldspar xls to 1.5 mm; 2-5% dark green clots to 6 mm; 2-3% epidote altered lithic fragments to 5 mm; up to 5% very indistinct fragments (these generally contain abundant green clots) to 4 cm		Interval appears to have been strongly silicified; local hematite staining on fractures and of fragments	Trace pyrite	Fragmental texture may be due to the alteration
137.20 TO 159.12	«QP TUFF» Felsic Qtz Porphyry Tuff	Colour: medium grey Grain Size: medium grained Thick bedded; massive, weakly foliated; <5% qtz eyes to 3 mm; 2-3%, locally 5% dark green clots <1 mm to 8 mm; 1-2% locally 10% light green epi-		Poor sericite development; interval appears to have been intensely silic-ified; locally bleached; minor hematite	Trace pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		dote altered lithic fragments to 4 mm 147.85-151.00 -core broken, sheared, local gouge seams 149.53 151.00-159.12 -Felsic Lapilli Tuff; possibly 50-60% fragments to 9 cm; these are felsic tuff; generally silicified with dark green clots; between 151.90-152.30, Andesite LaT fragment?, fragment size decreases down hole 152.30-152.40 -Fault gouge 154.53-155.60 -Fault, strongly sheared, abundant gouge seams 157.12-157.27 -Possible mafic dyke	 25 25	staining on fracture surfaces		
159.12 TO 163.00	«M PILLOWS»	Colour: dark green to black Grain Size: fine Massive, flow; abundant amygdules and pillow selvages, (epidotized), minor cherty or siliceous patches with pyrite and chalcopyrite 162.44-162.60 -Felsic fragment		Minor quartz carbonate veining, also local hematite staining		Pillowed flow breccia; or a large fragment of a flow
163.00 TO 169.77	«QFP» Quartz Feldspar Porphyry	Colour: very light greyish green Grain Size: medium Thin to moderately bedded; moderately foliated, 5% quartz eyes to 4 mm; <5% feldspar xls white to ghostly to .5 mm 163.95-165.58 -80% interbedded fine grained felsic ash CAB 164.51	 43		 -1-2% disseminated and stringer pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		165.58-166.37 -mylonized shear zone 166.37-166.46 -mafic dyke 168.12-168.50 -sheared section? these appear to be several large fragments of argillite and fine grained felsic ash with an argillaceous component 168.50-169.77 -interval progressively grades into more of a coarse grained QP lithic tuff down hole				
169.77 TO 172.27	«I LITH TUF F» Interm. Lithic Tuff	Colour: medium grey green Grain Size: medium Thick bedded, massive, moderately foliated; very granular in appearance 171.76-171.87 -shear zone	65	Weak to moderate sericite and chlorite development on foliation surfaces	Trace disseminated pyrite	
172.27 TO 174.38	«AND LITH T UFF» And. Lithic Tuff	Colour: medium green Grain Size: medium grained Thick bedded, massive, weak to moderately foliated very granular in appearance; abundant rounded qtz grains		Weak chlorite development on foliation surfaces; minor quartz carbonate veins	Trace disseminated pyrite	
174.38 TO 177.67	«AND ASH» Andesite Ash	Colour: medium to dark green Grain Size: fine Thick bedded, massive; weak to moderately foliated very granular in appearance		Weak chlorite development on foliation surfaces; minor quartz carbonate veins	Trace dissemianted pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
177.67 TO 182.80	«AND LITH,LAP TUFF» Andesite Crystal Lithic to Lap. Tuff	Colour: medium to dark green Grain Size: coarse Thick bedded; massive, weak to moderately foliated matrix is a fine to medium grained andesite crystal lithic tuff with 10-15% andesite ash 177.67-178.54 -10% felsic ash to chert fragments to 6 cm containing abundant pyrite		Weak chlorite development on foliation surfaces; andesite has epidote altered feldspar xls and lithic fragments	Trace disseminated pyrite	
182.80 TO 191.73	«I-QFP TUFF»Intermed. Qtz Fsp. Porphyry	Colour: medium grey green Grain Size: fine to medium Thick bedded, massive, weakly foliated; 3-5% qtz eyes to 3 mm; <5% white feldspar xls to 1 mm; 2-3% dark green to black clots		Poor sericite chlorite development on foliation surfaces; patchy silicif-ication	Trace disseminated pyrite	This is the same as the unit between 128.91 and 159.12 but not silicified Felsic Flow
191.73 TO 204.66	«AND TBX» Andesite Tuff Breccia	Colour: dark green Grain Size: coarse grained Thick bedded, massive, weaky foliated; very granular in appearance; <5% white to dark grey felsic fragments to 3 cm; possible 5% Andesite XLT fragments to 15 cm 191.73-193.20 -Andesite Ash fragment 200.35-203.15 -pillowed basalt fragment 203.15-204.66 -Diorite, strongly sheared lower contact approx.	70	Poor chlorite development on foliation surfaces	Trace disseminated pyrite	
204.66 TO 212.44	«NANAIMO» Nanaimo	Colour: black Grain Size: fine Siltstone				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	E.O.H.					

				ESTIMA	ASSAYS					GEOCHEMICAL												COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		
14083	114.00	114.94	0.94	28	18	124	0.6	9														
14084	114.94	115.75	0.81	225	223	2950	2.8	192	2240													
14085	115.75	116.51	0.76	159	115	665	1.9	91	2300													
14086	116.51	117.95	1.44	14	14	72	0.4	2														
14087	163.95	165.58	1.63	97	17	49	0.7	2	1990													
14088	177.67	178.54	0.87	43	25	92	0.5	1														
AVE.	114.94	116.51	1.57	193.05	170.72	1843.9	2.36	143.11	2269.0													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17020	12.49	15.49	3.00	19.25	0.025	6.22	8.85	0.39	5.98	0.2	4.41	0.22	47.29		0.81		0.08	93.71	1.8	1	46	85	14	1	46	5
17021	44.80	47.80	3.00	19.64	0.005	7.65	9.76	0.34	4.99	0.22	3.91	0.3	46.58		0.88		0.65	94.93	1.5	2	7	140	20	1	36	10
17022	81.38	84.38	3.00	17.57	0.035	5.99	8.89	1.22	4.48	0.22	5.09	0.19	46.65		0.7		0.16	91.19	0.7	29	222	138	29	4	65	10
17023	96.62	99.62	3.00	15.3	0.055	2.28	2.8	3.34	1.24	0.08	3.19	0.19	66.33		0.28		0.13	95.21	0.3	129	133	8	17	1	26	5
17024	130.14	133.14	3.00	15.87	0.075	3.12	3.2	2.29	1.39	0.06	4.59	0.18	64.45		0.34		0.08	95.63	0.3	21	164	4	28	1	21	5
17025	159.50	162.00	2.50	18.75	0.07	7.07	9.98	1.23	2.01	0.14	4.06	0.47	49.1		0.59		0.21	93.69	0.5	19	456	35	27	2	41	5
17051	174.38	177.38	3.00	17.8	0.03	5	8.08	1.02	4.18	0.17	4.98	0.2	49.9		0.81		0.15	92.31	0.7	20	140	87	28	4	63	5
17052	188.06	191.06	3.00	15.27	0.11	2.23	3.44	3.62	1.38	0.05	3.36	0.16	66.27		0.37		0.15	96.41	0.7	21	156	5	14	1	21	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER
LOCATION: 92B/13W

PLOTTING COORDS GRID: Mine
NORTH: 10946.00N
EAST: 7400.00W
ELEV: 716.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -70° 0' 0"
LENGTH OF THE HOLE: 335.59m
START DEPTH: 0.00m
FINAL DEPTH: 335.59m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 23, 1990
DATE COMPLETED: May 27, 1990
DATE LOGGED: May 27, 1990

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

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

CONTRACTOR: Frontier Drilling
CASING: 12.19 m
CORE STORAGE: Chemainus, B.C.

PURPOSE:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
60.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
122.00	-	-68° 0'	ACID	OK		-	-	-	-	-	
267.00	-	-63° 0'	ACID	OK		-	-	-	-	-	
298.00	-	-63° 0'	ACID	OK		-	-	-	-	-	
335.59	-	-63° 0'	ACID	OK		-	-	-	-	-	
210.00	204° 0'	-68° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 12.19	«OB»					
12.19 TO 63.74	«AND LITH TUFF»	Colour: medium to dark green Grain Size: medium Thick bedded, massive; weak to moderately foliated 5-7% white to ghostly to predominantly epidote altered feldspar xls to 1 mm; 15-20% medium to dark green lithic fragments and or xls to 2 mm; up to 5% quartz granules to 2 mm; up to 5% light green epidote altered lithic fragments to 5 mm; rare lapilli to 3 cm		Poor chlorite development on foliation surfaces	2-3% pyrite; disseminated patchy local stringers, rare trace chalcopyrite	
		CAB 20.81	65			
		23.89-25.78 -Andesite Lt-LaT				
					25.78-26.71 -massive pyrite stringer with chalcopyrite between 26.58 and 26.67	
		26.71-27.00 -Fault, gouge	30			
		28.20-28.44 -Fault, gouge	10			
					29.22-30.77 -minor chalcopyrite stringers 30.77-32.67 -minor chalcopyrite stringers	
		33.20-36.38 -Andesite XLT-LaT				
		CAB 37.20 m	45			
		41.50-42.80 -strongly bleached, minor felsic dykes				
		46.60-56.08 «AndXLT-LaT» -5% epidote altered lithic fragments to 2 cm				
		56.08-57.36				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Andesite Ash to f.g. lithic tuff			-minor chalcopyrite stringers	
63.74 TO 80.02	«DIORITE»	Colour: dark green Grain Size: fine to coarse Thick, massive; weak to moderately foliated, coarse to fine grained phases 67.16-74.34 -fine grained phase 79.30-80.02 -fine grained phase		Fine grained phases strongly calcareous		
80.02 TO 101.94	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded, massive; weak to moderately foliated 3-5% white to ghostly to predominantly epiodote altered feldspar xls to 1 mm; 20% medium to dark green lithic fragments and or xls to 3 mm; <5% light green epidote altered lithic fragments to 5 mm; 1% 5-6 cm		Poor chlorite development on foliation surfaces; moderate to locally strongly calcareous	1% disseminated fine grained pyrite	
101.94 TO 121.12	«AND LITH,L AP TUFF» Andesite Crystal Lithic to Lap Tuff	Colour: medium to dark green Grain Size: medium to coarse Thick bedded; massive; weakly foliated; 5% white to ghostly to predominantly epidote altered feldsp xls to 1 mm; 15-10% medium to dark green lithic fragments and or xls to 3 mm; 10% light green epidote altered lithic fragments to 1.5 om; 1-3%		Poor chlorite development on foliation surfaces	<1% disseminated fine grained pyrite 118.88-120.15 -3-5% pyrite stringers, tr chalcopyrite	
121.12 TO 142.34	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded, massive, weakly foliated; 3-5% white to ghostly to predominantly epidote altered feld-spar xls to .5 mm; 5% light green epidote altered lithic fragments to 5 mm; rare to 3 cm; 10-15%		Poor chlorite development on foliation surfaces, local patchy silicification loical weak hematitic staining of fragments	1% patchy medium to coarse grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		medium to dark green lithic fragments and or xls to 4 mm		122.80-123.75 -patchy silicification	122.80-123.75 -5% pyritic stringers, trace chalcopyrite	
		124.29-124.34 -Fault, gouge	55			
		CAB 125.45	50			
		127.90-127.94 -Fault, gouge	57			
		127.94-129.72 -local epidote altered lithic fragments to 5 cm; rare white felsic fragments to 1 cm; interval appears to be reworked; possible healed shear zone				
		129.72-131.72 -the interval between 129.72 and 130.00 appears to be vesicular		-local intensely bleached, silicified and epidotized		
		136.95-138.20 -Andesite lapilli tuff; 15% epidote altered frags to 7 cm; these are XLT fragments				
		138.20-139.47 -interval appears to be reworked or possibly a healed shear zone			-5-10% pyritic stringers, trace chalcopyrite	
					139.47-141.06 -5% pyritic stringers, trace chalcopyrite	
		141.06-142.34 -Felsic Tuff			-1-2% patchy coarse grained pyrite	
142.34 TO 147.86	«AND LITH TUFF» And. Lithic Tuff	Colour: medium green grey Grain Size: fine to medium grained Thick bedded, moderately foliated; very granular appearance		Moderate chlorite development on foliation surfaces	1-2% pyrite, disseminated patchy, minor stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
147.86 TO 182.29	«AND LAP TU FF» And. Lapilli Tuff	Colour: medium to dark green Grain Size: coarse Thick bedded, moderately foliated; 5-10% light greeen epidote altered lithic fragments to 6 cm, larger fragments are XLT; 5% white to grey green felsic fragments to 3 cm; matrix is predominantly a fine ash material with abundant fine grained sulphide		Poor chlorite development on foliation surfaces local minor hematite staining	5% very fine grained sulphide, local pyrite patches and stringers, trace chalcopyrite	Very clastic in appearance, interval has a moderate to well developed shear texture throughout
		CAB 148.53 151.20 153.43	40 55 45			
		150.91-154.74 -matrix is a coarser andesitic material with minor sulphides				
		158.60-159.58 -Intermediate Lithic Tuff			-5-10% disseminated to patchy, fine to medium grained pyrite	
		159.58-160.69 -Felsic Tuff, 80%			-3-5% disseminated, patchy fine to medium grained pyrite, local trace chalcopyrite	
		165.21-170.67 -60% quartz veining			-5% pyritic stringers, trace chalco-pyrite	
		177.70-182.29 -fragment generally decreases downhole				
		181.64-181.66 -Fault, gouge	60			
		181.66-182.29 -moderately sheared				
182.29 TO 209.74	«F LAP TUFF »Felsic Lap Tuff	Colour: white to light grey with green cast Grain Size: coarse Thick bedded, massive, moderately foliated; matrix is a light greyish green felsic material; possible		Moderate to well developed sericite on foliation surfaces; felsic fragments,	1-2% pyrite, disseminated, patchy, minor stringers, rare trace chalco-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		50-60% felsic fragments light grey to white, frags may locally exceed 10 cm 189.40-198.09 -felsic fragments contain minor dark green clots, fragments become less distinct 198.09-199.12 -Andesite Lithic tuff, rare lapilli to 1 cm 202.70-204.35 -strongly sheared, abundant gouge seams 20-40 deg 199.12-208.37 -fragments generally indistinct 2-3%, dark green clots <1 mm to 3 mm 208.37-209.74 -QP felsic tuff, 1-2% dark green clots to 1 mm; 5% quartz eyes to 4 mm		bleached and weakly silicified -weak to moderate chlorite development	pyrite	
209.74 TO 218.63	«AND LITH T UFF» And. Lithic Tuff	Colour: medium green grey Grain Size: medium Thick bedded; moderately foliated; very granular in appearance Contact 218.63	30	Poor chlorite development on foliation surfaces; minor quartz carbonate veining, minor hematite staining on fracture surfaces	1% disseminated pyrite	
218.63 TO 223.55	«QP TUFF» Quartz Porphyry Tuff	Colour: white to light grey Grain Size: fine to medium Thick bedded; moderately foliated; <5% quartz eyes from 1 mm to 4 mm, rare to 8 mm; <1% dark green clots to 1 mm 221.41 -Fault, CS fabric; up hole moved up	65	Weak to moderate sericite development on foliation surfaces	1% disseminated, patchy fine to medium grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
223.55 TO 227.10	«QP TUFF» Quartz Porphyry	Colour: medium grey, weak greenish cast Grain Size: medium Thick bedded, massive, weakly foliated <5% quartz eyes to 2 mm; 5% light to dark green lithic fragments?; 1-3 mm rare to 8 mm; pumice fragments?		Poor sericite development on fracture surfaces; 2-3% quartz carbonate veining	Trace disseminated pyrite	Possible felsic dyke
227.10 TO 236.12	«AND LITH T UFF» And. Lithic Tuff	Colour; medium to dark green Grain Size: medium Thick bedded; massive; moderately foliated; very granular in appearance 232.00-233.70 -Diorite		Poor to moderate chlorite development on foliation surfaces	1% disseminated, patchy fine to medium grained pyrite	
236.12 TO 239.09	«QP TUFF» Quartz Porphyry Tuff	Colour: white to light grey Grain Size: medium grained Thick bedded; massive, weaky foliated; <5% quartz eyes, 1 mm to 3 mm 238.45-239.09 -Fault, mylonized zone 238.45 239.09	 60 35	Poor to moderate sericite development on foliation surfaces	Trace disseminated, patchy, medium grained pyrite	
239.09 TO 251.50	«F LAP TUFF »Felsic Lap Tuff to Tuff Bx	Colour: medium grey green Grain Size: coarse Thick bedded, massive, weakly foliated, massive, matrix appears to be a greenish QP material; possibly to 50% felsic ash and QFP fragments to 50 cm 239.09-239.80 -very strongly sheared and milled 240.85-241.51 -strongly sheared, abundant gouge seams		Poor sericite development; fragments are bleached and silicified	Trace disseminated pyrite, rare chalcopyrite (at 239.51 m)	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		241.51	48			
251.50 TO 272.00	«DIORITE»	Colour: dark green Grain Size: medium to coarse Thick, massive, coarse to fine grained phases 271.42-272.00 -Fault, brecciated and healed, intensely altered		Local well developed leucoxene		
272.00 TO 284.56	«F LAP TUFF »Felsic Lap Tuff	Colour: white to light grey; weak green cast Grain Size: coarse Thick bedded; moderately foliated; matrix is white to very light green, felsic material, altered to sericite; possibly up to 20% felsic fragments, bleached white and siliceous up to 4 cm		Well developed sericite on foliation surfaces	Locally the felsic fragments are weak to well mineralized with pyrite, sphalerite, chalcopyrite and galena; also locally there are pyritic stringers with trace sphalerite, chalcopyrite, overall sulphide content would be around 1-2% with trace base metal content	Coronation Zone
		272.00-275.03 -moderately sheared, local gouge zones				
		275.00 275.20 275.95	55 25 65			
		276.73-276.74 -Fault, gouge	65			
		279.22-279.30 -Andesite LT, fragment?				
		279.37-281.28 -local andesitic sections to 13 cm fragments				
		281.72-281.75 -Fault, gouge	40			
		281.99-282.04 -strongly sheared with gouge	89			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		282.54-282.67 -strongly sheared 284.00-284.09 -strongly sheared	75			
284.56 TO 305.93	«DIORITE»	Colour: dark green Grain Size: coarse Massive, Karmutsen, feldspar porphyritic 204.86-305.18 -felsic inclusion 305.18-305.93		Local abundant leucoxene crystals		
305.93 TO 309.85	«F LAP TUFF »Felsic Lap Tuff	Colour: very light grey Grain Size: coarse Thick bedded; massive; moderately foliated; groundmass contains 5% QE to 3 mm; 5% medium grey green lithic fragments to 3 mm; <5% white felsic fragments to 2 cm, rare QP fragments to 5 cm		Weak to moderately developed sericite on foliation surfaces	Trace disseminated pyrite	
309.85 TO 331.77	«F TBX» Felsic Tuff Breccia	Colour: light to medium grained Grain Size: coarse Thick bedded; massive; weakly foliated; clast supported, no well defined matrix material; frags predominantly bleached and silicified; and are a mixture of felsic Tuff, QP and QFP these may exceed 1 m in core length 316.07-321.20 -predominantly Andesite blocks, XLT to LaT 322.40-325.80 -predominantly Andesite 325.80-326.32				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-vesicular basalt fragment 327.74-328.32 -strongly sheared 328.32-331.77 -local minor shearing	 30			
331.77 TO 335.59	«NANAIMO»	Colour: black Grain Size: very fine Siltstone 331.77-331.74 -Fault, gouge	 70			

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14089	25.78	26.71	0.93	2400	18	106	1.3	1														
14090	29.22	30.77	1.55	2950	12	170	1.2	2														
14091	30.77	32.67	1.90	1200	10	240	1.0	7														
14092	118.88	120.15	1.27	155	13	69	1.4	1														
14093	122.80	123.75	0.95	55	14	49	1.2	11														
14094	138.20	139.47	1.27	182	15	48	1.5	1														
14095	139.47	141.06	1.59	156	16	44	1.2	17														
14096	141.06	142.34	1.28	15	7	30	0.8	25	3100													
14097	142.86	149.71	6.85	240	10	56	1.2	15														
14098	149.71	150.91	1.20	266	10	65	1.1	1														
14099	154.75	157.82	3.07	53	11	60	1.0	1														
14100	157.82	158.60	0.78	31	10	51	1.0	1														
14101	158.60	159.58	0.98	78	13	38	1.1	1														
14102	159.58	160.69	1.11	76	9	36	1.2	4	530													
14103	160.69	161.65	0.96	14	10	44	0.9	1														
14104	161.65	163.70	2.05	17	10	43	1.0	1														
14105	163.70	165.21	1.51	33	9	41	1.0	3														
14106	165.21	166.72	1.51	177	9	26	0.9	1														
14107	166.72	167.94	1.22	287	10	20	0.8	15														
14108	167.94	169.16	1.22	27	11	31	1.0	1														
14109	169.16	170.67	1.51	26	9	30	0.8	1														
14110	182.29	183.90	1.61	95	4	40	0.5	3														
14111	183.90	185.62	1.72	10	5	39	0.4	1	1020													
14112	199.44	200.86	1.42	25	5	30	0.4	1	1070													
14113	272.00	273.40	1.40	172	24	620	0.5	14	3500													
14114	273.40	275.03	1.63	31	8	145	0.4	59	2500													
14115	275.03	276.66	1.63	35	9	232	0.6	93	2290													
14116	276.66	278.15	1.49	53	5	102	0.4	25	2040													
14117	278.15	279.37	1.22	33	5	430	0.5	92	1750													
14118	279.37	281.28	1.91	46	7	72	0.6	25	1160													
14119	281.28	282.91	1.63	181	152	1600	1.2	9	1350													
14120	282.91	284.50	1.59	144	187	900	2.6	38	1160													
AVE.	272.00	284.56	12.56	85.944	50.424	504.43	0.86	42.969	1922.2													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17053	14.32	17.32	3.00	17.7	0.065	2.11	9.54	1.21	7.26	0.29	3.97	0.24	50.87		0.65		1.79	95.69	1.3	12	59	135	20	4	80	5
17054	47.85	50.85	3.00	17.85	0.01	4.53	8.97	0.88	6.35	0.32	3.68	0.24	51.06		0.7		0.23	94.81	1.5	32	7	93	17	1	28	5
17055	84.12	87.12	3.00	17.64	0.01	5	9.14	0.69	6.18	0.32	3.81	0.22	50.17		0.69		0.31	94.17	1.3	7	14	273	21	2	76	10
17056	115.21	118.21	3.00	16.98	0.03	4.9	10.41	1.75	6.18	0.22	2.76	0.58	49.22		0.87		1.26	95.14	1.7	1	29	32	21	1	54	5
17057	142.95	145.95	3.00	16.28	0.08	1.21	9.05	1.85	6.89	0.18	3.72	0.54	52.86		0.66		2.71	96.03	0.7	13	115	28	24	5	52	5
14110	182.29	183.90	1.61	13.22	0.085	1.17	2.95	2.24	2.02	0.09	3.17	0.23	70.18		0.26		1.22	96.83	0.5	8	131	109	15	1	35	5
17058	188.67	191.67	3.00	14.14	0.185	1.41	2.98	2.98	1.84	0.08	2.58	0.52	68.52		0.27		1.39	96.89	0.8	26	443	172	21	1	48	5
17059	212.44	215.44	3.00	16.84	0.11	2.41	8.43	2.6	5.99	0.26	2.8	0.56	53.14		0.64		0.46	94.24	1.7	1	120	105	21	2	141	5
17060	244.81	247.81	3.00	14.97	0.065	1.79	2.69	1.66	1.14	0.06	4.91	0.15	67.97		0.33		0.31	96.06	0.3	451	164	14	21	1	46	5
14115	275.03	276.66	1.63	12.53	0.22	0.63	2.23	4.21	1.41	0.02	0.23	0.25	73.14		0.26		1.67	96.79	0.2	20	169	39	15	1	223	70

HOLE NUMBER: 90-286

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 11111.00N
EAST: 7400.00W
ELEV: 730.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 175.56m
START DEPTH: 0.00m
FINAL DEPTH: 175.56m

COLLAR GRID AZIMUTH: 180° 0' 0"   COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 25, 1990
DATE COMPLETED: May 27, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 6.7m
CORE STORAGE: CHEMAINUS

PURPOSE: TEST THE 262 FELSICS FOR MASSIVE SULFIDE MINERALIZATION.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
49.40	-	-75° 0'	ACID	OK		-	-	-	-	-	
145.40	-	-75° 0'	ACID	OK		-	-	-	-	-	
121.90	210° 0'	-74°30'	SING.SHOT	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.70	«OB»					
6.70 TO 15.90	«AND ASH» Andesite, Ash, Tuff	Colour: dark green Grain Size: fine Weakly foliated, very fine ash/tuff, aphyric with occasional <1 - 1mm epidote grains		Weak to moderately chloritic	1-2% diss. pyrite	
		7.4-7.45 -green fault gouge, with fine disseminated pyrite	46		7.45-9.1 -3% disseminated pyrite	
		foliation 12.5 15.3	 48 30			
		rubbly lower contact				
15.90 TO 26.50	«F ASH» Felsic Ash/ Tuff	Colour: light grey Grain Size: fine		Weakly sericitic		
		15.9-17.37 -Fault zone, fault gouge zones, poor core recovery distorted foliations			15.9-19.7 -3% disseminated pyrite	
		16.0 -fault	65			
				22.0-26.5 -moderately silicified		
		17.37-19.7 -fine grained aphyric ash/tuff, rare <1 mm qtz eyes				
		19.7-22.0 -Andesite tuff; fine grained, occasional 1-2 mm grey felsic lithic grains and dark green chloritic grains			19.7-22.0 -trace pyrite	
		22.0-26.5 -weak, mottled texture strong silicified appearance; patchy rubbly weak gouge developed			22.0-26.5 -<1% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		zones				
26.50 TO 29.60	«QP ASH» QP Felsic Ash	Colour: light grey Grain Size: fine 3-7%, <1-1 mm subangular qtz eyes in a very fine grained aphyric groundmass indistinct lower contact		Weakly sericitic, weakly silicified	1% pyrite as disseminated aggregates, rare coarser aggregates and stringers	Poorly foliated 25-30 deg
29.60 TO 35.75	«QP LITH TU FF» QP Felsic Lithic Tuff	Colour: mottled, med grey and light green Grain Size: fine to medium Granular texture from 1-2 mm grey and grey white siliceous grains, some possibly fsp and grey quartz grains, quartz eyes; much coarse than previous QP unit Mottled light green and medium grey coloration which does not look like a fragmental pattern fairly massive, weak silicified appearance 29.6-30.07 -fine grained lacking granular texture, strongly silicified Towards base of unit begin to see the odd fine grained felsic lithic fragment up to 1 cm		Weakly silicified	1-2% very fine disseminated pyrite and coarser aggregates, tr - <1% cp inter-grown with py aggregates and as discrete disseminations 29.6-30.7 -5% py, tr cp, very fine grained pyrite weak veining/stockwork and disseminations	
35.75 TO 43.20	«F LAP TUFF ,CHT FRAG» Felsic Lap Tuff, Chert fragmental	Colour: light creamy green Grain Size: fine to coarse 35.75-39.7 -1-4 cm subrounded - subangular fine grained aphyric felsic tuff/ash fragments and silicified ash/chert fragments Overall fragment size increases down hole to 39.7 Below 39.7 -mottled creamy green, green appears to large		Weak sericite, moderate bleached altered appearance	2-3% py, <1% cpy disseminated and occasional chloritic or siliceous <1 cm stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		chert or cherty ash fragments or distorted brecciated chert/ash beds. -no bedding preserved; no distinct fragment outlines Crushed zones, distorted, weak fault gouge development from: 38.45-36.0 38.45-38.7 37.1-38.45 -fine grained fragment poor tuff similar to previous unit lower contact	 40			
43.20 TO 61.85	«F ASH TUFF » Felsic Ash Tuff	Colour: light grey Grain Size: fine Weakly foliated from 43.2-46.0 becoming strongly brecciated from 46.0-55.5 wiht zones of fault gouge development; brecciation gives core a fine stockwork type of appearance Zones of fault gouge development from: 46.1-46.9 -with sharp upper contact at 10-15 deg 48.5-48.6 52.5-55.5 -patchy fragmental appearance, possibly a result of brecciation 56.9-61.85 «CHT, SILASH» Chert; fine grained, massive, no bedding, no distinct textures; interval possibly a strongly silicified ash with some chert zones 61.4-61.85 -healed fault zone; dark grey pyritic mud with felsic fragments		Weakly sericitic, weakly bleached	<1% py, cp mainly as occasional <0.5 cm siliceous py-cp stringers	Foliation 44.4 45 deg

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
61.85 TO 86.40	«F TUFF,LIT H TUFF» Felsic Tuff Fine Lithic Tuff	Colour: light to med. grey Grain Size: fine Very fine granular texture to finer aphyric tuff ash; patchy indistinct outlined pseudofragmental zones; patchy coarser grained lithic tuff with grains up to 2 mm		Weakly sericitic	2-4% diss. pyrite zones as follows of greater sulphide content	
		62.17-62.25 -light grey green fault gouge, fine pyrite grains within gouge				
		63.75-63.82 63.95-63.98 -fault gouge with fine pyrite within gouge			65.3-66.4 -3-5% diss and weak stringery pyrite	
		66.9 -5 cm fault gouge				
		68.9-70.1 -minor fault gouge, rubbly core				
		70.1-72.4 -fragmental appearance; <1-1.5 cm felsic fragments			70.85-71.65 -5% py locally 10% py over 10 cm	
		72.4-73.95 «CHERT» Chert; light grey, well developed bedding at 45-50 deg to core axis, brecciated fragmental appearance from 72.4-72.7				
		73.6-73.95 -felsic ash layers, thin layer with flattened fiamme			736.6-73.95 -up to 7% very fine disseminated pyrite last 6 cm, <0.5 cm chloritic py-cp stringers	
		73.95-77.65 -fine granular felsic tuff; rock taking on a brighter green colour with <1% well outlined green mica (fuschite)			75.9-76.1 -trace disseminated sphalerite	
					76.1-76.2 -veinlets of crush sulphides <1-1% sphalerite; interval includes 1 cm	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		77.65-86.4 -Felsic lithic tuff; somewhat more granular than rest of unit with finer grained ashes and cherts as follows: 82.9-83.53 -light grey aphyric silicified ash/chert; fairly homogeneous, no bedding			calcite vein with sphalerite stringers 79.3-82.9 -3-5% pyrite, tr. chalcopyrite, coarser brassy aggregates 82.9-83.53 -3-5% very fine grained, finely disseminated pyrite	
86.40 TO 107.25	«F ASH,PY A SH,CHT» Felsic Ash pyritic ash chert	Colour: medium green Grain Size: fine Interbedded, fine grained aphyric felsic ashes, pyritic ashes and barren bedded cherts 86.4-88.0 -chert, medium green, poorly bedded, rubbly core bedding 88.0-91.8 -fine grained ash and tuff with chert in last 30 cm 91.8-93.57 -QP fragmental up to 10 cm fragments of ultra fine grained felsic ash with 2-3% <1-1 mm quartz eys -fragment supported 93.57-94.3 -weak granular texture 94.3-96.7 -poorly bedded pyritic ashes, rare chert beds 96.7-99.8 -weakly pyritic ashes, bedded ashes and chert finely bedded 2-3 mm pyrite laminations 99.8-107.25	61	Moderately sericitic 99.35-107.25 -intense alteration strong bleached appearance, patchy silicification,	86.4-88.0 -barren of sulphides 88.0-91.8 -<1% pyrite except from 90.45-91.8 up to 10% very fine disseminated pyrite mainly from 90.45-90.8 91.8-93.57 -<1% pyrite 94.3-96.9 -7-10% very fine grained, disseminated pyrite; <1% diss. cp, locally up to 1% diss. cp 96.7-99.35 -5-7% fine diss. pyrite and rare py laminations 99.35-102.6 -5% py diss and fine sulphides stock-work	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-strong bleached appearance pseudobreccia texture from a fine dark grey stockwork; below 103 m stockwork green, less pyrite, chlorite/sericite stockwork Bedding 97.6 99.1 99.3 99.7	 55 55 61 61	weak to moderate sercite	102.6-107.25 -1-2% py	
107.25 TO 113.25	«DIORITE» Diorite	Colour: speckled green Grain Size: fine to medium Fsp porphyritic to weakly equigranular, massive sharp lower contact with chill margins	65			
113.25 TO 120.55	«F LAP TUFF » Felsic Lap Tuff	Colour: creamy light grey green Grain Size: 113.25-114.05 -mottled cream and green psudeofragmental appearance 114.05-115.0 -possible large block of medium green felsic - intermediate tuff; looks out of place with rest of unit Remainder ot unit fairly uniform, fine grained appearance, weak foliated, indistinct, wispy <0.5 cm green fiamme 119.6 -well outlined fragments of creamy grey rock which composes unit in a fine grey green groundmass @ 120.1-120.55		Moderate to strongly sericitic 117.9-118.5 -1-2 mm epidote grains	2-3% as <0.5 cm sericite stringers parallel to foliation, trace chalcopyrite 115.65-116.1 -10% py, <1% sp, tr cp as 3-7 cm wide siliceous veins at 50 deg to core axis -individual veins 15-20% brassy pyrite	Foliatin 116.5 38 119.0 40

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-possible large block of medium green felsic tuff, fine wispy fiamme Possible blocks at 114.05-115.0; 120.1-120.55 and well outlined fragment at 119.6 suggests fragmental nature to interval				
120.55 TO 123.60	«F ASH» Felsic Ash	Colour: light med grey Grain Size: fine to medium ash Massive, weakly foliated fairly uniform, medium ash becoming finer grained with weak bedding, often distorted from 122.85-123.6 120.65 -light green aphyric felsic fragments bedding 123.05	 30	120.55-122.85 -weakly sericitic 122.85-123.6 -moderate to strongly sericitic	4-5% fine disseminated pyrite	
123.60 TO 131.40	«F TUFF» Felsic Tuff	Colour: light grey Grain Size: fine to medium Fine aphyric tuff, weakly foliated, rare < 1mm quartz eyes. Slightly coarser texture 1% quartz eyes below 125 m 124.3-125.2 -narrow gougy fault zone, cutting core at 10-15 deg to core axis 127.3-128.5 -Andesite Lapilli Tuff; up to 7 cm grey siliceous fragments with up to 10% 2-3 mm epidote altered feldspar grains. Groundmass granular andesite with abundant epidote grains		Weak to moderately sericitic 128.5-131.4 -moderately sericitic	1-2% diss. pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Foliation 129.8 130.3	 25 40		130.4-131.4 -5-7% fine disseminated pyrite	
131.40 TO 134.10	«F-I TUFF» Felsic Intermed. Tuff	Colour: medium grey green Grain Size: fine Weakly foliated aphyric tuff/ash grading down hole into granular lithic tuff, occasional epidote grains; quartz eyes, and abundant <0.25 mm - 0.5 mm siliceous grains foliation	 40	Moderately sericitic	1-2% pyrite trace chalcopyrite 131.5 -5 cm qtz-py stringer 133.0-133.2 -60% coarse brassy pyrite as 4-5 cm siliceous chloritic massive pyrite bands at 55 deg to core axis 133.2-134.1 -5-7% py, trace cp, diss and as <1-2 cm chloritic bands	
134.10 TO 175.56	«AND LITH T UFF»	Colour: med to dark green Grain Size: fine Up to 30%, 1-2 mm epidotized feldspar crystals abundant <1-2 mm siliceous grains Occasional more felsic zone which are epidote poor Strong granular texture to unit, very clastic looking			Sulphides generally limited to 1.5-5 cm quartz-pyrite stringers; trace chalcopyrite Occasional disseminated coarse brassy py aggregates and 2-3 mm stringers 147.57-148.13 -semi-massive - massive coarse brassy pyrite; siliceous groundmass, trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	E.O.H.				151.0-157.2 -2-5% disseminated pyrite; trace chalcopyrite; occasional 2-5 cm chloritic brassy py stringers 154.0 -1 cm qtz vein with chalcopyrite 169.3-169.5 -py-cp stringer along edge of core	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	GEOCHEMICAL Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %	COMMENTS
14046	29.60	30.15	0.55	443	31	48	1.2	2													
14047	65.30	66.40	1.10	27	32	67	0.8	28	1300												
14048	70.85	71.65	0.80	146	54	77	1.3	41	1270												
14049	71.65	72.40	0.75	231	12	69	1.3	4	1220												
14050	72.40	73.95	1.55	656	56	97	1.4	38	1600												
14126	73.95	74.90	0.95	323	25	92	1	46	1290												
14127	74.90	75.90	1.00	341	39	159	0.7	5	1300												
14128	75.90	76.30	0.40	566	448	3904	1.6	26	1340												
14129	76.30	77.30	1.00	87	19	138	0.7	2	1020												
14130	82.90	83.53	0.63	7	24	49	0.5	3	1400												
14131	86.40	88.00	1.60	9	28	63	0.6	1	1100												
14132	88.00	89.55	1.55	154	23	74	1.1	2	1000												
14133	89.55	90.45	0.90	38	16	68	0.9	1	1270												
14134	90.45	91.80	1.35	1251	18	82	1.2	4	1590												
14135	91.80	93.57	1.77	264	16	41	0.7	2	1470												
14136	93.57	94.30	0.73	213	15	49	0.8	1	1360												
14137	94.30	95.30	1.00	934	9	94	1.7	19													
14138	95.30	96.30	1.00	499	15	64	1.4	6	1000												
14139	96.30	97.80	1.50	937	8	91	1.8	17	1050												
14140	97.80	99.40	1.60	23	14	90	1.3	12	920												
14141	99.40	100.90	1.50	20	34	31	0.6	3	1640												
14142	100.90	102.40	1.50	44	60	132	0.9	1													
14143	102.40	103.90	1.50	97	17	200	0.4	1	2300												
14144	115.00	115.65	0.65	176	14	25	0.5	24	2000												
14145	115.65	116.10	0.45	2553	19	2771	3.1	56	1200												
14146	120.55	121.75	1.20	38	14	117	1.2	8	1450												
14147	121.75	122.85	1.10	35	12	99	1	3	1220												
14148	122.85	123.60	0.75	431	6	156	1.9	4	1500												
14149	130.15	131.40	1.25	84	5	85	1.6	5	1120												
14150	131.40	133.00	1.60	547	5	108	1.6	2													
14151	133.00	133.20	0.20	2360	7	140	1.6	108	200												
14152	133.20	134.10	0.90	315	5	135	1.5	2	500												
14153	147.57	148.13	0.56	819	5	31	0.7	18	780												
AVE.	94.30	97.80	3.50	811.00	10.286	84.143	1.66	14.429	735.71												

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17050	8.20	11.20	3.00	19.25	0.06	3.64	10.74	1.93	7.28	0.62	2.44	0.26	45.04		0.81		2.61	94.68	2.1	1	87	631	33	5	3906	5
17076	31.10	34.10	3.00	14.58	0.06	0.61	3.69	1.63	3.02	0.11	3.78	0.19	68.14		0.34		2.36	98.51	0.9	26	83	627	26	1	84	5
17077	55.50	57.60	2.10	10.88	0.09	0.49	2.04	0.93	2.94	0.09	0.49	0.01	78.27		0.12		0.76	97.11	0.2	20	106	25	22	1	52	5
17078	78.30	80.45	2.15	13.67	0.05	1.25	6.25	0.93	5.17	0.18	2.57	0.2	63.71		0.41		2.05	96.45	0.6	39	79	230	36	2	137	5
14137	94.30	95.30	1.00	18.39	0.14	0.86	9.2	1.82	6.54	0.2	2.06	0.09	52.7		0.71		3.57	96.28	1.7	5	116	934	9	1	94	19
14142	100.90	102.40	1.50	17.23	0.265	1.27	3.78	2.7	1.93	0.07	1.57	0.01	65.71		0.43		2.65	97.6	0.9	14	187	44	60	1	132	1
17079	116.50	119.50	3.00	12.29	0.165	1.02	2.95	2.9	2.58	0.07	0.32	0.22	73.4		0.21		1.62	97.76	0.3	28	232	40	28	1	57	5
14150	131.40	133.00	1.60	16.97	0.08	0.84	10.42	0.73	9.76	0.24	1.9	0.08	51.13		0.64		3.39	96.18	1.6	1	96	547	5	1	108	2
17080	140.00	143.00	3.00	17.54	0.02	3.42	8.68	0.4	7.36	0.21	3.15	0.32	52.71		0.7		0.77	95.28	1.4	1	56	251	19	3	55	5
17081	169.50	172.50	3.00	16.91	0.02	3.18	10.4	0.54	6.78	0.24	3.23	0.35	51.98		0.69		2.22	96.55	1.6	5	32	123	28	5	69	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER I
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 11346.00N
EAST: 6633.00W
ELEV: 711.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 172.51m
START DEPTH: 0.00m
FINAL DEPTH: 172.51m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 27, 1990
DATE COMPLETED: May 29, 1990
DATE LOGGED: May 29, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 3.65 m
CORE STORAGE: CHEMAINUS

PURPOSE: To test the 262 felsic package 150 m east of hole 89-269

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
39.00	-	-54° 0'	ACID	ok	
100.00	-	-53° 0'	ACID	OK	
160.00	-	-53° 0'	ACID	OK	
50.00	206° 0'	-54° 0'	SING.SHOT	OK	
167.00	208° 0'	-53°50'	SING.SHOT	OK	
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Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.65	«OB»					
3.65 TO 42.51	«DIORITE»	Colour: dark green Grain Size: medium Thick, massive, weakly foliated; feldspar porphyritic; Karmutsen 20.73-21.64 -core broken and rubbly 42.51 contact	55			
42.51 TO 74.40	«F LAP TUF F» Fel Lap Tuff	Colour: light greyish green Grain Size: coarse Thick bedded, massive, weakly foliated, massive; has a very mottled appearance with bleached white diliceous patches; <5% quartz yees to 8 mm; rare well defined light grey, fine grained felsic frags these range in width from 3 mm to 4 cm, when they are thin (3 mm) they appear to be chert bands; fragments may make up 50% of the interval 47.06-47.47 -strongly sheared section 47.47-52.40 -fragments generally well defined; these are locally so strongly flattened that the interval appears to be interbedded; minor percentage of dark green flattened pumice fragments 52.40-57.20 -intervals strongly bleached, 5% QE up ot 8 mm; fragments are generally indistinct 53.60 -shear	55	Mottled; patchy silicification and bleaching, fragments -intense carbonate alteration	Trace disseminated sulphides	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		57.20-58.16 -Andesite Lithic Tuff; locally strongly sheared minor gouge seams			-5% patchy medium grained pyrite, minor chalcopyrite	
		58.16-63.54 -interval contains well defined bleached siliceous fragments				
		63.54-64.32 -Andesite Lithic Tuff; local gouge seams to 3 cm	48			
		64.32-69.68 -may be a QP tuff, no well distinguishable frags				
		69.68-71.90 -well defined, bleached and silicified felsic fragments				
		71.90-74.40 -poorly defined fragments; predominantly a felsic tuff; moderately foliated				
		72.80-72.96 -strongly sheared				
		74.35-74.40 -Fault, gouge	75			
74.40 TO 85.91	«F LAP TUFF » Fel. Lap Tuff	Colour: white to very light grey Grain Size: coarse Thick bedded; weak to moderately foliated; matrix is light greyish green felsic ash; fragments may compose 60% of the interval, these are bleached white, very siliceous, and very fine grained "chert"?		Moderate developed sericite on foliation surfaces	1-2% pyrite; disseminated patchy, minor stringers, local trace chalcopyrite	
		74.89-75.06 -Fault, abundant gouge	70		-abundant sulphides in gouge zone	
		75.06-75.55 -bedding or foliation is highly contorted, numerous folds				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		75.55-75.60 -Fault, gouge	70			
		75.87-76.38 -Diorite				
		78.93-78.94 -shear	70			
		79.12-79.13 -shear	85			
		79.65-79.66 -shear	90			
		81.19-81.38 -shear, abundant gouge	70			
		84.55-84.66 -intermediate tuff				
		84.66-84.70 -shear, gouge	80			
85.91 TO 116.10	«F TUFF» Felsic Tuff	Colour: very light to medium grey Grain Size: fine to medium Thick bedded, massive; moderately foliated; minor quartz eyes <1 mm; may locally be felsic lapilli to 3 cm (bleached and silicified), these are generally indistinct		Minor patchy bleaching and silicification	1-2% pyrite, disseminated, patchy, minor stringers; minor chalcopyrite	
		86.18-86.33 -sheared gouge	60			
		86.33-86.50 -Diorite				
		86.50-87.57 -weak to moderate shear texture throughout; interval appears more intermediate in composition				
		85.57-87.79 -strongly sheared	85			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					87.79-88.97 -5% pyrite, banded with minor chalco-pyrite	
		88.97-89.16 -Fault, gouge	88			
		90.86-91.04 -Fault, strongly sheared	75			
		92.16-92.36 -Fault, gouge	70			
		93.04-93.19 -Fault, gouge	85			
		100.97-102.10 -locally intensely sheared with abundant gouge 85-90 deg				
		102.87-102.96	68		-80% pyr bed	
		109.56-110.00 -local strong shearing	85		-pyrite stringers between 109.90-110.00	
					115.30-116.10 -5% pyrite stringers, .5% chalcopyrite	
116.10 TO 117.15	«F ASH» Felsic Ash	Colour: white to very light grey Grain Size: fine grained Moderately bedded; moderately foliated		A weak to moderate sericite develop-ment on foliation surfaces	3-5% pyrite, disseminated, patches and stringers, minor chalcopyrite	
		116.21-116.28 -bedding	75			
117.15 TO 134.33	«F TUFF» Felsic Tuff	Colour: medium grey Grain Size: medium Thick bedded; moderately foliated; very gritty in appearance		Moderate sericite development on foliation surfaces	117.15-118.62	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					-1-2% pyrite, disseminated, patchy and stringers, minor chalcopyrite	
					118.62-119.97 -5% pyrite, disseminated, patchy and in stringers, minor chalcopyrite	
					119.97-121.59 -3% pyrite, disseminated patchy and stringer, minor chalcopyrite	
		120.03-120.04 -shear	30			
					121.59-123.74 -2% pyrite, disseminated, patchy and stringer, local trace chalcopyrite	
		123.74-125.20 -local F2 interference folds			-2-3% pyrite, disseminated, patchy and in stringers, trace chalcopyrite	
					125.20-127.10 -1-2% pyrite, disseminated patchy rare trace chalcopyrite	
		127.93-127.95 -Fault, gouge	50			
					127.10-127.96 -15 pyrite; disseminated, patchy trace chalcopyrite and pyrrhotite	
					127.96-128.94 -1-2% pyrite, disseminated, patchy trace chalcopyrite and pyrrhotite	
		128.94-132.41 -Diorite				
					132.41-134.33 -<1% pyrite	
		134.33 -contact	55			
134.33 TO 138.40	«I ASH,LITH TUFF» Intermed. Ash to Lithic Tuff	Colour: medium grey green Grain Size: fine to medium Thick bedded; moderately foliated		Moderate to well developed sericite and	1-2% disseminated pyrite; minor	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				chlorite on foliatin surfaces	stringers	
138.40 TO 172.51	«AND LITH T UFF» And. Crystal Lithic Tuff E.O.H.	Colour: medium green grey Grain Size: medium Thick bedded; massive, moderately foliated; 3-5% epidote altered feldspar xls to 1 mm; 10-15% medium to dark green lithic fragments and/or xls to 3 mm; 5% quartz granules to 2 mm; 1-2% light green epidote altered lithic fragments to 3 mm			151.24-151.28 -pyrite, chalcopyrite stringer 163.20-164.05 -10% pyrite stringers with trace chalcopyrite 167.55-169.92 -5% pyrite stringers to 3 cm, with trace chalcopyrite	

				ESTIMA	ASSAYS											GEOCHEMICAL						COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		
14123	77.35	79.37	2.02	770	7	34	0.7	5	1400													
14124	87.79	88.97	1.18	453	21	49	0.8	10														
14125	92.50	94.06	1.56	625	12	66	0.7	5	900													
14176	102.34	103.20	0.86	171	53	308	1.5	5														
14177	115.30	116.10	0.80	850	27	123	2	5	810													
14178	116.10	117.15	1.05	1560	27	110	1.4	5	1250													
14179	117.15	118.62	1.47	44	13	70	0.9	5														
14180	118.62	119.97	1.35	685	22	82	1.2	5	1130													
14181	119.97	121.59	1.62	272	19	80	1	5														
14182	121.59	123.74	2.15	158	34	93	1	5	1000													
14183	123.74	125.20	1.46	58	23	84	1	10	1100													
14184	125.20	127.10	1.90	138	21	87	0.8	5														
14185	127.10	127.96	0.86	56	20	89	0.8	5														
14186	127.96	128.94	0.98	143	12	77	0.9	5														
14187	163.20	164.05	0.85	2490	24	158	1.2	5														
14188	164.05	165.54	1.49	380	21	83	0.8	5														
14189	165.54	167.55	2.01	223	22	62	0.9	5														
14190	167.55	169.92	2.37	565	27	70	1	5														
AVE.	115.30	121.59	6.29	595.88	20.595	88.569	1.2135	5.0000														
AVE.	163.20	169.92	6.72	665.18	23.795	81.621		5.0000														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17061	53.94	56.94	3.00	13.9	0.11	1.52	1.07	2.09	3.03	0.03	3.57	0.29	72.06		0.24		0.1	98.01	0.1	1	134	3	9	1	17	10
17062	81.38	84.38	3.00	12.09	0.115	0.57	2.85	3.12	3	0.05	0.95	0.34	73.25		0.18		0.95	97.46	0.3	14	83	251	12	1	24	5
17063	105.59	108.59	3.00	13.67	0.075	0.43	5.88	2.32	6.01	0.13	2.02	0.37	62.73		0.44		2.8	96.87	0.3	12	47	15	16	1	60	5
14181	119.97	121.59	1.62	14.7	0.12	0.38	7.89	2.54	5.88	0.12	0.79	0.23	61.31		0.43		4.34	98.72	0.7	23	84	260	14	1	69	5
17064	135.02	138.02	3.00	16.41	0.125	0.62	9.67	2.36	9.27	0.22	2.12	0.44	50.73		0.67		3.39	96.02	0.5	3	80	144	11	2	76	10
17065	143.86	146.86	3.00	16.17	0.055	1.81	9.28	1.75	6.96	0.25	3.84	0.46	52.75		0.64		2.75	96.72	0.6	14	49	56	16	2	81	5
17066	169.92	172.51	2.59	17.29	0.055	2.36	8.68	2.15	6.54	0.2	3.59	0.5	52.41		0.7		1.14	95.61	0.5	11	45	124	15	1	58	10

HOLE NUMBER: 90-288

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 11074.00N
EAST: 7600.00W
ELEV: 739.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 191.10m
START DEPTH: 0.00m
FINAL DEPTH: 191.10m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 27, 1990
DATE COMPLETED: May 29, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 7.3m
CORE STORAGE: CHEMAINUS

PURPOSE: TEST 262 FELSICS FOR VMS MINERALIZATION.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
111.90	-	-74° 0'	ACID	OK		-	-	-	-	-	
191.10	-	-74° 0'	ACID	OK		-	-	-	-	-	
158.50	202° 0'	-74° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 7.30	«OB»					
7.30 TO 36.85	«QP TUFF,LA P TUFF»	Colour: light grey Grain Size: fine 7.3-20 -1-2%, <1-1 mm irregular quartz eyes, 1-2% larger oval whitish quartz eyes to 3 mm; fragmental appearance from indistinct whitish grey layering/ streaks 1-2 mm wide; Patchy 1 mm, 5% epidote grains; granular appearance 20.0-30.8 -5-6% quartz eyes; weaker fragmental appearance overall finer grained appearance 30.8-36.85 -fine granular texture, patchy creamy indistinct fragments; rare well outlined light grey aphyric felsic fragments Mixing of Andesite and felsics as cm layers in last 10 cm foliation 16.0 29.5 36.0 lower contact	 40 35 50 50	Patchy epidote as alteration of individual grains, otherwise negligible alteration 30.8-36.85 -weak sericite	Trace pyrite	
36.85 TO 47.50	«AND ASH,TU FF» Andesite Ash, Tuff	Colour: dark green Grain Size: fine Weakly foliated, patchy zones wtih < 1 mm whitish green specks, rare quartz eyes; patchy more felsic sericitic intervals; coarser appearance at top of unit fining down hole below 40.9		Weak to moderate chlorite	5-7% very fine disseminated pyrite, locally u to 10% py, trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		45.2-45.37 -chert with <1-1 cm bedded pyrite at base of chert bedding 47.2-47.5 -Chert; dark green, rare very distinct, disrupted bedding	40	45.2-45.37 -<1-1 cm bed of fine pyrite and trace chalcopyrite; 2-3 cm faults disrupting sulphide and chert contact		
47.50 TO 54.70	«F LAP TUFF» Felsic Lap Tuff	Colour: light grey green, grey Grain Size: fine to coarse Up to 10 cm blocks, av. 2-4 cm, indistinctly outlined creamy grey aphyric felsic fragments; patchy mottled texture masking fragmental, groundmass supported; groundmass slightly greener than fragments 54.4-54.7 -2-5 cm fault gouge zones 54.7 contact	50	Weakly sericitic more altered appearance then QP unit above or felsic tuff below	<1% py, tr cp as disseminations and occasional < 1 cm patches or discontinuous mm wide wisps	
54.70 TO 68.00	«F TUFF» Felsic Tuff	Colour: light grey Grain Size: fine Patchy weak foliation, fine indistinct tuff, rare felsic fragments; occasional fine granular zones foliation 54.8 56.9 61.25-62.45 -occasional 2 cm wide irregular zones of dark grey smeared sulphides 62.45-65.45 -Felspar phyric, patchy, up to 10% mm whitish fsp crystals; possible fsp phyric fragments within unit	50 55	Weak sericite	<1% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		65.7 -1 cm fault, gouge 67.05-67.1 -gougy milled core	 50			
68.00 TO 98.10	«F LAP TUFF ,TBX» Felsic Lap Tuff, Tuff Bx	Colour: light grey green Grain Size: Top of unit indistinctly outlined, creamy grey felsic fragments gives core patchy layered/streaky appearance; groundmass lighter green fine grained tuff 73-78.5 -up to 80 cm intervals of grey felsic tuff and QP tuff (large blocks) with occasional 2-3 cm zones of greenish felsic tuff (groundmass) 78.5-82.7 -smaller fragments, <10 cm, indistinct outlines 82.0 -unit becoming strongly bleached covering fragmental appearance 78.5-79.6 -zone of distorted foliatins and layering 80.15-80.35 -gougy milled core 82.67-98.1 -strong bleaching and silicification; very indistinct fragmental appearance - possibly a fragment supported interval 94.4-97.6 -possible silicified ash?; bleachign and silicification covering all primary features 97.6-98.1 -brecciated core, 1-2 cm gouge intervals		Weak sericite 82.67 -intense bleaching, strong silicif-ication; strong alteration 94.4-97.6 -intense sericite	Generally <1% py and tr cp -zones of greater chalcopyrite (but still <1%) as follows: 73.35-73.8 79.0-79.7 81.07-82.67	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
98.10 TO 108.90	«F TUFF» Felsic tuff	Colour: light grey, patchy mottled grey Grain Size: fine Fine indistinct tuff, patchy mottled texture suggesting a fragmental origin, rare quartz eyes		Weak to moderate sericite; not as altered as above bleached interval	4-5% and locally 7-8% fine disseminated pyrite, occasional mm wide py-cp stringers 99.9-100.0 -10 cm, coarse pyrite stringer, 60% pyrite	
108.90 TO 125.20	«F ASH, PY ASH,CHT» Felsic Ash Pyritic Ash Chert	Colour: light-med grey Grain Size: fine Interbedded barren felsic ash, barren to weakly pyritic chert and pyritic ashes; poorly developed bedding; detailed breakdown of unit as follows: 108.9-110.7 -distorted felsic ash aones of darker grey smeared sulphides 110.7-111.5 -weakly pyritic felsic ash 111.5-112.4 -py felsic ash to very fine granular tuff; fairly massive uniform interval; no bedding 112.4-115.6 -interbedded ash, chert, and pyritic ash bedding 112.8 113.0 115.4 Bedding indistinct, poorly developed, preserved 115.6-115.9 -Felsic Lapilli Tuff 115.9-117.35 -Intermediate Andesite Tuff; <1% mm epidote grains	 70 75 75	Moderate sericite	108.9-110.7 -3-4% diss. py 110.7-112.4 -up to 7%, very fine diss py, trace cp 112.4-115.6 -locally 4-5% diss. pyrite 114.5-114.9 -7-10% diss. py, <1% cp 115.6-117.9 -<1-1% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		mixing with felsic material near upper and lower contacts lower contact 117.35-117.9 -Felsic Lapilli Tuff 117.9-125.2 -Felsic Ash, cherty interbeds from 119.05-121.4; poorly developed bedding; screens of coarser felsic tuff bedding 121.2 sharp lower contact	 65 74 42		117.9-125.2 -1-2% py locally 3-4% py and trace cp 117.9-118.7 -<1% cp 122.75-123.75 -3-5% diss. py, tr cp 125.1-125.2 -<1 mm wide fracture controlled red sphalerite	
125.20 TO 136.50	«DIORITE» Diorite	Colour: medium - dark green Grain Size: fine to medium Massive, fsp porphyritic to weakly equigranular; good chill margins at upper and lower contacts				
136.50 TO 147.65	«F LAP TUFF » Felsic Lap Tuff	Colour: mottled creamy grey green Grain Size: Possibly a fragment supported felsic lapilli tuff; strongly bleached creamy grey with streaky 1-10 mm light to medium green layers and also stockwork 142.1-146.3 -occasional 1-3 mm epidote grains - possibly a strongly altered intermed. Andesite?? Erosional?? lower contact		Intense bleaching, patchy silicification, moderate? sericite Alteration obscuring primary features of rock	Patchy fine pyrite stockwork over 40-50 cm widths, <1% chalcopyrite with-in stockwork	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
147.65 TO 151.85	«PY ASH,F TUFF,CHT» Pyritic Felsic Ash Tuff Chert	Colour: medium grey Grain Size: fine Weakly foliated, very fine ash to finely granular tuff, rare distorted barren chert foliation 147.8 149.8 distorted gougy lower contact	 40 45	Moderate sericite	3-7% fine disseminated pyrite and tr. chalcopyrite; py and cpy also occuring as coarser brassy aggregates associated with quartz veining	
151.85 TO 160.90	«F TUFF» Felsic Lithic Tuff	Colour: med. grey Grain Size: fine to medium Pervasive fine granular texture from .25-1 mm grey grains (fsp?, felsic lithic?) in a sercitic groundmass; patchy 2-3% epidote grains Indistinct gradational lower contact; mixing of felsic and andesitic lithic tuffs		Weak to moderate? sericite	2-3% dissemianted pyrite, <1-1% diss chalcopyrite Occasional coarser aggregates of pyrite and chalcopyrite	
160.90 TO 191.10	«AND LITH TUFF» Andesite Crystal Lithic Tuff	Colour: med to dark green Grain Size: fine to medium Massive, pervasive granular texture, <1-2 mm epidote grains = altered fsp and abundant, grey siliceous grains (felsic lithcs? fsp?) Occasional zones of more felsic lithic tuff, epidote poor 168-178.2 -fine white dolomite? veinlets, weak stockwork 178.2-180.5 -Intense bleaching and dolomitization of andesite; creamy white appearance, stronly brecciated Patchy hematitic fracture coatings and disseminations		Epidote alteration of discrete grains	1-2% diss py, trace chalcopyrite	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14154	37.95	39.45	1.50	314	23	881	1.4	20														
14155	40.90	42.00	1.10	652	24	6115	1.7	18														
14156	42.00	43.20	1.20	480	24	2944	1.3	22														
14157	45.20	45.37	0.17	1545	76	298	1.9	34														
14158	46.63	47.50	0.87	836	12	540	1.3	17														
14159	81.07	82.67	1.60	1256	13	66	0.6	3														
14160	86.75	88.25	1.50	49	40	53	0.1	1														
14161	91.85	93.00	1.15	28	59	70	0.4	7														
14162	93.00	94.00	1.00	57	34	82	0.4	3														
14163	108.90	109.80	0.90	242	17	240	0.7	18														
14164	109.80	110.70	0.90	233	40	133	0.8	10														
14165	110.70	111.50	0.80	36	15	73	0.5	3														
14166	111.50	112.40	0.90	165	10	74	0.8	1														
14167	112.40	113.50	1.10	1616	10	152	1.8	12														
14168	113.50	114.50	1.00	425	18	106	0.7	1														
14169	114.50	114.90	0.40	2023	21	195	2.4	62														
14170	114.90	115.60	0.70	973	16	123	1.3	4														
14171	117.90	118.65	0.75	3601	15	114	2.7	20														
14172	118.65	120.25	1.60	974	14	94	1.3	1														
14173	120.25	121.50	1.25	282	14	90	0.4	1														
14174	121.50	122.75	1.25	85	56	1000	0.5	5														
14201	122.75	123.75	1.00	1578	25	236	1.4	22														
14202	123.75	125.20	1.45	89	27	395	0.4	1														
14203	147.60	149.00	1.40	276	15	77	0.4	2														
14204	149.00	150.40	1.40	31	21	61	0.4	1														
14205	150.40	151.85	1.45	301	29	285	0.7	10														
14206	151.85	153.40	1.55	1171	5	159	1.2	1														
14207	153.40	154.90	1.50	485	7	138	1.2	22														
14208	154.90	156.40	1.50	785	6	150	1.3	6														
14209	156.40	157.40	1.00	622	142	141	1.1	41														
14210	178.20	179.50	1.30	22	14	33	0.6	2														
14211	179.50	180.50	1.00	60	15	38	1.3	7														
AVE.	40.90	43.20	2.30	562.26	24.000	4460.6	1.49	20.087														
AVE.	117.90	125.20	7.30	880.13	25.384	329.75	0.99	6.5137														
AVE.	150.40	157.40	7.00	682.64	30.186	176.10	1.10	14.150														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17082	11.90	14.90	3.00	14.08	0.08	1.63	2.5	3.27	2	0.06	3.46	0.51	69.27		0.23		0.18	97.29	0.2	9	74	20	16	1	30	5
14156	42.00	43.20	1.20																1.3	10	76	480	24	1	2944	22
17083	58.20	61.30	3.10	16.83	0.115	0.42	4.86	3.8	6.05	0.24	1.35	0.55	59.33		0.4		1.51	95.46	0.3	8	56	115	19	1	110	5
14159	81.07	82.67	1.60																0.6	14	99	1256	13	1	66	3
17084	103.90	106.90	3.00	14.17	0.135	0.6	4.07	3.5	2.78	0.07	2.36	0.54	66.28		0.34		2.7	97.53	0.2	27	106	105	20	1	35	10
17085	138.10	141.10	3.00	11.42	0.26	0.12	1.64	4.1	1.13	0.02	0.4	0.52	77.71		0.14		0.45	97.9	0.1	3	293	48	6	1	8	5
14207	153.40	154.90	1.50																1.2	23	85	485	7	1	138	22
17086	162.45	164.90	2.45	16.92	0.03	3.22	8.09	2.31	6.26	0.22	3.59	0.6	52.65		0.63		0.96	95.48	0.9	5	24	267	17	1	93	5
17087	185.00	187.50	2.50	16.67	0.03	2.94	7.33	2.36	5.56	0.18	3.84	0.59	53.56		0.62		0.55	94.24	1.1	12	78	712	18	3	59	10

HOLE NUMBER: 90-289

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER 1
LOCATION:

PLOTTING COORDS GRID: Mine
NORTH: 11024.00N
EAST: 6700.00W
ELEV: 668.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -60° 0' 0"
LENGTH OF THE HOLE: 175.87m
START DEPTH: 0.00m
FINAL DEPTH: 175.87m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 29, 1990
DATE COMPLETED: May 31, 1990
DATE LOGGED: May 31, 1990

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

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

CONTRACTOR: Frontier Drilling
CASING:
CORE STORAGE: Chemainus, B.C.

PURPOSE:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
109.00	-	-57° 0'	ACID	OK		-	-	-	-	-	
166.00	205°30'	-58° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 27.43	«OB»					
27.43 TO 32.91	«AND TUFF,L AP TUFF» Andesite Crystal Tuff to Lap Tuff	Colour: medium green Grain Size: medium to coarse Thick bedded; moderate to strongly foliated; a very intense shear texture throughout; 5% epidote altered lithic fragments 3mm to 4 cm		Poor chlorite development on foliation surfaces	1% disseminated patchy medium grained pyrite, trace chalcopyrite 29.40-30.50 -5% pyritic stringer; locally lapilli fragments contain up to 40% pyrite with minor chalcopyrite	
32.91 TO 33.36	«FAULT»	Colour: dark grey Grain Size: Gouge, locally strongly pyritic 33.36 Contact	70			Southern Rhyolite Fault
33.36 TO 48.72	«F LAP TUFF »Felsic Lap Tuff	Colour: white to very light grey, weak green cast Grain Size: coarse Thick bedded; massive, moderate to strongly foliated; well developed shear textuce throughout matrix is a light greyish green felsic tuff; 10% felsic fragments; generally bleached white and weakly siliceous; these are up to 4 cm wide in core		Moderate to well developed sericite on foliation surfaces	1% disseminated and stringer pyrite 35.40-36.20 -1-25 pyrite stringers 45.43-45.65 -25% pyrite stringers 48.60-48.72 -10% pyritic stringers	Foliation is highly contorted numerous minor folds (F2)

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
48.72 TO 53.17	«F TUFF» Felsic Tuff	Colour: medium grey Grain Size: fine to medium Thick bedded; moderately foliated 50.61-50.79 -sheared interval looks more intermediate	50	Weak to moderate sericite development	1-2% disseminated pyrite, minor stringers	
53.17 TO 56.03	«AND LITH,L AP TUFF» Andesite Crystal lithic to Lap Tuff	Colour: medium to dark green Grain Size: coarse Thick bedded, moderate to strongly foliated; well developed shear texture throughout; 5-10% epidote altered lithic fragments to 2 cm 56.02-56.03 -shear	77	Moderate chlorite development on foliation surfaces	1-2% pyrite, disseminated and stringers	
56.03 TO 62.00	«F LAP TUFF »Felsic Lap Tuff	Colour: light to medium grey, weak green cast Grain Size: coarse Thick bedded, massive; moderate to strongly foliated; pervasive weak shear texture throughout matrix is a greyish green felsic tuff; 5-10% bleached white, weakly silicified, felsic frags <1 cm to possibly 10 cm wide in core 61.99-62.00 -shear	65	Weak to moderate sericite development	1-2% pyrite, disseminated and stringers	Foliation generally contorted, minor F2 folds throughout
62.00 TO 80.62	«F TUFF» Felsic Tuff	Colour: medium grey Grain Size: medium to coarse Thick bedded, massive, weak to moderately foliated pervasive shear texture throughout; locally the interval appears to be insitu brecciated; generally the interval appears very granular, rare andesitic lapilli fragments (bleached) to 3 cm; minor dark green clots throughout; minor		Weak sericite development on foliation surfaces; locally bleached and silicified; abundant quartz carbonate microveins; rare hematite of fragments	Minor pyrite, disseminated and in stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		epidotized feldspars to 1 mm 7041-71.13 -Andesite Lithic to lapilli tuff		-strongly bleached 80.00-80.62 -intensely bleached		
80.62 TO 86.06	«FAULT»	Colour: Grain Size: Strongly, milled and healed section containing felsic andesite and dioritic fragments, local gouge seams				
86.06 TO 100.76	«DIORITE»	Colour: dark green Grain Size: coarse Massive Karmutsen; coarse grained feldspar porphy-ritic; well developed shear texture throughout		Abundant coarse grained leucoxene		
100.76 TO 108.16	«F TUFF» Felsic Tuff	Colour: light to medium grey, weak green cast Grain Size: medium Thick bedded, massive; weak to moderately foliated weak pervasive shear texture throughout 100.76-101.41 -Fault, abundant gouge 104.11-108.16 -interval contains 2-3% medium green lithic frags to 1 mm 106.50-106.55 -Andesite Lithic Tuff 106.55-106.56 -shear	75 65	Poor sericite development on foliation surfaces	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
108.16 TO 110.08	«AND ASH» Andesite Ash	Colour: medium green Grain Size: fine Moderately bedded, moderate to strongly foliated 110.07-110.08 -shear	 80	Well developed chlorite on foliation surfaces; strongly calcareous	Trace disseminated pyrite	
110.08 TO 115.66	«F LAP TUFF »Felsic Lap Tuff	Colour: white to very light grey, weak green cast Grain Size: coarse Thick bedded, massive, weakly foliated, massive, very granular in appearance; 10% white to light grey silicified felsic fragments from 2 mm to 3 mm matrix is a greyish green QFP 112.20-113.14 -possible large chert fragment 113.75-113.90 -large chert fragment 114.75-114.95 -chert fragment 115.44-115.66 -Felsic lithic tuff fragment		Moderate to well developed sericite on foliation surfaces	Trace disseminated pyrite	
115.66 TO 135.34	«QFP» Quartz Feld Porphyry	Colour: greyish green Grain Size: medium to coarse Thick bedded, massive, weakly foliated, massive; very granular; 5-10% quartz eyes to 6 mm; 3-5% white to ghostly to clay altered feldspar frags to 1 mm; 10% dark greyish green lithic fragments to 3 mm 119.97-120.90 -90% quartz vein		Weak to moderate sericite development on foliation surfaces; local	Trace disseminated pyrite	This interval is the same as the matrix to the overlying unit

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
135.34 TO 157.61	«AND LITH T UFF» And. Lithic Tuff	Colour: medium to dark green Grain Size: medium Thick bedded; weak to moderately foliated; 3% white to dark grey felsic fragments to 4 mm; rare to 2 cm; very granular in appearance 137.06-137.12 -shear CAB 154.90	 66 77	Poor to moderate chlorite development on foliation surfaces; minor quartz carbonate veins	Trace disseminated pyrite	Not a sharp contact with overlying interval
157.61 TO 163.33	«F LITH,LAP TUFF» Fel Lithic,Lap Tuff	Colour: medium grey, weak green cast Grain Size: medium to coarse Thick bedded, massive; weakly foliated; contains 5-10% medium to dark green clots to 3 mm; 5% felsic lapilli, fairly indistinct, but generally contains upwards of 15% dark green clots		Poor sericite, minor chlorite development on foliation surfaces; minor hematite staining	Trace disseminated pyrite	Possible intermediate
163.33 TO 166.62	«AND LITH T UFF» And. Lithic Tuff	Colour: dark green Grain Size: medium grained Thick bedded, massive weak to moderately foliated; very granular in appearance; minor epidote altered lithic fragments to 3 mm		Moderate to well developed chlorite on foliation surfaces	Trace disseminated pyrite	
166.62 TO 169.50	«QFP» Felsic Qtz Fsp Porph.	Colour: medium grey Grain Size: medium Thick bedded, massive; weakly foliated; <5% qtz eyes to 4 mm; locally 5% feldspar xls, white to ghostly to 1 mm; 2-3 medium to dark green clots to 2 mm		Poor sericite development on foliation surfaces; minor quartz carbonate micro-veinlets	Trace disseminated pyrite	
169.50 TO 175.87	«NANAIMO»	Colour: black Grain Size: fine grained Siltstone				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	E.O.H.	169.50-169.62 -shear	55			

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14191	29.40	30.50	1.10	164	9	33	0.7	2														
14192	48.00	48.72	0.72	13	11	31	0.7	1	1300													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17067	39.50	42.50	3.00	13.15	0.12	1.18	2.7	3.07	2.37	0.04	2.72	0.45	70.08		0.24		0.88	97.01	0.2	12	128	7	12	1	15	10
17068	57.00	60.00	3.00	13.91	0.115	1.51	4.51	2.64	2.07	0.06	4.23	0.52	65.68		0.31		2.5	98.04	0.2	17	203	15	17	1	21	5
17069	72.23	75.23	3.00	14.23	0.08	1.22	3.4	2.72	2.02	0.07	4.16	0.51	67.67		0.31		0.54	96.91	0.1	11	95	8	18	1	30	5
17070	128.80	131.80	3.00	13.42	0.09	2.49	1.8	0.01	0.42	0.04	2.14	0.01	74.82		0.19		0.28	95.69	1.4	13	82	122	12	1	21	5
17071	140.00	143.00	3.00	18.13	0.02	4.26	8.27	0.01	5.13	0.15	4.63	0.22	52.77		0.84		0.21	94.63	2	1	59	82	5	1	69	10
17072	158.00	161.00	3.00	14.81	0.11	1.57	2.82	4.29	1.19	0.06	1.23	0.14	69.5		0.36		0.01	96.08	0.5	8	179	12	10	1	16	5

HOLE NUMBER: 90-290

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER I
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 11001.00N
EAST: 7836.00W
ELEV: 738.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 179.20m
START DEPTH: 0.00m
FINAL DEPTH: 179.20m

COLLAR GRID AZIMUTH: 175° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 203° 0' 0"

DATE STARTED: May 30, 1990
DATE COMPLETED: June 1, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 6.7 m
CORE STORAGE: CHEMAINUS

PURPOSE: To test the 262 felsic sequence

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
66.10	-	-74° 0'	ACID	OK		-	-	-	-	-	
142.30	-	-72° 0'	ACID	OK		-	-	-	-	-	
74.70	199° 0'	-73° 0'	SING.SHOT	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.70	«OB»					
6.70 TO 37.25	«QP TUFF,LITH TUFF» QP Tuff Lithic Tuff	Colour: whitish grey Grain Size: fine 5-7% locally 10%, 2-4 mm rarely 5-7 mm rounded to oval quartz eyes in a sericite groundmass 18.3-19.65 -fine grained weakly foliated mafic dykes 19.65-37.25 -grey dirtier appearance, coarser foliated appearance, patchy 2-3% 1-2 mm, green epidote grains; quartz eye content 2-3% foliations 21.8 25.0 26.3 22.45-23.0 -milled crushed QP Tuff, minor fault gouge	 52 45 50	Moderate - strong sericite 6.7-18.3 -moderate - strongly bleached 19.65-37.25 -weak to moderate sericite	Overall <1-1% pyrite 6.7-10.1 -occasional 1-2 cm quartz-calcite pyrite veins	
37.25 TO 64.75	«QP LAP TUFF» Felsic Lap Tuff, QP Lap Tuff	Colour: mottled creamy light to medium grey and green Grain Size: fine to coarse Indistinctly outlined 2-10 cm creamy grey felsic fragments in a fine grained light med. grey green groundmass; <1-1% quartz eyes with quartz eyes content increasing to 2-5% from 47.5-58; massive to patchy weakly foliated 37.25-39.45 -15-40 cm zones of green andesite with mm green epidote grains; also fine grained aphyric felsic tuff		Weak to mod sericite	<1% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Below 54 m fragment size decreasing to <1-2 cm, becoming more like a very coarse lithic tuff than a lapilli tuff; occasional <1 cm grey chert frag. 61.7-64.75 -Andesite Tuff; medium green, f.g., patchy mm epidote grains and much finer ash zones 64.0 -minor fault gouge distorted weak foliation over 15 cm; creamy grey felsic fragments in last 10 cm				
64.75 TO 74.30	Felsic Tuff Lap Tuff «F TUFF,LAP TUFF»	Colour: mottled grey green Grain Size: fine Very weak mottled to weakly layered appearance; very indistinctly outlined creamy fragments at top of unit; below approx. 70 m mottled texture still exists but fragments if present are indis-tinguishable; mottling may be an alteration feature; weakly foliated at 40-50 deg		Weak to moderate sericite	1-2% py fine disseminations and occasional aggregates	
74.30 TO 79.05	Andesite Tuff «AND TUFF»	Colour: med. green Grain Size: fine Weakly foliated, fine mm green wisps, patchy 3-4% 1-3 mm angular felsic lithic grains foliation 35-45 deg		Patchy 10-60 cm quartz-calcite-chlorite veining; patchy epidote	Trace pyrite; trace chalcopyrite within quartz-calcite veins	
79.05 TO 114.50	Felsic Tuff «F TUFF»	Colour: light green Grain Size: fine Weakly foliated, patchy weak granular texture with 1-2%, 1-2 mm granular grey lithic, rare fragments 1-2 cm 81.4-82.3 -Fault zone, gougy milled core, minor quartz chlorite veining, distored foliations 84.3 -gougy slip plane at 52 deg		Weak - moderate sericite	1-2% diss. pyrite locally 2-3% py; rare 1-2 cm coarse brassy pyrite-chlorite stringers 81.5 -4 cm py-chl stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		84.3-84.4 -dark grey veinlets/stockwork of smeared sulphides 87.2-87.65 -zone of smeared sulphides 92.4-93.1 -1-3 cm gougy milled zones, gougy slip surfaces at 60-65 94.1 -3 cm fault gouge @ 85 deg 99.0-100.7 -1-2% mm quartz eyes 103.4-108.8 -finer grained, more ashier appearance 109.1-109.4 -intermed. Tuff, fine granular texture, 2% diss pyrite 113.9-114.5 -milled gougy core at lower contact lower contact	83	99.8-14.5 -weak to moderately bleached, moderate sericite	91.2-92.4 -2-10 cm calcite pyrite stringers, tr chalcopyrite and sphalerite 104.3-104.55 -distorted silver grey siliceous layers, 3% pyrite	
114.50 TO 122.25	«F TUFF,LAP TUFF» Felsic Tuff Lap Tuff	Colour: mottled light grey green Grain Size: fine Pervasive mottled texture giving rock a pseudo-fragmental appearance; mottled texture may possibly be an alteration feature minor fault gouge at lower contact	90	Weak sericite	1-3% disseminated pyrite, trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
122.25 TO 130.40	«F TUFF» Felsic Tuff	Colour: light grey green Grain Size: fine 122.25-124.65 -dark grey tuff, ashier sediment type interval? 124.65-130.4 -weakly bleached indistinct to weakly granular weakly brecciated tuff 125.8-126.3 -gougy broken core 126.7 -5 cm fault gouge 127.45-128.0 -barren grey chert fragments and light creamy felsic fragments		Weak to moderate sericite, weakly bleached	122.25-125.2 -3-5% disseminated pyrite, tr chalco-pyrite Remainder of unit <1-1% py rare, 1-2 cm py stringers	
130.40 TO 135.20	Felsic Ash Tuff Chert «F ASH,CHT»	Colour: light grey Grain Size: fine Fine grained aphyric ash to finely granular tuff with grey green chert beds; poorly developed bedding Detailed breakdown of unit: 130.4-131.2 -Felsic Ash, rare chert 131.2-132.05 -Felsic Tuff 132.05-133.2 -Felsic Ash 133.2-133.95 -granular pyritic felsic tuff; sharp lower contact = bedding @ 133.95-135.2	50	Moderate to strong sericite	130.4-133.2 -<1% diss py 133.2-135.2 -1-3% diss. pyrite	Similar to Ash and chert units in holes 288 and 286

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-pyritic felsic ash and tuff sharp lower contact	 70			
135.20 TO 138.10	«DIORITE» Diorite	Colour: speckled dark green Grain Size: fine to medium Fsp porphyritic to weakly equigranular 136.4-138.1 -Fault Zone; brecciated rubbly core, quartz veining Fault gouge developed in last 20 cm				
138.10 TO 140.80	Felsic Tuff «F TUFF»	Colour: light grey Grain Size: fine Fine grained aphyric felsic tuff, weakly foliated Fault zones as follows: 138.1-138.8 -Fault zone; gougy, milled, brecciated core 139.7-139.85 -Fault gouge Weakly foliated in last 30 cm		Mod sericite	1% diss pyrite	
140.80 TO 142.50	«F LITH TUF F» Felsic Lith ic Tuff	Colour: light grey Grain Size: fine Abundant <0.5 mm grey grains some which may be fsp in a much finer grained sericite groundmass		Weak to moderate sericite	141.1-142.5 -3-5% diss. pyrite	
142.50 TO 179.20	«AND LITH T UFF» Andesite crystal Lithic tuff	Colour: med. to dark green Grain Size: fine <1-1 mm and occasional to 2 mm epidote grains		Weak epidote	<1-3% disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		(altered fsp), grey siliceous grains (fsp, felsic lithics) in a finer green groundmass; grain supported patchy groundmass supported 169.2-170.45 -gougy slip surface parallel to core axis 173.3-173.65 -gougy milled zone		154.65-1055.3 -strong epidotization and bleaching associated with 20 cm qtz-chl veining	Siliceous pyrite stringers as follows: 147.35-147.5 - 20% py 150.9-151.0 - 80% py 154.3 - 5 cm - 50% py 167.35 - 10 cm - 40 % py 167.55-167.75 - 15-20% py 177.3 - 6 dm - 30% py	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14212	91.20	92.40	1.20	373	262	405	1.8	7														
14213	104.10	104.55	0.45	69	36	86	0.8	2														
14214	122.25	123.75	1.50	200	15	87	1.2	5														
14215	123.75	125.20	1.45	429	14	94	1.2	4														
14216	130.40	131.20	0.80	9	18	79	1	2	1210													
14217	131.20	132.05	0.85	7	15	36	0.8	1	1100													
14218	132.05	133.20	1.15	16	10	39	0.7	2	1120													
14219	133.20	133.95	0.75	550	12	93	1.7	4														
14220	133.95	135.20	1.25	420	10	104	1.5	2	1020													
14221	141.10	142.50	1.40	163	10	64	1.1	2	540													
14222	147.20	147.70	0.50	36	17	59	1.3	3	720													
14223	150.80	151.10	0.30	151	18	77	1.1	11														
14224	167.35	168.15	0.80	142	8	68	1.3	2														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17088	8.20	11.20	3.00	13.48	0.135	1.26	1.19	4.47	0.8	0.02	0.68	0.56	73.33		0.23		0.49	96.64	0.2	9	73	20	10	1	10	5
17089	31.40	34.40	3.00	14.09	0.125	1.5	2.55	4.56	2.05	0.06	1.66	0.56	70.41		0.24		0.01	97.81	0.4	15	52	7	14	1	27	10
17090	66.20	69.20	3.00	15.56	0.12	1.16	2.49	1.35	2.1	0.09	3.63	0.21	69.41		0.35		0.77	97.23	0.6	11	230	71	16	1	38	5
17091	87.50	90.50	3.00	14.04	0.13	0.29	3.73	2.57	2.4	0.14	0.79	0.24	70.72		0.3		1.76	97.12	0.4	16	173	32	21	1	1552	5
17092	118.00	121.00	3.00	14.49	0.135	0.82	3.86	0.68	3.15	0.1	2.68	0.2	68.67		0.36		1.77	96.91	0.7	15	107	42	17	1	88	10
14219	133.20	133.95	0.75	18.15	0.05	1.8	8.69	1.45	6.6	0.23	3.86	0.42	51.08		0.75		2.13	95.21	1.2	1	42	586	9	1	95	10
17093	147.80	150.60	2.80	16.94	0.045	2.5	10.59	0.01	7.56	0.28	2.94	0.24	51.2		0.72		1.46	94.48	1.5	1	156	265	5	1	88	10
17094	174.10	177.10	3.00	16.75	0.035	4	9.57	0.01	6.24	0.26	3.04	0.29	53.23		0.71		1.34	95.46	1.4	1	52	221	5	1	77	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SILVER I
LOCATION: ~~NTS~~ 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: ~~11055.00N~~ 11053.00N
EAST: ~~6562.00W~~ 6562.00W
ELEV: 667.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -60° 0' 0"
LENGTH OF THE HOLE: ~~148.40m~~ 148.44
START DEPTH: 0.00m
FINAL DEPTH: ~~148.40m~~ 148.44

COLLAR GRID AZIMUTH: ~~180° 0' 0"~~
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: May 30, 1990
DATE COMPLETED: June 1, 1990
DATE LOGGED: June 10, 1990

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: PULLED
CORE STORAGE: CHEMAINUS

PURPOSE: TO TEST THE DOWN DIP AND STRIKE EXTENT OF ZINC MINERALIZATION IN HOLE 90-282, Coronation Zone Felsic Package.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
57.00	-	-59° 0'	ACID	OK		-	-	-	-	-	
148.44	-	-58	A	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 32.60	«OB»					Casing pulled
32.60 TO 33.40	«AND TUFF»	Colour: green Grain Size: medium 10% epidotized fsp crystals		Pervasive epidote alteration	tr - 1 % py	
33.40 TO 38.70	«F LAP TUFF ,TUFF» Felsic Lap Tuff - Tuff	Colour: light grey Grain Size: fine Massive, pdeudo breccia look due to pervasive vein -lets (qtz-carb); ghostly lapilli fragments?		Weak chlorite	none	
38.70 TO 54.65	«M DYKE»	Colour: dark green Grain Size: fine Massive, chilled margins; tr-1% white leucoxene; screens of Felsic Tuff (weakly foliated) at: 49.1-50.25 50.55-51.35 53.55-53.7 54.2-54.3 lower contact sharp 54.65	60			
54.65 TO 60.30	«F ASH,TUFF » Felsic Ash Tuff	Colour: light grey Grain Size: fine Well foliated; generally a f.g. siliceous ash		Pervasive moderate to strong sericite/	Tr py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		foliation 56.0	60	silica alteration has bleached core a light grey colour; tr chlorite on fracture and foliation surfaces		
60.30 TO 73.25	«F LITH TUF F,TUFF» Felsic Lith Tuff, Tuff	Colour: greenish grey Grain Size: fine to medium Well foliated; tr-1% siliceous and epidotized fragments up to 1 cm but generally less than 3 mm across Tr-1% weakly epidotized fsp crystals in ash matrix Lower in unit - more massive f.g. Tuff/Ash Sheared zones, fault gouge and milled core mark fault zones at: 67.05-67.15 67.45-67.95 68.9-69.25 71.3-71.5				
73.25 TO 76.20	«FAULT BX»	Colour: greenish grey to black Grain Size: fine to medium Fault breccia; siliceous fragment qtz veins frags and felsic tuff in f.g. well foliated matrix Minor fault gouge within zone foliation 75.7 Locally matrix black - smeared sulphides/argillite of Nanaimo	70			
76.20 TO 77.30	«F TUFF»	Colour: grey Grain Size: fine Foliated and sheared		2-3% carb veins gives rock shattered look		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
77.30 TO 88.15	«NANAIMO»	Colour: dark brown to black Grain Size: f.g. matrix		2-3% qtz-carb veins	None	
		77.3 -upper contact 0.5 cm fault gouge	50			
		Conglomerate - angular frags of Sicker felsic volcanics, diorite (leucoxene-rich) QP				
		80.65-82.35 -large frag? of QP Tuff and F. Tuff - upper contact sheared - lower contact irregular but conformable with Nanaimo mudstone				
		82.35-85.6 -Nanaimo mudstone % of fragments of angular Sicker volcanics increases to 15% at base of unit (frags 0.5 mm across) therefore grading indicates tops up hole				
		85.6 contact	55			
		85.6-88.15 -fragment supported Nanaimo conglomerate lower contact with Sicker felsics sharp marked by 4 cm of qtz-carb veining		85.6-88.15 -pervasive carb in matrix		
		contact 88.15	60			
88.15 TO 111.20	«F LITH TUF F» Felsic Lith Tuff	Colour: grey Grain Size: fine 10% mm sized siliceous lithic fragments; weakly foliated; tr qtz eyes		Relatively unaltered tr-1% qtz-carb-hematite veins	None	
		foliatin 90.0 100.0	 60 60			
		F.g., dark green mafic dykes at				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		101.65-101.75 101.8-102.0 102.2-102.5				
111.20 TO 118.55	«QP TUFF» QP crystal Tuff	Colour: grey Grain Size: medium Contact with above unit indistinct; 10-15% rounded q's (2-4 mm diameter); massive to weakly foliated; lower contact almost indistinct		Unaltered	None	
118.55 TO 127.45	«F LITH TUFF» Felsic Lith Tuff	Colour: grey Grain Size: fine mm sized siliceous frags, the odd grey chert frag, tr q's set in f.g. ashy matrix; weakly foliated foliation 122.0	 55	Unaltered		
127.45 TO 131.75	«QFP TUFF, ASH» QFP crystal tuff and Ash	Colour: grey Grain Size: fine to coarse Crystal - rich (20%) beds grade into more ashy layers; weakly foliated throughout; contacts between units are indistinct 128.7-129.3 -f.g. dark green mafic dyke		Unaltered		
131.75 TO 133.65	«F LITH TUFF» Felsic Lith Tuff	Colour: greenish grey Grain Size: medium Chert fragments, siliceous fragmetns at 1 f.g. py frag in f.g. ashy matrix; also have shattered qtz and fsp crystals upper contact = minor fault gouge 131.75	 30	Matrix strongly sericitic	Tr py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
133.65 TO 135.00	«F ASH» Felsic Ash	Colour: grey Grain Size: f.g. Upper part foliated - ashy look lower part siliceous - veining gives pseudobreccia look		Weak sericite, sil	None	
135.00 TO 138.85	«QP LITH TU FF»	Colour: grey Grain Size: medium Massive to weakly foliated; 5% q's up to 4 mm diameter, tr. f.g. grey cherty frags		Weak to moderate chlorite-sericite	None	
138.85 TO 141.45	«M TUFF» Mafic Tuff	Colour: dark green Grain Size: fine Foliated mafic ash/Tuff or dyke?; 2-3% dark green specks (2-3 mm across)= frags? Becoming sheared near lower contact foliation 141.0	70			
141.45 TO 148.44	«NANAIMO» E.O.H.	Colour: black Grain Size: fine 141.45-142.1 -frags of gabbro and felsic volcanic = Nanaimo conglomerate 142.1-148.3 -Nanaimo mudstone		2-3% carb veins	None	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
	0.00	0.00	0.00																			

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17073	33.19	36.19	3.00	13.96	0.095	1.05	2.4	0.52	1.72	0.04	4.84	0.14	72.29		0.23		0.39	97.68	0.8	15	240	16	13	1	18	5
17074	61.00	64.00	3.00	15.47	0.08	1.68	3.4	1.97	1.82	0.12	3.24	0.15	67.12		0.32		0.25	95.62	0.7	7	123	39	14	1	37	5
17075	96.62	99.66	3.04	16.14	0.08	2.71	3.01	0.9	1.73	0.07	2.94	0.18	67.35		0.34		0.01	95.47	0.6	8	260	9	21	1	40	5
17456	121.00	124.05	3.05	15.58	0.075	2.52	3.77	2.3	1.4	0.06	2.48	0.2	65.99		0.4		0.47	95.24	0.9	17	134	26	21	2	41	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION:

PLOTTING COORDS GRID:
NORTH: 12212.00N
EAST: 13900.00W
ELEV: 188.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -43° 0' 0"
LENGTH OF THE HOLE: 212.14m
START DEPTH: 0.00m
FINAL DEPTH: 212.14m

COLLAR GRID AZIMUTH: 178° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 206° 0' 0"

DATE STARTED: June 2, 1990
DATE COMPLETED: June 6, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: Frontier Drilling
CASING: 25.6 m
CORE STORAGE: Chemainus, B.C.

PURPOSE: To test strong IP chargeability high coincidental with soil and humus anomalies

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
61.00	-	-42° 0'	ACID	OK		-	-	-	-	-	
150.30	-	-43° 0'	ACID	OK		-	-	-	-	-	
212.14	-	-43° 0'	ACID	OK	poor etch	-	-	-	-	-	
205.70	205° 0'	-43°30'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 25.60	«OB»					
25.60 TO 144.20	«AND TUFF» Andesite Crystal Tuff	Colour: dark green Grain Size: fine to medium Up to 25%, 1-2 mm green epidote grains and abundant <1-1 mm grey siliceous grains some of which are fsp crystals with good fsp twinning Patchy 2-3% round <1-3 cm green epidotized fragments; groundmass fine grained, chloritic Fairly massive, patchy weak foliation		Moderate chlorite alteration of groundmass; epidote alteration of crystals and fragments	1-2% disseminated pyrite; occasional 10-50 cm wide zones with up to 5% diss. pyrite; rare 2-5 cm siliceous semi-massive pyrite stringers	
		Gougy fault zones at: 40.05: 10 cm milled gougy zone 59.9: 5 cm fault gouge 90.0: 10 cm milled fault gouge 91.55: 20 cm fault gouge			83.55 -greater occurence of 1-3 cm pyrite stringers with py-cp stringers from 86.3-86.45	
		91.75-114.5 -finer grained crystal, poor ashier zones mixed with crystal tuffs				
		92.55-92.65 93.25-93.33 -chert layers within andesite ash bedding 93.3	 83		92.4-114.5 -ashier zones 5-8% and locally 10% diss pyrite; occasional brassy py stringers with <1% intergrown chalcopyrite; trace disseminated chalcopyrite	
		Foliation 95.0 99.8 112.3 127	 70 70 55 55		118.2-144.2 -3-5% locally 7-8% py, trace cp	
		127.7 -7 cm with 2-3 mm wide anhydrite veinlets				
		Epidote poor, grey siliceous granular zones; more felsic in appearance but usually not very wide, 1-2 meters				
		Possible bedding defined by 0.2 - 1 cm wide epidote layers/bands as follows:				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		121.0 122.65 130.55 131.9 134.5 136.8 139.95-141.0 -abundant <1-7 cm epidote altered fragments	70 60 65 65 63 63			
144.20 TO 155.95	«F LITH TUF F» Felsic Lith Tuff	Colour: light med. grey Grain Size: fine Abundant <1-1 mm grey siliceous granules zone which are probably fsp. Unit resemble screens of felsic lithics within Andesite unit		Negligible	1-3% diss. pyrite 144.2-144.4 -7% pyrite	Patchy rubbly core
155.95 TO 161.70	«F TUFF,FAU LT» Felsic Tuff Fault	Colour: light greenish grey Grain Size: fine Weakly foliated; patchy moderate brecciation with weak-moderate fault gouge development 159.4-161.3 -Andesite Tuff, strongly brecciated minor fault gouge, very rubbly core, poor recovery Faulted lower contact		Moderate altered appearance	7-10% pyrite, disseminated, wispy siliceous veinlets with siliceous coarse brassy stringers from 157.1-157.25 and 157.63, 2 cm wide	
161.70 TO 212.14	«AND TUFF» Andesite Tuff, Lith Tuff	Colour: med green Grain Size: fine to medium Continutation of Andesite unit at top of hole; 1-5% epidotized fragments up to 4 cm 183.5-189.9 195.07-209.1 -rubbly broken core		Patchy epidote as alteration of frags	1-3% diss. pyrite, occasional 2-5 cm coarse brassy semi-massive pyrite stringers 174.0-174.4 -quartz vein with 10-12% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		186.8-197.5 -a more felsic looking interval, fine lithic granular tuff with occasional epidote clots, fragments and 2-5 mm wide layers (possible bedding or just fracture controlled) possible bedding 190.0 190.1	 75 73	203.0-204.0 204.9-205.15 -quartz veining	203.0-204.0 204.9-205.15 0-5-10% brassy pyrite, trace chalco-pyrite -3 cm semi-massive magnetite at 203.3, magnetite blebs at 204.97 m	
	E.O.H.					

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14225	92.40	93.40	1.00	988	15	118	2	55	500													
14193	93.40	94.70	1.30	140	28	90	3.4	2	640													
14194	94.70	95.70	1.00	133	16	57	1.6	1	560													
14195	101.15	102.65	1.50	1060	16	82	1.4	3	700													
14196	111.00	112.20	1.20	166	12	76	1.2	3	1300													
14197	112.20	113.40	1.20	2356	10	71	1.6	20	1240													
14198	113.40	114.50	1.10	708	9	71	1.3	4	950													
14199	120.55	121.55	1.00	796	12	61	1.6	1	1000													
14200	121.55	122.55	1.00	210	15	51	1.5	2	1050													
14236	155.95	157.60	1.65	48	17	39	1.1	3	820													
14237	157.60	158.50	0.90	141	20	63	1.3	2	1170													
14238	158.50	159.40	0.90	126	17	105	1.6	1	980													
14239	161.30	161.70	0.40	232	20	15	1	1	1500													
14240	162.75	163.85	1.10	274	14	27	1.3	2														
14241	173.70	174.40	0.70	165	12	26	1	1														
14242	203.00	204.00	1.00	1167	21	16	0.7	1														
14243	204.90	205.15	0.25	497	22	12	0.6	5														
AVE.	112.20	114.50	2.30	1567.8	9.5217	71.000	1.46	12.348	1101.3													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17095	26.50	29.50	3.00	15.84	0.005	3.3	10.21	0.01	7.71	0.29	2.88	0.28	52.64		0.67		0.68	94.51	1.9	1	6	84	5	1	88	5
17096	54.00	57.00	3.00	17.21	0.005	6.47	9.84	0.01	5.95	0.35	2.9	0.31	51.22		0.71		0.13	95.11	2	1	29	227	5	1	126	5
17097	81.10	84.10	3.00	16.55	0.01	3.26	8.71	0.01	6.56	0.28	3.91	0.4	53.99		0.61		1.65	95.94	1.6	1	9	213	5	1	176	5
14195	101.15	102.65	1.50																1.4	1	77	1060	16	1	82	3
17098	128.60	131.60	3.00	17.31	0.05	2.43	8.42	1.2	6.82	0.27	3.65	0.26	52.54		0.62		2.19	95.77	1.5	1	70	388	10	1	110	5
17099	166.70	169.20	2.50	17.35	0.025	4.53	8.92	0.66	5.43	0.19	3.76	0.35	52.27		0.65		2.34	96.46	1.7	1	107	182	12	1	49	5
17100	189.90	192.30	2.40	15.79	0.2	2.9	7.46	0.86	4.29	0.16	3.51	0.23	57.99		0.52		2.72	96.62	1.3	6	188	172	14	1	60	10
17457	206.60	209.10	2.50	16.79	0.06	4.21	9.19	0.77	5.98	0.2	2.71	0.27	52.91		0.63		1.96	95.68	1.5	1	75	99	11	1	57	5

HOLE NUMBER: 90-295

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT	PLOTTING COORDS GRID: Mine	ALTERNATE COORDS GRID:	COLLAR DIP: -50° 0' 0"
PROJECT NUMBER: 242	NORTH: 11300.00N	NORTH: 0+ 0	LENGTH OF THE HOLE: 212.45m
CLAIM NUMBER: FANG	EAST: 6200.00W	EAST: 0+ 0	START DEPTH: 0.00m
LOCATION:	ELEV: 715.00	ELEV: 0.00	FINAL DEPTH: 212.45m

COLLAR GRID AZIMUTH: 180° 0' 0" COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: June 6, 1990	COLLAR SURVEY: NO	PULSE EM SURVEY: NO	CONTRACTOR: Frontier Drilling
DATE COMPLETED: June 8, 1990	MULTISHOT SURVEY: NO	PLUGGED: NO	CASING:
DATE LOGGED: June 8, 1990	RQD LOG: NO	HOLE SIZE: NQ	CORE STORAGE: Chemainus, B.C.

PURPOSE: To test humus anomaly and extent of pyrite, zinc enriched ashes intersected in 89-269 (213 ppm over

DIRECTIONAL DATA: 7.90 m)

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
29.00	-	-48° 0'	ACID	OK		-	-	-	-	-	
164.00	-	-47° 0'	ACID	OK		-	-	-	-	-	
212.45	-	-48° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 7.31	«OB»					
7.31 TO 20.74	«DIORITE»	Colour: light greenish grey Grain Size: fine to medium Thick, massive, moderate to well foliated		Abundant clay altered feldspars		
20.74 TO 28.65	«F LAP TUFF »Felsic Lap Tuff	Colour: light greyish white Grain Size: medium to coarse Massive; moderate to locally strongly foliated; interval contain upwards of 5% white felsic Ash fragments, silicified, up to 3 cm; generally <1 cm larger fragments are flattened parallel to foliation		Moderate to well developed sericite on foliation surfaces	Minor pyrite, patches and stringers	
		CAF at 21.51	90			
		21.96-21.97 -Fault	88			
		21.97-28.65 -foliations contorted, from 0 to 90 deg, local F2 folding				
28.65 TO 45.06	«F TUFF» Felsic Tuff	Colour: light greyish white Grain Size: fine to medium Thick bedded; moderately foliated; minor <1% qtz eyes generally <1 mm, rare to 2 mm		Well developed sericite on foliation surfaces	1% pyrite, disseminated, patchy and minor stringers	
		32.70-33.29 -strongly sheared, minor gouge seams				
		33.29-33.63 -Fault, 90% gouge	35			
		33.63-39.89 -moderately sheared throughout		-local patchy silicification	-2-3% pyrite, stringers, patches local trace chalcopyrite	Fragmental?

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					35.33-36.26 -5% pyrite, stringers to 5 cm	
		36.57-36.65 -Fault, gouge	60			
		37.64-38.46 -minor shearing, gouge seams, foliation locally highly contorted	70		-10% pyrite; minor chalcopyrite, stringers to 4 cm	
		39.40-39.41 -Fault, gouge	40			
		39.89-40.16 -Fault, intensely sheared, abundant gouge				
		40.16-45.06 -intensely sheared, 50% gouge seams to 9 cm; interval appears to be more intermediate in composition: 40.36 42.44 42.86 44.28 45.06	 80 50 80 70 60			
45.06 TO 50.93	«F ASH,CHT» Felsic Ash and Chert	Colour: white to very light grey Grain Size: fine Thin to moderately bedded; weak to moderately foliated		Well developed sericite on foliation surfaces; locally strongly bleached	2-3% pyrite; disseminated, patchy and in stringers	
				45.23-46.43 -intensly bleached	45.06-45.23 -25% fine grained pyrite	
		46.43-47.31 -predominantly chert			-5% pyrite, patchy and in stringers	
		CAB @ 46.70	80			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
50.93 TO 83.06	«I-QP TUFF» Intermed. Quartz Porphry Tuff	Colour: medium grey Grain Size: medium Thick bedded; moderate to strongly foliated; foliation generally highly contorted, local F2 folds; <5% quartz eyes to 2 mm		Moderate to well developed sericite on foliation surfaces	1-2% pyrite, patches and stringers, local trace chalcopyrite	
		51.50-51.52 -Fault, gouge	80			
		52.15-52.16 -Fault, gouge	75			
		53.36-53.37 -Fault, gouge	90			
		55.62-55.64 -Fault, gouge	87			
		58.80-69.38 «Diorite» -coarse grained, massive, well developed upper chill margin lower contact	80			
		72.53-72.56 -Fault, gouge	70			
83.06 TO 87.93	«AND LITH TUFF» And. Lithic Tuff	Colour: light to medium green Grain Size: fine to medium Moderate to well foliated; locally very granular in appearance		Well developed chlorite on foliation surfaces	<1% disseminated pyrite	
		86.18-86.70 -sheared, local gouge seams	60			
		Contact @ 87.93	80			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
87.93 TO 92.04	«F TUFF» Felsic Tuff	Colour: light to medium grey, weak green cast Grain Size: fine to medium Weak to moderately foliated, well shear texture throughout, granular in appearance 90.34-90.82 -intensely sheared 91.92-92.04 -intensely sheared	60	Weak sericite development on foliation surfaces	1% pyrite, disseminated, patchy	
92.04 TO 109.72	«AND LITH T UFF» And. Lithic Tuff	Colour: medium to dark green Grain Size: fine to medium Thick bedded; moderately foliated; very granular in appearance; 2-3% white to ghostly predominantly epidote altered feldspar xls to 1 mm 92.04-92.24 -intensly sheared		Weak to moderate chlorite development on foliation surfaces	1% pyrite, patchy disseminated and minor stringers	
109.72 TO 126.13	«AND TUFF» Andesite Crystal Lithic Tuff	Colour: medium to dark green Grain Size: medium grained Thick bedded; moderately foliated; very granular in appearance; 5% white to ghostly to predominantly epidote altered feldspar xls to 1 mm 5-10% epidote altered lithic fragments to 5 mm; 5% dark green to black lithic fragments to 3 mm 112.06-112.09 -Fault, gouge 119.47-126.13 -1% lapilli fragments to 3 cm, this interval is generally more coarser grained than above 121.70-121.78 -intensely sheared	55 46	Weak development of chlorite development on surfaces	<1% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
126.13 TO 140.47	«AND TBX» Andesite Tuff Bx	Colour: medium to dark green Grain Size: coarse Thick bedded; moderately foliated; matrix is a fine to medium grained tuff; contains 40% andesite XLt fragments to 30 cm; rare felsic fragments to 5 cm 137.90-140.47 -minor chert fragments and epidote altered lithic fragments to 4 cm CAB @ 140.47	90	Weak chlorite development on foliation surfaces	1% disseminated, patchy fine to medium grained pyrite	
140.47 TO 145.38	«AND LITH T UFF» And. Lithic Tuff	Colour: medium to dark green Grain Size: fine to medium Thick bedded massive; weakly foliated minor feldspar xls, white to ghostly to epidote altered 1 mm; 5-10% light green epidote altered lithic fragments to 5 mm; 10-15% medium to dark green lithic fragments to 3 mm		Poor to moderate chlorite development on foliation surfaces	1-2% fine to medium grained pyrite, disseminated patchy	Not a well defined contact with over-lying interval
145.38 TO 148.43	«AND ASH» Andesite Ash	Colour: light greenish grey Grain Size: fine grained Thin to moderately bedded; moderately foliated 146.65-147.00 -chert, laminations to 1 cm -CAB	85	Moderate chlorite development on foliation surfaces	2-3% pyrite, disseminated patchy and stringers	
148.43 TO 170.52	«AND LITH T UFF» And. Lithic Tuff	Colour: medium to dark green Grain Size: medium grained Thick bedded, massive; weak to moderately foliated; <5% light green epidote altered lithic fragments to 3 mm; 5-10% felsic grains to 3 mm; 10 -15% medium to dark green lithic fragments to 5 mm		Poor chlorite development on foliation surfaces	2-3% pyrite; disseminated	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		minor white to ghostly to epidote altered feldspar xls to .5 mm				
		149.05-149.06 -Fault, gouge	45			
		153.02-153.07 -dark grey chert				
		153.07-153.35 -Andesite ash, with 10% epidote altered lithic fragments to 2 cm, smaller fragments to 2 cm, smaller fragments are well rounded; vesicles?, larger fragmetns flattened parallel to bedding				
		CAB @ 153.35	90			
		153.35-153.70 -Lapilli section; 20% light green epidote altered lithic fragments to 1 cm; minor dark grey chert fragments to 1 cm				
		153.70-153.85 -Andesite Ash with epidotized lapilli				
		153.85-155.74 -interval highly contorted			-3-5% pyrite, patches and stringers, local trace chalcopyrite	
		155.74-156.87 -40% quartz veins, 60% intensely altered Andesite			-1-2% pyrite	
		156.87-158.06 -10% quartz veins, intensely altered Andesite			-5% pyrite, patches and in stringers	
		158.06-158.42 -intensely sheared				
		158.42-161.84 -minor epidotized lapilli to 4 cm		-strongly bleached	-2-3% pyritic stringers	
		161.84-164.22 «Int Ash» -Intermediate Ash		-well developed sericite on foliation surfaces	-15-10% pyrite, very fine grained, laminated to bedded, rare trace chalcopyrite	
		164.22-165.0 -Andesite Ash with 5-10% epidote altered lithic		-well developed chlorite on foliation	-1-2% pyrite, patchy	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fragments to 3 cm		surfaces		
		165.00-166.67 «F Ash» -Felsic Ash		-well developed sericite on foliation surfaces	-15-20% pyrite, laminated and bedded; very fine grained; trace chalcopyrite	
		CAB @ 166.67	80			
		166.67-170.52 -Andesite lithic tuff with 5% epidote altered lithic fragments to 2 cm			166.67-168.50 -3-5% pyritic stringers 168.50-170.52 -minor pyrite	
170.52 TO 197.23	«F LAP TUFF »Felsic Lap Tuff	Colour: medium grey; weak green cast Grain Size: coarse Thick bedded, massive, weakly foliated, well developed shear texture throughout; 15-20% felsic fragments to 4 cm; these are bleached white to light greyish green		Bleached fragments are silicified; moderate to well developed sericite on foliation surfaces	<1% pyrite, predominantly in thin stringers	This package is very similar to that which hosts the Coronation further to the west; foliation locally highly contorted
		175.94-176.40 -mylonized section				
		176.4-177.0 -gouge, locally black				
		177.0-177.75 -intensely sheared				
					180.20-180.29 -massive sulphide fragments; sphalerite and chalcopyrite to 2 cm	
					180.41-182.10 -1% pyritic stringers with trace sphalerite	
				182.10-183.74 -entire interval bleached	-2-3% pyrite, stringers with trace sphalerite and chalcopyrite	
					183.74-185.01 -1% pyrite, trace sphalerite	
		186.88-186.89				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Fault, gouge 187.60-188.30 -intensely sheared and milled 189.26-189.32 -Andesite ash, chill margin? 189.32-190.90 -Andesite lithic tuff; diorite? 190.90-192.76 -intensely sheared, brecciated and healed 192.76-197.23 «Diorite» Contact @ 197.23	60 78			
197.23 TO 212.45	«NANAIMO» E.O.H.	Colour: dark grey Grain Size: medium Sandstone 200.16-201.80 -conglomerate				

				ESTIMA	ASSAYS								GEOCHEMICAL									COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		
14244	35.33	36.26	0.93	345	37	129	1.4	21														
14245	36.26	37.64	1.38	173	39	148	1	2	2740													
14246	37.64	38.46	0.82	45	20	61	0.5	4														
14247	45.06	46.43	1.37	36	18	41	0.3	1	4970													
14248	46.43	47.31	0.88	9	14	40	0.1	3	5400													
14249	47.31	48.63	1.32	17	19	146	0.3	32														
14250	48.63	49.74	1.11	1017	89	483	2.1	41														
14251	49.74	50.93	1.19	2545	18	52	1.5	1														
14252	52.73	54.50	1.77	17	37	29	0.9	2														
14253	54.50	55.30	0.80	276	18	30	0.3	3														
14254	55.30	56.70	1.40	31	11	25	1.3	10														
14255	145.38	146.65	1.27	46	12	29	1.2	4														
14256	146.65	147.00	0.35	348	10	34	1.2	2	1260													
14257	147.00	148.43	1.43	49	10	68	1.6	3														
14258	153.85	154.83	0.98	256	17	15	1	1														
14259	154.83	155.74	0.91	65	10	46	1.7	2														
14260	155.74	156.87	1.13	73	10	56	1.9	2														
14261	156.87	158.06	1.19	145	20	219	0.7	1														
14262	161.84	163.33	1.49	200	10	68	1.8	2														
14263	163.33	164.22	0.89	440	10	46	1.3	10														
14264	164.22	165.00	0.78	14	10	44	1.6	2														
14265	165.00	165.92	0.92	46	14	9	0.9	18														
14266	165.92	166.67	0.75	54	12	12	1.2	1														
14267	166.67	168.00	1.33	9	10	42	1.4	2														
14268	180.41	182.10	1.69	161	18	178	0.7	3														
14269	182.10	183.74	1.64	156	141	479	1.8	58	2900													
14270	183.74	185.01	1.27	58	18	147	0.8	4	1920													
AVE.	48.63	50.93	2.30	1807.6	52.265	260.00	1.79	20.304														
AVE.	180.41	185.01	4.60	130.78	61.852	276.75	1.12	22.885														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17458	9.44	12.44	3.00	14.37	0.005	9.7	12.89	0.18	5.58	0.23	2.31	0.82	46.9		2.45		0.29	95.73	2.6	1	24	310	10	1	76	5
17459	24.68	27.68	3.00	13.61	0.07	1.28	2.36	1.87	3.33	0.04	3	0.24	70.67		0.29		0.25	97.03	0.7	5	82	30	34	1	44	5
14249	47.31	48.63	1.32	9.33	0.36	0.63	8.69	1.48	1.27	0.03	1.78	0.17	70.37		0.11		5.77	99.99	0.4	26	146	17	18	2	140	5
17460	75.28	78.28	3.00	15.66	0.095	0.43	4.49	1.76	5.12	0.1	2.94	0.21	64.57		0.38		0.45	96.21	0.8	1	70	14	13	1	89	5
17461	84.42	87.42	3.00	17.24	0.03	0.51	8.32	0.79	9.3	0.19	3.04	0.29	53.18		0.66		0.52	94.1	1.2	1	52	22	10	2	105	5
17462	105.76	108.76	3.00	17.45	0.03	1.65	8.72	1.31	7.84	0.25	3.52	0.5	52.1		0.67		0.61	94.66	1.4	1	29	214	8	1	110	5
17463	142.38	145.38	3.00	17.47	0.03	1.82	7.15	1.01	7.02	0.22	4.12	0.43	54.78		0.63		0.68	95.37	1.6	1	75	35	10	1	69	5
14262	161.84	163.33	1.49	16.77	0.06	1.26	7.86	1.19	7.5	0.22	3.2	0.26	54.64		0.56		0.34	93.86	1.7	1	70	214	7	1	58	5
14265	165.00	165.92	0.92																0.9	15	142	46	14	2	9	18
14268	180.41	182.10	1.69	13.43	0.17	1.18	2.94	2.39	3.29	0.08	1.46	0.17	69.25		0.29		0.91	95.55	1.2	11	265	153	16	1	183	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: FANG
LOCATION: 92 B/13W

PLOTTING COORDS GRID: Mine
NORTH: 11319.00N
EAST: 6441.00W
ELEV: 731.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -73° 0' 0"
LENGTH OF THE HOLE: 350.22m
START DEPTH: 0.00m
FINAL DEPTH: 350.22m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: June 8, 1990
DATE COMPLETED: June 14, 1990
DATE LOGGED: June 14, 1990

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

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

CONTRACTOR: Frontier Drilling
CASING: 76.20 m
CORE STORAGE: Chemainus, B.C.

PURPOSE: To test a strong VLF-IP anomaly in the 262 Felsic Package

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
84.00	-	-65° 0'	ACID	OK		-	-	-	-	-	
90.00	-	-63° 0'	ACID	OK		-	-	-	-	-	
176.00	-	-63° 0'	ACID	OK		-	-	-	-	-	
286.00	-	-63° 0'	ACID	OK		-	-	-	-	-	
325.22	-	-62° 0'	ACID	OK		-	-	-	-	-	
350.22	-	-62° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 76.20	«OB»					
76.20 TO 100.89	«F TUFF» Felsic Tuff	Colour: white to very light grey Grain Size: medium Thick bedded, moderately foliated; local white to ghostly to clay altered feldspar crystals to .5 mm; 1% quartz eyes < 1 mm to 3 mm; local light to medium green lithic fragments to 1 mm		Moderate to well developed sericite on foliation surfaces	1-2% pyrite, disseminated and in stringers, trace chalcopyrite 78.66-80.16 -5-7% pyrite, predominantly stringers to 6 cm; trace chalcopyrite 80.16-82.00 -1-2% pyritic stringers, trace chalcopyrite 82.00-83.13 -3-5% pyritic stringers, trace chalcopyrite	
		83.13-94.70 -strongly sheared, abundant gouge seams	55		85.95-87.43 -3% pyritic stringers trace chalcopyrite	
		86.74-86.83 -Fault, gouge	70			
		87.31-87.60 -Fault, gouge	68		87.60-89.50 -5% pyritic stringers, trace chalcopyrite	
		89.50-90.23	85			
		90.71-90.78 -Fault, gouge	90		96.68-97.60 -2-3% pyrite; predominantly stringers trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
100.89 TO 109.80	«F TUFF,ASH » Felsic Tuff to Ash	Colour: white to very light grey Grain Size: fine to medium Thin to moderately bedded; moderate to locally strongly foliated; interval contains minro 2nd phase folds; local well defined ash layers, contacts obscured by minor shearing		Strongly bleached; well developed sericite on foliation surfaces; minor quartz carbonate veining	1-2% pyrite, disseminated, laminated and in minor stringers, trace chalcopyrite; ash layers contain very fine grained pyrite	Local minor shearing and gouge seams throughout
		CAB @ 106.15	75			
		106.00-106.50 -well defined ash intervals			-5-10% very fine grained pyrite disseminated and laminated	
		106.91-106.94 -Fault, gouge	50			
109.80 TO 115.82	«DIORITE»	Colour: dark green Grain Size: coarse Interval is moderately to strongly sheared		-mior quartz carbonate veins		
115.82 TO 120.00	«QTZ VEIN» Quartz Vein	Colour: Grain Size: Interval is omposed of 90% quartz veins and 10% dark green chloritic material; the core is very rubbly throughout this interval			Minor pyrite with trace chalcopyrite	
120.00 TO 129.80	«AND LITH T UFF» And. Lithic Tuff	Colour: dark to medium green Grain Size: fine to medium Thick bedded, moderately foliated; quite granular in appearance; minor percentage of ghostly to epidote altered feldspar xls to .5 mm; 2-3% light green epidote altered lithic fragments to 2 mm		Moderate chlorite development on foliation surfaces	1% pyrite, disseminated, minor stringers	
		120.00-121.61 -strongly sheared, local gouge seams	10			
		CAB @ 129.80	48			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
129.80 TO 146.74	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: medium green Grain Size: medium grained Thick bedded; moderately foliated; 3-5% white to ghostly to epidote altered feldspar xls to 1 mm; 5% light green epidote altered lithic fragments to 3 mm, locally to 5 mm; 10% medium to dark green lithic fragments to 3 mm		Weak to moderate chlorite development on foliation surfaces	1-2% pyrite, disseminated, patchy and local stringers, trace chalcopyrite	
146.74 TO 173.41	«AND LITH T UFF» And. Lithic Tuff	Colour: medium green, weak grey cast Grain Size: fine to medium grained Thick bedded, moderately foliated; local ash sections		Moderate to well developed chlorite on foliation surfaces	2-3% pyrite disseminated, patchy minor stringers, minor chalcopyrite	
		149.54-149.71 -minor gouge seams	58			
		150.24-151.84 -appears more intermediate in composition				
		154.56-156.43 -Andesite tuff breccia, 30% dark grey green cherty ash fragments to 15 cm			-fragments contain abundant fine grained pyrite	
				156.43-166.73 -entire interval moderately bleached		
		162.86-162.96 -Felsic Tuff, interbed? or a large fragment	50			
		163.35-163.90 -quartz vein			-25% coarse grained pyrite	
		163.90-166.00 -minor quartz veining (5%)				
		166.25-166.30 -Fault, gouge	30			
		166.73-167.76 -Tuff breccia, possible 15-20% And XLT frags				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		171.09-173.41 -Intermediate Ash 173.40-173.41 -Fault, gouge	 60		-5% very fine grained pyrite, disseminated and laminated	
173.41 TO 190.20	«AND LITH T UFF» And. Crystal Lithic Tuff	Colour: light to medium green Grain Size: medium grained Thick bedded; massive; weakly foliated; 5% white to ghostly to predominantly epidote altered feldspar xls to 1 mm; 5% light green epidote altered lithic fragments to 3 mm; rare to 1 cm; 5-10% medium to dark green lithic fragments to 3 mm 188.00-188.26 -shear, gouge 188.26-190.20 -Diorite	 25	Interval weakly bleached, weak to mod. chlorite development on foliation surfaces	1% pyrite, disseminated, patchy minor stringers -trace magnetite	
190.20 TO 219.54	«AND LITH T UFF,ASH» Andesite Lithic Tuff to Ash	Colour: medium green grey Grain Size: fine to medium Thick bedded, moderately foliated 196.93-196.96 -Fault, gouge 201.30-201.38 -Fault, gouge 201.38-209.00 «Diorite» -coarse grained feldspar porphyritic 209.00-219.54 «Diorite» -fine to medium grained	 68 66	Moderate chlorite development on foliation surfaces -strongly calcareous, minor leucoxene development	3% pyrite, minor chalcopyrite dissemin-ated, patchy and in stringers -minor magnetite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
219.54 TO 269.57	«AND LAP TU FF» And. Lapilli Tuff	Colour: dark green Grain Size: coarse Thick bedded, moderately foliated; 1-2% feldspar xls, white to ghostly to predominantly epidote altered feldspar xls to 1 mm; <5% light green epidote alterd lithic fragments to 5 mm; 1-2% 5 mm to 3 cm rare to 6 cm; 10% medium to dark green lithic fragments to 4 mm; 1-2% felsic grains to 2 mm		Poor chlorite development on foliation surfaces	<1% pyrite, disseminated	
		225.30-227.70 -Andesite crystal lithic tuff				
		225.89-225.90 -Fault, gouge	30			
		227.70-228.14 -Quartz vein				
		230.73-231.32 -fragments of andesite XLT to 5 cm				Possible that the entire unit may be a tuff breccia
		CAB @ 231.07	60			
		231.32-233.69 -Andesite Ash to fine grained lithic tuff; between 233.64-236.70, possible felsic interbed or large fragment			-1-2% pyrite, disseminated, patches and stringers, trace chalcopyrite	
		233.69-240.97 «And LT» -Andesite Lithic Tuff				
		240.97-250.33 «And TBx» -5-10% light green epidote altered lithic fragments to 1 cm; 5 to locally 10%, 1-6 cm; locally there may be Andesite XLT fragments and ash fragments 250.18-250.33 -epidotized lapilli have a very concentric alteration (lapilli to 3 cm)			-1% pyrite, disseminated, patchy local stringers, trace chalcopyrite	This interval would correspond to the Tuff breccia logged in hole 90-295 between 126.13-140.47
				250.33-257.18 -interval weak to moderately bleached	253.39-254.25 -10% pyritic stringers, 1% chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		⊣260.51-262.49⊢ «QP Dyke» -Quartz porphyry felsic dyke ⊣266.09-268.00⊢ «Fault» 266.09-266.36 -intensely sheared 266.36-266.91 -gouge 266.91-268.00 -intensely sheared, minor gouge 268.00-269.57 -weak to moderately sheared	 70 66	257.18-260.51 -interval strongly bleached, and silicified, local quartz eyes 262.49-266.09 -strongly bleach, locally silicified	254.25-257.18 -2-3% pyritic stringers, minor chalco-pyrite	
269.57 TO 275.11	«FP TUFF» Felsic Feldspar Porphyry Tuff	Colour: white Grain Size: medium grained Thick bedded, strongly foliated, 5% white to ghostly to clay altered to epidote altered feld-spar xls to .5 mm; 5% very light green epidote altered lithic fragments to 5 mm, minor amount to 2 cm		Well developed sericite on foliation planes; intensely	<1% pyrite disseminated, minor patches and stringers 274.24-275.11 -5% pyritic stringers	Looks like an intensely bleached Andesite Crystal Lithic Tuff
275.11 TO 279.51	«F TUFF» Felsic Tuff	Colour: white Grain Size: fine to medium grained Thick bedded, moderate to strongly foliated; 1-2% white to clay altered to weakly epidote altered feldspar xls to .5 mm; 15 light green epidote altered lithic fragments to 3 mm; there are minor felsic fragments? bleached white and silicified to 4 cm, minor quartz veining		Intensely bleached, well developed sericite on foliation surfaces	1% pyrite, disseminated and patchy	Foliation locally highly contorted, F2 folds

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
279.51 TO 317.90	«F TUFF» Felsic Tuff	Colour: white-v.light grey, local wk. green cast Grain Size: fine to medium grained Thick bedded; moderate to strongly foliated; minor <1% ghostly to clay altered feldspar xls to .5 mm rare quartz eyes to 2 mm; locally what appears to be felsic fragments, bleached white and silicified but these are generally obscured by the pronounced foliation		Well developed sericite on foliation surfaces	1-2% pyrite, disseminated, patches and stringers, trace chalcopyrite and sphalerite	Foliation variable 20-40 deg "Coronation Zone", possible Lapilli Tuff, this interval may be a less altered version of the overlying interval
		280.24-282.10 -moderately sheared, minor gouge seams				
		283.22-283.23 -Fault, gouge	60			
		285.91-286.13 -sheared, minor gouge	40			
		287.10-287.60 -3 mm shear plane gouge filled funning 0 to 10 deg				
					290.14-291.00 -3% pyrite, predominantly stringers, trace sphalerite 291.00-292.23 -1-2% pyrite, predominantly stringers, trace sphalerite; chalcopyrite 292.23-293.28 -35 pyrite, predominantly stringers, trace sphalerite, chalcopyrite	
		293.28-293.30 -Fault, gouge	48			
		293.30-295.80 -Fault, mylonitic section containing abundant felsic fragments in a medium to dark green chloritic matrix				-felsic fragments are mineralized
		contact @ 295.80	43			
					295.80-296.69 -1-2% sphalerite tan to light brown in colour 2-3% pyrite, minor galena, chalcopyrite and tetrahedrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					296.69-297.20 -15 sphalerite, 1% chalcopyrite, minor galena, trace tetrahedrite, 1-2% pyrite	
		297.20-299.20 -Diorite			299.20-300.00 -1-2% sphalerite, minor chalcopyrite, galena, and tetrahedrite, 1-2% pyrite	
					300.00-301.19 -1-2% pyrite, <1% sphalerite, minor chalcopyrite, galena, trace tetrahedrite	
		301.19-301.97 -mixture of felsic (strongly chloritized) and fine grained diorite?				
		301.97-303.49 -minor shearing and gouge			<1% pyrite, tr. sphalerite, chalcopyrite	
		303.49-307.89 «Diorite»				
		307.89-315.00 -Fault zone?, healed; chaotic mixture of felsic fragments, locally up to 10 cm in size; coarse fragmental?			-local minor pyrite, tr. sphalerite	
		315.00-317.90 «F Tuff» -medium grey green, medium to coarse grained; minor quartz eyes t 2 mm; <1% feldspar xls clay altered to .5 mm; very granular in appearance			-trace pyrite	
317.90 TO 347.70	«DIORITE»	Colour: dark green Grain Size: coarse Karmutsen, coarse grained, weakly sheared, minor quartz carbonate veining		Well developed leucoxene	Abundant leucoxene	
		contact @ 317.90	70			
		-well developed upper chill margin and lower chill margin				
		328.10-328.17 -quartz vein			-minor chalcopyrite and pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		338.63-338.73 -quartz vein 346.10-347.22 -quartz vein			-minor chalcopyrite stringers	
347.70 TO 350.22	«F TUFF» Felsic Tuff E.O.H.	Colour: medium grey, weak green cast Grain Size: medium Massive bedded, moderately foliated, very angular in appearance, 5-10% medium green lithic fragments (pumice) to 4 mm, locally up to 1.5 cm x 3 mm; has a patchy chloritic appearance 347.70-348.48 -Felsic Tuff; fine grained, very light grey in colour fault contact @ 347.70	65	Moderate developed sericite and chlorite on foliation surfaces -bleached, well developed sericite on foliation surfaces	Minor pyrite -trace disseminated pyrite	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	GEOCHEMICAL Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14271	78.66	80.16	1.50	9	25	27	0.5	2														
14272	80.16	82.00	1.84	5	15	24	0.5	3														
14273	82.00	83.13	1.13	38	49	28	0.8	2														
14274	85.95	87.43	1.48	10	22	36	0.8	1														
14275	87.60	89.50	1.90	9	28	31	0.7	2														
14276	96.68	97.60	0.92	28	11	77	1.6	44														
14277	100.89	102.25	1.36	29	17	89	1.2	34														
14278	102.25	103.28	1.03	60	17	58	0.7	10														
14279	103.28	105.20	1.92	1786	25	140	2.8	76														
14280	105.20	106.50	1.30	902	54	112	2.1	72														
14281	106.50	108.16	1.66	230	14	67	1	1														
14282	149.14	150.24	1.10	815	11	56	1.7	6														
14283	150.24	151.84	1.60	724	11	77	1.8	4														
14284	151.84	153.56	1.72	324	10	65	1.5	2														
14285	153.56	154.86	1.30	835	9	38	1.6	14														
14286	154.86	156.43	1.57	72	11	36	1.8	7														
17467	171.09	172.28	1.19	31	12	69	2.0	5														
14287	172.28	173.41	1.13	61	13	47	1.5	5														
17469	193.53	195.31	1.78	403	7	50	1.2	5														
14288	195.31	196.70	1.39	1003	11	40	1.1	2														
14289	196.70	198.12	1.42	33	12	44	1	1														
14290	198.12	199.05	0.93	651	19	39	1.3	3														
14291	253.39	254.25	0.86	4403	12	60	2.6	5														
14292	274.24	275.11	0.87	25	17	11	0.3	6														
14293	279.51	280.95	1.44	29	18	37	0.4	4	1820													
14294	280.95	282.40	1.45	7	14	35	0.3	3	1440													
14295	282.40	283.99	1.59	8	14	40	0.3	11	1580													
14296	283.99	285.59	1.60	46	16	22	0.1	5	1650													
14297	285.59	287.67	2.08	7	14	25	0.1	2	1500													
14298	287.67	288.98	1.31	76	16	19	0.1	1	1100													
14299	288.98	290.14	1.16	12	20	31	1.1	5														
14300	298.14	291.00	0.86	39	17	17	0.3	1	1350													
14301	291.00	292.23	1.23	16	15	20	0.2	8	2000													
14302	292.23	293.28	1.05	181	7	21	0.5	8	1800													
14303	293.28	294.74	1.46	365	82	804	2.4	77														
14304	294.74	295.80	1.06	221	83	497	2	34														
14305	295.80	296.69	0.89	1069	2961	10610	10.8	107	2700			1.31										
14306	296.69	297.20	0.51	884	102	619	6.2	63														

Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %
14307	299.20	300.00	0.80	479	802	2865	2.5	54	2300			0.39								
14308	300.00	301.19	1.19	918	600	20073	4.5	76												
14309	301.19	301.97	0.78	177	9	372	2.7	11												
14310	301.97	303.49	1.52	413	38	2640	1.7	23												
14311	307.87	309.72	1.85	109	3	28	0.3	5												
AVE.	293.28	297.20	3.92	553.42	738.52	2923.3	4.6934	70.362				0.30								
AVE.	299.20	303.49	4.29	522.48	331.09	7105.3	2.81	41.301				0.07								

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
17464	76.20	78.66	2.46	16.76	0.085	3.79	4.95	2	4.68	0.09	1	0.25	62.26		0.29		0.87	97.04	1.1	1	111	5	9	1	41	5
14277	100.89	102.25	1.36	14.86	0.2	0.47	6.77	2.76	5.98	0.12	0.12	0.19	61.58		0.46		2.58	96.1	1.2	1	198	29	17	1	89	34
17465	129.80	132.80	3.00	17.17	0.01	3.75	9.18	0.27	6.94	0.24	3.86	0.23	52.53		0.64		1.4	96.23	1.8	1	12	33	7	1	63	5
17466	157.58	160.58	3.00	17.12	0.04	2.92	9.55	1	6.99	0.14	3.01	0.24	53.05		0.67		1.32	96.05	2.2	1	71	145	7	1	48	5
17467	171.09	172.28	1.19	17.95	0.07	1.3	7.95	1.11	6.05	0.18	4.86	0.27	54.96		0.68		1.69	97.06	2	1	237	31	12	1	69	5
17468	178.91	181.91	3.00	17.48	0.05	2.31	6.91	0.97	6.48	0.15	3.97	0.19	56.46		0.63		0.41	96	2.1	1	76	14	7	1	33	5
17469	193.53	195.31	1.78	16.42	0.065	1.27	8.43	1.45	7.47	0.15	2.62	0.21	54.8		0.59		2.25	95.73	1.2	1	80	403	7	1	50	5
17470	227.68	230.68	3.00	17.63	0.025	4.72	7.51	0.64	5.6	0.25	4.13	0.19	53.56		0.64		0.27	95.18	1.7	1	28	82	9	1	49	5
17471	269.57	272.57	3.00	13.4	0.24	2.61	3.56	2.87	2.46	0.08	0.1	0.21	70.64		0.24		1.13	97.55	0.7	1	625	10	16	1	40	5
17472	275.70	278.70	3.00	12.57	0.275	0.93	1.81	3.35	1.1	0.02	0.12	0.13	76.26		0.15		0.74	97.44	0.4	5	293	5	14	1	12	5
14299	288.98	290.14	1.16	14	0.05	2.64	3.02	1.22	1.46	0.06	5.14	0.17	68.05		0.3		0.32	96.43	1.1	1	129	12	20	1	31	5

HOLE NUMBER: 90-297

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 10512.00N
EAST: 9780.00W
ELEV: 723.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 288.00m
START DEPTH: 0.00m
FINAL DEPTH: 288.00m

COLLAR GRID AZIMUTH: 180° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 12, 1990
DATE COMPLETED: October 16, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: Frontier Drilling
CASING: 9.1 m
CORE STORAGE: On Site

PURPOSE: Test 262 Felsics downdip of 86-101,104 in an area of stringer mineralization

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
30.50	-	-76° 0'	ACID	OK		-	-	-	-	-	
160.00	-	-74° 0'	ACID	OK		-	-	-	-	-	
188.10	-	-69° 0'	ACID	OK		-	-	-	-	-	
230.40	-	-66° 0'	ACID	OK		-	-	-	-	-	
288.00	-	-67° 0'	ACID	OK		-	-	-	-	-	
128.00	209° 0'	-75° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.10	«OB»					
9.10 TO 26.65	«F TUFF»	Colour: light greenish grey Grain Size: fine grained -weakly foliated; weakly brecciated with 5 mm qtz veinlets. Occasional <0.5 cm siliceous patches = fragments 9.1-19.2 -rubbly core, very poor recovery broken core at lower contact		weakly sericitic and chloritic along foliation	tr. pyrite	
26.65 TO 29.00	«M TUFF» MAFIC TUFF DYKE?	Colour: dark green Grain Size: fine grained -fine grained -fairly homogenous -rare felsic inclusions of 2-3 mm -5 cm calcite chlorite veining at lower contact		-wk. to mod. chloritic	-<1% finely disseminated specular hematite -tr - <1% diss. py	
29.00 TO 55.80	«F TUFF,LAP TUFF» FELSIC TUFF LAP TUFF	Colour: med grey Grain Size Indistinct lighter grey felsic lithic fragments; fragments generally <0.5 cm; patchy mottled texture 46.0-55.8 -dark wisp of 1-2 mm and up to 2-3 cm of darker green chloritic pumice fragments flattened parallel to foliation -foliation shallow to c.a. Foliation 55 m	25	Weak sericite/chlorite	<1% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
55.80 TO 60.20	«M ASH» MAFIC ASH	Colour: dark green Grain Size: fine grained Moderately foliated; patchy; very fine, gritty texture; 1-2 mm qtz/felsic patches Foliation	 30	Moderately chloritic; very minor qtz-carb veinlets parallel to foliation	Trace py, hematite	
60.20 TO 157.60	«F TUFF,LAP TUFF»	Colour: med. grey Grain Size: fine to medium 60.2-63.5 -mottled texture from grey siliceous, indistinct fragments 68.4 -patchy, fragmental appearance; occasional areas with <0.5-2 cm indistinct light grey flesic fragments, or greenish flattened pumice fragments -foliations very shallow to core axis Approx 94 m -begin to see areas with 1-2 mm whitish qtz and fsp grains 119.8-120.4 -Fault zone; chloritic fault gouge 125.0-132.3 -granular felsic lithic tuff		-weak sericite 63.5-68.4 -INTENSE qtz-chlorite-carbonate veining 113.7-124 -weak to moderately developed sericite	-tr. sphalerite 115.4-116.8 -<1% sp, cp, py as <1 mm veinlets 116.8-126 1-3% diss. py, locally 5% fine pyrite over 10-20 cm, trace diss. cp Below 126 m -<1-2% diss. py 141.7-142.3 -10% py, 1-2% cp associated with white	Foliation 110 m 45 deg 124.5 m 40 deg 131 m 30 deg 148 m 45 deg 151.8 m 30 deg

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Foliations: 72 m 77 m 84 m 98 m 110 m 124.5 m 131 m 148 m 151.8 Indistinct lower contact marked by an appearance of large quartz eyes	 0 10 20 25 45 40 30 45 30		dolomite-chlorite veining 145.6-147.8 -<1-2% straw coloured sphalerite, wispy disseminations, trace chalco-pyrite 145.7-146.0 -quartz veining with 5% coarse brassy pryite 152.0-157.6 -<1-1% py, tr-1% straw coloured sphalerite mainly as disseminations and discontinuous <1 mm veinlets parallel to foliation	
157.60 TO 167.50	«QP TUFF»	Colour: light grey Grain Size: fine 3-5%, <1-3 mm round quartz eyes in a finer grained sometimes granular groundmass 165.9 -5 mm wide fault gouge at <5 deg to c.a.		Weak to moderate sericite 158.45-158.8 -quartz-chlorite veining	<1-2% diss. py, trace sphalerite, chalcopyrite, minor py veinlets 167.5 -3 cm py-cp-chlorite vein at 30 deg to c.a.	Foliation 167.5 m 25 deg
167.50 TO 205.05	«F ASH,TUFF » FELSIC ASH/ TUFF	Colour: light grey Grain Size: fine Fine, aphyric ashes, no bedding, weakly foliated		Weak-moderately sericitic	167.5-176.9 -1-2% diss. pyrite	Foliation 170.5 m 30 deg 178.0 m 35 deg 183.5 m 40 deg

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		174.65-176.9 -QP Tuff -<1-3 mm quartz eyes -coarser, more granular texture than the above and below ashes Foliations 188.5 m 45 deg 189.5 m 45 deg 195.0 m 70 deg 201.8 m 55 deg 205.1 -1 cm dark grey, mylonitic muds		176.9-206.6 -moderate to strongly sericitic	176.9-190.2 -3-7% fine, diss. pyrite and fine veinlets -trace chalcopyrite within veinlets and lesser sphalerite -locally 10% diss. py. 182.9-183.25 -10% py, <1% cp, sp as 0.3-2 cm siliceous veinlets parallel to foliation 186.5-186.6 -siliceous py stringer, 15-20% py, 1-2% cp 190.2-205.05 -5-10% py finely disseminated and as <1 cm siliceous stringers parallel to foliation with some x-cutting foliation <1% chalcopyrite within py stringers. -traces of dark grey and straw coloured sphalerite	190.2-205.15 -weak stringer zone
205.05 TO 206.60	«PY ASH,CHT » PYRITIC ASH & CHERT EXHALITES	Colour: Grain Size: 205.17 -3 cm exhalitive py, cp -sulphides poorly bedded at 75 deg to c.a. -foliation cuts sulphides at 60 deg to c.a. -2% cp -Poorly distorted bedding in ashes			5-10% finely disseminated pyrite 205.17 -3 cm exhalite, 2% cp, 50-60% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-8 cm distorted grey chert with trace pyrite at lower contact				
206.60 TO 229.10	«AND ASH, T UFF» ANDESITE ASH/TUFF	Colour: dark green Grain Size: fine 206.6-210.65 -fine ash, moderately foliated, foliations distorted (Fault Zone) from 208.35-209.6 and 206.6-206.75 210.65-215.6 -Diorite dyke -fine grained aphyric foliated margins -more massive, weakly feldspar porphyritic core upper contact lower contact 215.6-229.1 -Andesite ash and minor, coarser tuff with occasional felsic lithic grains	 65 35	-moderate chlorite -weak to moderate chloritic	3-4% fine diss. pyrite, trace cpy, occasional py stringers, up to 5 cm -2-4% py	Foliations 216 m 5 deg 221 m 30 deg 225 m 60 deg 228.8 m 30 deg
229.10 TO 241.25	«F ASH,TUFF » FELSIC ASH/ TUFF	Colour: light to med. grey Grain Size: fine Weakly foliated aphyric ashes to fine tuff -foliation very shallow to c.a. 240.7 -possible bedding in ashes at 55 deg to c.a. lower contact indistinct		Moderately sericitic	-2-5% py -trace wispy disseminations of straw colored sphalerite at 231.7 m 240.3-240.75 -7-10% fine py, trace cp	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
241.25 TO 288.00	«AND TUFF» ANDESITE TUFF	Colour: dark green Grain Size: fine Weakly foliated, gritty weak granular texture with streaky carbonate parallel to foliation Occasional zones with 1-3% epidotized feldspars 249.0-250.55 -Felsic tuff -sharp irregular contact gradational lower contact over 20 cm Below 279 m unit grades into a crystal tuff with 5-7% , <1-1 mm creamy green weakly epidote altered feldspar crystals		Moderately chloritic	2-5% disseminated pyrite and occasional < 1 cm siliceous stringer Trace diss chalcopyrite 241.6-241.75 -15% py, <1% cp 264.3 -10 cm at 7% py, <1% cp hosted by streaky carbonate and chlorite	Foliations 252 m 38 deg 258.3 m 40 deg 265.8 m 20 deg 272 m 15 deg 277 m 30 deg 286 m 40 deg

				ESTIMA	ASSAYS										GEOCHEMICAL							COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		
14496	145.60	146.80	1.20	213	66	6928	0	0														
14497	146.80	147.80	1.00	56	84	2488	0	0														
14498	152.00	154.00	2.00	257	2	3316	0	15														
14499	154.00	156.00	2.00	268	2	4990	0	0														
14500	156.00	157.60	1.60	126	10	1772	0	10														
14501	193.20	195.20	2.00	883	8	120	0.5	145	1500													
14502	195.20	197.20	2.00	1062	6	112	1	110														
14503	197.20	199.20	2.00	564	4	124	0.5	90														
14504	199.20	201.20	2.00	428	4	202	0.5	75														
14505	201.20	203.20	2.00	240	6	162	0.5	65														
14506	203.20	205.17	1.97	37	22	40	0.5	95														
14507	205.17	205.75	0.58	555	12	96	1	230	3500													
14508	205.75	206.60	0.85	253	0	182	0.5	55														
14509	206.60	207.60	1.00	213	0	296	0	35														

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length (m)	% Cu	% Zn	% Pb	gm.T Ag	gm.T Au	% SiO2	% TiO2	% Na2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au		ppm Ba	
14496	145.6	146.8			1.2											213	6930		<0.5	<5			
14497	146.8	147.8			1.0											56	2490		<0.5	<5			
14498	152.0	154.0			2.0									514 537		257	3320		<0.5	15			
14499	154.0	156.0			2.0											268	4990		<0.5	<5			
14500	156.0	157.6			1.6											126	1770		<0.5	10			
14501	193.2	195.2			2.0											883	120	240✓	0.5	145		1500	
14502	195.2	197.2			2.0											1060	112	224✓ 248✓	1.0	110			
14503	197.2	199.2			2.0											564	124	404✓ 342	0.5	90			
14504	199.2	201.2			2.0											428	202	78.8 56	0.5	75			
14505	201.2	203.2			2.0											240	162	155 296	0.5	65			
14506	203.2	205.17			1.97											37	40		0.5	95			
14507	205.17	205.75			0.58					262 HORIZON				Exhalite.		555	96		1.0	230		3500	
14508	205.75	206.6			0.85											253	182		0.5	55			
14509	206.6	207.6			1.0											213	296		<0.5	35			
					Ave:		145.6 – 147.8			2.2m		4912 ppm Zn				141.64 ppm Cu							
							152.0 – 157.6			5.6m		3474 ppm Zn				224 ppm Cu							
							193.2 – 201.2			8.0 m		733 ppm Cu											
							193.2 – 207.6			14.4 m		498 ppm Cu				142 ppm Zn							

HOLE NO 90-297

PAGE

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16376	19.20	21.60	2.40	13.36	0.045	6.58	3.03	2.15	1.93	0.16	2.5	0.01	65.31		0.29		0.24	95.58	2.8	7	32	16	28	1	48	10
16377	46.60	49.60	3.00	14.17	0.07	3.35	2.78	2.85	1.2	0.07	2.75	0.01	69.4		0.3		0.25	97.18	1	1	54	17	34	1	41	5
16378	57.30	60.20	2.90	20.15	0.155	6.02	9.01	4.42	3.56	0.12	0.75	0.26	49.94		0.53		0.14	95.05	1.6	1	88	53	14	1	164	5
16379	88.00	91.10	3.10	14.24	0.085	2.06	3.14	2.48	1.88	0.14	3.13	0.01	68.88		0.28		0.49	96.82	1	12	65	25	24	1	121	5
16380	120.70	123.70	3.00	15.28	0.11	0.02	5.63	1.83	4.85	0.14	3.15	0.01	64.58		0.35		2.4	98.33	1	1	65	25	15	1	134	5
16381	149.00	152.00	3.00	13.58	0.1	1.1	2.79	2.18	4.15	0.25	2.5	0.01	69.3		0.28		0.72	96.97	1.2	1	81	80	19	1	857	5
16382	179.00	182.00	3.00	14.12	0.3	1.41	4.36	3.96	2.96	0.1	1.01	0.01	66.58		0.39		2.63	97.83	1.1	39	161	372	21	2	229	10
16383	217.40	220.40	3.00	14.1	0.15	7.69	11.2	1.65	5.8	0.29	0.44	0.13	52.27		1.69		1.66	97.07	2.6	1	92	194	12	1	127	5
16384	233.80	236.80	3.00	14.15	0.18	0.56	3.49	4.19	2.61	0.07	0.07	0.01	70.97		0.31		1.82	98.44	0.7	27	116	7	20	1	45	5
16385	264.30	267.30	3.00	15.76	0.115	3.53	9.6	1.85	6.5	0.34	1.79	0.06	54.97		0.63		1.92	97.07	1.9	1	87	304	12	1	148	5

HOLE NUMBER: 90-298

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: Mine
NORTH: 11219.00N
EAST: 7400.00W
ELEV: 748.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 218.50m
START DEPTH: 0.00m
FINAL DEPTH: 218.50m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 15, 1990
DATE COMPLETED: October 17, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: Frontier Drilling
CASING: 22.6 m
CORE STORAGE: On site

PURPOSE: Downdip test of thick pyritic felsic ash and cherts in hole 90-286

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
118.00	-	-74° 0'	ACID	OK		-	-	-	-	-	
178.90	-	-73° 0'	ACID	OK		-	-	-	-	-	
209.10	209° 0'	-72° 0'	SING.SHOT	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 22.60	«OB»					
22.60 TO 91.90	«QP TUFF»	Colour: very light cream grey Grain Size: <1-3%, 1-4 mm quartz eyes with quartz eye content increasing to 7-10% below 44 m. Fairly massive, patchy, poorly developed foliation. Some quartz eyes flattened and elongated 49.8-52.9 -Andesite Tuff -strong alteration masking primary features -less altered areas abundant felsic lithic grains -gradational contacts Below 73 m -occasional patches with 7-8% altered fsp crystals also Below 79 m -patchy mottled weak fragmental texture, increasing below 90.5 m Indistinct lower contact		Moderate - strong quartz-sericite alteration, strong bleached appearance -strong epidote and chlorite alteration White barren quartz veins from 71.75-72.25 85.8-87.5	Trace pyrite. Rare traces of fine dark sphalerite grains 40.8-44.7 -patchy, 1-3% py diss. and <0.5 cm veinlets	Entire unit may be a QFP but alteration has removed/destroyed fsp crystals
91.90 TO 103.70	«I-F TUFF,CHT» INTERMED. & FELSIC TUFF, CHT	Colour: med. to dk green grey Grain Size: fine Unit strongly sheared/faulted with moderate to strong fault gouge development from 92.1-95.1 and numerous 10-20 cm zones 95.1-103.7 Faulting disrupts continuity. Unit mainly a fine intermediate tuff sometimes with 1-3 cm dark grey soft grains and minor felsic lithic grains. Occasional up to 10 cm zones of chert - massive barren sometimes brecciated/fragmental		Strongly chloritic	Overall 2-3% fine py, locally 5-7% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Occasional fault bounded felsic screens up to 60 cm Some fault angles as follows: 97.1 m 100.5 m 100.5 m 101.7 m Bedding from chert 103.0 m	 40 20 35 30 50			
103.70 TO 110.80	«AND TUFF» ANDESITE TUFF	Colour: dark green Grain Size: fine Fairly massive, speckled, lighter green from diss. epidote some which may represent altered feldspars 107.3-110.8 -rubbly broken		Moderate diss. epidote; minor patchy quartz veining; minor patchy quartz veining; minor hematite along fracture planes	<1% py	
110.80 TO 120.40	«AND LITH T UFF» ANDESITE LITHIC TUFF	Colour: dark green Grain Size: fine to medium Characteristic gritty granular texture from abundant <1-2 mm grey, siliceous felsic lithic grains Indistinct lower contact		Moderately chloritic weak - moderate epidote	<1-2% diss. py.	
120.40 TO 126.85	«AND ASH,CH T» ANDESITE ASH/CHERT	Colour: dark green Grain Size: Fine grained, chloritic ashes, weakly foliated with occcasional up to 10 cm zones of grey chert and zones of chert fragments. Bedding measurement from chert layer and contacts fairly consistent at 55 deg to c.a.		Moderate to strongly chloritic	121.3-122.8 -5-7% py, <1% cp, diss and fine discontinuous veinlets 121.95-122.8	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		124.3-125.7 -silicified felsic tuff with chert at top and from 124.8-125.0		123.25-124.3 -quartz chloritic vein	-<1%-2% straw and dark grey sphalerite wisp and fine veinlets 123.18-123.5 -10% py, 1% cp, py diss. from 123.18-123.25; chalco associated with qtz-chlorite vein mainly along margin and associated with chlorite 124.3-124.8 -7-10% py 125.7-125.8 -10 cm coarse py-cp zone, 20-25% py, 1-2% cp	
126.85 TO 129.40	«F LAP TUFF »FELSIC LAP TUFF	Colour: light grey green Grain Size: Indistinct grey, siliceous felsic lithic frags up to 3 cm in a fine grained, grey-green matrix; weakly foliated Faulting at lower contact at 20 deg and 50 deg to c.a.		Weak sericite	<1-1% py	Decrease in alteration below AND/ASH CHT
129.40 TO 193.45	«F TUFF» FELSIC TUFF	Colour: light grey green Grain Size: fine Grey, indistinct, aphyric tuff, weakly foliated; occasional grey felsic lithic grains, becomes more granular in appearance 150-157.3 129.4-133.1 -soft, weak gouge develoed along slips 0-20 deg to c.a. 133.1-136.55 -Fault zone -strong fault goue development, crushed brecciated zones -sharp lower contact to fault zone at 10 deg to		Weak sericite	<1-1% diss. py, rare 2-3 cm coarse py stringers, locally 2-3% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		c.a. Foliation 141.8 m 157.5 m 175.0 m Lower contact	 40 45 40 25			
193.45 TO 199.20	«F LAP TUFF »FELSIC LAP TUFF	Colour: mottled light grey Grain Size: fine to coarse Indistinct grey felsic lithic fragments up to 3 cm, flattened parallel to foliation. Granular felsic lithics and rare quartz eyes in matrix. Last 2 m of unit less fragmental fine ashier appearance. Indistinct lower contact over 20 cm Foliation 40-60 deg.		Weak sericite	3-4% py, tr. cp., diss and occasional. <0.5 cm wide veinlets	
199.20 TO 206.50	«I-AND ASH, CHT» INTERMED. AND. ASH, CHERT	Colour: dark grey green Grain Size: fine Fine grained gey to dark green ashes with zones of brecciated - massive grey chert with fine white gashes. No bedding from cherts or ashes 205.1-206.5 -rubbly, soft core, minor gouge		Weak chlorite/sericite 206.35-206.45 -quartz chlorite veins	3-5% and locally 7-8% fine diss. pyrite -coarse blebs of py and cp	
206.50 TO 209.75	«I TUFF,CHT »INTERMED. TUFF, MINOR CHERT	Colour: med. grey Grain Size: fine Poorly, foliated aphyric, rubbly core, minor brecciated grey chert within unit, 20 cm fragmental barren chert at lower contact		Weak sericite	<1-1% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
209.75 TO 218.50	«AND TUFF» ANDESITE TUFF E.O.H.	Colour: medium to dark green Grain Size: fine 209.75-213.3 -up to 7% weakly epidotized feldspar crystals; granular texture, occasional grey felsic lithic grains 213.3-218.5 -no feldspar, weaker finer granular texture looking ashier below 215 m		-weak chlorite	-2-3% pyrite, trace chalcopyrite	

HOLE NUMBER: 90-298 ASSAY SHEET DATE: 5-December-1990

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		COMMENTS
14510	121.30	121.95	0.65	200	10	892	0	15														
14511	121.95	122.80	0.85	1586	0	10000	0	30	1300			1.74										
14512	122.80	123.50	0.70	4380	0	666	2	100														
14714	123.50	124.30	0.80	101	0	104	0	0														
14715	124.30	125.25	0.95	148	0	80	0	10														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16386	25.90	28.90	3.00	14.41	0.105	0.68	0.63	2.08	0.65	0.01	5.35	0.01	74.26		0.24		0.01	98.42	0.3	61	152	17	17	2	20	5
16387	57.00	60.00	3.00	13.61	0.12	2.85	0.83	2.85	1.93	0.02	3.45	0.01	71.47		0.22		0.01	97.37	0.8	32	108	4	17	1	2	5
16388	84.40	87.50	3.10	14.05	0.135	1.89	1.36	3.81	1.4	0.02	2.54	0.01	71.51		0.23		0.37	97.33	0.4	38	96	2	18	1	1	5
16389	115.00	118.00	3.00	18.3	0.045	2.87	11.18	1.07	8.11	0.33	3.4	0.08	47.39		0.77		1.31	94.86	2.1	1	55	256	12	1	131	5
16390	144.20	147.20	3.00	14.39	0.09	0.44	3.75	2	3	0.12	3.39	0.01	69.53		0.33		0.71	97.75	0.7	6	76	20	15	1	59	5
16391	175.90	178.90	3.00	13.7	0.105	0.38	5.61	2.59	3.54	0.17	1.33	0.01	67.63		0.28		2.28	97.61	1.4	1	92	151	55	1	179	5
16392	200.30	203.10	2.80	17.45	0.065	0.23	8.27	1.39	7.45	0.24	3.21	0.03	55.6		0.59		1.12	95.65	1.3	1	45	175	12	1	95	5

HOLE NUMBER: 90-299

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: Mine
NORTH: 10437.00N
EAST: 9880.00W
ELEV: 703.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -80° 0' 0"
LENGTH OF THE HOLE: 215.50m
START DEPTH: 0.00m
FINAL DEPTH: 215.50m

COLLAR GRID AZIMUTH: 180° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 16, 1990
DATE COMPLETED: October 18, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: Frontier Drilling
CASING: 12.2 m
CORE STORAGE: On site

PURPOSE: Test 262 Felsic package and an IP anomaly in an area of stringers and py cherts

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
61.00	-	-79° 0'	ACID	OK		-	-	-	-	-	
145.40	-	-74° 0'	ACID	OK		-	-	-	-	-	
215.50	-	-74° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 12.20	«OB»					
12.20 TO 84.40	«FP TUFF» FELSIC FP TUFF	Colour: speckled light-med grey Grain Size: fine <1 to 2-3 mm chalky, irregular feldspar crystals. Feldspars are finer grained at top of hole coarsening below 40 m; up to 10% fsp crystals Rare <0.5 cm creamy grey siliceous felsic lithics 78.3-84.4 -creamy, mottled coloration, fragmental lapilli tuff		Weak sericite andd weak chalky alteration of fsp crystals 80-84.4 -unit looking mmore altered (patchy) than rock up hole	Tr py 71.0-84.4 -increase in sulphide mineralization mainly as 2-3% pyrite and trace sphalerite -significant zones of mineralization as follows: 71.6-72.8 -<1% sp, tr cp, sp wispy disseminations 77.45-79.3 -<1-1% sp, locally 2-3% over 10 cm, sp wispy diss, discontinuous, mm stringers and 1 mm py-sp stringers 79.3-84.4 -<1% sphalerite and chalcopyrite conc within inter fragmental darker green clots 82.6 -2 cm white quartz vein with large red-brown sphalerite blebs	
84.40 TO 97.90	«F LAP TUFF »FELSIC LAPILLI TUFF	Colour: light grey Grain Size: fine to coarwe Streaky, flattened, fine grained felsic lithic fragments. Fragment flattened parallel to foliation at 40-50 deg to c.a. Matrix supported minor feldspar phyric zones 86.5-86.75 -cherty zone, possible cht fragments			84.4-85.5 -5% py, <1% cp, sp disseminated 85.5-97.9	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		rubbly lower contact			-2-3% py, tr-<1% sp, cp 94.2-94.3 -20% py, <1-1% cp, 5% sp in a chloritic zone adjacent to a 3 cm quartz vein	
97.90 TO 117.80	«QP TUFF»	Colour: light grey Grain Size: fine <1-5%, <1-3 mm, rarely to 6 mm subrounded quartz eyes, patchy indistinct fragmental appearance. Weakly to moderately foliated Foliations 105.0 m 116.3 m Granular QP lithic tuff in last 30 cm Sharp lower contact	 35 25 40			
117.80 TO 160.30	«F TUFF,LAP TUFF» FELSIC TUFF ,LAPILLI TUFF	Colour: light to med. grey, mottled grey Grain Size: fine Fine, moderately foliated aphyric tuff/ash with patches containing indistinctly outlined grey felsic fragment flattened parallel to foliation Patchy mottled texture, possible alteration within fragmental zones 119.2-119.35 -Fault gouge fault 137.9-138.0	 45	Weak to moderately sericitic 133.1-133.5 -quartz veining parallel to c.a.	117.8-134.55 -1-2% diss py, trace diss sphalerite -1-2% sulphide as blebs of cp and sp 134.55-138.0 -5-7% py, tr-<1% cp as fine grained disseminations	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-Fault zone 153.8-155.4 -Andesite Lithic Tuff -minor gouged lower contact 155.4-155.8 -Fault zone -kinked and distorted foliations, narrow bands of fault gouge 158.65-158.8 -Fault gouge	40 58 40 50		138.0-139.45 -3-7% py, tr cp, sp as fine disseminations and irregular x-cutting <0.5 veinlets 139.45-147.35 -2-4% py, tr sp, diss and occasional mm veinlets 147.35-151.6 -5-6% py, tr sp, cp 151.6-160.25 -1-2% py 159.97 -sp-py veinlets 160.25-160.45 -chloritic zone at edge of dyke with 15-20% pyrite	Foliations 127.2 m 35 deg 138.8 m 40 deg 143.8 m 35 deg 150.5 m 50 deg
160.30 TO 173.10	«DIORITE» DIORITE	Colour: speckled green Grain Size: medium to coarse Massive, fairly equigranular, non magnetic 171.2-173.1 -finer grained margin with felsic screens. Rubbly lower contact				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
173.10 TO 185.00	«F ASH, TUF F» FELSIC ASH TUFF	Colour: very light grey Grain Size: very fine Strong altered appearance weak pseudobx from darker grey green lines accented by fine pyrite; weakly foliated, aphyric 71.3-73.4 -Felsic Tuff which is much less altered in appearance. Chloritic altered adjacent to dyke lower contact to interval @ 73.4 Last 20 cm of unit faint layering/bedding at 40 deg to c.a. Foliation 15-25	 40	Strong bleached/altered appearance; moderate to strong silica sericite	2-4% py and tace py as fine discon-tinuous veinlets and minor disseminations	
185.00 TO 197.85	«I-AND ASH, TUFF» INTERMED. ANDESITE ASH/TUFF	Colour: med. grey green Grain Size: fine Fine, aphyric ashes to fine grained granular tuff. Fine laminated but distorted ashes from 185.0-185.8. Below 185.8 fine gritty ashes, more massive and homogeneous with weak foliation Possible bedding angle from ashes at 55 deg to ca Screens of quartz eye tuffs from 189.2-190.2 and 194.75-195.2 Lower contact gradational and marked by a gradual coarsening of grain size down hole		Weak chlorite/sericite	185.0-185.8 -<1-1% py 185.8- -3-5% fine diss. , locally 7-8%, trace chalcopyrite, minor discontinuous veinlets	Foliation 197.5 m 48 deg.
197.85 TO 215.50	«I-AND LITH TUFF» INTERMED TO ANDESITIC LITHIC TUFF	Colour: med. grey Grain Size: fine to medium Pervasive, granular texture from <1 - 1 mm Occasionally to 2 mm light to dark grey lithic grains; weak-moderately foliated accented by		Weak chlorite/sericite	3-5% diss. py, trace chalcopyrite	185.0 to E.O.H. -essentially the same unit with only grain size differences

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		weak streaky calcite				
		Foliation				
		200.5 m	40			
		207.0 m	42			
		210.5 m	45			
	E.O.H.					

				ESTIMA	ASSAYS										GEOCHEMICAL							COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		
14513	77.45	78.30	0.85	608	0	4614	0	0														
14514	78.30	79.30	1.00	692	0	4676	0.5	10														
14716	79.30	81.00	1.70	126	2	772	0	0														
14717	81.00	82.70	1.70	156	0	1606	0	0														
14718	82.70	84.40	1.70	46	0	1052	0	0														
14719	84.40	86.40	2.00	996	0	2552	0	20														
14720	86.40	88.40	2.00	442	4	612	0	15														
14721	94.10	94.40	0.30	2676	0	10000	0	50														
14515	134.55	136.20	1.65	598	0	294	0.5	50														
14516	136.20	138.00	1.80	548	4	304	0.5	50														
14517	138.00	139.45	1.45	118	36	874	0.5	80														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16393	18.00	21.00	3.00	15.35	0.075	3.05	2.86	2.24	1.77	0.06	4.13	0.01	67.21		0.34		0.21	97.3	1	26	68	32	16	1	45	5
16394	50.90	53.90	3.00	16.15	0.085	1.73	2.99	3.04	2.58	0.1	2.99	0.01	66.5		0.34		0.36	96.87	1	57	67	13	23	1	51	5
16395	81.00	84.00	3.00	13.71	0.115	1.86	2.58	2.41	2.07	0.16	3.95	0.01	68.72		0.27		1.01	96.85	1	10	107	90	23	1	1019	5
16396	111.90	114.90	3.00	13.37	0.125	0.97	2.73	3.69	4.26	0.1	0.25	0.01	70.27		0.21		0.6	96.56	0.9	1	197	5	13	1	78	5
16397	142.30	145.40	3.10	13.14	0.48	1.39	3.13	3.99	1.72	0.06	0.27	0.01	72.23		0.28		1.96	98.67	0.9	14	203	24	21	2	104	50
16398	178.60	181.60	3.00	11.12	0.12	0.45	2.61	3.35	1.34	0.03	0.18	0.01	77.2		0.14		1.41	97.96	0.5	31	117	8	19	1	28	5
16399	200.30	203.30	3.00	16.91	0.115	0.01	10.24	1.13	9.04	0.45	2.58	0.08	52.57		0.63		1.96	95.73	2.1	1	84	236	8	1	247	5

HOLE NUMBER: 90-300

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 11121.00N
EAST: 7836.00W
ELEV: 762.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 320.00m
START DEPTH: 0.00m
FINAL DEPTH: 320.00m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 17, 1990
DATE COMPLETED: October 22, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 9.1m
CORE STORAGE: ON SITE

PURPOSE: DOWNDIP TEST OF 90-290 WHICH INTERSECTED CHERTS OVER 4.8m.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
27.70	-	-74° 0'	ACID	OK		-	-	-	-	-	
75.30	-	-74° 0'	ACID	OK		-	-	-	-	-	
121.00	-	-74° 0'	ACID	OK		-	-	-	-	-	
228.00	-	-72° 0'	ACID	OK		-	-	-	-	-	
320.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
124.10	202° 0'	-73°30'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.10	«OB»					
9.10 TO 35.25	«DIORITE»	Colour: speckled med. green Grain Size: Massive, medium coarse, equigranular texture fining downhole to become feldspar porphyritic below 29 m Broken core at lower contact; possibly at	55			
35.25 TO 50.97	HETEROLITHI C VOLCANIC BRECCIA «VOLC. BX»	Colour: med. green due to epidote alteration Grain Size: c.g. Thick, bedded, massive, weakly foliated 35.25-43.20 -appears to contain abundant frags of QP, QFP, And lith tuff to 40 cm; clast supported; matrix appears to be a finely laminated to bedded ash of intermed. composition 43.20-49.35 -less alteration, fragments more distinctive; bedding in matrix is variable ranging from 28-56 deg 48.35-50.97 -much more matrix supported, <40% fragsd to 5 cm; locally ashes look cherty in matrix CAB @ 50.28	65	-intense epidote alteration, local bioitite, minor patchy silicification, minor patchy silicification 43.20-50.97 -moderate epidote alteration, common biotite development	Minor, local pyrite; local patchy and veinlets of pyrrhotite	
50.97 TO 133.10	FELSIC LAP TUFF «F LAP TUFF ,DOME»	Colour: white to very light grey Grain Size; c.g. Thick bedded, massive, weakly foliated; matrix is a qtz feldspar porphyry, 3-5% qtz eyes to 7 mm;		Intensely silicified and bleach	None	This unit will correlate with others on east side (100,102,270,106,269);

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		5% feldspars to 2 mm; 15% felsic fragments, appear to be a fine grained felsic tuff, local a QP to QFP also Possible bedding at 50.20 57.37-59.00 -Mafic dyke; intensely epidote altered; contains 5% mafic xls, strongly altered, to 4 mm, 15-20% fragments, dark grey to green, locally intensely silicified to 3 cm -below 59.00 m fragments become less distinctive, matrix takes a light green sericitic look, frags wite to light grey 87.50-89.20 -andesite crystal to lapilli tuff	55	-Intense epidote development; local well developed dark green chlorite 69.00-77.50 -minor patchy, chlorite, development; below 77.50 m feldspars are very weakly epidote altered 108.0 -very weak patchy epidote alteration, especially in the feldspar xls	-5% medium grained pyrite, patches; possibly retrograde due to alteration 85.00 -2 cm pyrite stringer 129.40 -1 cm pyrite 131.50-133.10 -1% patchy pyrite	just below the diorite body; the infamous blitzed QP unit "DOME COMPLEX" -if tops are downhole the dome complex has cooked the underlying breccia interval
133.10 TO 147.29	AND LITHIC TUFF «AND LITH T UFF»	Colour: medium green Grain Size: med. g. Thick bedded, massive; weak to moderately foliated has a very granular nature, possible felsic frags to several cm's; local epidote altered fragments to 4 cm; common quartz veining CAB @ 147.29 m	87	Intensely altered; well developed, dark green chlorite; locally in veins; weak biotite development throughtout; local epidote alteration	Minor patchy and disseminated pyrite,, trace pyrrhotite and chalcopyrite	High Zn Andesite? 147.25-147.29 -pyrite frags to 3 cm at contact with minor chalcopyrite

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
147.29 TO 195.15	FELSIC LAP TUFF «F LAP TUFF »	Colour: medium grey green Grain Size: coarse grained Thick bedded; massive, weakly foliated; Groundmass is a f.g. felsic tuff, minor qtz eyes to 1 mm; minor ghostly to clay altered feldspar xls to .5 mm; 15-20%, generally indistinct, white felsic fragments to 4 cm; <5% andesite lithic frags to 2 cm, strongly chlorite altered, locally with 5% pyrite; fragments becomme less distinct with depth to 166.0 m 170.10-170.94 -diorite, weak chill margin, lower contact 176.98-179.03 -Andesite lithic to lapilli tuff, epidized lithic fragments to 6 cm; groundmass very gritty in appearance 182.60-195.15 «FT» -predominantly a felsic lithic tuff, very granular in appearance, 5-10% rounded siliceous frags to 4 mm, rare ghostly felsic fragments to 2 cm 184.25-185.30 -80% quartz veins 190.58-190.66 -Fault, pyritic stringers	25	Moderately silicified	-Minor, disseminated, patchy pyrite 166.15-168.35 -trace, disseminated chalcopyrite -1-2% disseminated fine to medium grained pyrite	
195.15 TO 209.00	ANDESITE LI THIC TUFF «AND LITH T UFF»	Colour: dark green Grain Size: med. grained Thick bedded; massive, weakly foliated; very granular in appearance; 5-10% light green epidote alt. lithic fragments to 3 mm 205.13 -open fold F2		Well developed chlorite on foliation surfaces	1% disseminated fine grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		206.30-208.15 -Fault, strongly sheared, abundant gouge; 30% core loss				
209.00 TO 223.44	FELSIC LITH IC TUFF «F LITH TUF F»	Colour: light greenish grey Grain Size: medium grained Thick bedded, massive, weak to moderately foliated weak granular texture; up to 5% felsic grains to 3 mm 210.30-210.70 -Fault; strongly sheared, abundant gouge 214.50-214.75 -Fault; strongly sheared; abundant gouge 222.25-222.60 -sheared, minor gouge seams	 65 70 55	Weak sericite development on foliation surfaces	1-2% pyrite, disseminated to patchy	
223.44 TO 227.40	INTERMED. TUFF «INT TUFF»	Colour: med. grey, weak green cast Grain Size: fine to med. grained Moderately bedded, moderately foliated; very granular in appearance 224.60-225.27 -possible diorite "Sickerage"; lower contact 30 226.08-226.23 -diorite, Sicker Age		Weak sericite, minor chlorite developmt on foliation surface -strongly calcareous	1-2% pyrite; dissem. patches, rare stringers; local trace chalcopyrite	
227.40 TO 237.95	«INT ASH» INTERMED. ASH	Colour: light to med. grey green Grain Size: f. gr. Thick bedded, moderately foliated; core generally broken and rubbly 227.40-228.30 -strongly shear, local gouge seams at 227.40 contact	 30	Modeate to well developed sericite and minor chlorite on foliation surfaces	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		231.55-233.70 -locally moderately sheared, minor gouge seams 233.15-233.3 -moderately sheared				
237.95 TO 243.85	FELSIC TO INTERMED. ASH & CHERT «F-INT ASH, CHT»	Colour: lt. to med. grey, v. wk. green cast Grain Size: fine grained Thin to moderately bedded, weak to moderately foliated; interval locally contains minor inter-bedded chert; small scale folds throughout F1		Weak to moderate sericitie and minor chlorite development on foliation surfaces	2-3% v.f. grained, syngenetic pyrite disseminated to bedded, trace chalco-pyrite	Exhalitive pyrite
		CAB @ 238.52 m CAB @ 241.70 m	80 59			
		242.35-242.77		-strongly calcareous, 5-10%; especially associated with strongly mineralized patches	-50% medium to coarse grained pyrite; 3% chalcopyrite, medium to coarse grained	
					242.77-243.85 -3-5% pyrite, v.f. to coarse grained, minor chalcopyrite	-coarse grained pyrite, possibly in fragments
243.85 TO 250.38	INTERMED. LITHIC TUFF «I LITH TUF F»	Colour: light to med. grey green Grain Size: medium grained Thick bedded; moderately foliated; has a very granular texture		Weak to moderate sericite and minor chlorite on foliation surfaces	1-2% pyrite, medium grained, dissem, patchy; local trace chalcopyrite	
		243.85-244.98 -interval appears to have been brecciated and healed; abundant fragments of felsic material; local minor shears			-contains abundant milled sulphide material in the matrix	
		Shear @ 244.33 m	60			
		243.98-245.93 -Andesite ash to fine grained tuff		-mod. to well developed chlorite on foliation surfaces	-1-2% disseminated pyrite, trace chalcopyrite	
		245.93-250.38 -local minor F2 folds			249.05-249.48	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					-45% pyrite, med. to c. grained 1-2% chalcopyrite	
250.38 TO 299.50	ANDESITE LITH TO XTL LITHIC TUFF «AND TUFF,L ITH TUFF»	Colour: medium to dark green Grain Size: fine to med. grained Thick bedded, massive, weak to moderately foliated very granular in texture; locally up to 5% ghostly to clay alt. to epidote altered feldspar crystals to 1 mm		Moderate to well developed chlorite development on foliation surfaces	1% disseminated to patchy pyrite, local trace chalcopyrite	
		250.38-251.00 -moderate to strongly sheared				
		251.52-251.54 -Fault	30			
		257.60-258.60 -Fault -strongly sheared, abundant gouge				
					265.40-268.07 -3-5% pyrite, disseminated patchy, minor stringers, trace chalcopyrite	
		268.07-269.90 -Intermediate Tuff		-weak to moderate sericite and chlorite development on foliation surfaces; local weaky patchy silicification	-2-3% pyrite, disseminated, patchy and stringers	
					274.00-275.50 -common patchy chalcopyrite	
		281.90-284.27 -strongly sheared; local gouge				
		287.20-288.94 -Intermed. Lithic tuff to ash locally sheared with minor gouge seams; foliation highly contorted, numerous F2 folds	22	-very well developed sericite and chlorite on foliation surfaces		-may look intermediate due to intense shearing
		288.94-294.64 « And Ash LT» -Andesite Ash to lithic tuff; locally strongly sheared with abundant gouge seams		-very well developed chlorite on foliatin surfaces	-minor pyritic stringers with trace chalcopyrite	
		294.64-299.50 «FAsh, CHT» -Felsic ash with minor interbedded chert; this interval is intensely sheared; abundant gouge		-moderate to well developed sericite on foliation surfaces	-1-2% pyrite, v. fine to medium grained minor coarse grained chalcopyrite	-the very fine grained pyrite may be syngenetic

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		throughout (60% of the interval)				
299.50 TO 320.00	FELSIC TUFF «F TUFF» E.O.H.	Colour: light to medium grey, weak green cast Grain Size: medium Thick bedded, moderately foliated, very granular in texture, local ash sections, foliation locally contorted; F2 folds 299.50-302.52 -Fault, intensely sheared, 60-70% gouge; interval locally looks intermediate to Andesitic 305.84-306.00 -Fault, strongly sheared, abundant gouge 306.80-306.90 -Fault, intensely sheared, abundant gouge 310.88-314.51 «Diorite» -medium grained; massive, lower contact 20 deg and sheared 315.70-317.10 -local minor shearing and gouge 317.10-320.00 -may possibly contain minor interbedded Andesite	45	Weak to moderate chlorite development on foliation surfaces -leached, patchy silica alteration, very weak patchy epidote alteration; local hematite staining on fractures	2-3% medium to coarse grained pyrite; predominantly stringers; minor chalcopyrite	Possible intermediate

				ESTIMA				ASSAYS									GEOCHEMICAL					COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		
14526	139.30	141.14	1.84	122	18	82	0	15														
14527	141.14	142.40	1.26	386	132	118	0	0														
14528	142.40	143.35	0.95	212	6	154	0	0														
14529	166.15	167.00	0.85	136	0	82	0	0														
14530	167.00	168.35	1.35	291	12	74	0	0														
14531	223.44	224.60	1.16	22	6	134	0	0														
14532	224.60	225.27	0.67	93	6	126	0	10														
14533	225.27	226.50	1.23	355	0	118	0	0														
14534	226.50	227.40	0.90	22	0	98	0	0														
14535	237.95	239.36	1.41	47	8	76	0	0	1100													
14536	239.36	241.21	1.85	704	11	87	2.2	5	1550													
14537	241.21	242.35	1.14	208	4	110	0	0	1200													
14538	242.35	242.77	0.42	4128	328	146	2.5	100	380													
14539	242.77	243.85	1.08	71	12	114	0	15	920													
14540	243.85	244.98	1.13	294	22	160	0	0														
14541	249.05	249.48	0.43	188	130	106	0	75														
14542	298.50	299.50	1.00	47	4	68	0	0														
14543	306.90	309.20	2.30	404	4	114	2.6	5	950													
14544	309.20	310.88	1.68	233	2	160	0	0														

90-300

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm.T Ag	gm.T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au		PPm Ba	
14526	139.30	141.14														122	82		<0.5	<5			
14527	141.14	142.40														386	118		<0.5	<5			
14528	142.40	143.35														212	154		<0.5	<5			
14529	166.15	167.00														136	82		<0.5	<5			
14530	167.00	168.35														291	74		<0.5	<5			
14531	223.44	224.60														22	134		<0.5	<5			
14532	224.60	225.27														93	126		<0.5	10			
14533	225.27	226.50														355	118		<0.5	<5			
14534	226.50	227.40														22	98		<0.5	<5			
14535	237.95	239.36					Ba					1.41m	66.27	107.16		47	76		<0.5	<5		1100	
14536	239.36	241.21					ICP Sample → Minerl					1.85m	1302.40	160.95		704	87	11	2.2	5			
14537	241.21	242.35										1.14	237.12	125.40		208	110		<0.5	<5		1200	
14538	242.35	242.77						Assay Copper				0.42	1734.60	61.32		4130	146	328	2.5	100		380	
14539	242.77	243.85										1.08	76.68	123.12		71	114		<0.5	15		920	
14540	243.85	244.98										5.90	579	98 1.13		294	160	22	<0.5	<5			
14541	249.05	249.48												0.43		188	106	130	<0.5	75			
														1.56									

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16426	37.50	40.50	3.00	17.45	0.015	18	12.29	0.34	4.04	0.46	0.01	0.12	42.4		0.64		0.46	96.22	3.3	1	17	533	23	1	66	5
16427	75.29	78.29	3.00	15.51	0.075	1.75	0.75	3.18	0.94	0.01	4.09	0.01	71.44		0.25		0.1	98.1	0.4	46	94	21	18	1	8	5
16428	105.80	108.80	3.00	13.71	0.12	3.38	2.78	3.94	1.52	0.03	2.14	0.01	69.83		0.22		0.02	97.7	0.9	10	64	6	10	1	18	5
16429	136.20	139.20	3.00	17.8	0.095	7.41	8.17	3.38	3.41	0.11	3.16	0.23	51.99		0.54		0.14	96.45	2	1	145	39	8	1	52	5
16430	159.60	162.60	3.00	14.48	0.24	1.76	3.5	2.6	2.55	0.09	2.89	0.01	68.21		0.31		1.03	97.65	0.8	1	280	119	9	1	53	5
16431	188.00	191.00	3.00	14.65	0.175	0.09	3.67	2.98	2.47	0.16	2.74	0.01	69.56		0.3		1.25	98.03	1	17	185	47	13	1	88	5
16432	197.20	200.20	3.00	17.85	0.1	2.16	6.86	1.92	3.68	0.34	4.4	0.21	58.8		0.34		0.03	96.69	1.2	1	122	7	18	1	202	5
16433	233.50	236.50	3.00	17.15	0.115	3.22	7.64	2.44	5.26	0.32	1.97	0.15	54.37		0.57		0.59	93.81	2.2	1	77	35	7	1	134	5
14536	239.36	241.21	1.85	16.31	0.155	1.06	8.54	2.45	5.2	0.21	1.58	0.07	58.22		0.5		1.57	95.88	2.2	1	257	704	11	1	87	5
16434	246.00	249.00	3.00	15.82	0.135	0.11	7.45	2.66	6.09	0.15	1.49	0.01	59.39		0.56		1.86	95.72	2	1	190	380	4	1	80	10
16435	259.00	262.00	3.00	16.04	0.015	2.31	8.66	0.21	8.57	0.24	3.34	0.05	53.84		0.54		0.54	94.35	2.7	1	29	286	4	1	89	10
16436	278.90	281.90	3.00	15.38	0.015	2.27	10.47	0.21	8.02	0.23	3	0.05	53.23		0.51		1.49	94.88	2.2	1	40	93	4	1	79	5
14543	306.90	309.20	2.30	16.25	0.095	0.41	9.09	2.02	7.41	0.22	2.03	0.09	54.88		0.57		2.36	95.42	2.6	1	119	404	4	1	114	5

HOLE NUMBER: 90-301

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 10548.00N
EAST: 9880.00W
ELEV: 731.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -77° 0' 0"
LENGTH OF THE HOLE: 185.00m
START DEPTH: 0.00m
FINAL DEPTH: 185.00m

COLLAR GRID AZIMUTH: 182° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 210° 0' 0"

DATE STARTED: October 18, 1990
DATE COMPLETED: October 19, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 10.4m
CORE STORAGE: ON SITE.

PURPOSE: TEST 262 FELSICS IN AN AREA OF STRINGER MINERALIZATION.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
61.00	-	-79° 0'	ACID	OK		-	-	-	-	-	
185.00	-	-80° 0'	ACID	OK		-	-	-	-	-	
151.50	216° 0'	-80°30'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 10.40	«OB»					
10.40 TO 22.65	«M DYKE» MAFIC DYKE	Colour: dark green Grain Size: f.gr. Foliated fine grained dyke, patchy granular texture with calcareous siliceous grains Foliation < 20 deg to c.a. 13.0-14.0 -screeend of grey, sericitic felsic tuff Last 1.5 m of unit finer grained with 5 cm qtz veining at contact		Minor qtz veinlets parallel to foliation		
22.65 TO 30.85	FELSIC ASH «F ASH»	Colour: light grey Grain Size: Fine grained aphyric ash, no bedding, poorly developed foliation Faulted lower contact	28	Moderately sericitic, minor <1 cm qtz veinlets	<1% py as <mm veinlet; trace sp and gn within qtz veinlets 25.2 -3 cm sph, ga, py; siliceous stringer	
30.85 TO 38.25	FELSIC LAP TUFF «F LAP TUFF »	Colour: light green grey Grain Size: Very indistinct grey felsic fragments with fine flattened green wisps; frag outlines very difficult to see, possibly frag supporte; weakly foliated 34.1-34.2 36.7-36.9 -fault zone		Weak sericite	Trace py	
38.25 TO 42.10	FELSIC ASH, TUFF «F ASH, TUF F»	Colour: light grey Grain Size: f.gr. Weakly foliated, aphyric, minor granular zones		Moderately sericitic	1% diss. py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		39.6-42.1 -moderate to strong iron oxide staining of rock				
42.10 TO 51.80	FAULT ZONE «FAULT»	Colour: med. green Grain Size: f.g. Strong fine milled granular texture with up to 3-4 cm remnant rock fragments; strongest milled zones anastamose through core roughly parallel to c.a. -10-20 cm zones of soft clay gouge host rock - felsics				Healed Fault zone, synvolcanic?
51.80 TO 72.20	FELSIC TUFF «F TUFF»	Colour: light grey green Grain Size: f.gr. Weakly foliated, aphyric patchy weak granular texture - felsic grains and possibly fsp grains; 59.5-67 -weak, mottled fragmental texture Fault gouge or crushed zones@ 54.45 57.8 68.4 68.6 69.5			<1% py	
72.20 TO 111.00	FELSIC LITHIC TUFF «F LITH TUF F»	Colour: light grey green Grain Size: f.gr. Fine, granular texture from <1-1 mm grey siliceous grains and calc altered whitish feldspar grains; lighter grey mottled fragmental texture from felsic and FP fragments Below 80 m -weakly foliated @ 40-45 deg		Weak sericite	<1-2% diss. fine pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		88.5-95.4 -Fault zones; numerous dark gougy zones; dark grey pyritic sheared zones and crushed milled zones 93.45-93.8 -grey, green barren chert fragments Below 99.5 -coarser granular texture, stronger diss and streaky calcite, greener color; occasional distinct <1-2 cm felsic lithics 100.6-103.0 -Fault zone, moderate fault gouge development; distorted foliations, crushed zones			102.7-111.0 -2-7% diss. pyrite 108.0 -5 cm qtz vein with 5 mm wide stringery reddish and grey sphalerite	
111.00 TO 112.20	CHERT, SILICEOUS ASH «CHT, SIL ASH»	Colour: med. to dark grey Grain Size: f.gr. 111.0-111.6 -grey, barren chert fragments, brecciated layers within a fine pyrite rich ash matrix Possibly bedding 111.6-111.9 -coarser tuff, lithic tuff 111.9-112.2 -massive silicified ash	40		-5-10% v.f.gr. pyrite within matrix 111.6-112.2 -2-3% py	
112.20 TO 117.80	FELSIC LITHIC TUFF «F LITH TUFF»	Colour: light to med. grey Grain Size: f. to m. grained Weak, granular texture to weakly fragmental with patchy well defined grey felsic fragments		Moderately silicified	2-3% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
117.80 TO 179.90	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: dark grey green Grain Size: f. to m. grained Fine speckled granular texture from whitish grey siliceous grains with minor calcite occasionally to 4 mm and <1 mm dark translucent grains in a green v.f. grained soft matrix. Weakly streaked/foliated at shallow angles to c.a. some streaking due to streakly calcite 127.5 m possible bedding Foliation 122.4 m 123.8 m 136.0 m Foliation decreases and unit becomes more massive below 140 m 166.3-167.8 -5% faint, weakly epidotized feldspar crystals	 35 10 25 20	Weakly chloritic, decreasing below 140 m	<1-1% pyrite 172.8-179.9 -1-3% coarse brassy py disseminations up to 6 mm	
179.90 TO 185.00	«DIORITE» E.O.H.	Colour: speckled green Grain Size: fine to med. Massive, feldspar porphyritic, nonmagnetic				

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		COMMENTS
14518	111.00	111.60	0.60	66	4	166	0	25	1800													
14519	111.60	112.20	0.60	62	6	190	0	25	1620													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16400	16.50	19.00	2.50	16.9	0.095	8.74	5.93	3.15	1.81	0.17	2.52	0.21	54.49		0.4		0.05	94.47	1.5	3	80	25	13	1	59	5
16401	25.50	28.50	3.00	15.52	0.12	2.74	2.27	4.53	0.99	0.08	0.43	0.01	69.92		0.33		0.66	97.6	0.9	33	88	44	41	1	158	5
16402	58.00	61.00	3.00	14.46	0.075	3.84	2.46	2.52	1.59	0.08	3.18	0.01	70.08		0.28		0.05	98.62	1	6	132	31	15	1	40	5
16403	86.00	88.70	2.70	14.6	0.105	0.95	4.67	2.68	3.26	0.12	2.04	0.01	67.28		0.28		1.74	97.72	0.8	3	92	71	19	1	108	5
16404	113.00	116.00	3.00	15.07	0.085	2.25	4.37	1.57	3.88	0.21	4.38	0.01	63.58		0.36		0.98	96.74	1.1	1	95	102	8	1	335	10
16405	124.10	127.10	3.00	15.64	0.05	4.23	9.13	0.93	8.43	0.27	2.52	0.06	52.02		0.63		0.71	94.61	1.6	1	73	237	15	1	269	5
16406	154.50	157.60	3.10	17.17	0.035	5.23	8.48	0.74	6.31	0.25	5.05	0.13	51.43		0.66		0.63	96.11	2.6	1	39	134	8	1	131	5

HOLE NUMBER: 90-302

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 10494.00N
EAST: 10100.00W
ELEV: 703.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -74° 0' 0"
LENGTH OF THE HOLE: 182.00m
START DEPTH: 0.00m
FINAL DEPTH: 182.00m

COLLAR GRID AZIMUTH: 185° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 213° 0' 0"

DATE STARTED: October 20, 1990
DATE COMPLETED: October 21, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 24.4m
CORE STORAGE: ON SITE

PURPOSE: TEST 262 FELSIC PACKAGE

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
25.60	-	-73° 0'	ACID	OK		-	-	-	-	-	
89.30	-	-71° 0'	ACID	OK		-	-	-	-	-	
172.80	-	-68° 0'	ACID		poor etch	-	-	-	-	-	
61.00	213° 0'	-72° 0'	SING.SHOT	OK		-	-	-	-	-	
179.80	221° 0'	-68°30'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 24.30	«OB»					
24.30 TO 46.60	FELSIC TUFF «F TUFF»	Colour: light grey and green Grain Size: f.gr. Weakly foliated, patchy <1-3% carbonate altered chalky feldspars, occasional distinct frags, very rare mm quartz eyes Rubbly core with numerous crushed gougy zones 45.2-46.6 -dark green chloritic ash, minor qtz and veining and fault gouge at lower contact Foliation 28.0 m 40.0 m	 30 30	26.7-27.1 -dolomite quartz chlorite veining	Trace py	
46.60 TO 63.40	FELSIC TUFF FLOW? «F TUFF,FLOW?»	Colour: very light grey Grain Size: f.gr. Weakly foliated, pervasive, weak, silicified, fine green wispy to mottled texture from very fine irregular green wisps to patches 47.8 -weak fragmental appearance Fault gouge zones @ 50.2, 51.2, 53.5, 60.1 48.1-49.3 -irregular, darker grey, siliceous veining/stock-work Lower contact -minor shearing and fault gouge	 40	Bleached appearance, silicified weak sericite	Tr. py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
63.40 TO 66.90	FELSIC LITH IC TUFF «F LITH TUF F»	Colour: light to med. green Grain Size: f. to m. grained Weakly foliated, granular texture from 3-5%, creamy grey siliceous grains, possible fsp with calcite, and grey siliceous felsic grains without calcite up to 2 mm 65.2 -8 cm fault gouge @ Faulted rubbly lower contact @	 35 20		<1% py	
66.90 TO 76.60	FELSIC TUFF «F TUFF»	Colour: light grey Grain Size: f.gr. Weakly foliated, much finer grained than previous unit with <1-2%, <1 mm grey siliceous grains, some possibly fsp and rare quartz eyes Top of unit streaky green, mottled green like texture in unit from 46.6-63.4			<1% py 75.6-76.1 -trace, wispy, straw coloured sphalerite	
76.60 TO 90.75	FELSIC LITH TUFF, LAP TUFF «F LITH T, LAP T»	Colour: light greenish grey Grain Size: f. to c. gr. Similar to previous lithic tuff. Pervasive granular texture from chalky grey white grains with calcite and grey lithic grains; some grains probably feldspars Coarse granular texture below 85.1 m becoming fragmental below 87 m; layering from flattening of fragments at 40-45 deg to c.a.		Weak sericite increasing below 85 m	76.6-87.0 -<1-1% diss. py 87.0-88.7 -2-3% diss. pyrite 88.7-89.6 -2-5% pyrite, interfragmental, trace sphalerite, galena and chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Sharp but faint lower contact	45		within 0.5 cm qtz vein at 88.7 m 89.3-89.6 -trace, wispy sphalerite	
90.75 TO 96.00	INTERMED ASH «PY INT ASH »	Colour: med. grey green Grain Size: f.gr. Well foliated, minor streaky white carbonate at top of unit, aphyric Foliation 45-50 deg to c.a. Lower contact marked by colour change		Moderate-strongly sericitic	7-8% very fine grained disseminated pyrite and rare 1-2 mm wide veinlets x-cutting and parallel to foliation; trace very fine grained disseminated sphalerite and chalcopyrite	
96.00 TO 110.55	FELSIC TUFF «F TUFF»	Colour: light creamy grey Grain Size: f.gr. Fine granular texture but not as coarse or as distinctive as previous lithic tuffs; stronger alteration masking gritty appearance		Moderately sericitic Below 108 -stronger altered appearance	5% fine diss. pyrite 108.2 -mm wide sp-gn veinlet 108.3-110.55 -5-7% py, minor py veinlets	
110.55 TO 116.30	INTERMED ASH «INT ASH»	Colour: med. grey Grain Size: f.gr. Weakly foliated, fine aphyric ashes to v.f. granular coarser ash Foliation -50-60 deg to c.a.		Moderately sericitic	5% fine diss. pyrite, rare veinlets 111.75-112.4 -7-10% py, finely disseminated and as irregular siliceous veinlets; <1% sphalerite and trace chalcopyrite within veinlets	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
116.30 TO 136.90	FELSIC TUFF «F TUFF»	Colour: light grey Grain Size: f.gr. Weak-moderately foliated, aphyric 128.8 -20 cm fault gouge -fault 131.5-133.0 -interval over which foliations swing from 45-55 deg up hole to 0-20 deg downhole	 35	Moderately sericitic becoming strongly sericitic below 131.5 - stronger bleached appearance	3-5% fine diss. pyrite 120.65-120.85 -siliceous zones with 10-20% fine diss py and trace sphalerite 127.8-128.2 -minor qtz-py-sp-cp veinlets 128.1 -large bleb of sp-cp and trace arseno-pyrite or stibnite 129.9-130.0 -py-sp stringer mineralization 10% py, <1% sp	
136.90 TO 158.80	INTERMED TUFF «INT TUFF»	Colour: med. grey Grain Size: f.gr. Fine, gritty, granular texture, rare indistinct fragments Foliation <20% to 139 m steepening to 40-50 deg to 152 cm then steepening to 70 deg to end of unit		Weak-moderate sericite	136.9-143.1 -7-10% fine diss. pyrite, trace chalcopyrite 137.2-137.45 -py-cp-sp stringers at 20 deg to c.a. and from 142.8-142.9 143.1-158.8 -3-4% diss. py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
158.80 TO 182.00	ANDESITE TUFF «AND TUFF»	Colour: dark green Grain Size: f. - m. gr. Unit ranges fromm fine grained aphyric tuffs to feldspar crystal tuffsd and granular lithic tuffs		Moderately chloritic; epidote alteration of feldspar crystals	1-2% py	
		Foliations gradually decreasing downhole to 175 m then steepening back to 40-60 deg				
		Foliations				
		159 m	70			
		162 m	40			
		166.5 m	30			
		171.6 m	20			
		179 m	45			
		169.8-172.2 -Intermed. TUff, mod sericite faulted lower contact	45			
		172.2-173.3 -light grey felsic tuff				
	E.O.H.					

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	ASSAYS Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	GEOCHEMICAL Ba %	SG SG	NSR NSR	Sul %		COMMENTS
14520	90.75	92.50	1.75	283	28	470	0	40	1280													
14521	92.50	94.25	1.75	151	0	718	0	15	1500													
14522	94.25	96.00	1.75	117	12	508	0	35	1660													
14523	111.60	112.40	0.80	202	62	638	0.5	105														
14524	120.50	121.10	0.60	134	106	356	0.5	155														
14525	127.70	128.30	0.60	158	320	1052	1.5	145														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16407	26.50	29.50	3.00	14.7	0.085	5	3.02	2.83	1.79	0.08	2.7	0.01	65.77		0.29		0.36	96.62	1.2	50	73	27	8	1	45	5
16408	55.80	58.80	3.00	14.42	0.075	3.66	2.05	2.41	1.24	0.08	3.62	0.01	68.5		0.32		0.17	96.54	1	55	72	9	19	1	33	5
16409	84.40	87.50	3.10	14.78	0.08	2.02	2.63	3.5	2.07	0.12	2.22	0.01	67.91		0.29		0.61	96.22	1.2	67	78	54	179	1	286	5
16410	106.70	109.70	3.00	15.19	0.3	0.58	5.09	4.48	3.79	0.09	0.08	0.01	64.98		0.43		2.51	97.52	0.7	10	264	66	43	1	191	10
16411	122.20	125.30	3.10	15.23	0.245	0.52	3.56	3.88	3.64	0.08	0.96	0.01	67.27		0.35		1.55	97.29	0.9	24	206	13	24	1	132	5
16412	139.30	142.30	3.00	18.09	0.18	0.01	8.79	3.05	6.05	0.21	2.48	0.1	52.99		0.68		3.32	95.96	2.7	1	126	610	8	1	791	10
16413	163.70	166.70	3.00	15.62	0.09	0.55	10.08	1.31	9.87	0.42	1.38	0.08	52.52		0.64		1.61	94.16	2.7	1	66	240	8	1	484	5

HOLE NUMBER: 90-303

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 10808.00N
EAST: 10590.00W
ELEV: 700.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -51° 0' 0"
LENGTH OF THE HOLE: 263.00m
START DEPTH: 0.00m
FINAL DEPTH: 263.00m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 21, 1990
DATE COMPLETED: October 24, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 9.1m
CORE STORAGE: ON SITE

PURPOSE: TEST VLF/IP ANOMALY ASSOCIATED WITH ALTERED ANDESITE/FELSIC CONTACT.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
163.70	-	-48° 0'	ACID	OK		-	-	-	-	-	
227.70	-	-48° 0'	ACID	OK		-	-	-	-	-	
253.90	212° 0'	-50°30'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.10	«OB»					
9.10 TO 27.75	«QP TUFF»	Colour: light to med. green, creamy, mottled green Grain Size: f. - m. gr. Up to 7% average 3-4%, 1-2 mm and up to 4 mm qtz eyes 9.1-17.4 -coarsest qtz eyes and stronger granular texture with streaky calcite Below 17.4 m -qtz eyes decreases in size and abundance Dark green, fine grained chloritic, streaky calcite, mafic dykes from 11.8-12.15 upper contact 20.8-21.55 lower contact 26.85-27.75 upper contact foliated @ 50 deg 17.6-19.2 24.25-24.5 -clay gouge fault zones Foliations 11.6 m 14.6 m 25.0 m 22.55-24.25 -Andesite Lithic Tuff, fine granular texture with translucent grains, rare qtz eyes	 50 45 75 48 60 45	Weak sericite -moderate chlorite epidote alteration		
27.75 TO 46.65	FELSIC LAP TUFF «F LAP TUFF »	Colour: mottled, creamy green Grain Size: Streaky, mottled creamy green colour, giving a fragmental appearance, some definite distinctly outlined fragments; qtz eye content greatly decreases <1-1% creamy frags in a med-dark green		Weak sericite		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		matrix; frag supported very dark green wisp = fiamme; downhole unit creamy color with dark green wispy frags (fiamme) Foliation 31.3 m 44.0 m	 50 55			
46.65 TO 49.70	AND & FELSIC TUFF «AND & F TU FF»	Colour: med. green, light grey Grain Size: f.gr. 46.65-48.25 -Andesite tuff; streaky chlorite calcite at top of unit. Moderate thermal cooked appearance 48.25 -contact 48.25-49.7 -light grey, silicified cooked appearance	70	Minor qtz +/- chlorite veining	Nil	
49.70 TO 53.10	«DIORITE»	Colour: med. green Grain Size: f.gr. Weakly, foliated margins, feldspar porphyritic, 2-3%, 1-2 mm feldspar crystals in a fine grained green aphyric groundmass				
53.10 TO 60.00	FELSIC TUFF «F TUFF»	Colour: light beige grey Grain Size: f.gr. Strong, pervasive, silicified, thermally altered appearance; weak layered/foliated?; breakage @ <20 deg to c.a.; possibly some fragments present		Strongly silicified, minor biotite	Trace pyrite	
60.00 TO 66.00	ANDESITE TUFF, LAP TUFF? «AND TUFF,L AP TUFF?»	Colour: brownish green Grain Size: f.gr. Strong, silicified thermal overprint; weak layered foliated appearance @ 40 deg to c.a.; fragmental		Strongly silicified, minor biotite and chlorite		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		texture from coarse granular frags, finer wispy frags, possible felsic frags; frags up to 10 cm Zones of granular lithic tuffs and possible xtl tuffs with a biotitic groundmass and zones of f. grained silicified tuffs/ashes and possible cherts lower contact	20			
66.00 TO 102.00	«DIORITE»	Colour: med. to dark green Grain Size: f. - m. gr. Feldspar porphyritic up to 7-10% fsp phenocrysts; zones of finer grained aphyric and foliated dyke 72.0-73.35 -screen of felsic tuff with 40 cm barren grey massive chert at top of interval 75.3-82.9 -coarser, massive, more equigranular texture 102.0 -sharp lower contact	60			
102.00 TO 110.00	«AND TUFF» ANDESITE TUFF	Colour: med. green Grain Size: f.gr. Zones of strongly epidotized fsp crystals with rare blocks of felsics and epidotized frags becoming a finer grained tuff towards end of unit Lower contact 55-60 deg		Moderate to strong epidote, weak chlorite 102.0-104.4 -fairly pervasive epidote, weak chlorite	<1-1% pyrite, trace chalcopyrite	
110.00 TO 126.70	«DIORITE»	Colour: med. green Grain Size: f.gr. Massive, feldspar porphyritic, up ot 5% fsp phenocrysts		Minor qtz carbonate and epidote veining		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		lower contact	35			
126.70 TO 157.45	ANDESITE LAPILLI TUFF «AND LAP TU FF»	Colour: mottled med. creamy green Grain Size: f. to c. Mainly mafic type fragments but variable in appearance; frag. compositions varies from creamy green with fine green wisps and coarser green altered mafic minerals, green epidotized frags, green mafic phenocryst porphyritic, rare possible felsic frags and dark green fiamme? 147.1 -unique mafic fragment with pyroxene-amphibole phenocrysts up to 5 mm; fragments mainly sub-rounded, some though, very irregular; minor fsp and altered mafic crystals within matrix		Weak to moderate epidote alteration of frags and feldspar and mafic crystals; epidote veining at top of unit	126.7-140.85 -1-3% diss. pyrite and rare <0.5 cm veinlets 140.85-157.45 -pyrite rich zone, up to 10% dissem. pyrite 140.85-144.2 -7-10% diss. interfingered pyrite 144.2-146.4 -1-3% pyrite 146.4-151.5 -7-8% diss. pyrite 151.5-155.3 -<1-2% pyrite 152.3-153.15 -3-5% pyrite 155.3-157.45 -5-7% diss. pyrite	140.85-157.45 -explains IP anomaly
157.45 TO 164.30	ANDESITE XTAL TUFF «AND XLT TU FF»	Colour: pale green Grain Size: fine to medium 157.45-164.3 -dark green, weakly foliated, minor streaky calcite, aphyric; possible dyke? with sharp lower contact			<1-2% py	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		159.0-164.0 -pervasive epidote masking primary textures; can see faint epidotized feldspar crystals in a pervasive epidote silica matrix Contact 164.3 m	 40	159.4-164.1 -pervasive strong to intense epidote, weak qtz-chlorite veining		
164.30 TO 198.25	«DIORITE»	Colour: med. green Grain Size: f.gr. Feldspar porphyritic abundnat whitish microlites		Minor qtz +/- chlorite +/- carbonate veining	Trace py associated with qtz veining	
198.25 TO 205.15	ANDESITE LAP TUFF «AND LAP TU FF»	Colour: Grain Size: Pale, speckled, grey green streaky, poorly outlined frags (mafic?), occasional dark green chloritic wispy fiamme and rounded epidote +/- silica and chlorite balls Streaking of fragments at 35-40 deg to c.a. Overall unit is fining downhole Below 204.0 -finer grained aphyric tuffs and minor barren green massive chert Foliation - weak	 48	Weak - moderate epidote	<1% py, diss and rare veinlets	
205.15 TO 226.75	ANDESITE CRYSTAL LITHIC TUFF «AND XLT,LI TH TUFF»	Colour: speckled med. green Grain Size: c.gr. Strong, coarse granular texture from grey felsic lithic grains; green epiodotized grains, dark green mafic crystals (pyroxene) and dark grey semi-translucent grains (feldspars and felsics?) in a chloritic and epidote altered matrix; massive Minor shearing in last 10 cm with sharp lower		Moderate chlorite and epidote alteration of matrix; minor qtz veining	205.15-207.55	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		contact	30		-5-7% diss pyrite 207.55-226.75 -<1-2% pyrite	
226.75 TO 236.80	FELSIC TUFF «F TUFF»	Colour: v. light creamy tan grey Grain Size: Fairly massive, strong bleached, siliceous grains and fine light green epidote grains (fsp?) Possible fragmental towards base of unit 231.1-231.5 -screen of andesite crystal tuff with up to 5 mm pyroxene crystals 50 cm fault zone at lower contact with fault gouge zones at 35-40 deg to c.a.		Strong bleached silicified appearance masking primary features; weak epidote alteration of grains (fsp)	<1% diss. py; trace possible s sphalerite as <1 mm dark grey grains	
236.80 TO 250.65	FELSIC TO ANDESITIC LAP TUFF «F-AND LAP TUFF»	Colour: medium green, creamy green tuff Grain Size: f.gr. Weak, streaky mottled pseudo-fragmental texture; occasional distinctly outlined creamy felsic fragments and Andesitic blocks up to 50 cm; Composition of rock questionable, some zones, grey felsic appearance, other grey green and more mafic looking 246.75-250.35 -up to 10% creamy white feldspar crystals Indistinct lower contact		Strongly silicified, weak epidote; has a weak thermally altered appearance	<1-5% fine diss. py and trace of fine diss. po and cp	
250.65 TO 263.00	FELSIC LAP TUFF «F LAP TUFF » E.O.H.	Colour: mottled creamy grey Grain Size: f.gr. Strong mottled pseudofragmental texture; some distinctly outlined, creamy felsic frags		Strongly silicified	<1% py	Is mottled texture primary or alteration??

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		COMMENTS
14551	140.85	142.50	1.65	10	6	70	0	10														
14552	142.50	144.20	1.70	12	2	72	0	15														
14553	144.20	146.40	2.20	19	2	54	0	0														
14554	146.40	148.10	1.70	52	2	94	0.2	5	90													
14555	148.10	149.80	1.70	36	2	60	0	0														
14556	149.80	151.50	1.70	75	2	66	0	0														
14557	155.30	157.45	2.15	58	8	54	0	0														
14558	205.15	206.30	1.15	12	0	36	0	0														
14559	206.30	207.55	1.25	15	4	40	0	0														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16414	11.30	14.30	3.00	13.75	0.08	3.77	2.29	2.99	1.6	0.06	1.77	0.01	68.49		0.21		0.19	95.2	1.9	17	74	4	33	1	52	5
16415	39.60	42.60	3.00	13.43	0.085	4.71	2.52	1.55	1.44	0.03	4.19	0.01	67.48		0.31		0.02	95.75	1.6	26	96	8	27	1	22	5
16416	56.70	59.70	3.00	12.76	0.13	4.09	1.89	2.62	0.94	0.02	2.42	0.01	71.67		0.14		0.02	96.71	1.5	31	164	5	26	1	20	5
16417	61.90	64.90	3.00	13.68	0.07	8.01	6.15	1.73	4.17	0.1	2.73	0.08	57.45		0.72		0.05	94.94	3.2	1	131	62	13	1	55	10
16418	133.20	136.20	3.00	17.06	0.045	11.68	9.77	1.25	3.63	0.15	2.96	0.35	44.39		0.73		0.43	92.44	3	1	59	30	10	1	56	5
16419	212.40	215.40	3.00	18.2	0.02	13.11	11.03	0.6	4.26	0.14	3.86	0.2	41.51		0.88		1.3	95.11	3.5	1	25	93	6	1	52	5
16420	230.70	233.70	3.00	14.33	0.075	3.08	1.12	1.96	1.26	0.02	5.45	0.01	69.76		0.32		0.31	97.68	1.9	18	89	5	27	1	7	5
16421	239.90	242.90	3.00	15.14	0.075	6.28	3.7	2.15	2.43	0.05	4.23	0.01	61.69		0.4		0.27	96.42	2.4	1	74	33	17	1	25	5
16422	253.90	256.90	3.00	14.61	0.06	5.98	1.44	1.93	1.99	0.03	4.27	0.01	65.21		0.3		0.02	95.82	2.3	1	77	3	21	1	16	10

HOLE NUMBER: 90-304

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13 W

PLOTTING COORDS GRID: MINE
NORTH: 11068.00N
EAST: 8100.00W
ELEV: 744.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -66° 0' 0"
LENGTH OF THE HOLE: 289.26m
START DEPTH: 0.00m
FINAL DEPTH: 289.26m

COLLAR GRID AZIMUTH: 180° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 22, 1990
DATE COMPLETED: October 25, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 20.10m
CORE STORAGE: ON SITE

PURPOSE: DOWNDIP TEST OF 90-276 WITH 1.44% Cu, 373 ppm Pb, 378 ppm Zn, 4.28 ppm Ag, 141 ppb Au over 1.68m.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
32.60	-	-66° 0'	ACID	OK		-	-	-	-	-	
72.20	-	-66° 0'	ACID	OK		-	-	-	-	-	
121.00	-	-66° 0'	ACID	OK		-	-	-	-	-	
236.00	-	-68° 0'	ACID	OK		-	-	-	-	-	
282.00	-	-68° 0'	ACID	OK		-	-	-	-	-	
156.00	209° 0'	-67° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 20.10	«OB»					
20.10 TO 28.97	HETEROLITH BRECCIA «HET BX»	Colour: white to medium green Grain Size: c.gr. Very thin to thickly bedded; weakly foliated; this is a sequence of fine ashes to cherts; interbedded with lapilli intervals; local large andesitic (5 cm) fragments and QP, QFP fragments (to possibly 40 cm) scattered throughout; frags generally very indistinct throughout CAB @ 26.20 m Felsic fragments more common towards the base of the interval CAB 28.80 m CAB 28.96 m	 55 50 45	Intensely silicified, bleached, lapilli commonly epidote altered, also mafic ash interbeds; local hematite staining on fracture surfaces	Trace pyrite, local minor chalcopyrite and pyrrhotite	Same as tthe interval between 35.25-50.97 m in Hole 90-300; appears to have fewer larger fragments; top up hole; "Fourth Lake Formation"? Very similar to Footwall Dome Rock in Hole 12
28.97 TO 108.40	FELSIC LAP TUFF «F LAP TUFF -DOME?»	Colour: white to v. light grey Grain Size: c.gr. Thick bedded; massive; weakly foliated; massive; interval is a QFP, hard to distinguish frags from matrix; generally up ot 105 QE to 6 mm, locally patches that are fsp porphyritic with 15-20% fsp to 1 mm; (are these frags or matrix?); local sericitic patches, possibly matrix 32.70-33.15 -possibly a strongly altered felsic dyke, diorite? 56.86-+57.33 -diorite?; fine to medium grained; local shearing and gouge 64.08-64.74 -possible diorite dyke? andesite?		Very intense bleaching and silicification; fsp localy epidized 50.40-52.20 -fsp strongly epidote altered; local epidized fragments ot 1.5 cm; local hematite staining on fracture surfaces	Rare pyritic stringers with trace chalcopyrite; local patches of a metallic silver grey mineral; matted; arsenopyrite?	Flow, Dome Complex; a massive QF to QFP interval -may have been a weak mafic component in this interval

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		67.80-68.30 -possible diorite dyke? andesite?; core v. rubbly minor gouge 68.30-70.50 -core very rubbly 72.42-73.00 -core very rubbly; minor hematite staining on fracture surfaces 76.00-99.60 -10-15% fsp throughout; 5-10% QE to 1 cm, blue grey in colour 80.10-81.00 -fault, 90% core loss, gouge 84.82-87.70 -possible diorite? 90.69-90.90 -80% diorite 94.83-+95.08 -possible diorite 105.13-108.40 -locally strongly chloritic; abundant epidized fsp and fragments? patchy silicification; abundant qtz eyes		76.00-105.13 -weak to moderate chloritic and epidote alteration; interval more dark grey in colour -intense carbonate development; minor hematite on fractures		
108.40 TO 129.20	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: f. to m.gr. Thick bedded, massive, weakly foliated, very granular in texture; locally appears to be fsp pheric; local epidote altered lithic frags, 4 mm to 3 cm 124.95-127.53 -very granular -sharp contact @ 127.53 m -chill margin?	65	Pervasive chlorite, epidote and biotite alteration; patchy silica alteration; (rare qtz eyes) -strongly calcareous	Local trace pyrite; local patchy pyrrhotite and chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		127.53-129.20 -very fine grained, ash?, possible diorite		-strongly chloritic		
129.20 TO 144.22	FELSIC LITH TO LAP TUFF «F LITH,LAP TUFF»	Colour: white to v. light grey Grain Size: c.gr. Moderately bedded; weakly foliated; frags more intensely bleached and silicified, QP, possibly up to 20 cm; very weak outlines, diffuse, matrix is a fine grained felsic tuff		Strongly silicified and patchy bleaching	2-3% pyrite, disseminated to stringers, trace chalcopyrite; felsic matrix locally contains abundant v. fine grained pyrite "syngenetic"	
		129.80-130.69 -andesitic ash to lithic tuff				
		130.69-133.19 -diorite, sharp upper contact @	35	-strongly calcareous		
		135.73-135.86 -felsic ash interbed; bedding @	30			
		136.27-136.73 -andesitic interbed, 40% qtz veins				
				136.73-137.10 -weak chlorite alteration; possible minor mixing from andesite above		
		138.70-139.02 -felsic to intermediate ash, bedding @	52			
144.22 TO 148.44	ANDESITE LITHIC TO LAP TUFF «AND LITH,LAP TUFF»	Colour: medium to dark green Grain Size: m. to c.gr. Thick bedded; massive; weak to moderately foliated very granular in texture; 3% epidote altered lithic fragments to 2 cm		Moderate to well developed chlorite on foliation surfaces	2% pyrite, disseminated, patchy local trace chalcopyrite	
		147.71-147.83 -shear, minor gouge	50			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
148.44 TO 153.30	FELSIC TUFF «F TUFF»	Colour: medium grey Grain Size: m.gr. Thick bedded, massive, moderately foliated; locally has a mottled appearance, felsic lapilli? the interval is generally very granular in appearance 148.55-149.90 -Diorite 150.27-150.30 -possible chert bed		Weak sericite development on foliation surfaces; weak mottled appearance, patchy silicification	Trace disseminated pyrite	
153.30 TO 157.41	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: m.gr. Thick bedded; massive, weak to moderately foliated very granular in texture; minor epidized lapilli to 4 cm		Moderate to well developed chlorite on foliation surfaces	Minor disseminated pyrite	
157.41 TO 202.15	FELSIC TUFF «F TUFF»	Colour:v. light to med. grey, local wk. green cast Grain Size: f. to m.gr. Thick bedded; massive; weak to moderately foliated weak granular texture throughout 157.41-157.45 -shear, minor gouge 162.33-162.60 -shear 180.50-181.20 -local minor shearing, with gouge seams 186.20-186.62	40 50	Weak sericite development on foliation surfaces 157.41-160.16 -weak mottled look, bleached and silicified 181.75-187.80 -strongly bleached, well developed sericite on foliation surfaces	Minor disseminated pyrite	-possible fragmental

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-strongly sheared; local gouge seams 191.18-191.28 -strongly sheared, abundant gouge 191.77-192.90 -fault, intensely sheared, abundant gouge 196.36-196.52 -possible diorite 196.65-196.68 -Fault, gouge	25 60 55 80			
202.15 TO 206.69	FELSIC LAP TUFF «F LAP TUFF»	Colour: medium grey, weak green cast Grain Size: c.gr. Thick bedded, massive, weakly foliated; interval contains 10% bleached white fragments to 9 cm		Moderate sericite development on foliation surfaces	3% pyrite, predominantly c.gr. in stringers, trace chalcopyrite	
206.69 TO 214.02	FELSIC TUFF TO LAP TUFF «F TUFF,LAP TUFF»	Colour: medium grey; weak green cast Grain Size: m. to c.gr. Thick bedded; massive, moderately foliated; very granular in texture; possibly up to 5% very ghostly, mottled felsic fragments light grey to 3 cm, these are generally indistinct, also possibly dark green grey frags to 4 cm		Weak sericite development on foliation surfaces	1-2% pyrite disseminated patchy and in stringers, local trace chalcopyrite	
214.02 TO 226.08	FELSIC TUFF «F TUFF»	Colour: medium to dark grey Grain Size: f. to m. grained Thick bedded, weakly foliated, very gritty and granular in texture 215.18-216.15 -strongly sheared; abundant gouge seams; predominantly felsic ash(gouge from 215.18-215.23) 217.62-219.28 -local intermediate to andesitic ash		Weak sericite development onn foliation surfaces	1-2% pyrite; disseminated patchy; local trace chalcopyrite; contains a lot of very fine grained pyrite "syngenetic"?; local stringers -5% coarse grained pyrite, minor chalcopyrite (215.23-215.45 25-30% pyrite, minor chalcopyrite	262 Horizon

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		219.28-2119.41 -locally strongly sheared, abundant gouge	70			
		219.41-224.47 Int Ash -predominantly intermediate ash, rare chert		-moderate to well developed	-2-3% pyrite, disseminated, patchy, minor chalcopyrite	
		224.41-224.47 -sheared	77			
		224.47-226.08 -Felsic Ash				
		224.47-226.08 -felsic ash and lithic tuff		-moderate to well developed sericite on foliation surfaces	-1-2% pyrite, fine grained; dissem. minor stringers	
226.08 TO 232.54	INTERMED. ASH «INT ASH»	-intensely milled felsic material, possibly more intermediate in composition local well developed gouge seams -interval may have contained minor chert	51			
		228.78-229.20 -80% diorite intrusives				
		229.20-230.04 -50% chert, intermixed in intermediate ash; diorite between 229.77-230.04			-chert contains abundant very fine grained pyrite (25%)	
		230.04-232.54 -predominantly Int Ash; 10-15% qtz veining;rare chert		-moderate to well developed sericite and chlorite on foliation surfaces	-2-35 pyrite, disseminated	
232.54 TO 246.84	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: f. to m.gr. Thick bedded; massive; moderately foliated; very gritty in texture; local ashy intervals		Moderate to locally well developed chlorite on foliation surfaces	1-2% disseminated, patchy fine to medium pyrite; tr. chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
246.84 TO 289.26	ANDESITE CRYSTAL LITHIC TUFF «AND XLT LI TH TUFF»	Colour: medium to dark green Grain Size: m. to g. grained Thick bedded; massive, weak to moderately foliated very gritty in texture; 3-5% white to ghostly to epidote altered fsp xls to 1 mm; 5% epidote alt. lithic fragments from 2 mm to 1.5 cm		Weak chlorite alteration on foliation surfaces	1-2% patchy to disseminated medium grain pyrite; local stringers; tr. chalcopyrite 244.62-244.83 -80% pyrite, minor chalcopyrite, stringer	
		258.65-259.66 -predominantly andesite ash		279.55-280.24 -pervasive epidote alteration		
		280.24-280.90 -Felsic tuff, minor ash, CAB @ 280.75 m	75	281.30-281.55 -intense epidote alteration		
		280.90-281.41 -Fault, gouge	20			
		280.97-281.41 -Felsic tuff				
		281.41-289.26 -intermediate to andesite ash to lithic tuff		-well developed chlorite on foliation surfaces	-1-2% pyrite, disseminated, patches and minor stringers	
		288.51-289.26 -possible diorite				
	E.O.H.					

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		COMMENTS
14545	114.90	116.51	1.61	131	12	186	0	45														
14546	129.20	129.90	0.70	512	100	772	1.5	85														
14547	133.19	135.00	1.81	780	16	158	1	40														
14548	135.00	136.27	1.27	953	10	1358	0	25														
14549	137.10	138.21	1.11	2018	10	286	0	35														
14550	138.21	139.52	1.31	1075	4	140	0	40														
14576	144.22	146.11	1.89	2638	4	111	3.7	45														
14577	157.41	159.00	1.59	71	4	84	0	0														
14578	159.00	160.16	1.16	9	4	78	0	0														
14579	160.16	161.70	1.54	42	4	110	0	0														
14580	161.70	163.00	1.30	145	18	114	0	0														
14581	163.00	164.46	1.46	71	36	88	0	0														
14582	176.77	178.30	1.53	365	6	248	0	0														
14583	178.30	179.77	1.47	74	2	178	0	0														
14584	214.40	215.18	0.78	96	16	196	0	10	940													
14585	215.18	216.15	0.97	745	222	464	1	15	1860													
14586	216.15	217.62	1.47	261	6	140	0	0	940													
14587	217.62	219.28	1.66	137	12	170	0	0	860													
14588	224.47	226.08	1.61	464	2	44	0	10	2000													
14589	226.08	226.86	0.78	1541	8	84	0	30	1240													
14590	226.86	228.78	1.92	465	6	108	0	5	1040													
14591	229.20	230.04	0.84	297	6	112	0	0														
14592	230.04	231.67	1.63	272	10	164	0	0														
14593	231.67	232.54	0.87	353	32	72	0	15														

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm.T Ag	gm.T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au		PPM Ba	
14588	224.47	226.08														464	44		<0.5	10		2000	
4589	226.08	226.86														1540	84		"	30		1240	
14590	226.86	228.78														465	108		"	5		1040.	
14591	229.20	230.04														297	112		"	<5			
14592	230.04	231.67														272	164		"	<5			
14593	231.67	232.54														353	72		"	15			

PAGE 2 of 2.

LOGGED BY

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16437	23.20	26.20	3.00	13.36	0.12	4.55	3.02	2.42	1.56	0.05	1.84	0.01	69.67		0.3		0.3	97.18	1.7	36	158	104	37	1	109	5
16438	32.60	35.60	3.00	12.68	0.38	2.64	0.56	4.6	0.45	0.01	2.3	0.01	73.85		0.22		0.11	97.81	1.6	47	196	5	395	1	17	5
16439	73.00	76.00	3.00	13.22	0.14	3.36	1.44	3.83	0.79	0.02	2.44	0.01	70.93		0.21		0.04	96.43	1.5	24	653	6	28	1	6	5
16440	95.50	98.50	3.00	14.02	0.085	3.49	2.6	3.76	1.11	0.08	1.69	0.01	69.75		0.22		0.04	96.85	1.6	36	101	6	23	1	62	5
16441	109.00	112.00	3.00	18.49	0.045	6.06	10.11	2.27	5.02	0.16	2.9	0.11	49.6		0.71		0.06	95.54	3.3	1	88	41	5	1	114	5
14576	144.52	146.11	1.59	19.11	0.125	5.22	12.6	2.3	7.59	0.26	1.57	0.15	42.69		0.77		2.93	95.29	3.7	1	141	2638	4	1	111	45
16442	154.00	157.00	3.00	17.2	0.095	4.42	7.2	1.43	3.75	0.26	4.2	0.21	56.8		0.42		0.03	96.01	2.4	1	202	6	26	1	164	5
16443	172.80	175.80	3.00	13.22	0.13	0.05	2.7	1.95	2.03	0.17	3.59	0.01	72.26		0.28		0.95	97.32	1.8	34	132	62	49	1	120	5
16444	192.90	195.90	3.00	13.97	0.11	0.38	2.79	2.35	3.14	0.16	2.55	0.01	70.14		0.28		0.66	96.52	1.8	5	117	77	26	1	87	5
16445	219.58	222.58	3.00	14.87	0.12	0.01	5.39	1.84	4.36	0.17	3.01	0.01	64.69		0.41		1.49	96.35	1.6	1	133	143	21	1	102	5
16446	242.90	245.90	3.00	16.57	0.12	1.45	8.94	1.02	7.28	0.25	3.07	0.08	54.43		0.65		1.33	95.18	1.9	1	600	316	4	1	190	10
16447	275.00	278.00	3.00	17.12	0.1	3.37	8.17	0.69	7.07	0.25	3.25	0.03	53.59		0.63		0.6	94.87	1.6	1	343	347	24	1	156	5
16448	284.20	287.20	3.00	16.89	0.155	0.25	8.81	1.37	9.56	0.22	2.09	0.05	53.53		0.62		1.5	95.02	1.7	1	327	44	4	1	88	5

HOLE NUMBER: 90-305

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 10594.00N
EAST: 10500.00W
ELEV: 782.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -70° 0' 0"
LENGTH OF THE HOLE: 349.61m
START DEPTH: 0.00m
FINAL DEPTH: 349.61m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 23, 1990
DATE COMPLETED: October 25, 1990
DATE LOGGED: October 25, 1990

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 9.10m
CORE STORAGE: ON SITE

PURPOSE: TEST 262 FELSIC PACKAGE.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
33.00	-	-70° 0'	ACID	OK		-	-	-	-	-	
107.00	-	-70° 0'	ACID	OK		-	-	-	-	-	
208.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
252.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
298.00	-	-68° 0'	ACID	OK		-	-	-	-	-	
349.00	-	-68° 0'	ACID	OK		-	-	-	-	-	
172.00	207° 0'	-70° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.10	«OB»					
9.10 TO 56.00	FELSIC LITH -LAP TUFF «F LITH,LAP TUFF»	Colour: l. to med. grey, weak green cast Grain Size: m. to c.gr. Thick bedded, massive, moderate to strongly foliated; 5% bleached white and silicified frags to 2.5 cm, subangular to subrounded, generally flattened parallel to foliation planes; <5% light green lithic fragments, epidote altered to 3 mm; <5% medium to dark green lithic frags to 6 mm; flattened parallel to foliation; 5% light grey felsic fragments to 3 mm, 1-2% feldspar xls generally broken; white to epidote altered; matrix supported CAF @ 14.00 m 45.3-46.4 -Diorite dyke Below 43 m % of frags decreases, <1%, weak granular texture, with up to 2 mm grey siliceous rounded grains and rare qtz eyes 56.0 -wispy, irregular lower contact	 5	Moderate sericite development throughout 42.5-43.2 -minor qtz veining 46.4-47.1 -minor qtz veining traces pyrite and chalcopyrite	Local trace pyrite 19.50-20.30 -local pyrite cubes to 9 mm; also pyrite patches	Foliation almost down the c.a. throughout approx. <10%
56.00 TO 72.80	«DIORITE»	Colour: speckled medium green Grain Size: f.gr. Massive, fsp, porphyritic becoming finer grained below 67.5 m; irregular lower contact 0-5 deg to c.a.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
72.80 TO 110.90	«QP TUFF»	Colour: med. grey Grain Size: f.gr. 1-5%, <1-2 mm qtz eyes with rare 4-6 mm and up to 1 cm qtz eyes; locally 7-10% qtz eyes; lesser amts of shattered, crushed felsic grains and possible feldspars; qtz eyes and felsic grains hosted by a foliated sericitic fine matrix Foliation very shallow <10 deg to c.a. 87.3-87.7 -reddish brown, biotitic fragment/dyke? with wispy upper and lower margins parallel to foliation 93.0-98.9 -qtz eye poor interval up to 5-7%, 1-2 mm creamy felsic lithic grains and feldspar crystals; patchy 5% subangular <2 cm creamy felsic lithic lapilli 98.9-99.3 -Fault zone @ <10 deg to c.a. 108.10-110.90 -98% qtz veins; locally brecciated; host rock intensely altered		Moderate sericite within matrix 99.3-107.5 -moderate to strongly sericitic	Trace pyrite	
110.90 TO 141.18	FELSIC LITH - LAP TUFF «F LITH,LAP TUFF»	Colour: light to medium greyish green Grain Size: med. to c. grained Thick bedded, massive, moderately foliated; interval contains 5-10% bleached white, felsic fragments to 20 cm (QP,QFP,Ash); matrix is greyish green feldspar pheric with minor (<5%) qtz eyes to 2 mm; v. gritty and granular in appearance 110.90-113.75 -10% qtz veining; rock strongly altered and brecciated 124.00-124.60 -felsic ash fragment		Moderate developed sericite and minor chlorite on foliation surfaces; fragments bleached, generally silicified	Trace disseminated pyrite	Foliation almost parallel to c.a.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		124.25-124.32 silicified ash? chert fragment CAF 128.15 m 130.60-130.68 -chert fragment	 12			
141.18 TO 172.40	FELSIC QTZ FSP PORPH «QFP»	Colour: medium grey green Grain Size: m. gr. Thick bedded; massive; moderately foliated, 1-5% qtz eyes to 3 mm; rare to 9 mm; possibly up to 5% white to ghostly to predominantly epidote altered fsp xls to 1 mm; local abundant felsic grains; minor epidized lithic frags to 8 mm; rare bleached white silicified felsic lapilli to 4 cm 172.00-172.40 -intensely sheared abundant gouge		Very weak to weak sericite development on foliation surfaces 162.95-163.63 -intensely alt, epidized and silicified also brecciated	No visible sulphides, possible trace pyrite	Same as the matrix to the overlying interval foliation appears near parallel to c.a.
172.40 TO 190.18	FELSIC TUFF -LAP TUFF «F TUFF,LAP TUFF»	Colour: medium grey green Grain Size: m. to c. gr. Thick bedded, massive, weakly foliated, matrix contain 2% qtz eyes to 3 mm; up to 5% white to ghostly to predominantly epidote altered fsp xls to 1 mm; <5% white to weakly epidote altered fragments to 6 cm, locally bleached and silicified very granular in appearance 179.80-184.50 -generally a lot finer grained, rare lapilli, might contain finely bedded felsic to intermed. ash, these could be large fragments though 184.50-184.95 -70% qtz veins		-biotite alteration		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
190.18 TO 197.80	FELSIC QTZ FSP PORPH «QFP»	Colour: medium grey green Grain Size: m. gr. Thick bedded, massive, moderately foliated; <5% qtz eyes to 3 mm; possibly up to 5% white to ghostly to predominantly epidote altered fsp xls to 1 mm; very gritty and granular in texture minor white felsic fragments to 2 cm 195.98-197.80 -intensely silicified, locally strongly bleached (patchy) -contain abundant lapilli felsic to intermediate		Very weak to weak sericite development on foliation surfaces	No visible sulphides	
197.80 TO 205.55	FELSIC QTZ FSP PORPH «QFP»	Colour: light to medium grey green Grain Size: medium grained Thick bedded, massive; moderate to strongly foliated; 5-10% qtz eyse to 5 mm, rare to 9 mm, up ot 5% white to ghostly to predominantly epidote altered fsp xls to 1 mm 200.45 -large intermediate, mafic? fragment to 9 cm 202.84-205.55 -felsic lappilli tuff; 5% bleached white, silicified, felsic fragments to 3 cm; matrix appears to be a fine grained QFP or QP; matrix is medium grey green in colour		Well developed sericite on foliation surfaces -moderate to well developed sericite on foliation surfaces	No visible sulphides -no visible sulphides	
205.55 TO 224.19	«DIORITE»	Colour; medium to dark green Grain Size: c.gr. Thick, massive, weakly foliated 212.40-219.53 -medium grained 219.53-224.19 -fine grained				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
224.19 TO 232.29	FELSIC LAP TUFF «F LAP TUFF »	Colour: medium grey green Grain Size: c.gr. Thick bedded; massive, weakly foliated; massive; matrix is medium grey green in colour: contains <5% fsp xls, white to ghostly to predominantly epidote altered, to 1 mm; rare qtz eyes to 2 mm; possibly upwards of 30-40% bleached white, silicified fragments to maximum of 5 cm; large felsic fragments are an ash (silicified) or chert: locally appears fragment supported		Moderate sericite, minor chlorite development on foliation surfaces	No visible sulphides	Similar to interval between 202.84-205.55; fragment size and % is higher here
232.29 TO 243.45	FELSIC LITH - LAP TUFF «F LITH,LAP TUFF»	Colour: medium grey green Grain Size: m. to c.gr. Thick bedded; massive; moderately foliated; matrix is medium grey green in colour <5% white to ghostly to predominantly epidote altered feldspar xls to 1 mm; minor qtz eyes to 3 mm; rare to 8 mm contains 5% bleached, white and silicified felsic fragments to 3 cm 241.55-242.00 -possibly finely bedded ash/chert, large fragments		Moderate to weak sericite and minor chlorite on foliation surfaces; weak pervasive biotite alteration 238.00-241.55 -weak to moderate pervasive epidote alteration 241.55-243.23 -intense patchy epidote alteration and over all silicification	No visible sulphides	
243.45 TO 266.58	FELSIC ASH TO F.GR. LITHIC TUFF «F ASH,LITH TUFF»	Colour: medium grey green Grain Size: f.gr. Fine to thick bedded; massive, weakly foliated, massive contains a small percentage of fine granular material; local very weak fragmental look CAB @ 254.10 m 256.74-266.58 -interval locally brecciated, contains well developed fragments, lapilli?; these are most likely associated with dyke intrusions; this	 20	Intensely silicified; weak to moderate sericite and minor chlorite on foliation surfaces; interval becomes more bleached with depth -intensely bleached, patchy silicification	Trace disseminated pyrite -trace sulphides in Ash intervals, mafic dykes contain abundant pyrrhotite and trace chalcopyrite	Bedding appears erratic; possibly intermediate in composition

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		interval contains abundant mafic dykes Mafic dykes: 258.49-258.59 259.00-260.13 261.03-261.54 261.90-262.08 264.47-266.10		262.47-264.47 -intensely bleached; and locally silicified		
266.58 TO 291.30	ANDESITE XTL LITHIC TUFF «AND XLT LI TH TUFF»	Colour: medium to dark green Grain Size: m.gr. Thick bedded; massive, weakly foliated, massive; 10-15% white to ghostly to predominantly epidote altered fsp xls to 1 mm; 5-10% dark green lithic fragments and xls to 4 mm; minor epidized lithic fragments to 3 mm; very granular in texture 267.41-270.64 -proximal to dykes?		Weak chlorite development -intensely bleached; patchy, silicification 274.90-275.98 -patchy bleaching and silicification 285.00-288.00 -intensely bleached, patchy silicification	Trace disseminated pyrite -minor pyrrhotite, trace chalcopyrite	
291.30 TO 301.90	ANDESITE LITHIC - XTL TUFF «AND LITH,X LT TUFF»	Colour: light to medium green Grain Size: fine to medium grained Thick bedded; massive, weakly foliated; <5% white to ghostly to predominantly epidote altered feldspar xls to 1 mm; abundant siliceous grains; very granular in texture; a much finer grained version of the above interval 300.00-301.90 -interval has been sheared and milled. local gouge, some felsic looking sections		Weak chlorite development on foliation surfaces	Minor disseminated pyrite, local trace chalcopyrite 301.25-301.31 -patchy coarse grained pyrite, 60% pyrite stringer, trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
301.90 TO 314.45	ANDESITE LITH - XTL LITHIC TUFF «AND LITH,X LT TUFF»	Colour: medium green Grain Size: m.gr. Thick bedded; massive, weakly foliated; 5% white ghostly to predominantly epidote altered fsp xls to 1 mm; 1-2% epidote alt. lithic fragments to 4 mm; 5-10% dark green lithic frags and/or xls to 4 mm; abundant siliceous frags; v. granular in texture 313.73-314.00 -sheared, milled section		Weak chlorite development	-<1% disseminated patchy fine	-a coarser version of the above interval
314.45 TO 349.61	ANDESITE CRYSTAL LITHIC TUFF «AND XLT TU FF» E.O.H.	Colour: medium to dark green Grain Size: m. - c.gr. Thick bedded, massive, weakly foliated; massive 5% white to ghostly to predominantly epidote altered feldspar xls to 1 mm; 5-10% epidote altered lithic fragments to 4 mm; 1-2% 4 mm-3 cm; 5% dark green lithic fragments, abundant silica granules; very granular in texture		Weak chlorite development on foliation surfaces Below 346.00 -very minor biotite alteration	Minor disseminated pyrite	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		COMMENTS
	0.00	0.00	0.00																			

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16423	12.50	15.50	3.00	14.48	0.1	2.26	2.65	3.33	1.73	0.06	2.49	0.01	68.6		0.29		0.01	96	2	21	135	9	27	1	24	10
16424	41.50	44.50	3.00	13.64	0.065	2.39	2.56	1.31	1.09	0.09	5.49	0.01	69.93		0.28		0.05	96.9	2	9	122	39	24	1	90	5
16425	75.30	78.30	3.00	13.5	0.085	1.42	2.3	2.69	2.06	0.06	2.98	0.01	71.35		0.21		0.01	96.68	1.7	41	103	3	18	1	34	5
16451	102.70	105.70	3.00	12.82	0.065	2.43	2.01	2.93	3.61	0.07	1.67	0.01	69.48		0.19		0.02	95.29	1.7	1	71	3	22	1	40	5
16452	137.00	140.00	3.00	14.5	0.065	2.71	2.89	1.8	1.98	0.09	4.58	0.01	67.69		0.34		0.09	96.73	2	36	83	57	26	1	58	5
16453	166.70	169.70	3.00	14.11	0.095	2.15	3.58	2.38	2.6	0.09	2.87	0.01	68.65		0.25		0.1	96.87	0.9	1	121	232	8	1	45	5
16454	199.00	202.00	3.00	13.68	0.115	2.62	2.61	2.93	2.21	0.05	1.93	0.01	70.17		0.22		0.15	96.69	0.7	1	152	14	13	1	22	5
16455	229.20	232.20	3.00	14.15	0.09	4.9	3.07	1.73	2.12	0.06	3.27	0.01	67.26		0.32		0.12	97.08	0.9	1	160	44	10	1	37	10
16456	246.00	249.00	3.00	13.4	0.075	1.8	2.26	1.56	1.57	0.04	4.46	0.01	72.53		0.14		0.08	97.92	0.4	1	127	17	18	1	35	5
16457	277.13	280.13	3.00	17.71	0.025	5.42	6.42	0.52	6.16	0.15	4.22	0.02	53.77		0.63		0.17	95.22	2.1	1	53	19	4	1	43	5
16458	306.90	309.90	3.00	17.3	0.025	2.82	6.83	0.64	6.38	0.18	4.62	0.01	54.94		0.61		0.08	94.43	2.1	1	47	41	4	1	128	5
16459	340.00	343.00	3.00	17.47	0.04	8.08	6.65	1.21	4.87	0.15	4.37	0.04	52.85		0.63		0.06	96.4	2.4	1	133	128	4	1	76	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 11010.00N
EAST: 8300.00W
ELEV: 700.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -65° 0' 0"
LENGTH OF THE HOLE: 328.27m
START DEPTH: 0.00m
FINAL DEPTH: 328.27m

COLLAR GRID AZIMUTH: 172° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 200° 0' 0"

DATE STARTED: October 25, 1990
DATE COMPLETED: October 29, 1990
DATE LOGGED: October 29, 1990

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 16.50m
CORE STORAGE: ON SITE

PURPOSE: DOWNDIP TEST OF PY FELSIC ASH AND CHERT IN HOLE 90-274.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
60.00	-	-65° 0'	ACID	OK		-	-	-	-	-	
123.00	-	-65° 0'	ACID	OK		-	-	-	-	-	
186.00	-	-64° 0'	ACID	OK		-	-	-	-	-	
255.00	-	-62° 0'	ACID	OK		-	-	-	-	-	
159.00	201° 0'	-63° 0'	SING.SHOT	OK		-	-	-	-	-	
323.00	203° 0'	-62° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 16.50	«OB»					
16.50 TO 19.00	QTZ FSP PORPHYRY «QFP»	Colour: medium grey green Grain Size: medium grained Thick bedded; massive; weakly foliated; massive, 5-10% qtz eyes to 3 mm, locally 7 mm, weak blue grey tinge; 3-5% white to ghostly to predominantly epidote altered fsp xls to .5 mm, <3% medium to dark green lithic fragments to 4 mm, very granular in texture		Weak sericite development; common hematite staining on fracture surfaces; silicified	No visible sulphides	
19.00 TO 35.60	«DIORITE»	Colour: medium to dark green Grain Size: f.gr. Possible Sicker Ag; well foliated? sheared?, local intermediate ash inclusions 28.00-30.40 -core badly broken, local gouge seams		Abundant carbonate, disseminated patches and stringers; common hematite staining		
35.60 TO 38.87	FELSIC ASH LITHIC TUFF «F ASH,LITH TUFF»	Colour: white to v. light grey Grain Size: f. to m. gr. Very thin to thickly bedded; weakly foliated; local weak granular appearance 35.87-35.95 -common, interbedded chert, bedding 36.12-36.57 -Diorite?	64	Moderate to well developed sericite on foliation surfaces	2-3% disseminated, patchy pyrite, also stringers, possible trace sph. -20% v.f.gr. syngenetic pyrite in chert beds; "Exhalite"	
38.87 TO 42.35	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: m.gr. Moderate to thickly bedded; weakly foliated; v. granular in appearance, <5% light green epidized lithic fragments, 1-3 mm; rare to 2 cm		Well developed chlorite on foliation surfaces	1-2% disseminated, patchy, medium grained pyrite, trace chalcopyrite	Reminds me of the andesite lapilli section in the Intermed. to felsic ashes and cherts in 159

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
42.35 TO 57.84	INTERMED. ASH «INT ASH»	Colour: medium green Grain Size: fine grained Thin to moderately bedded; moderate to strongly foliated; local chert interbeds		Well developed chlorite on foliation surfaces	1-2% f.gr. pyrite, disseminated, laminated, local minor chalcopyrite, 44.26-44.38 -bedded, fine grained, pyrite and coarse grained chalcopyrite	
		CAB @ 44.70 m	20			
		45.70-57.84 -minor felsic ash interbeds 44.50-47.90 -local gouge seams				44.50-47.90 -1 meter core loss
		48.50-50.90 -strongly sheared, abundant gouge			51.38-52.59 -5% pyrite, 3-5% chalcopyrite stringers	
		CAB @ 54.46 m	45			
57.84 TO 75.35	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: f. to m.gr. Thick bedded; weak to moderately foliated, v. granular in appearance; <1% epidote altered lithic fragments 2 mm-3 cm 64.05-65.73 -very strongly sheared, local gouge 65.73-73.30 «Diorite» -medium to coarse grained		Moderate to well developed chlorite on foliation surfaces	Minor disseminated pyrite, trace chalcopyrite	Possible intermediate
75.35 TO 92.70	FELSIC TUFF «F TUFF»	Colour: light grey, weak green cast Grain Size: f. to m.gr. Thick bedded; moderate to strongly foliated?; minor felsic ash		Weak to moderate sericite development on foliation surfaces; minor chlorite;	1-2% disseminated, patchy fine to medium grained pyrite; trace chalco-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				patchy silicification	pyrite	
		75.35-84.07 -moderate to strongly sheared, minor gouge seams				
		84.07-86.40 -Fault @ 84.07 m -intensely sheared, abundant gouge	25			
		87.50-88.10 -Fault -only minor gouge left	46			
		88.10-92.70 «Diorite» -fine to medium grained, possible Andesite LT?		-common hematite staining on all fracture surfaces		
92.70 TO 112.00	FELSIC LAP TUFF «F LAP TUFF »	Colour: v. light grey; weak green cast Grain Size: coarse grained Thick bedded; massive; moderate to strongly foliated; interval contains 10-15, bleached, white, silicified felsic fragments, to 5 cm, flattened parallel to foliation; matrix greyish green fine grained tuffaceous material		Moderate sericite development on foliation surfaces	Trace disseminated, patchy pyrite	
		CAF @ 100.90 m	27			
		110.16-110.30 -felsic to intermediate ash, f.gr. dyke?				
		110.30-111.78 -Andesite, lithic tuff; very granular in appearance 5-10% light green epidote altered (bright green), <1-5 mm; larger fragments, generally well rounded				
		111.78-112.00 -intensely sheared, felsic material	80			
112.00 TO 139.30	FELSIC TUFF «F TUFF»	Colour: white to very light grey Grain Size: f. to m.gr. Thick bedded, massive, moderate to strongly		Very weak mottled appearance; moderate	Minor pyrite, disseminated patchy,	Foliation locally contorted

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		foliated, weak granular, gritty texture		to well developed sericite on foliation surfaces	rare stringers	
		112.46-112.50 -shear	85			
		114.00-114.32 -Andesite ash, diorite strongly sheared -114.0 m	57			
		114.32-114.87 -intensely sheared, abundant quartz veining -114.87 m	75			
		116.30-118.00 -diorite, fine grained mod-str. foliated Sicker Age?		-intense carbonate development 118.00-120.90 -weak chlorite alteration		
		120.69-120.71 -strongly sheared	75			
		128.05-128.22 -moderate to strongly sheared, abundant gouge	50			
				128.22-139.30 -light to medium grey	-1% pyrite, disseminated, patchy minor stringers	
		131.30-131.40 -shear, gouge 133.85-135.60 -common, gouge seams, core very rubbly	45			
139.30 TO 159.10	FELSIC LITH - LAP TUFF «F LITH,LAP TUFF»	Colour: light to medium grey Grain Size: medium to coarse grained Thick bedded; massive; moderately foliated; possible up to 5% felsic lapilli, bleached white and silicified, flattened parallel to foliation up to 3 cm wide in foliation plane; matrix fine to medium grained felsic granular material, similar to above unit; also has a weak green cast		Local mottled texture developed; patchy bleaching and silicification, moderate sericite development on foliation surfaces	1% disseminated, patchy pyrite, minor stringers; trace chalcopyrite	
		157.60-159.10 -moderate to strongly sheared, abundant gouge seam; @ 159.10 m	58			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
159.10 TO 206.30	FELSIC TUFF «F TUFF»	Colour: very light to medium grey Grain Size: f. to m.gr. Thick bedded, massive, moderately foliated, possibly contains minor lapilli to 179.10 m, bleached, silicified, the interval is very granular in appearance, locally interval appears ashy, to a fine grained lithic tuff especially below 179.10 m		Moderate to well developed sericite on foliation surfaces; local weak mottled appearance	2-3% pyrite, disseminated, patchy and stringers, local trace chalcopyrite	Foliation locally contorted
		163.96-164.02 shear, gouge	50			
		164.89-164.92 shear, gouge	60			
		165.95-166.00 shear, gouge	60			
		CAF @ 170.46 m	50			
		171.73-171.76 shear, gouge	90			
		172.41-172.47 shear, gouge	45			
					172.72-172.80 -80% pyrite, trace chalcopyrite, stringer?	
		176.20-176.30 -strongly sheared, abundant gouge	57			
		178.68-179.02 -Andesite tuff; very angular		-strongly calcareous	-1-2% disseminated, fine grained pyrite	
		179.02-179.10 -shear, gouge	65			
		179.10-181.85 -minor felsic ash				
					179.63-180.78 -3% pyrite, minor chalcopyrite; disseminated patchy and in stringers 180.78-181.20 -5-10% pyrite, disseminated, patchy, and stringers, minor chalcopyrite 181.20-181.85 -15-20% pyrite banded, patchy and disseminated; 1% chalcopyrite; .5% sphalerite 181.37-181.43 -90% pyrite, 1-2% chalcopyrite, 3-5% sphalerite, trace galena, bedded? upper contact 60 deg	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		182.10-182.29 -strongly sheared, abundant gouge 185.80-185.81 gouge seam 185.95-186.00 shear, gouge 186.84-187.00 shear, gouge 194.80-195.00 -abundant disrupted chert beds 196.74-197.20 -strongly sheared, abundant gouge 197.20-206.30 -very gritty and granular in appearance 203.95-206.30 -foliation, highly disrupted	30 35 55 70 40	195.30-196.74 -minor chlorite with the sericite on foliation surfaces	187.49-194.20 -3-5% pyrite, minor chalcopyrite, stringers, disseminated, patches 194.20-195.38 -5-10% pyrite, disseminated, patchy and minor chalcopyrite -2-3% pyrite, predominantly dissemin-ated 196.74-197.69 -15-20% pyrite, minor chalcopyrite, predominantly stringer 202.18-206.30 -5-10% pyrite, minor chalcopyrite, predominantly stringers	Foliation highly contorted
206.30 TO 216.40	FELSIC - INTERMED. LITHIC TUFF «F-INT LITH TUFF»	Colour: medium grey green Grain Size: m.gr. Thick bedded, massive, moderately foliated, very granular in appearance 206.75-207.28 -strongly sheared, abundant gouge 207.90-208.16 -strongly sheared, abundant gouge 216.37-216.40 -Fault, gouge	30 34	Moderate sericite and minor chlorite development on foliation surfaces	1-2% disseminated, patchy medium grained pyrite, trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
216.40 TO 221.10	FELSIC ASH AND CHERT «F ASH,CHT»	Colour; white to light grey Grain Size: fine Thin to moderately bedded; moderately foliated CAB @ 220.96 m	68	Moderate to well developed sericite and minor chlorite on foliation surfaces	Minor pyrite 220.88-220.96 -massive pyrite, syngenetic; minor chalcopyrite; trace sphalerite	Bedding and foliation; highly disrupted
221.10 TO 223.87	INTERMED ASH «INT ASH»	Colour: light to medium grey green Grain Size: f.gr. Thin to moderately bedded, moderately foliated; local chert interbed CAB @ 222.91 m	70	Moderate to well developed chlorite and minor sericite on foliation surfaces	Trace pyrite and chalcopyrite	bedding and foliation, disrupted
223.87 TO 227.73	INTERMED. ASH - TUFF «INT ASH,TU FF»	Colour: medium grey green Grain Size: m.gr. Thick bedded, massive, weak to moderately foliated very granular in texture		Moderate to well developed chlorite and minor sericite on foliation surfaces	Trace disseminated pyrite, local tr. chalcopyrite 226.84-226.96 -90% pyrite, tr. chalcopyrite	bedded?
227.73 TO 238.03	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium green Grain Size: m.gr. Thick bedded, massive, weak to moderately foliated; very granular in texture; locally sections contain 5% weakly epidote altered fsp local ash sections 231.60-233.0 -minor shearing and gouge		Weak to moderate chlorite development on foliation surfaces	1% pyrite, disseminated, patchy and minor stringers, trace chalcopyrite	Possible intermediate

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
238.03 TO 241.20	ANDESITE XTL LITHIC TUFF «AND XLT LI TH TUFF»	Colour: medium to dark green Grain Size: m. to c.gr. Thick bedded; massive, weakly foliated, 5% to locally 10% white to ghostly to predominantly epidote altered feldspar xls to 1 mm; 5-10% epidote altered lithic fragments to 8 mm; very granular in texture		Weak to moderate chlorite development on foliation surfaces	1% pyrite; disseminated, patchy and stringers, minor chalcopyrite	
241.20 TO 277.80	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: m.gr. Thick bedded; massive, weakly foliated, minor epidote feldspar xls to 1 mm; minor epidized fragments to 3 mm; abundant siliceous grains; very granular in texture CAF @ 247.80 m	35	Weak to moderate chlorite development on foliation surfaces	1-2% pyrite; disseminated patchy and stringers; minor chalcopyrite	
		265.10-266.58 -strongly sheared, local gouge, 50% quartz veins		-local intense epidote alteration		
		268.00-268.20 -fault, gouge	67			
		270.00-270.40 -strongly sheared, local abundant gouge				
		270.40-270.95 -moderately sheared, minor gouge				
		270.95-274.10 «Diorite» -medium to coarse grained, sheared lower contact	50			
		276.46-277.15 -strongly sheared, minor gouge				
277.80 TO 285.20	ANDESITE LITHIC - LAP TUFF «AND LITH,L AP TUFF»	Colour: medium to dark green Grain Size: c.gr. Thick bedded, massive, weak to moderately foliated 3-5% epidote altered lithic fragments to 5 cm		Weak to moderate chlorite development on foliation surfaces	1% pyrite, disseminated, patchy and minor stringers; minor chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
285.20 TO 299.61	ANDESITE TO LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: f. to m. gr. Thick bedded, weak to moderately foliated, very granular in texture, abundant siliceous grains, rare lapilli to 3 cm; epidized and felsic 286.22-290.36 -intensely sheared, local abundant gouge 294.08-294.64 -minor lapilli to 1 cm		Moderate chlorite development on foliation surfaces	Minor disseminated and patchy pyrite; trace chalcopyrite	
299.61 TO 304.00	ANDESITE LAP TUFF «AND LAP TU FF»	Colour: medium to dark green Grain Size: c.gr. Thick bedded, massive, weakly foliated, 15-20% well rounded epidote altered fragments, 3-8 cm CAB @ 299.61 m CAB @ 304.00	 86 70	Weak to moderate chlorite development on foliatin surfaces	2-3% pyrite, disseminated, patchy, trace chalcopyrite	
304.00 TO 308.73	ANDESITE ASH & CHERT «AND ASH,CH T»	Colour: medium to dark green Grain Size: v. f. to f. gr. Very thin to moderately bedded; weakly foliated, minor lithic fragments from 2 mm to 1 cm		Well developed chlorite on foliation surfaces.	2-3% pyrite, v. fine to fine grained, "syngenetic", local trace chalcopyrite	Local well developed exhalitive sulphides
308.73 TO 312.31	FELSIC TO INTERMED. ASH & CHT «F ASH,CHT»	Colour: light to medium grey green Grain Size: f.gr. Very thin to moderately bedded; weakly foliated; local lithic debris CAB @ 309.56 m 310.00-312.31 -bedding and foliation, highly disrupted	 40	Moderate sericite development on foliation surfaces; and minor chlorite	2-3% pyrite, trace chalcopyrite -3-5% pyrite, predominantly stringers, trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
312.31 TO 328.27	FELSIC TUFF «F TUFF» E.O.H.	Colour: light to medium grey, weak green cast Grain Size: medium grained Thick bedded; massive, weak to moderately foliated abundant, fine grained lithic material; rare bleached white and silicified felsic fragments		Weak to moderate sericite development	2-3% pyrite; disseminated, patchy and minor stringers	Interval appears to become more intermediate with depth

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm.T Ag	gm.T Au	% SiO2	% TiO2	% Na2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au
14611	179.63	180.78			1.15	32.2 94.92	142.6 189	18.4 232.68		14.7						28	124	16	<0.5	<5
14612	180.78	181.20		1	0.42 0.65											226	450	554	1.0	35
14613	181.20	181.85														729	4960	718	1.5	50
14614	187.49	188.74					1.25		Cu 1306.25	Zn 240						1045	192	24	<0.5	30
14615	188.74	190.54			I	CP	1.80	3.05	1074.60 413.01	81 49.14						597	45	30	0.3	25
14616	190.54	191.71			2		1.17	5.11	129.94	24.92						353	42		<0.5	15
14617	191.71	192.60					0.89		572	77.32						146	28		"	35
14618	192.60	194.20					1.60		781	105						28	64		"	40
14619	194.20	195.38				3										293	320		"	30
14620	195.38	196.74														483	260		"	35
14621	196.74	197.69					4									1220	2740		"	75
14622	197.69	199.45														260	280		"	40
14623	202.18	203.95								1.77		115.05 63	849.6 364	79.65 21		65	480		"	45
14624	203.95	205.35						5		1.40 0.95						45	260		"	15
14625	205.35	206.30														375	82		"	45
14626	220.65	221.10							6							244	1640	744	"	45
14627	222.88	223.87														117	1170	494	"	55
14628	226.63	227.22														687	138		"	50

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO2	% TiO2	% Na2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au		ppm Ba	
14629	304.00	305.46										1.46	703.72 776.04		289.08	482	198					760	
14630	305.46	307.20										1.74	844.56 1657.35		330.60 229.50	446	190						
14631	307.20	308.73									7	1.53	957.00 887.04		193.04 105.60	552	150					~~[illegible]~~	
14632	308.73	310.00										1.27			106.92	1305	152					1240	
14633	310.00	311.32										1.32				725	80					300	
14634	311.32	312.31										0.99				896	108					380	
14722	181.85	182.85														94	266	2	<0.5	5			
14723	219.9	220.65														372	1585	270	<0.5	35			
14724	221.1	222.88														133	84	8	<0.5	<5			

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %	COMMENTS
14611	179.63	180.78	1.15	28	16	124	0	0													
14612	180.78	181.20	0.42	226	554	450	1	35													
14613	181.20	181.85	0.65	729	718	4960	1.5	50													
14722	181.85	182.85	1.00	94	2	266	0	5													
14614	187.49	188.74	1.25	1043	24	192	0	30													
14616	190.54	191.71	1.17	353	6	42	0	15													
14617	191.71	192.60	0.89	146	18	28	0	35													
14618	192.60	194.20	1.60	28	8	64	0	40													
14619	194.20	195.38	1.18	293	72	320	0	30													
14620	195.38	196.74	1.36	483	24	260	0	35													
14621	196.74	197.69	0.95	1222	64	2738	0	75													
14622	197.69	199.45	1.76	260	18	280	0	40													
14623	202.18	203.95	1.77	65	92	480	0	45													
14624	203.95	205.35	1.40	45	44	260	0	15													
14625	205.35	206.30	0.95	375	16	82	0	45													
14723	219.90	220.65	0.75	372	270	1586	0	35													
14626	220.65	221.10	0.45	244	744	1640	0.5	45													
14724	221.10	222.88	1.78	133	8	84	0	0													
14627	222.88	223.87	0.99	117	494	1172	0	55													
14628	226.63	227.22	0.59	687	70	138	0	50													
14629	304.00	305.46	1.46	482	14	198	0	10	760												
14630	305.46	307.20	1.74	446	2	190	0	15													
14631	307.20	308.73	1.53	552	0	150	0	10													
14632	308.73	310.00	1.27	1307	0	152	0	30	1240												
14633	310.00	311.32	1.32	725	0	80	0	15	300												
14634	311.32	312.31	0.99	896	2	108	0	20	380												

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16449	22.00	25.00	3.00	14.87	0.06	14.33	8.82	1.99	3.77	0.26	1.88	0.08	39.48		0.67		0.52	86.72	2	1	161	103	11	1	72	5
14598	44.70	45.70	1.00	16.13	0.15	0.01	12.13	3.29	5.78	0.38	0.26	0.15	53.71		0.68		3.17	95.83	3.1	1	143	1980	16	1	233	45
16450	60.00	63.00	3.00	19.01	0.09	4.61	7.36	2	3.96	0.18	4.83	0.14	52.86		0.8		0.24	96.07	2.3	1	205	87	4	1	137	5
16476	79.70	82.70	3.00	13.92	0.165	1.88	4.53	2.64	2.53	0.12	2.57	0.01	67.32		0.29		2.06	98.03	0.8	1	284	102	18	1	35	15
16477	88.10	91.10	3.00	17.89	0.195	3.29	6.45	3	3.5	0.25	2.64	0.2	57.62		0.42		0.08	95.53	0.9	1	541	4	4	1	98	10
16478	123.00	126.00	3.00	13.7	0.175	1.38	1.88	2.75	1.97	0.14	2.53	0.01	71.27		0.29		0.74	96.83	0.6	37	175	66	22	2	73	5
16479	154.50	157.50	3.00	16.19	0.105	0.87	3.26	2.84	3	0.12	2.91	0.01	65.93		0.32		1.28	96.83	0.7	27	125	242	21	2	91	5
16480	175.00	178.00	3.00	14.06	0.13	0.16	4.9	2.64	3.15	0.06	1.76	0.01	67.98		0.29		2.34	97.49	0.3	21	88	167	16	1	99	10
16481	209.40	212.40	3.00	14.59	0.08	0.29	6.38	2.09	5.68	0.12	1.39	0.01	63.12		0.42		2.22	96.38	1	19	149	336	15	1	76	10
16482	223.87	226.63	2.76	17.47	0.12	0.01	8.64	2.47	7.22	0.22	1.76	0.01	55.1		0.69		1.86	95.56	1.9	1	169	143	3	1	114	5
16483	233.60	236.60	3.00	17.07	0.13	0.19	9.48	1.67	8.57	0.25	2.02	0.04	52.97		0.64		2.24	95.26	1.8	1	215	101	3	1	109	5
16484	258.10	261.10	3.00	16.89	0.05	1.61	7.7	0.58	7.58	0.21	4.37	0.01	54.74		0.6		1.06	95.4	1.5	1	99	234	3	1	84	5
16485	290.00	293.00	3.00	16.85	0.14	0.07	9.08	1.22	8.01	0.28	3.27	0.07	53.6		0.65		2.38	95.63	0.8	1	166	218	3	1	126	5
16486	316.10	319.10	3.00	14.8	0.125	0.82	3.27	2.52	3.3	0.09	2.77	0.01	67.47		0.3		1.12	96.58	0.6	58	114	23	27	1	41	5

3.27

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm/T Ag	gm/T Au	% SiO2	% TiO2	% Na2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au		PPM Ba	
14594	35.6	36.12					.52		78 124.2	32.24 423.20	63.44 230.00					150	62	122	0.5	30		1080	
95	36.57	38.87					2.30		202.2 62	139	293.44					54	184	100	0.5	55		1140	
96	42.35	43.33				.98					Cu 1739.5	Zn 174.44	Ag .49			1775	178		0.5	35			
97	43.33	44.7				1.37					7904.9	509.64	6.85			5770	372		5.0	90			
98	44.7	45.7			ICP	1.00					1980	233	3.10			1980	233	16	3.10	45			
99	45.7	47.25				1.56					3425.5	372	2.325			2210	240		1.5	155			
14600	47.25	48.5				1.25					2231.25	242.50	0.625			1785	194		0.5	140			
601	48.5	50.26				1.76					3766.40	292.16	2.64			2140	166		1.5	135			
2	50.26	51.38				1.12			9.03	2607	2497.60	212.80	1.12			2230	190		1.0	100			
3	51.38	52.59			1.38	Assay					27,917.40	80040	16.56			20,230	580		12	770			
4		54.46				1.87					4375.80	287.98	1.87			2340	154		1.0	140			
5		55.5				1.04					2298.40	232.96	1.04			2210	224		1.0	45			
6		56.5								13.15m	4421	255	2.78			137	106		<0.5	40			
7	56.5	57.84														336	114		<0.5	20			
8	110.3	111.78														58	274		<0.5	<5			
9	169.36	170.68														77	114		<0.5	<5			
14610	170.88	172.80														44	158		<0.5	10			
		Ave			42.35 – 55.50	13.15m																	

HOLE NO. 306

PAGE 1 of 3

HOLE NUMBER: 90-307

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13 W

PLOTTING COORDS GRID: MINE
NORTH: 10544.00N
EAST: 10360.00W
ELEV: 693.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -70° 0' 0"
LENGTH OF THE HOLE: 328.27m
START DEPTH: 0.00m
FINAL DEPTH: 328.27m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 27, 1990
DATE COMPLETED: October 29, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 6.10m
CORE STORAGE: ON SITE

PURPOSE: TEST 262 FELSIC PACKAGE.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
70.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
148.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
270.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
328.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
168.00	210° 0'	-71° 0'	SING.SHOT	OK		-	-	-	-	-	
235.00	213° 0'	-70° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.10	«OB»					
6.10 TO 18.50	QTZ FSP PORPHYRY «QFP»	Colour: medium grey green Grain Size: m. gr. Thick bedded, massive, weakly foliated, massive <5% qtz eyes generally to 2 mm, locally 5-10%, <5% white to ghostly to clay altered feldspar xls to .5 mm; rare bleached lapilli to 4 cm; interval has a very coarse grained texture		Weak sericite development	No visible sulphides	
18.50 TO 40.33	QTZ PORPH TUFF «QP TUFF»	Colour: medium grey green Grain Size: m. gr. Thick bedded, massive, weakly foliated, massive 5 to locally 10% qtz eyes, 2-3 mm; minor white to ghostly to clay altered fsp xls to .5 mm; rare qtz eyes to 5 mm 39.55-40.33 -minor chert and ash interbeds	50	Weak sericite development on foliation surfaces 31.40-32.10 -intensely bleached and silicified patch	Trace disseminated pyrite	Very similar to above interval
40.33 TO 45.00	FELSIC LAP TUFF «F LAP TUFF »	Colour: light to medium grey green Grain Size: c.gr. Thick bedded, massive; weakly foliated, massive; may contain 10% bleached white, silicified to 4 cm; generally flattened parallel to foliation rare mafic fragments to 6 cm; matrix is a greenish grey colour with minor qtz eyes and fsp xls; locally appears clast supported		Weak sericite development on foliation surfaces	Trace pyrite	
45.00 TO 53.00	FELDSPAR PORPHYRY «FP»	Colour: medium grey green Grain Size: m. to c.gr. Thick bedded; massive, weakly foliated massive,		Very poor sericite development on	Minor disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		5 to locally 10% white fsp xls to 1.5 mm, 5-10% silicified white felsic fragments to 4 mm		foliation and fracture surfaces		
53.00 TO 66.10	FELSIC LITH TUFF-LAP TUFF «F LITH,LAP TUFF»	Colour: medium grey green Grain Size: c.gr. Thick bedded; massive; weakly foliated, massive matrix is medium green grey with up to 5% white fsp to 1 mm; very similar to above interval; 2-3% bleached white felsic fragments to 3 cm; local FP fragments to 5 cm		Very poor sericite development on foliation surfaces	Minor disseminated pyrite	
66.10 TO 122.72	FELDSPAR PORPHYRY «FP »	Colour: medium to dark grey Grain Size: medium grained Thick bedded; massive; weakly foliated, massive <3% qtz eyes to 2 mm; 5 to locally 10% white to ghostly fsp xls to 1 mm; those are locally epidote altered, minor white felsic frags to 4 mm 64.17-78.92 «Diorite» -coarse grained fsp pheric Below 78.92 -local epidote altered frags to 4 mm, rare to 1 cm 101.00-105.00 -fsp indistinct 115.30-121.00 -core locally broken, minor gouge seams		V. poor sericite development on foliation surfaces	Trace disseminated pyrite, rare stringers, local trace chalcopyrite	Foliation may be sub parallel to c.a.
122.72 TO 140.47	FELSIC LAP TUFF «F LAP TUFF »	Colour: medium grey green Grain Size: c.gr. Thick bedded; massive, weakly foliated; massive, matrix is a feldspar porphyry very similar to the above interval; up to 5% white, bleached and silicified felsic fragments to 4 cm; 1-2% epidote altered fragments to 3 cm 125.10-127.28 «Diorite» -medium to coarse grained		Poor sericite developed on foliation or fracture surfaces	Trace pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
140.47 TO 159.90	FSP PORPH «FP»	Colour: medium grey green Grain Size: m. to c.gr. Thick bedded, massive, weakly foliated massive, interval ocntain 3-5% white to ghostly to epidote altered fsp xls to 1 mm; 10% white to epidote altered lithic fragments to 4 mm; 5% medium to dark green lithic fragments to 4 mm; 2-3% lapilli fragments, bleached white and siliceous, 4 mm to 5 cm; rare epidote altered fragments to 1 cm; possible FP fragments to 5 cm CAB @ 155.60 m, taken at base of large felsic fragment	5	Poor sericite development on foliation or fracture surfaces 150.10-159.90 -interval is strong to intensely silicified	Trace pyrite 150.51-150.66 -minor pyrrhotite and chalcopyrite stringers	
159.90 TO 171.00	FELSIC LAP TUFF «F LAP TUFF »	Colour: medium grey green Grain Size: c.gr. Thick bedded; massive, weaky foliated; massive, matrix is a fsp porphyry very similar to the above interval; possibly 15% bleached white, silicified felsic fragments to 5 cm; possibly large FP fragments; the interval may locally be fragment supported; bedding angles from frags vary from 90 to 00 deg		Intensely silicified; very poor sericite development	Trace pyrite	Same as above interval, lapilli fragments and percentage increases
171.00 TO 201.26	FELSIC TUFF «F TUFF»	Colour: medium grey green Grain Size: m.gr. Thick bedded, massive, weakly foliated, massive very gritty and granular in texture; minor white		Poor sericite development on foliation surfaces		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		to ghostly to epidote altered feldspar xls to .5 mm; 5% epidote altered lithic fragments to 3 mm; rare to 8 mm; minor medium to dark green lithic fragments to 2 mm CAF @ 179.00 m CAF @ 182.87 m CAF @ 185.65 m CAF @ 188.05 m 189.26-201.26 -minor felsic lapilli 3 cm to possibly 10 cm CAF @ 191.05 m CAF @ 195.65 200.86-201.26 -strongly sheared	 35 23 00 05 45		-3-5% pyrite stringers	
201.26 TO 236.10	«DIORITE»	Colour; dark green Grain Size: c.gr. Thick,massive, fsp pheric; Karmutsen 219.90-228.00 -fine to medium grained phase 236.00-236.40 -minor gouge, core badly broken		-intensely calcareous		
236.10 TO 242.90	FELSIC ASH LITHIC TUFF «F ASH,LITH TUFF»	Colour: light to medium grey green Grain Size: f. to m.gr. Thick bedded, massive, weakly foliated, massive, generally a very fine grained matrix with minor lithic fragments to 2 mmm; also fragments to 2 mm; also minor feldspar xls to .5 mm, generally epidote altered 242.56-242.64 -Fault, gouge	60	Weak to moderate sericite development on foliation surfaces	Trace disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
242.90 TO 252.41	FELSIC LAP TUFF «F LAP TUFF »	Colour: light to medium grey green Grain Size: c.gr. Thick bedded; massive, weakly foliated, massive, interval contains 5% to locally 10% blended white and silicified felsic fragments to 5 cm, the matrix is a fine grained lithic material to Ash; very similar to the above interval; felsic frags are very fine grained lithic tuff to ash 245.70-245.80 -strongly sheared, abundant gouge 246.65-246.66 -shear, gouge 249.54-249.60 -fault, gouge 251.94-252.20 -possible andesite ash fragment or interbed	 40 45	Weak to moderate sericite development on foliation surfaces	Trace disseminated pyrite	
252.41 TO 293.58	ANDESITE XTL LITHIC TUFF «AND XLT LI TH TUFF»	Colour: medium to dark green Grain Size: m.gr. Thick bedded; massive, weakly foliated; massive, 5% ghostly to predominantly epidote altered fsp xls to 1 mmm, <5% epidote altered lithic frags to 3 mm; very granular in texture 255.51-256.56 -shear, abundant gouge 258.00-258.50 -local shear and gouge 260.00-260.16 -sheared, abundant gouge 263.70-263.82 -minor shear and gouge 290.20-293.58 -rare epidized lapilli to 4 cm, also bleached while siliceous fragments to 3 cm	 40	Weak to moderate chlorite development on foliation surfaces	Minor disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
293.58 TO 312.48	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: f. to m.gr. Thick bedded; massive; weakly foliated, massive, very granular in texture, abundant fragments to 2 mm; rare lapilli to 3 cm		Weak to moderate pervasive epidote alteration; weak biotite alteration, weak chlorite development on foliation surfaces, general pervasive silicifi- cation	2-3% disseminated pyrite; rare trace chalcopyrite	
312.48 TO 318.90	QTZ FSP PORPHYRY- DYKE? «QFP DYKE?»	Colour: medium grey green Grain Size: m. to c.gr. Thick bedded, massive weakly foliated massive, 5% qtz eyes to 4 mm locally to 9 mm, up ot 5% white to ghostly to predominantly epidote altered fsp xls to 1 mm contact @ 318.90 m	60	Poor sericite development	Trace pyrite	
318.90 TO 328.27	ANDESITE XTL LITHIC TUFF «AND XLT LI TH TUFF» E.O.H.	Colour: light to medium green grey Grain Size: m.gr. Thick bedded, massive weakly foliated, massive up to 5% white to ghostly to predominantly epidote altered feldspar xls to 1 mm' <2% epidized lithic fragments to 4 mm; very gritty and granular in texture		A pervasive, weak epidote alteration; also silicification weak to moderate chlorite development on foliation surfaces	2-3% disseminated pyrite	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppm	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		COMMENTS
14560	39.55	40.33	0.78	23	8	74	0	0														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16460	14.30	17.30	3.00	13.6	0.07	3.03	2.65	2.55	1.88	0.08	2.69	0.01	69.04		0.26		0.03	95.88	0.7	43	263	9	25	2	49	5
16461	47.90	50.90	3.00	14.02	0.035	0.26	3.07	0.98	1.81	0.1	5.86	0.01	70.59		0.29		0.39	97.4	0.4	1	60	121	20	1	71	5
16462	84.40	87.40	3.00	15.59	0.035	0.65	5.32	0.9	3.39	0.16	5.83	0.01	64.75		0.42		0.12	97.17	1.1	1	216	217	19	1	103	5
16463	130.10	133.10	3.00	16.04	0.115	2.7	5.35	1.65	3.02	0.18	4.65	0.01	62.87		0.46		0.09	97.12	1.4	1	232	30	16	1	67	5
16464	160.00	163.00	3.00	16.03	0.08	5.85	4.34	1.83	2.61	0.16	3.19	0.01	62.25		0.42		0.11	96.87	1.2	1	119	52	20	1	129	5
16465	194.00	197.00	3.00	15.45	0.055	4.54	4.85	1.74	2.8	0.1	3.29	0.01	63.33		0.4		0.59	97.14	0.9	5	69	56	13	1	51	5
16466	238.70	241.70	3.00	13.85	0.055	1.54	2.92	1.92	3.18	0.08	3.13	0.01	69.66		0.27		0.04	96.65	1.2	6	98	14	13	1	37	5
16467	264.00	267.00	3.00	16.81	0.025	6.67	6.29	0.51	5.63	0.15	4.28	0.01	54.04		0.6		0.04	95.03	2.5	1	88	11	3	1	96	5
16468	300.84	303.84	3.00	17.46	0.045	5.25	7.18	1.35	4.11	0.19	4.61	0.03	54.41		0.56		1.82	97.02	1.7	1	71	90	13	1	96	10
16469	322.17	325.17	3.00	17.45	0.06	4.22	7.21	0.78	5	0.37	4.62	0.01	55.02		0.55		1.48	96.75	1.7	1	84	100	13	1	397	5

Project: Lara
Number: 242

Hole # 90-308
Oct. 29/1990

ASSAY SHEET Minnova Inc. 92B/13W

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm.T Ag	gm.T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
14635	106.31	107.50														1	52		<0.5				
14636	107.50	108.70														21	52		"				
14637	108.70	109.65														18	50		"				
14638	109.65	111.13														17	32		"				
14639	111.13	112.36														87	42		"				
14640	117.10	118.00			0.90			Cu 172.80	97.2			High Zn	And.			192	108		"				
14641	118.00	119.00			1.00			209	118			Cu	Zn.			209	118	<2	<0.5	10			
14642	119.00	119.90			0.90			283.50	5211			251.00	2559			315	5790	156	<0.5	30			
14643	119.90	121.30			1.40			212.80	13944		4.00					152	996	190	<0.5	10			
14644	121.30	123.00			1.70 ICP	Litho	Also	506.60	3629.50							~~298~~	~~2135~~	~~156~~	~~3.8~~	~~15~~		.110 % Ba.	
14645	123.00	124.45			1.45			303.05	100340							209	692	100	<0.5	20			
14646	187.57	189.50			7.35			230	1558							9	186	18	<0.5	10			
14647	189.50	191.07										Pb				1	92	<2	<0.5	<5			
14648	191.07	193.07										140.40 266.00				21	52		"				
14649	217.38	219.05										265.20				268	158		"				
14650	231.09	232.18										168				537	104		"				
14651	300.36	301.82														26	34		"				
14652	301.82	303.32														264	54		"				

90 - 308

HOLE NUMBER: 90-309

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10510.00N
EAST: 9305.00W
ELEV: 717.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -80° 0' 0"
LENGTH OF THE HOLE: 254.50m
START DEPTH: 0.00m
FINAL DEPTH: 254.50m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: October 29, 1990
DATE COMPLETED: October 31, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 3.05m
CORE STORAGE: ON SITE

PURPOSE: TEST 262 FELSIC PACKAGE.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
105.80	-	-78° 0'	ACID	OK		-	-	-	-	-	
184.70	-	-76° 0'	ACID	OK		-	-	-	-	-	
254.50	-	-76° 0'	ACID	OK		-	-	-	-	-	
122.00	207° 0'	-76° 0'	SING.SHOT	OK		-	-	-	-	-	
248.00	208° 0'	-76° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«OB»					
3.05 TO 9.27	«DIORITE»	Colour: dark green Grain Size: c.gr. Massive, Karmutsen Gabbro; core generally broken				
9.27 TO 13.47	FELSIC TO INTERMED. ASH AND CHT «F-I ASH,CH T»	Colour: white to light greenish grey Grain Size: fine grained Thinly bedded, moderately foliated interval contains about 10% chert interbeds CAB @ 10.80 m CAB @ 11.90 m CAB @ 13.00	 15 40 30	Moderate to well developed sericite and minor chlorite on foliation surfaces	1% very fine to medium grained pyrite, diss, trace chalcopyrite; local bedded very fine grained pyr "syngenetic"	
13.47 TO 17.70	FELSIC ASH «F ASH»	Colour: white Grain Size: f.gr. Thick bedded; moderate to strongly foliated		Well developed sericite on foliation surfaces; patchy silicification	Minor disseminated, patchy pyrite, minor stringers with trace chalcopyrite and sphalerite 15.85-16.95 -5% pyritic stringers with minor chalcopyrite	
17.70 TO 20.54	INTERMED. LITHIC TUFF «I LITH TUF F»	Colour: light to medium greenish grey Grain Size: f. to m.gr. Thick bedded, moderate to strongly foliated, entire interval moderate to strongly sheared; local gouge seams Contact @ 20.54 m	 32	Moderate to well developed chlorite and sericite on foliation surfaces	Trace diss. pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
20.54 TO 78.53	FELSIC TUFF «F TUFF»	Colour: white Grain Size: f. to m.gr. Thick bedded; med to strongly foliated; rare qtz eyes to 1 mm; <5% lithic material to 2 mm 20.54-22.20 -moderate to strongly sheared; commmon gouge seams CAF @ 27.80 m CAF @ 47.80 m CAF @ 62.00 m 65.40-65.44 -Fault, gouge 74.40-74.60 -intensely sheared, minor gouge 74.60-75.53 «CHT» -30% chert, interbedded with felsic to intermed. ash CAB @ 75.03 m 75.53-75.80 -Andesite lapilli tuff; 25% light green epidote altered lithic fragments to 5 mm 75.80-76.50 -intermediate ash, minor interbedded chert	 18 25 22 32 45 60	Strong sericite development on foliation surfaces; minor rhodocrosite development throughout	1% disseminated and stringers, pyrite, trace chalcopyrite and sphalerite 36.00-37.22 -minor stringer of pyrite, sph and cp	
78.53 TO 87.89	INTERMED. TUFF «I TUFF»	Colour: medium green grey Grain Size: f. to m.gr. Thick bedded, massive, moderately foliated, very granular in texture 81.10-84.65 -interval ocntains 5-10% QFP; fragments to 10 cm 84.65-85.60 -QFkP, large fragment?		Moderate development sericite and chlorite on foliation surfaces	1-2% disseminated patchy, fine to medium grained pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		85.60-85.80 -Fault, strongly sheared, abundant gouge 85.80-87.89 -Felsic Ash	40			
87.89 TO 112.30	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium to dark green Grain Size: m. to c.gr. Moderate to thickly bedded; weakly foliated; 2-3% light green epidote altered feldspar xls to 1 mm; 5% epidote altered lithic fragments, 1 mm to 1 cm; very granular in texture 102.02-102.70 -minor chert, intermediate and felsic ash 104.45-108.70 -local qtz veins to 3 cm, andesite locally intensely bleached 108.70-109.95 -95% qtz vein		Moderate to well develooped chlorite on foliation surfaces	1-2% disseminated, patchy medium grained pyrite, local trace chalco-pyrite 5-10% v.f.gr. disseminated pyrite	
112.30 TO 132.89	INTERMED. TUFF «I TUFF»	Colour: medium greenish grey Grain Size: f. to m.gr. Thin to moderately bedded, weak to moderately foliated; very granular in texture 112.30-112.69 -25% interbedded chert CAB 115.70-1155.90 -20% interbedded chert; CAB below 115.90 m the interval contains rare QFP fragments to 4 cm	35 20	Weak chlorite, minor sericite developed on foliation surfaces	Minor pyrite, diss, patchy and stringers	Possible Andesite

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
132.89 TO 137.65	INTERMED. ASH, CHT QTZ VEIN «I ASH,CHT, QTZ VEIN»	Colour: medium greenish grey Grain Size: f.gr. Fine aphyric ash and strongly distorted chert layers; no reliable bedding measurements 132.89-135.89 -abundant qtz veining, silica flooding mixed with chert; difficult to distinguish grey chert and grey qtz 135.8-136.3 -possible bedding @ 15-20 deg. to c.a. sharp lower contact	35	Weak chlorite/sericit on foliation planes 135.85-137.65 -patchy 10-30 cm qtz py vein	132.89-135.85 -15-20% py and trace cp; weak stock-work and disseminated 135.85-137.65 -3-4% py veinlets	
137.65 TO 152.00	«DIORITE»	Colour: med. grey Grain Size: f. to m.gr. Feldspar porphyritic, up to 5 mm fsp, massive except zone of streaky calcite from 143.9-147.4		Minor qtz chlorite veining	Trace py	
152.00 TO 155.15	CHERT, INT. ASH «CHT,I ASH»	Colour: medium green Grain Size: f.gr. Laminated to thinly bedded chert - bedding weak to moderately distorted, with interbeds of poorly bedded aphyric to finely granular intermediate ash Bedding 152.8 m 154.2 m 154.8 m	 25 43 20			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
155.15 TO 173.80	FELSIC XTL TUFF «F XTL TUFF »	Colour: light grey Grain Size: f.gr. <1-1%, <1-1 mm qtz eyes, 1-2% indistinct grey siliceous 1-2 mm lithic grains 160.6-172.1 -2-3%, 1-3 mm greenish epidote altered feldspar crystals; patchy indistinct flattened fragments; weakly foliated @ 25-30 deg to c.a. 172.1-172.25 -crush zone; mod. fault gouge 172.25 m 172.9-173.8 -broken layers/frags of light grey green barren chert; distorted lower contact	 30	Moderate sericite; rare qtz veinlets	Trace pyrite	
173.80 TO 178.90	INTERMED. LITHIC TUFF CHERT «I LITH TUF F,CHT»	Colour: med. grey green Grain Size: f.gr. 173.8-175.5 -grey, broken distorted pyritic chert mixed with finely granular grey intermediate lithic tuff (sandstone); no reliable bedding 175.5-178.9 -mainly granular lithic tuff with rare cherty laminations bedding 178.8 m Lower contact at end of last chert lyater; unit looking more andesitic towards base of unit Foliation 177.3 m	 45 30	-weak sericite	-2-5% very fine diss. pyrite; locally 5-7% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
178.90 TO 199.30	ANDESITE LITHIC TUFF XTL TUFF «AND LITH T UFF»	Colour: med. green Grain Size: f. to m.gr. Pervasive fine to medium grained granular texture from 10-20%, <1-1 mm grains of epidote (alt. fsp) grey siliceous grains, and dark semi-translucent grains; percentage of different grains variable; some zones that are finer grained less granular appear more intermediate in composition 182.95-183.3 -Fault zone - crushed gougy rock and dark grey pyritic milled zones - Faults 20-40 deg		Weak chlorite/sericite; minor epidote as altered grains	3-5% locally 7% fine diss. pyrite; trace disseminated chalcopyrite; occasional coarser py veinlets 194.3-194.9 -5-10% coarse brassy pyrite and <1% chalcopyrite intergrown with pyrite as stringer mineralization 195.7 -2 mm wide cp veinlet x-cutting foliation	
199.30 TO 210.70	ANDESITE LAP TUFF «AND LAP TU FF»	Colour: dark green Grain Size: f. to c.gr. Up to 15%, <1-4 cm rounded epidotized fragments in a fine grained fsp xtl tuff matrix		Weak to moderate chlorite along weak foliation planes	2-3% diss pyrite; minor py veinlets	
210.70 TO 254.50	ANDESITE LITHIC TUFF «AND LITH T UFF» E.O.H.	Colour: dark grey green Grain Size: f.gr. Fine pervasive granular texture from <1-1 mm grey siliceous granules in a fine grey green matrix; occasional fsp phyric zones and lapilli zones with up to 2 cm epidote fragments; lapilli zones increasing downhole Strongly silicified or massive chert zones from 242.2-242.4 and 243.5-243.7		Weak chlorite/sericite, patchy epidote as altered fsp frags 227.05-227.7 -qtz-chl-epidote vein	2-4% pyr and trace cp finely dissem. and <0.5 cm veinlets; sulphide content decreasing below 240 m 217.4-223.4 -weak to moderately abundant 1-3 cm wide pyrite - chalcopyrite stringers; up to 5% cp within some stringers Other zones of pyrite stringer mineralization from 234.95-235.35 and massive, coarse pyrite at 253.4(10 cm); 253.6(10 cm) and 253.4(6 cm)	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		COMMENTS
14561	9.27	10.00	0.73	20	0	116	0	0	1420													
14562	10.00	11.30	1.30	235	0	72	0	80	1420													
14563	11.30	13.47	2.17	75	0	370	0	15	2600													
14564	15.85	16.95	1.10	631	0	140	0	15														
14565	36.00	37.22	1.22	249	0	2472	0	10	3000													
14566	74.60	75.53	0.93	26	0	70	0	0	1600													
14567	102.02	102.70	0.68	3	0	88	0	10	1660													
14568	132.89	134.25	1.36	712	0	22	0	0	3400													
14569	134.25	135.85	1.60	50	0	40	0	10	1100													
14570	135.85	137.65	1.80	92	0	68	0	0	1520													
14571	152.00	153.50	1.50	35	0	64	0	0	1480													
14572	153.50	155.15	1.65	1	2	36	0	0	1900													
14573	173.80	175.50	1.70	4	0	62	0	0	2700													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16470	13.47	15.85	2.38	11.02	0.36	0.01	1.89	3.29	1.12	0.02	0.16	0.01	78.57		0.13		1.27	97.83	0.1	23	609	27	29	1	80	5
16471	41.76	44.76	3.00	13.25	0.3	0.01	1.71	3.3	2.87	0.05	0.61	0.01	74.49		0.2		1.12	97.89	0.4	24	387	10	28	1	68	5
16472	69.19	72.00	2.81	13.24	0.21	0.01	1.86	3.26	4.37	0.07	0.11	0.01	72.74		0.18		0.51	96.57	0.4	1	125	2	22	1	46	5
16473	90.57	93.57	3.00	15.91	0.095	2.21	10.07	0.5	7.96	0.22	2.3	0.12	53.97		0.61		1.39	95.35	1.1	1	140	437	3	1	60	5
16474	121.00	124.00	3.00	17.48	0.09	1.24	8.62	0.72	7.37	0.19	4	0.14	53.68		0.67		1.67	95.87	0.9	1	57	170	3	1	59	5
16475	158.20	161.20	3.00	12.31	0.25	0.35	1.58	2.94	2.96	0.04	0.5	0.01	75.71		0.16		0.01	96.82	0.4	1	189	4	17	1	22	5
14574	175.50	176.50	1.00	16.44	0.295	0.72	10	2.16	6.55	0.2	1.93	0.05	54.23		0.63		3.18	96.38	1.9	1	208	847	14	2	85	5
16501	191.10	194.10	3.00	16.65	0.285	0.26	8.51	1.65	6.89	0.29	2.99	0.09	55.88		0.62		2.43	96.55	1.6	1	261	340	11	1	138	25
16502	215.50	218.50	3.00	16.9	0.205	0.01	9.46	1.59	8.09	0.33	2.82	0.09	53.34		0.66		2.5	95.99	1.3	1	217	342	3	1	159	5
16503	248.10	251.10	3.00	16.71	0.125	2.32	8.52	1.45	6.74	0.27	2.89	0.1	54.92		0.59		2.3	96.95	1.5	1	156	444	3	1	122	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10600.00N
EAST: 9100.00W
ELEV: 697.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -65° 0' 0"
LENGTH OF THE HOLE: 197.20m
START DEPTH: 0.00m
FINAL DEPTH: 197.20m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: November 1, 1990
DATE COMPLETED: November 2, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING LTD.
CASING: 3.05m
CORE STORAGE: ON SITE

PURPOSE: TEST 262 FELSIC PACKAGE 100m WEST OF HOLE 90-262.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
15.50	-	-65° 0'	ACID	OK		-	-	-	-	-	
119.20	-	-62° 0'	ACID	OK		-	-	-	-	-	
197.00	-	-61° 0'	ACID	OK		-	-	-	-	-	
160.00	205° 0'	-61° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«OB»					
3.05 TO 19.90	FELSIC LITHIC XTL TUFF «F LITH TUF F»	Colour: light to med. grey Grain Size: f. to c.gr. Moderate to strong granular texture from <1 - 2mm granules of whitish grey opagque felsic lithics, whitish grey opaque to semi-translucent feldspar crystals - some showing well developed single twinning, and less quartz grains; occasional felsic frags to 1 cm; large 2 mm whitish felsic lithics most noticeable; moderately foliated at 40 deg to c.a. throughout Zones of intermediate dykes - medium green, fine grained, foliated as follows: 6.8-9.0 11.45-14.6 14.8-15.5 Fault zone - fault gouge, poor recovery Lower contact	25	Weak - moderate sericite 9.0-10.4 -strong qtz chlorite veining	2-3% pyrite and rare traces of chalco-pyrite mainly disseminated with occasional <5 mm stringers; locally 5% pyrite	
19.90 TO 25.40	FELSIC TUFF «F TUFF»	Colour: light grey green Grain Size: f.gr. Weak - mod foliated, does not have the granular texture of previous unit except for a single 50 cm zone; patchy darker green flattened streaks, possible fiamme. Sharp lower contact	40	Weak to moderate sericite	1-2% pyrite; locally 5% over 30 cm	
25.40 TO 28.95	INTERMED. DYKE «INT DYKE»	Colour: med. green Grain Size: Fine grained, aphyric, occasional white carbonate clots; foliated at 35-40 deg, <1 cm creamy green		Weak - moderate sericite		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		foliated upper and lower chill margins				
28.95 TO 62.30	FELSIC TUFF «F TUFF»	Colour: light creamy grey Grain Size: f.gr. Strongly altered masking primary textures; rare qtz eyes; patchy grey streaky zones; possible frags and rare green wisps Foliation weak @ 45-55 deg 37.0 m -distinct felsic frags 1-2 cm gouge zones and core angles as follows: 35.2 m 39.8 m 47.4 m 48.1 m 50.6 m 53.0 -10 cm zone of crushed milled dark grey mylonitic rock Below 58 m -increasing percentage of indistinct streaky sharp lower contact possibly faulted	 55 68 80 58 45 25	below 52 m -alteration gradually decreasing but still moderately sericitic	-58-62.3 -3-5% pyrite, trace chalcopyrite within greenish streaks	
62.30 TO 72.75	«DIORITE»	Colour: speckled medium dark green Grain Size: f. to m.gr. Weak equigranular texture with finer grained margins; well developed chill margin at lower contact; similar chill not present at upper contact but rock is finer grained contact @ 72.75 m	 62	Minor qtz-calcite-chlorite veining		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
72.75 TO 85.65	FELSIC LITH TUFF «F LITH TUF F»	Colour: light grey Grain Size: f.gr. Weak granular to indistinctly fragmental texture fragments lighter grey and finer grained then weakly granular matrix Foliation 76.0 m 84.2 m	 50 50	Weak sericite	2-4% very fine grained disseminated pyrite	
85.65 TO 90.50	FELSIC TO INTERMED. TUFF «F-I TUFF»	Colour: streaky light to medium green Grain Size: f.gr. Well foliated, aphyric, streaky light and medium green - light green streaks 2 x 7 cm; probably fragments, flattened parallel to foliation (35-40 deg)		Strong to intense sericite	5% pyrite within dark green and grey matrix; light green streaky frags <1-1% pyrite	
90.50 TO 108.80	FELSIC TUFF «F TUFF»	Colour: light creamy grey, light green Grain Size: f.gr. Moderately foliated, strong altered appearance masking primary textures 95.35-97.6 -zone of weak alteration, light greey colour, weak indistinct fragmental texture with occasional well outlined rounded felsic frags, 1-2 cm 100.6-101.15 -cherty ash, light grey, poorly developed thin bedding @ 38 deg 107.95		90.5-95.35 -strongly sericitic; strong bleached altered appearance; 93.6-95.35: gradual decrease in alteration 95.35-97.6 -weakly sericitic 97.6-102.05 -weak to moderate sericite 102.05-108.8 -strong - intense sericite	90.5-100.6 -1-2% pyrite, disseminated and rare stringers 100.6-101.15 -<1-5% very fine grained, diss pyrite 102.05-106.4 -3-5% py as <0.5 cm stringers parallel to and x-cutting foliation	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-3 cm fault gouge @ 108.35 -5 cm barren grey chert Foliations 91.0 m 99.0 m 104.0 m	65 48 50 50		larger stringers from 102.05-102.2 15% py 102.7-102.85 10% py 103.8-103.92 15% py 107.75-108.8 -3-5% py, <1% cp possible horizon from 108.1-108.2 -10% py and 2-3% cp, coarse grained Possible 262 zone from 107.75-108.8	
108.80 TO 116.60	PYRITIC CHT & INTERMED. ASH «PY, CHT,I ASH»	Colour: medium to dark green grey Grain Size: f.gr. Thinly bedded light to dark grey pyritic cherts and medium to dark green intermediate ash Coarse grained ashes form 109.75-111.25 and 114.3-115.05 115.05-116.6 -poorly bedded ashes, chert deficient Bedding measurements 109.1 m 109.3 m 109.7 m 111.6 m 112.6 m 113.2 m	 55 50 50 58 55 50	Moderate sericite	108.8-114.3 -abundant very fine grained syngenetic disseminations and thinly laminated pyrite; trace chalcopyrite 114.3-116.6 py content decreases, 2-5% of diss pyrite	
116.60 TO 146.70	ANDESITE CRYSTAL TUFF «AND XTL TU FF»	Colour: dark green Grain Size: f. to m.gr. <5% to locally 20%, 1-2 mm epidote grains (alt. feldspars), minor epidotized fragments and minor grey siliceous grains in a dark green matrix, massive, patchy weak foliation in finer grained crystal poor areas		Weak chlorite; minor qtz chlorite veining with up to 80 cm silica-epidote selvages	Locally 1-2% diss. pyrite and occasional <2 cm siliceous coarse brassy py stringers; trace to <1% chalcopyrite intergrown with pyrite within stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		135.6-136.45 -med. green grey, strongly silicified, more felsic in appearance with minor epidote grains; silicified andesite?; sharp upper and lower contacts @ 35 and 65 deg respectively			139.7-139.95 -qtz-py stringer; 25% coarse brassy py	
146.70 TO 152.25	FELSIC TUFF «F TUFF»	Colour: medium grey Grain Size: f.gr. Up to 3-5% mm epidote grains in a med. grey siliceous fine grained felsic matrix; weakly foliated @ 60-70 deg sharp upper contact at 40 deg, indistinct lower contact		Moderately silicified, patchy weak sericite; rare qtz epidote veinlets	<1-1% pyrite 147.5-150.0 -2-3 cm py-cp stringer grounded and milled shear zones	Similar to interval from 135.6-136.45 in previous unit; mixing of felsic and andesitic material
152.25 TO 156.55	ANDESITE LAPILLI XTL TUFF «AND LAP TU FF»	Colour: dark green Grain Size: f. to c.gr. Similar to previous andesite crystal tuff with <1-3 cm epidote fragments Sharp lower contact	50	Epidote alteration of fragments and feldspar crystals		
156.55 TO 171.35	«DIORITE»	Colour: dark green Grain Size: f. to m.gr. Massive, feldspar porphyritic, 5-7% up to 3 mm fsp phenocrysts 164.5-169.0 -fine grained, fsp poor, abundant diss calcite giving fine speckled appearance Sharp lower contact	85	Minor qtz veining		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
171.35 TO 175.20	ANDESITE ASH, TUFF «AND ASH,TU FF»	Colour: med. to dark green Grain Size: f. to m. grained Fine aphyric ash grading to a fine granular tuff; minor distorted ash lamination of base of unit; Possible bedding at 70 - 90 deg to c.a. gradational lower contact		Weak chlorite/sericite; rare qtz-chlorite veins	<1-1% diss py 173.45-175.2 -5-10% pyrite diss and as 1-2 mm layers at 80-90 deg to c.a.	Equivalent to cherts and ash horizon within andesite seen in other holes in the area
175.20 TO 197.20	ANDESITE CRYSTAL TUFF «AND TUFF» E.O.H.	Colour: dark green Grain Size: f. to m.gr. 1-15% epidotized grain = fsp and occasional <1 cm epidotized fragments; <1 mm light grey siliceous grains and <1 mm dark semi-translucent grains some showing single twinning		Epidote alteration of fsp and frags; rare irregular qtz veinlets	<1-2% diss. pyrite; occasional <5 cm pyrite stringer 194.5 -10 cm qtz pyrite, chalcopyrite and stringer	

				ESTIMA					ASSAYS								GEOCHEMICAL					COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		
14676	100.60	101.15	0.55	6	0	22	0	0	3100													
14677	107.75	108.80	1.05	1217	0	58	0.5	50	2000													
14678	108.80	109.75	0.95	133	2	74	0	25	1060													
14679	109.75	111.25	1.50	314	2	84	0	10	1580													
14680	111.25	112.47	1.22	191	0	68	0	0	1900													
14681	112.47	113.40	0.93	433	0	74	0	10	1460													
14682	113.40	114.30	0.90	104	4	58	0	0	2000													
14683	114.30	115.45	1.15	341	0	72	0	0														
14684	115.45	116.60	1.15	89	39	100	1.9	5	2300													
14685	173.45	175.20	1.75	85	4	48	0	0														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16504	15.60	18.60	3.00	15.35	0.15	0.17	6.08	2.5	4.22	0.09	2.29	0.06	64.05		0.34		2.92	98.23	0.5	1	100	25	19	1	154	5
16505	29.90	32.90	3.00	11.04	0.2	0.32	1.41	3.26	0.73	0.03	0.13	0.01	80.03		0.12		0.98	98.26	0.4	18	131	17	26	1	57	35
16506	53.90	56.90	3.00	13.99	0.175	1.04	3.27	2.59	2.79	0.11	2.37	0.01	69.28		0.33		2.34	98.3	0.5	20	100	98	35	1	76	5
16507	77.10	80.10	3.00	14.08	0.205	0.86	3.08	2.42	3.27	0.1	2.5	0.01	69.19		0.3		1.75	97.75	0.6	18	170	16	19	1	65	5
14575	87.15	88.65	1.50	18.09	0.34	0.65	6.59	3.8	5.04	0.13	0.84	0.03	57.71		0.61		3	96.81	1.8	1	260	31	18	1	98	5
16508	102.70	105.70	3.00	13.95	0.3	0.82	2.72	3.97	1.44	0.03	0.21	0.01	72.68		0.23		1.86	98.22	0.3	1	270	20	19	1	26	10
14684	115.45	116.60	1.15	14.45	0.23	0.18	9.39	1.85	4.76	0.14	2.52	0.05	60.05		0.48		4.3	98.39	1.9	1	64	89	39	1	100	5
16509	142.30	145.30	3.00	16.7	0.055	3.86	9.22	0.66	6.25	0.27	3.13	0.06	53.82		0.61		0.74	95.38	2.3	1	103	408	7	1	90	5
16510	175.90	178.90	3.00	16.49	0.14	1.39	9.77	0.85	7.65	0.21	2.93	0.01	53.7		0.63		1.51	95.28	2	1	207	106	5	1	66	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10359.00N
EAST: 10900.00W
ELEV: 684.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -56° 0' 0"
LENGTH OF THE HOLE: 148.44m
START DEPTH: 0.00m
FINAL DEPTH: 148.44m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: November 1, 1990
DATE COMPLETED: November 2, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 18.9 m
CORE STORAGE: ON SITE

PURPOSE: Shallow test of strong VLF,IP anomaly down plunge of Tr 4 and Tr 4a

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
66.00	-	-54° 0'	ACID	ok		-	-	-	-	-	
148.40	-	-51° 0'	ACID	OK		-	-	-	-	-	
124.00	206° 0'	-52° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 18.29	«OB»					
18.29 TO 28.32	«DIORITE»	Colour: medium to dark green Grain Size: f. to m.gr. Massive, locally, moderately foliated, fine to medium grained phases contact @ 28.32 m	 50	Strongly calcareous		
28.32 TO 29.71	FELSIC TUFF «F TUFF»	Colour: Medium grey Grain Size: medium grained Thick bedded; moderately foliated		Moderte, sericite development on foliation surfaces	2-3% disseminated, patchy f.gr. py, tr cp	
29.71 TO 59.76	INTERMED. LITHIC TUFF «I LITH TUF F»	Colour: light to medium greyish green Grain Size: medium grained Thick bedded; massive; moderately foliated; v. granular in texture; rare fragments to 8 mm CAF @ 40.44 m CAF @ 53.25 m 55.94-56.04 -diorite -contacts 47.15-59.76 -generally medium to coarse grained; andesite lithic tuff	 30 50 45	Moderate chlorite and serioite on foliation surfaces; locally moderated calcareous -well developed on foliation surfaces; moderate to locally strongly calcareous	2-3% diss fine to medium grained py tr cp; local pyritic cp stringers -1-2% diss f.-m.gr. pyrite, minor cp also pyrite, cp stringers	
59.76 TO 63.37	FELSIC TUFF «F TUFF»	Colour: medium grey Grain Size: f. to m.gr. Thick bedded, massive, weak to moderately foliated very granular in appearance		Weak to moderate sericite development on foliation surfaces; weak silicifi-	2-3% pyrite, minor chalcopyrite disseminated, patchy and stringers	"262 Horizon"

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				cation		
63.37 TO 69.06	ANDESITE ASH LITH TUFF «AND ASH,LI TH TUFF»	Colour: medium to dark green Grain Size: f. to m.gr. Thick bedded; moderately foliated; fine granular appearance 67.75-67.82 -shear, gouge 67.82-68.71 -felsic tuff, f. to m.gr. 68.71-69.06 -sheared, milled section, healed	 50	Weak to moderate chlorite development on foliation surfaces	-2-3% patchy c.gr. chalcopyrite	
69.06 TO 89.30	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: dark green Grain Size: m. to c.gr. Thick bedded, massive, moderately foliated, 5% light green epidote altered lithic fragments to 6 mm; local abundant siliceous grains to 4 mm 76.00-83.90 -moderate shear texture throughout 83.90-84.45 -sections appear felsic 84.45-84.64 -intensely milled and healed 84.64-85.30 -well developed shear texture throughout ╣85.30-89.30╠ «QFP Dyke»	 47	Moderate chlorite development on foliation surfaces -strongly bleached, silicified, patchy epidote	Minor disseminated to patchy fine to medium grained pyrite, trace chalcopyrite	
89.30 TO 148.44	ANDESITE LITH - LAP TUFF «AND LITH,L AP TUFF»	Colour: dark green Grain Size: c.gr. Thick bedded, massive, weakly foliated, common shear texture, 5-10% epidote altered lithic frags		Weak to moderate chlorite development on foliation surfaces; pervasive	1-2% pyrite, disseminated patchy; trace chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		to 3 cm; common dark green to black mafic xls to 5 mm; minor epidized fsp xls to 1 mm		epidote alteration		
		89.90-90.25 -QFP dyke				
				Below 96.90 -common hematite staining on fractures		
				97.43-97.70 -strongly silicified		
		┤101.50-110.90├ «F DYKE» -minor screens of andesite from 108.90-110.90 core broken, locally strongly sheared, minor gouge				
		F Dykes between: 112.85-113.20 114.20-114.44 115.92-116.68, minor andesite screens 117.67-118.00 118.40-118.85				
				120.35-121.34 -moderate to strongly silicified		
		┤125.03-132.00├ «F DYKE»				
		F Dykes between: 142.70-143.02 143.46-144.40 145.25-147.90				
	E.O.H.					

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	Sul %		COMMENTS
14653	28.32	29.71	1.39	381	0	130	0	20	1300													
14654	59.76	61.28	1.52	694	0	50	0	15	1300													
14655	61.28	62.45	1.17	191	0	42	0	0														
14656	62.45	63.37	0.92	53	0	40	0	0														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16496	32.61	35.61	3.00	15.3	0.105	0.01	11.59	1.34	7.84	0.27	1.66	0.09	54.3		0.6		2.97	96.08	1.3	1	62	890	12	1	118	5
16497	51.50	54.50	3.00	17	0.11	1.6	9.24	1.28	7.26	0.27	2.9	0.09	54.28		0.62		1.34	96	1.4	1	93	477	3	1	94	5
16498	72.24	75.29	3.05	16.53	0.13	1.79	9.43	1.39	7.57	0.4	2.33	0.07	54.17		0.64		1.38	95.83	2.5	1	239	127	6	1	278	5
16499	98.00	101.00	3.00	16.09	0.025	10.67	11.98	0.01	6.29	0.27	2.81	0.07	45.97		0.85		1.33	96.38	3	1	29	403	7	1	72	5
16500	136.20	139.20	3.00	17.48	0.08	9.94	7.81	0.9	3.94	0.19	3.75	0.09	50.98		0.63		0.79	96.59	2.7	1	150	156	5	1	51	5

HOLE NUMBER: 90-312

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13

PLOTTING COORDS GRID: MINE
NORTH: 10710.00N
EAST: 8968.00W
ELEV: 684.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 218.54m
START DEPTH: 0.00m
FINAL DEPTH: 218.54m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: November 2, 1990
DATE COMPLETED: November 5, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 10.4 m
CORE STORAGE: ON SITE

PURPOSE: Down dip test of Cu mineralization in hole 89-262

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
23.50	-	-75° 0'	ACID	OK		-	-	-	-	-	
98.10	-	-73° 0'	ACID	OK		-	-	-	-	-	
155.00	-	-69° 0'	ACID	OK		-	-	-	-	-	
218.00	-	-68° 0'	ACID	OK		-	-	-	-	-	
74.00	216° 0'	-74° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 10.40	«OB»					
10.40 TO 31.85	FELSIC TUFF «F TUFF»	Colour: light grey green Grain Size: f.gr. Weak to moderately foliated, aphyric to very fine granular siliceous grains and qtz eyes << 1mm; very faint indistinct flattened grey felsic fragments <1- 2-3 cm Foliations 20.0 m 29.9 m	 45 50	Weak to moderate sericite, minor <1 cm wormy quartz veins	2-3% disseminated pyrite; trace to locally 1% sp over 10 cm as <1 mm veinlets and wispy disseminations; trace chalcopyrite 23.47-24.1 -<1-1% locally 2% sp wispy veinlets 24.0 -10 cm of 3% sp Sphalerite absent below 26 m	
31.85 TO 36.60	FAULT ZONE «FAULT»	Colour: grey green Grain Size: Felsic tuff which is highly broken, fault gouge zones, very rubbly core, poor recovery, <30%		Weakly sericitic		
36.60 TO 73.05	FELSIC TUFF «F TUFF»	Colour: light grey Grain Size: f.gr. Weak, very fine granular texture from <.5 mm siliceous grains and quartz eyes; occasional flattened felsic frags and very indistinct seen as light grey area 43.95-45.9 -Mafic dyke; dark green, fine grained, abundant streaky white calcite veining Foliations 39.5 m 53.0 m 62.0 m	 40 40 40	Weak sericite	1-3% diss. pyrite, trace chalcopyrite 40.0-41.0 -3-5% coarser grained py, tr. chalco-pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		46.2 -6 cm fault gouge @ 46.3-52.5 -Lapilli Tuff -very faint indistinctly outlined flattened, light grey felsic fragments, <1-1 cm wide 61.0-63.3 -coarse grained tuff; 1-2 mm grey and whitish siliceous grains and fsp crystals Sharp upper contact Lower contact - gradational 72.24-73.05 -finer grained ash at lower contact	 40 40		72.24-73.05 -5-7% pyrite and <1% chalcopyrite, finely disseminated	
73.05 TO 81.05	«QP TUFF»	Colour: light grey Grain Size: f.gr. 2-3%, 1-3 mm round qtz eyes in a fine, weakly foliated matrix foliation Faulted lower contact Clay smeared on lower contact with distorted foliations in lower unit	 55 60	Weak to moderate sericite	1-3% diss. pyrite	
81.05 TO 85.55	FELSIC TO INTERMED. ASH «F-I ASH»	Colour: med. green Grain Size: f.gr. Moderately foliated; aphyric, minor qtz veining towards base of unit Foliations 35-50 deg		Moderate sericite	<1% py	
85.55 TO 101.50	FELSIC TUFF «F TUFF»	Colour: light grey Grain Size: f.gr.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		85.55-87.8 -QP tuff, 1-3%, 1-2 mm qtz eyes 87.8-101.5 -very fine granular texture with <0.5 mm grey siliceous felsic grains and qtz grains		-weak to moderate sericite	-1-2% py 87.55-89.6 -10% medium to coarse pyrite disseminated and a 2.5 cm layer with 50% at 89.45; mm sp veinlets in first 30 cm; <1% chalcopyrite diss and inter-grown with pyrite 89.6-89.9 -minor <1 cm py stringers 94.0-94.3 -3, 1-2 mm sp veinlets 99.9-100.7 -7-10% py, <1% cpy stringer mineralization	
101.50 TO 105.65	FELSIC ASH «F ASH»	Colour: light grey green Grain Size: Fine grained aphyric ashes, weak - moderate foliated Faulted lower contact	68	Moderate sericite	1% pyrite 103.1 -2 cm chloritic pyrite, chalcopyrite stringer/layer	
105.65 TO 131.10	FELSIC TUFF «F TUFF»	Colour: light and medium grey Grain Size: f.gr. Weak to moderately foliated; up ot 20%; <0.5 mm grey siliceous grains and qtz grains evident at x16 power 113.4-115.5 -<1 cm flattened med green wisps - fragments 118.95-121.1		Moderate sericite, occasional wisps of green mica	105.65-110.35 -5-7% pyrite, <1% chalcopyrite, finely disseminated and as coarser <1 cm py-cp stringers 110.35-119.6 -2-3% diss. pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
-		-Intermediate tuff - medium grey sheen, occasional felsic frags 125.7-125.8 -cherty ash layer or large fragments; possible bedding @ 126.95-127.2 -light grey felsic ash fragments up to 5 cm last 30 cm weakly milled, distorted foliations	40	121.75-128.5 -strongly sericitic, fairly abundant light green sericite, mica (fuschite)	119.6-131.1 -3-5% diss. pyrite 124.5 -10 cm qtz vein with 5% chalcopyrite	
131.10 TO 134.30	FELSIC ASH, CHERTY ASH «F-CHTY ASH »	Colour: light grey Grain Size: f.gr. 131.1-132.3 -weakly milled, fragmental with up to 5 cm ash, cherty ash fragments 132.3-134.3 -less fragmental, mainly a continuous fine grey ash, no bedding contacts within unit Irregular lower contact at approx 30 deg		-weak to moderate sericite	<1-1% pyrite	
134.30 TO 141.65	«DIORITE»	Colour: med - dark green Grain Size: fine to medium 50 cm fine grained upper chill margin grading down hole into massive fsp porphyritic diorite; 15 cm fine grained lower chill margin		Chlorite fracture coatings; moderate qtz chlorite veining; up to 30 cm wide veins		
141.65 TO 147.20	FELSIC LAP TUFF «F LAP TUFF »	Colour: light creamy grey Grain Size: f.gr. Fairly abundant light grey flattened 2-3 cm x <0.5 cm fine grained ash and tuff fragments in a light grey green slightly coarser matrix; occasional irregular grey barren chet and cherty a		Moderate - strongly sericitic	1-2% pyrite as <1cm pyrite stringers with traces of chalcopyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		ash fragments up ot 5 cm Flattening of frags @ 145.0-145.4 -milled core, distorted foliations 15 cm light grey f.gr. barren, cherty ash at lower contact	 75 55			
147.20 TO 153.40	FELSIC TUFF «F TUFF»	Colour: medium green Grain Size: Up to 5% 1-2 mm greenish, epidotized fsp, patchy granular texture with <1-1 mm siliceous grains; patchy streaky appearance suggesting a fragmental appearance		Weak sericite, weakly silicified, 151.8-153.4 -minor green mica	147.2-151.7 -<1% py 151.7-153.4 -2-4% very fine diss pyrite, trace diss chalcopyrite	Mixing of felsic and andesitic material
153.40 TO 157.15	FELSIC ASH TUFF, CHERT «F ASH, TUF F,CHT»	Colour: light to med. grey, med grey Grain Size: f.gr. 153.4-153.9 -fragment of med. grey and light creamy grey chert in a FP andesitic matrix 153.9-154.24 -thinly bedded pyritic ashes/cherts only 30% recovery; bedding @ 154.2-154.85 -streaky appearance from light grey fine grained wispy ash fragments, frag supported, slightly coarser green grey matrix 154.8-155.3 -Felsic Tuff, weak indistinct, wispy fragmental texture	 60	-weak sericite	153.9-154.8 -3-5% diss. pyrite; abundant v.f.gr. pyrite from 153.9-154.2	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		155.3-155.73 -medium grey chert frags; and grey felsic frags; a green FP andesitic matrix 155.73-157.15 -Felsic Ash, medium green ash, fragmental at toop minor chert beds at 55 deg; wispy very fine grained pyrite; Distorted, irregular slumped? lower contact			155.73-156.2 -2-3% wispy pyrite	
157.15 TO 163.25	ANDESITE & FELSIC TUFF «AND,F TUFF »	Colour: med. green, light grey Grain Size: f.gr. Mixture of finely granular andesite tuff and finer grey felsic tuff 157.15-158.9 -Andesite 158.9-160.45 -Felsic tuff, weak andesite component to interval 160.45-161.6 -Andesite Tuff 161.6-163.25 -Felsic Tuff		Weak sericite, weak epidote as altered feldspar crystals	157.15-158.9 -1-2% py -3-5% diss. pyrite -<1% py -1-2% py 161.8-161.85 -possible horizon or stringer?; 30% pyrite, 3% chalcopyrite; coarser grained mineralization	
163.25 TO 198.95	ANDESITE TUFF «AND TUFF»	Colour: medium to dark green Grain Size: f. - m.gr. Pervasive, fine to medium grained granular texture from 10-30%, <1-1 mm grains of med-dark grey grain light grey siliceous felsic grains and green epidote altered feldspars; weakly foliated 2-5 cm green fault gouge zones and c.a. angles as follows:		Weak to moderate chlorite alteration along foliation planes	1-4% diss. pyrite, tr cp, occasional <1-2 cm, siliceous or chloritic py-cp stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		167.3 m 173.5 m 180.8 m Thick gouge zones from 187.1-188.0 196.6-196.8 Foliations 167 m 175 m 188.5 m 192 m Gradational lower contact	60 40 25 75 70 50 45			
198.95 TO 211.80	ANDESITIC LAP TUFF «AND LAP TU FF»	Colour: dark green Grain Size: f. to c.gr. 5-15% rounded, up to 7 cm epidote altered frag in a granular FP xstal tuff matrix 209.8-210.0 -ground milled zone, minor fault gouge Gradational lower contact		Strong epidote alteration of fragments and fsp crystals; weakly chloritic	<1-1% pyrite	
211.80 TO 218.54	ANDESITE TUFF «AND TUFF» E.O.H.	Colour: dark green Grain Size: f. to m.gr. Pervasive, granular texture, from <1-2 mm epidote altered fsp, light grey felsic? grains and med-dark grey siliceous grains		212.2-213.05 -pervasive, strong epidote flooding, minor qtz chlorite veining	<1-2% py	

				ESTIMA			ASSAYS								GEOCHEMICAL							COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		
14686	23.47	24.20	0.73	276	4	5026	1	0														
14687	24.20	25.70	1.50	83	4	1692	1	0														
14688	72.24	73.05	0.81	559	4	236	1.5	10														
14689	87.55	88.70	1.15	264	38	358	2.5	0														
14690	88.70	89.90	1.20	279	20	560	4	0														
14691	105.65	107.20	1.55	362	36	138	4	35														
14692	107.20	108.75	1.55	217	18	86	4.5	55														
14693	108.75	110.35	1.60	438	20	102	0.5	50														
14694	110.35	112.00	1.65	128	24	157	0.8	10														
14695	122.00	124.00	2.00	286	35	120	1.1	5														
14696	124.00	126.00	2.00	1130	10	266	0.5	50														
14697	153.40	154.80	1.40	154	10	70	0	45														
14698	155.73	157.15	1.42	25	2	82	0	10														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16511	17.40	20.40	3.00	14.86	0.165	0.01	3.82	3.05	3.46	0.32	1.78	0.01	68.03		0.32		0.79	96.61	1	31	237	106	23	1	1617	5
16512	48.20	51.20	3.00	14.74	0.145	0.61	3.18	2.22	3.18	0.19	3.3	0.01	68.3		0.31		1.72	97.89	0.8	9	112	126	28	2	110	5
16513	74.10	77.10	3.00	14.07	0.135	0.01	3.17	2.91	3.31	0.13	1	0.01	70.74		0.24		1.12	96.81	0.3	1	214	73	35	1	76	10
14694	110.35	112.00	1.65	15.08	0.22	0.01	7.52	2.84	5.24	0.13	0.83	0.01	61.06		0.48		4.75	98.13	0.8	1	186	128	24	1	157	10
14695	122.00	124.00	2.00	14.4	0.165	0.01	5.69	3.24	4.19	0.11	0.58	0.01	65.66		0.41		2.85	97.31	1.1	3	226	286	35	2	120	5
16514	147.60	150.60	3.00	16.14	0.155	2.28	5.56	2.97	4.28	0.19	0.99	0.01	62.47		0.3		1.39	96.74	1.1	1	329	32	21	1	100	5
16515	166.40	169.40	3.00	15.91	0.095	0.71	10.94	1.11	6.95	0.26	2.73	0.04	54.36		0.59		2.9	96.59	1.6	1	218	212	12	1	120	5
16516	191.00	194.00	3.00	13.76	0.065	0.01	11.41	0.57	8.98	0.42	1.59	0.03	55.28		0.57		2.94	95.61	2.1	1	137	512	1	1	183	5
16517	214.30	217.30	3.00	15.6	0.035	1.05	9.55	0.28	8.02	0.46	3.17	0.06	55.26		0.62		1.26	95.37	2.2	1	96	435	6	1	232	5

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER: SOLLY
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10525.00N
EAST: 10694.00W
ELEV: 657.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 349.30m
START DEPTH: 0.00m
FINAL DEPTH: 349.30m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: November 2, 1990
DATE COMPLETED: November 7, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 15.24 m
CORE STORAGE: ON SITE

PURPOSE: To test the 262 Felsic package downdip of Trench 4

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
69.00	-	-75° 0'	ACID	OK		-	-	-	-	-	
161.00	-	-75° 0'	ACID	OK		-	-	-	-	-	
239.26	-	-74° 0'	ACID	OK		-	-	-	-	-	
279.00	-	-73° 0'	ACID	OK		-	-	-	-	-	
316.99	-	-71° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 15.24	«OB»					
15.24 TO 22.94	«DIORITE»	Colour: dark green Grain Size: m. to c.gr. Thick, massive, Karmutsen; fsp porphyritic; well developed chill margin on lower contact				
22.94 TO 79.38	FELSIC LITH TUFF «F LITH TUF F»	Colour: light to medium grey Grain Size: m.gr. Thick bedded, massive, moderately foliated, massive, very granular texture, rare qtz eyes to 2 mm; abundant granular felsic material, rare fragments to 1 cm: >5% medium green lithic frags to 3 mm; minor fsp xls to 1 mm		Weak to moderate sericite and chlorite development on foliation surfaces 31.83-40.31 -a very weak pervasive biotite alt.; fsp and some fragments have a weak epidote alteration 40.31-42.18 -intense silicification; pervasive epidote alteration 42.18-44.16 -strong biotite; chlorite; epidote and patchy silicification 44.16-47.30 -weak, pervasive silicification; fragments weakly epidized; local chlorite, biotite alteration 47.30-50.05 -pervasive silicification 50.05-62.12 -patchy silicification, biotite alt. and weak pervasive epiodote alteration	Trace disseminated pyrite	Foliation in sub-parallel to c.a approx 20 deg

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
79.38 TO 108.81	FELSIC LITH TO LAP TUFF «F LITH,LAP TUFF»	Colour: medium grey, weak green cast Grain Size: c.gr. Thick bedded; massive, weakly foliated; massive 5% light green epidote altered lithic fragments to 4 mm; a small percentage of these appear to be feldspar xls; 5% white to greenish grey felsic fragments to 3 cm, rare to 6 cm, generally silicified, a small percentage of light to medium green lithic fragments to 6 mm 82.65-84.00 -80% qtz vein; core badly broken Fragment size and percentage decreases down hole; the matrix to the intervals is a Felsic FP		Weak sericite development on foliation surfaces, local weak pervasive epidote, biotite alteration	Trace diss. pyrite	
108.81 TO 116.38	FELSIC QTZ PORPH TUFF «QP TUFF»	Colour: light to medium grey Grain Size: m.gr. Thick bedded; massive, weakly foliated; 5-10% qtz eyes to 7 mm, rare to 1 cm; minor epidote altered fsp 114.16-116.38 «F Tuff» -Felsic tuff; fine to medium grained; one epidized fragment to 2 cm Contact @ 116.38 m	20	Poor sericite development on foliation surfaces		Foliation is subparallel to c.a.
116.38 TO 131.26	FELSIC LITH TO LAP TUFF «F LITH LAP TUFF»	Colour: light greyish green Grain Size: m. to c.gr. Thick bedded; massive, moderately foliated; 3% bleached white and silicified felsic fragments to 1 cm; locally to 2 cm; <5% light green epidote altered lithic frags to 5 mm, minor epidized fsp xls to 1 mm; the interval is very gritty and granular; fragment size and percentage generally decreases down hole		Moderate to well developed sericite on foliation surfaces	Trace diss. pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
131.26 TO 146.64	FELSIC ASH LITHIC TUFF «F ASH, LIT H TUFF»	Colour: light to medium grey Grain Size: f.gr. Thick bedded; moderate to strongly foliated; f.gr. granular texture throughout 143.26-143.58 -strongly sheared	35	Moderate sericite development throughout 136.90-146.64 -moderately bleached; well developed sericite on foliation surfaces	Minor disseminated and stringer pyrite; rare trace cp 139.92 -1 mm sphalerite stringer	
146.64 TO 167.59	«DIORITE»	Colour: medium to dark green Grain Size: f. to c.gr. Thick, massive, Karmutsen; fsp porphyritic				
167.59 TO 175.46	FELSIC ASH TO LITHIC TUFF «F ASH-LITH TUFF»	Colour: light to medium grey Grain Size: f. to m.gr. Thick bedded; moderately foliated; fine grained granular texture throughout 172.69-175.46 -interval contains <5% felsic lapilli, medium to dark green in colour; to 3 cm		Moderate sericite development on foliation surfaces; weak pervasive silicification	Trace disseminated pyrite	
175.46 TO 192.67	FELSIC PORPH LITH TUFF «FP LITH TU FF»	Colour: dark grey green Grain Size: m. to c.gr. Thick bedded, massive, weakly foliated; massive; matrix appears to be a fsp porphyry, upwards of 5% xls predominantly epidote altered to 1 mm; 5% epidote altered lithic fragments to 1.5 cm; generally 2 to 6 mm in size: rare white felsic frags to 2 cm; very gritty and granular in texture		Intensely silicified; weak pervasive epidote alteration; local weak biotite alteration	Trace pyrite	Much more intermediate in composition

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
192.67 TO 206.60	FELSIC TUFF «F TUFF»	Colour: medium greyish green Grain Size: medium grained Thick bedded; massive, weakly foliated; very gritty and granular in appearance; 2-3% white to ghostly to weakly epidote altered fsp xls to .5 mm abundant siliceous grains; 10% dark green lithic frags to 2 mm; 1% white felsic fragments to 1 mm; local felsic lapilli to 4 cm; bleached white and silicified 194.75-195.18 -strongly sheared 195.18-196.66 -Fault, strongly sheared, abundant gouge seams	60	Poor sericite development on foliation surfaces	Trace pyrite	Possibly an unaltered version of the above interval
206.60 TO 216.93	FELSIC LAP TUFF «F LAP TUFF »	Colour: medium grey green Grain Size: c.gr. Thick bedded, massive, weak to moderately foliated ground mass is a FP tUff with 3% fsp xls, white to ghostly to weakly epidote altered to 1 mm; 5-10% medium green lithic fragments to 4 mm; 5% bleached white and siliceous felsic frags to 6 cm, generally flattened parallel to foliation		Weak sericite, minor chlorite development on foliation surfaces	Trace pyrite	Groundmass is intermediate in composition
216.93 TO 230.12	ANDESITE XTL LITHIC TUFF «AND XLT LI TH TUFF»	Colour: light to medium green Grain Size: m. to c.gr. Thick bedded; massive, weakly foliated, massive 3-5% white to ghostly to epidote altered fsp xls to 1 mm very gritty and granular in appearance abundant felsic granules to 2 mm; 10% medium to dark green lithic fragments to 3 mm 222.10-230.12 -local fragments to 5 cm; both felsic and mafic; also 1-2% dark green to black mafic xls		Weak chlorite development on foliation surfaces; locally weak to strongly calcare	Minor disseminated pyrite	Not a sharp contact with the overlying unit

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
230.12 TO 255.60	INTERMED. LITHIC TUFF «I LITH TUF F»	Colour: light to medium greyish green Grain Size: medium to coarse Thick bedded, massive, weakly foliated, massive may contain upwards of 5% very ghostly fsp xls to 1 mm; minor dark green to black mafic xls to 5 mm; interval is very gritty and granular; local faint outlines of lapilli fragments 248.80-255.60 -a finer grained version of the above interval		Pervasive silicification, local weak biotite development	Trace pyrite 245.00-248.84 -1% pyrrhotite, trace chalcopyrite, patchy and minor veinlets 1% pyrite, 1% pyrrhotite, patchy and in veinlets; also disseminated	Str. Alt. Andesite?
255.60 TO 270.79	QUARTZ FSP PORPHYRY «QFP»	Colour: light grey Grain Size: medium grained Thick bedded; massive, weakly foliated, massive; 5-10% qtz eyes to 8 mm; common to 1 cm; 3-5% white to ghostly to weakly epidote altered fsp xls to 1 mm, also common clay altered; very granular appearance		Very poor sericite developement	Minor pyrite, trace pyrrhotite, patchy and in veinlets	Felsic Dyke?
270.79 TO 282.89	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: light green Grain Size: f. to m.gr. Thick bedded; massive, weakly foliated, massive, the intense epidote obscures most textures; interval locallly contains abundant felsic granules to 1 mm, and fsp xls 275.28-275.99 -appears to be a strongly altered felsic interval		Intense pervasive epidote alteration	1% diss. pyrite, up to 1% diss. pyrrhotite, also in veinlets; rare trace chalcopyrite -5-10% pyrite, disseminated and laminated 282.00-282.89 -10% pyrrhotite, patchy and veinlets	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
282.89 TO 294.92	FELSIC TUFF «F TUFF»	Colour:: medium grey Grain Size: m.gr. Thick bedded, massive, moderately foliated, very granular in texture 286.75-278.20 -local gouge seams 287.40-287.70 -local gouge seams 287.70-288.34 -40% qtz veins		Weak to moderate sericite development on foliation surfaces	5% fine to medium grained pyrite, patchy, stringrs, disseminated and laminated; local trace chalcopyrite and pyrrhotite	
294.92 TO 303.46	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: light greyish green Grain Size: medium grained Thick bedded; massive; weakly foliated massive; very granular in texture; abundant siliceous grains to 2 mm; possible 2-3% fsp xls to 1 mm; 5% light green epidote altered lithic fragments to 3 mm; rare to 2 cm		Intensely bleached; weka pervasive silicification	2-3% diss, patchy m.gr. pyrite, tr. cp; local trace pyrrhotite	
303.46 TO 309.60	ANDESITE LAP TUFF «AND LAP TU FF»	Colour: light greenish grey Grain Size: c.gr. Thick bedded; massive, weakly foliated massive, 5% light green epidote altered, lithic fragments 2 mm to 1 cm; up ot 5% , 1 cm to 6 cm; textures are masked by the bleaching		Pervasive bleaching; weak pervasive silicification	2-3% pyrite, disseminated, patchy and stringers; local pyrrhotite, dissem. patchy and in stringers	
309.60 TO 311.02	FELSIC ASH AND CHERT «F ASH-CHT»	Colour: light greyish green Grain Size: fine grained Thin to moderately bedded; weakly foliated, 40% interbedded Ash to fine grained Lithic tuff Contact @ 309.60 m Contact @ 311.02 m	 35 40	Weak sericite development on foliation surfaces	Trace pyr, cp and pyrrhotite as stringers, patches and disseminations	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
311.02 TO 314.42	INTERMED. LITHIC TUFF «I LITH TUFF»	Colour: light to medium greyish green Grain Size: m.gr. Thick bedded; massive, weakly foliated massive; very gritty in appearance; textures obscured		Weak pervasive bleaching and silicification	Trace pyr, cp and pyrrhotite; diss stringers and patches	Andesite?
314.42 TO 317.20	FELSIC ASH CHERT «F ASH,CHT»	Colour: light grey, weak green cast Grain Size: f. to m.gr. Thin to moderately bedded; weakly foliated; 60% interbedded ash and chert with 40% interbedded, fine grained tuff CAB @ 315.20 m	50	Weak to moderate sericite, minor chlorite on foliation surfaces	Minor pyrite, trace chalcopyrite and pyrrhotite; diss; patchy; stringers	
317.20 TO 334.74	ANDESITE LITH TUFF LAT «AND LITH,LAP TUFF»	Colour: light greenish grey Grain Size: medium grained Thick bedded; massive; weak to moderately foliated very granular in texture; 1-2% well defined lapilli to 5 cm, local epidote altered to bleached white and siliceous; locally 10% light green epidote altered lithic frags to 8 mm; generally textures; obscured by alteration [328.58-334.74] «Diorite» -diorite, strongly bleached?; Andesite XLT?		Pervasive bleaching, weak silicification, minor pervasive epidization; local biotite development	1-2% pyrite, minor chalcopyrite, trace pyrrhotite 319.93-321.02 -5-10% pyrite, minor chalcopyrite and pyrrhotite	
334.74 TO 343.53	INTERMED. LITHIC TUFF «I LITH TUFF»	Colour: medium grey green Grain Size: m.gr. Thick bedded; massive, weak to moderately foliated very granular texture 334.74-335.10 -predominantly chert and felsic ash		Weak to moderate sericite and chlorite development on foliation surfaces	2-3% pyrite, minor chalcopyrite, tr pyrrhotite, diss, patchy and stringers 337.34-338.96 -5-10% pyrite, tr chalcopyrite and pyrrhotite, predominantly stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
343.53 TO 345.76	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: medium greenish grey Grain Size: medium grained Thick bedded; massive, weak to moderately foliated very granular in texture		Moderate chlorite development on foliation surfaces	1-2% pyrite, trace cp and pyrrhotite, diss and patchy	
345.76 TO 349.30	INTERMED. LITHIC TUFF «I LITH TUF F» E.O.H.	Colour: medium greyish green Grain Size: medium grained Thick bedded; massive, weak to moderately foliated very gritty and granular in texture		Weak to moderate chlorite and sericite developed on foliation surfaces	Minor diss. pyrite, trace chalco and pyrrhotite	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14657	275.28	275.99	0.71	102	8	128	0	25														
14658	282.00	282.89	0.89	121	4	94	0	25														
14659	282.89	283.97	1.08	199	2	102	0	0														
14660	283.97	285.44	1.47	174	4	100	0	10														
14661	285.44	287.27	1.83	467	0	234	0	10														
14662	287.27	288.52	1.25	660	38	316	0	55														
14663	288.52	290.66	2.14	399	4	242	0	15														
14664	290.66	292.00	1.34	444	1082	1545	3.3	5														
14665	292.00	293.66	1.66	126	14	110	0	15														
14666	293.66	294.92	1.26	202	2	130	0	0														
14667	309.60	311.02	1.42	607	2	34	0	10														
14668	314.42	315.02	0.60	170	2	26	0	0														
14669	315.02	317.20	2.18	159	14	30	0	0														
14670	319.93	321.02	1.09	187	2	82	0	15														
14671	337.34	338.96	1.62	237	2	140	0	35														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16526	23.46	26.46	3.00	15.1	0.085	0.2	2.78	2.41	2.19	0.09	4.32	0.01	70.17		0.32		0.02	97.69	0.7	40	146	3	8	1	128	5
16527	56.99	59.99	3.00	14.62	0.095	1.81	2.59	2.44	1.25	0.08	4.11	0.01	70.61		0.29		0.14	98.02	0.7	28	145	16	11	1	26	10
16528	89.00	92.00	3.00	14.58	0.065	2.08	3.28	1.72	1.87	0.12	4.74	0.01	68.71		0.29		0.18	97.64	0.9	36	96	22	15	1	42	5
16529	121.00	124.00	3.00	15.06	0.08	0.51	3.01	2.86	2.99	0.07	2.57	0.01	69.03		0.28		0.02	96.48	0.6	22	100	5	17	1	65	5
16530	139.30	142.30	3.00	13.8	0.09	0.01	2.96	2.88	4.7	0.07	1.15	0.01	70.48		0.15		0.02	96.3	0.4	1	99	21	22	1	95	5
16531	169.77	172.77	3.00	14.23	0.16	1.21	2.43	2.95	2.29	0.05	2.94	0.01	70.98		0.16		0.01	97.41	0.5	51	232	1	24	1	28	5
16532	187.45	190.45	3.00	15.32	0.075	5.26	4.19	1.85	2.14	0.11	3.99	0.01	64.47		0.38		0.18	97.98	1.1	13	123	5	16	1	77	5
16533	212.29	215.29	3.00	15.48	0.055	4.27	4.02	1.38	2.49	0.06	4.78	0.01	64.38		0.35		0.04	97.3	1.2	5	97	16	21	1	28	5
16534	218.46	221.46	3.00	16.91	0.02	6.9	8.39	0.58	5.85	0.16	5.23	0.05	50.47		0.61		0.14	95.3	2.4	1	58	106	5	1	82	5
16535	241.00	244.00	3.00	16.84	0.045	4.13	6.46	1.32	6.2	0.17	4.04	0.01	55.96		0.57		0.56	96.29	2.2	1	93	106	6	1	81	10
16536	258.16	261.16	3.00	14.76	0.125	1.08	3.42	2.89	1.53	0.13	2.92	0.01	69.71		0.27		0.97	97.8	1	46	292	51	34	1	351	5
14664	290.66	292.00	1.34	16.62	0.045	4.4	10.74	0.9	6.54	0.26	4.28	0.03	49.14		0.54		6.47	97.96	3.3	1	127	444	1082	2	1545	5
16537	298.30	301.30	3.00	17.34	0.04	7.24	7.17	0.51	3.45	0.18	4.83	0.04	54.93		0.55		1.58	97.86	1.8	1	138	105	28	1	65	5
16538	311.02	314.42	3.40	15.61	0.15	4.61	6.71	2.06	3.31	0.12	2.48	0.01	60.16		0.45		1.79	97.44	1.6	1	318	245	23	1	43	10
16539	330.86	333.86	3.00	13.54	0.02	14.07	9.05	0.22	13.34	0.21	0.58	0.07	43.42		0.38		0.17	95.07	1.7	35	40	93	107	1	177	5
16540	339.85	342.90	3.05	18.17	0.145	1.97	7.85	2.38	5.94	0.21	3	0.03	53.37		0.59		2.58	96.24	1.7	1	171	136	74	1	181	5

HOLE NUMBER: 90-314

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10674.00N
EAST: 8885.00W
ELEV: 665.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -76° 0' 0"
LENGTH OF THE HOLE: 140.51m
START DEPTH: 0.00m
FINAL DEPTH: 140.51m

COLLAR GRID AZIMUTH: 180° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: November 4, 1990
DATE COMPLETED: November 5, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 12.2 m
CORE STORAGE: ON SITE

PURPOSE: To test the 262-272 mineralized trend

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
26.50	-	-74° 0'	ACID	OK		-	-	-	-	-	
109.00	-	-73° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 12.20	«OB»					
12.20 TO 65.80	FELSIC TUFF LAP TUFF «F TUFF,LAP TUFF»	Colour: light grey Grain Size: f.gr. Weak to moderately foliated, very indistinct fragmental and granular textures; patchy fragmental texture from faintly outlined flattened wispy light grey felsic fragments, less flattened more rounded 0.5 cm light and med. grey felsic frags, and more abundant wispy med. green frags <1 cm; weak granular texture from <0.5 mm grey siliceous grains and minor clear qtz eyes		12.2-28.6 -weak to moderte sericite 28.6-45.4 -strongly sericitic 45.4-65.8 -weak to moderate sericite	-2-4% diss. pyrite and occasional coarser grained stringers, 1-3 cm wide 12.7 -1 cm py-sp stringers 18.6 -5 mm py-cp stringer 42.85-43.7 -5-7% py, locally 15% py over 6 cm	
		51.9 -single 1 cm cherty ash, layer bedding @ (fragment)	60			
		57.9-58.55 -Andesite Ash; fine grained, aphyric, minor grey siliceous grains				
		Upper bedding contact	52			
		Lower bedding contact	37			
		Foliations				
		13.5 m	52			
		31.7 m	30			
		41.0 m	50			
		48.5 m	45			
		56.4 m	40			
		62.5-63.1 -Andesite ash				
		63.1-65.8 -unit looking more andesitic in appearance, felsic				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		frags				
65.80 TO 71.30	ANDESITE LAP TUFF «AND LAP TU FF»	Colour: med. dark grey green Grain Size: f. to c.gr. 3-5%, <1-2 cm subangular to flattened, med. grey fine grained felsic lithic fragment in a f-m grained granular andesitic matrix			1-3% diss. pyrite	
71.30 TO 79.25	«DIORITE»	Colour: medium to dark green Grain Size: f.gr. Mainly fine grained, weakly foliated calcareous, finely speckled with patchy fsp porphyritic zones Sharp lower contact	40			
79.25 TO 88.20	ANDESITE LITHIC TUFF «AND LITH T UFF»	Colour: med to dark green grey Grain Size: f. to m.gr. Fine to medium grained pervasive granular texture from <1-2 mm med. light grey siliceous grains; fsp and lithic grains; 1-2%, <1-3 cm light to med. grey felsic lithic fragments More felsic appearance and less chloritic below 84 m Very indistinct lower contact		Weak to moderate chlorite	2-3% py, tr cp, diss Last 15 cm -15% coarse brassy pyrite, stringer? mineralization	
88.20 TO 97.70	INTERMED. TO FELSIC LITHIC TUFF «I-F LITH TUFF»	Color: med grey Grain Size: f.gr. Fine granular texture, <0.5 mm siliceous grains 88.2-89.3 -1-2% up to 3 cm felsic lithic fragments 94.55-97.7 -numerous fault gouge zones and areas of shearing		Weak sericite	2-3% diss. pyrite, tr cp	Possible continuation of above unit

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		and milling; occasional fault bounded screens of definite felsic material Fault anglet to c.a. 94.65 m 95.95 m 97.2-97.7 -fault gouge 97.7 m	 35 40 40			
97.70 TO 140.51	ANDESITE CRYSTAL TUFF «AND TUFF»	Colour: dark green Grain Size: f. to m.gr. Up to 25%, <1-2 mm green epidote altered fsp crystals in a finer granular matrix; occasional <0.5 cm epidote fragments 100.5-110.0 -rubbly, broken core with fault gouge zones and angles to core axis as follows: 100.9-101.1 102.1-102.2 109.0-109.15 117.3-119.1 -Felsic Tuff; light grey green, f.gr., strong siliceous appearance; lower contact 119.1-119.9 -Andesite Lithic Tuff; fine-medium granular texture; <1-1 mm grey siliceous grains 119.9-125.5 -Diorite; massive, fsp porphyritic; finer grained calcareous -lower margin from 23.5-125.5 -sharp lower contact	 40 45 45 50 57	Epidote alteration of fsp crystals and rare fragments; rare qtz-chlorite veining	<1-1% py 125.5-126.8 -irregular qtz veining with 7-10% coarse grained pyrite 126.8-140.51 -<1-2% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	E.O.H.					

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14699	42.85	43.75	0.90	499	40	176	0.5	45														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16518	17.40	20.40	3.00	14.05	0.155	0.01	4.11	2.75	3.67	0.08	1.17	0.01	69.43		0.28		1.37	97.08	0.4	9	262	76	29	1	87	10
16519	38.70	41.70	3.00	13.09	0.155	0.01	3.47	3.85	1.65	0.03	0.17	0.01	73.34		0.14		2.24	98.13	0.1	32	197	57	28	1	60	5
16520	58.50	61.50	3.00	15.15	0.125	0.01	3.83	2.89	4.91	0.12	1.4	0.01	66.28		0.34		1.45	96.51	0.3	1	232	14	23	1	72	5
16521	83.20	86.20	3.00	17.12	0.055	0.01	11.16	1.04	8.04	0.28	3.27	0.01	51.09		0.6		3.4	96.05	1.5	1	113	704	1	1	122	5
16522	90.60	93.60	3.00	15.19	0.08	0.26	7.68	1.64	5.14	0.15	2.87	0.01	60.77		0.43		2.89	97.12	1.4	1	199	228	5	1	74	5
16523	111.00	114.00	3.00	15.93	0.025	4.29	10.27	0.46	7.27	0.33	2.04	0.03	53.64		0.6		0.67	95.56	2.2	1	91	1040	1	1	84	5

HOLE NUMBER: 90-315	MINNOVA INC. DRILL HOLE RECORD	IMPERIAL UNITS:	METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10790.00N
EAST: 8800.00W
ELEV: 651.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -84° 0' 0"
LENGTH OF THE HOLE: 215.49m
START DEPTH: 0.00m
FINAL DEPTH: 215.49m

COLLAR GRID AZIMUTH: 180° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: November 7, 1990
DATE COMPLETED: November 8, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 6.7 m
CORE STORAGE: ON SITE

PURPOSE: To test the 262 Felsic package downdip of hole 272

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
60.00	-	-83° 0'	ACID	ok		-	-	-	-	-	
132.00	-	-82° 0'	ACID	OK		-	-	-	-	-	
181.00	225° 0'	-81° 0'	SING.SHOT	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.70	«OB»					
6.70 TO 41.00	FELSIC TUFF «F TUFF»	Colour: light to med. grey green Grain Size: f.gr. 6.7-30.0 -faint fragmental texture some distinct light-med. grey and white grey lithic grains and frags up to 2 cm 9.9-11.2 -Fault gouge, very poor recovery 30.0-41.0 -fine grained tuff to weakly granular tuff		6.7-30.0 -patchy weak sericite 23.25-24.3 -qtz chlorite vein -weak sericite	-local traces of disseminated cp and py	
41.00 TO 80.30	FELSIC LAP TUFF «F LAP TUFF »	Colour: streak light and med. grey Grain Size: <10-20% partially flattened rounded; light grey <1-6 cm felsic lithic fragments in a med. grey grey green, weakly granular fine grained matrix; matrix supported 41.0-49.5 -streaky lapilli tuff and patchy mottled fragmental fine grained ashy zones 68.1-68.25 -milled fault zone Layering defined by flattening of fragments as follows: 43.0 m 56.3 m 75.0-80.3 -less defined fragments, rubbly core, difficult to define lower contact	38 48	Weak to patchy moderate sericite; alteration decreasing below 57 m	<1% py Zones of significant mineralization as follows: 41.0-41.7 -5% diss. pyrite 42.25-42.4 -siliceous-calcareous stringer with 15% c.gr. pyr and 1% chalcopyrite, tr. sphalerite 42.85-43.45 -3-5% diss pyrite 43.45-43.9 -10-15% f.-m.gr. py, diss and stringery appearance, trace chalcopyrite 44.7-45.85 -2-4% py 48.7-49.5 -3-5% py, tr cp 48.1-49.35	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					-py-cp stringer mineralization	
80.30 TO 91.05	FELSIC TUFF «F TUFF»	Colour: light grey Grain Size: f.gr. Weak to moderately foliated, weak fine granular texture, <0.5-1 mm light creamy grey and dark grey granules, some which are fsp and rare <0.5 mm qtz eyes 30 cm chloritic ash at top of unit 80.3-83 -rubbly broken core 84.3-86.25 -Fault zone; milled core, minor fault gouge along narrow irregular zone approx. parallel to c.a. Foliations: 81.5 m 87.0 m	 52 60	Weak sericite	<1-1% py 86.15-91.05 -1-3% diss. pyrite, rare <1 cm stringers	
91.05 TO 94.80	FELSIC TUFF SEMI-MASS SULPHIDES «F TUFF, SM S»	Colour: light grey Grain Size: f.gr. Felsic tuff similar to previous unit with 7-15 cm wide zones of semi-massive sulfides bedded and stringer mineralization Best sulphide zones from 91.23-91.38 and 93.17-93.31 91.05-91.44 -dark sericitic mud and semi-massive sulphides Bedding defined by sulphide layer from 91.23-91.38 at 50 deg to c.a. 93.6-94.3 -soft milled gougy core		Intense sericite within sulphide rich zones, otherwise moderate sericite alteration	91.05-91.23 -5% py, tr. cp 91.23-91.38 -40% c.gr. pyrite, tr. chalcopyrite, weakly bedded at 50 deg to c.a. 91.44-92.05 -3% pyrite diss and as rare <0.5 cm wide stringers parallel to foliation 92.05-93.31	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					-20% pyrite, <1-1% chalcopyrite, as 7-13 cm semi-massive zones, coarse disseminations and stringers; interval broken down as follows: 92.05-92.36: 10-15% c.gr. pyrite, diss 92.36-92.44: 50% py, tr cpy 92.44-93.17: 10% py, <1% cp as <1-2 cm stringers 93.17-93.31: 50% py, 5% cpy 93.31-94.8: 3-5% py, stringers @ 93.6 and 94.8	
94.80 TO 129.85	FELSIC TUFF «F TUFF»	Colour: light to med. grey Grain Size: f. gr. Fine, aphyric tuff to weak, fine granular tuff; abundant milled and gougy zones, distorted foliations 105.6-106.3 -Mafic dyke: highly sheared and deformed with qtz chlorite veining; Faulted upper contact Faulted lower contact Fault angles 95.6 m 107.1 m 108.7-109.2 111.8-112.4-113.7 118.2 m 118.9 m Fault end 119.5 m 121.32-121.45 -medium grey sericite ash below sulphide stringer	 45 55 55 40 25	Weak sericite	1-3% diss. pyrite; occasional, <2 cm siliceous calcareous pyrite stringers occasional with trace of chalcopyrite 106.5-106.8 -10% py as coarse grained siliceous stringers, tr. cp 111.86-112.4 -5% py stringers 112.7 -10 cm, 20% med gr. py 116.2 -10 cm calcareous chloritic stringer 20% py 121.2-121.32 -12 cm siliceous zone (stringer) with	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		123.5 -sharp swing in foliation from poorly foliated at 40-50 deg to 20 deg 129.5-129.85 -unit coarsens to a coarse grained granular lithic tuff		121.6-129.85 -strong; patchy moderate sericite alteration	7% pyrite; 2-3% black and minor red sphalerite, <1-1% chalcopyrite 123.55-124.4 -7-8%, <1 cm siliceous py stringers parallel to c.a. 129.6-129.85 -qtz veining 3-5% py, tr cp	
129.85 TO 132.30	«QP TUFF»	Colour: Grain Size: 3-5%, 1-3 mm round qtz eyes; weakly foliated parallel to c.a. Irregular lower contact		Moderate-strong sericite	<1-1% py	
132.30 TO 136.95	«DIORITE»	Colour: med. green Grain Size: f.gr. Massive, f.gr. dyke, very weakly fsp porphyritic Irregular lower contact		Minor qtz-calcite-chlorite veining		
136.95 TO 148.60	FELSIC TUFF «F TUFF»	Colour: light green grey Grain Size: f.gr. <1-2%, 1-3 mm rounded qtz eyes 139.9-144.8 -Fault zone, milled gougy core 144.8-145.8 -dark, coloration - intermediate ash, lower contact	50	Moderate sericite	Overall <1% py 136.95-138.0 -<1% red sphalerite as <0.5 mm wide wispy veinlets with minor py - veining parallel to c.a. 146.53-146.7 -sericite quartz zone unit, coarse	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		146.8-147.55 -Fault zone; gougy milled core 148.6 m sharp lower contact	45		grained sulphides 25% py, 3% cp, 1% black sphalerite 146.7-146.8 -5% py	
148.60 TO 156.00	«DIORITE»	Colour: speckled med. green Grain Size: f.-m.gr. Massive fine to medium grained equigranular texture; fine grained 15 cm upper chilled margin Sheared lower contact	30			
156.00 TO 168.95	INTERMED. - ANDESITIC TUFF «I-AND TUFF »	Colour: medium green grey Grain Size: f.-m.gr. Pervasive granular texture from <1-1 mm grey siliceous grains, rare qtz eyes and minor weakly epidote altered fsp crystals Between 167 and 168 m 1-2% fine dissem. reddish grains - possible sphalerite?; sample 14709 to check Broken core at lower contact		Weak sericite	1-2% fine diss. pyrite	
168.95 TO 173.25	FELSIC TUFF «F TUFF»	Colour: light grey green Grain Size: f.gr. Very fine granular texture from <0.5 mm siliceous grains at x16 power; macroscopic - fine aphyric texture; silicified appearance			<1-1% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
173.25 TO 182.00	INTERMED. TO AND. ASH «INT-AND AS H»	Colour: medium grey green Grain Size: f.gr. Similar to previous intermediate-andesitic tuff; fine granular texture; 1-3% <1 mm soft reddish diss grains similar to those seen from 167-168 m 180.6-182.0 -Fault zone; gougy milled core; 182.0 dark grey slips at lower contact approx 30-40 deg		Weak sericite	<1-2% py 176.25-176.4 -py-cp stringer and 3 cm qtz-cp vein; 10% py, <1% cp	
182.00 TO 215.49	ANDESITE CRYSTAL TUFF «AND XTL TU FF» E.O.H.	Colour: medium to dark green Grain Size: f. to c.gr. Up to 30%, <1-2 mm epidote altered crystals (fsp) epidotized fragments <1 cm 182.0-183 -red hematitic fracture coatings 203.75-206.45 -Andesite ash; fine aphyric ash, minor bedding evident from 205.1-205.8 at 5-10 deg to c.a.		Epidote alteration of fsp crystals and fragments; pervasive epidote in areas of qtz chlorite veining	<1% py as coarse grained blebs assoc. with qtz veins 205.1-205.8 -abundant, very fine grained syn-genetic pyrite within ash beds/ laminations	

Sample	From (m)	To (m)	Length (m)	ESTIMA Cu ppm	ASSAYS Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	GEOCHEMICAL Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		COMMENTS
14700	42.25	43.35	1.10	325	306	244	0	45														
14701	43.45	44.05	0.60	33	66	50	0	45														
14703	91.05	91.44	0.39	3219	22	214	0	0														
14704	91.44	92.05	0.61	98	0	100	0	65														
14705	92.05	93.31	1.26	9638	4	200	2	40														
14706	93.31	94.80	1.49	158	0	102	0	10														
14707	121.20	121.45	0.25	3569	64	6422	0	60														
14708	146.53	146.85	0.32	6019	48	4938	1.5	80														
14709	167.00	168.00	1.00	205	6	152	0	0														

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16524	11.30	14.30	3.00	15.37	0.065	0.01	3.22	2.18	2.56	0.08	3.8	0.01	68.87		0.32		0.32	96.78	0.5	35	111	133	32	1	83	5
16525	35.60	38.60	3.00	14.5	0.15	0.01	4.07	3.09	4.13	0.16	0.58	0.01	68.41		0.28		1.15	96.51	0.7	1	296	21	28	1	127	5
16551	64.00	67.00	3.00	14.96	0.115	0.01	3.73	1.71	3.04	0.11	4.16	0.01	68.09		0.31		1.26	97.49	0.4	20	136	83	43	1	110	5
14702	90.05	91.05	1.00	16.05	0.11	0.01	7.04	2.37	7.07	0.23	0.75	0.01	59.07		0.49		2.44	95.62	1.3	1	129	45	583	1	675	5
16552	124.40	126.60	2.20	14.41	0.135	1.57	1.83	3.96	1.82	0.05	0.83	0.01	71.09		0.29		0.72	96.7	0.7	44	151	19	77	1	59	5
16553	158.50	161.50	3.00	16.08	0.055	0.01	9.35	0.92	9.2	0.28	2.68	0.04	53.58		0.64		2.22	95.05	1.7	1	67	203	3	1	157	5
16554	175.30	178.30	3.00	13.71	0.105	2.61	2.2	3.56	1.04	0.07	2.25	0.01	71.33		0.27		0.06	97.2	0.8	1	169	13	29	1	27	10
16555	197.20	200.20	3.00	16.62	0.09	0.01	7.44	2.36	8.31	0.23	1.34	0.03	56.28		0.57		1.71	94.99	0.7	1	91	77	4	1	140	5

HOLE NUMBER: 90-317

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT	PLOTTING COORDS GRID: MINE	ALTERNATE COORDS GRID:	COLLAR DIP: -50° 0' 0"
PROJECT NUMBER: 242	NORTH: 11391.00N	NORTH: 0+ 0	LENGTH OF THE HOLE: 227.69m
CLAIM NUMBER:	EAST: 10518.00W	EAST: 0+ 0	START DEPTH: 0.00m
LOCATION: NTS 92 B/13W	ELEV: 809.00	ELEV: 0.00	FINAL DEPTH: 227.69m

COLLAR GRID AZIMUTH: 180° 0' 0" COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: November 9, 1990	COLLAR SURVEY: NO	PULSE EM SURVEY: NO	CONTRACTOR: FRONTIER DRILLING
DATE COMPLETED: November 12, 1990	MULTISHOT SURVEY: NO	PLUGGED: NO	CASING: 6.1 m
DATE LOGGED: 0, 0	RQD LOG: NO	HOLE SIZE: NQ	CORE STORAGE: ON SITE

PURPOSE: To test a weak VLF & IP anomaly associated with argillites and cherts.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
12.00	-	-48° 0'	ACID	OK		-	-	-	-	-	
81.00	-	-46° 0'	ACID	OK		-	-	-	-	-	
159.00	-	-46° 0'	ACID	OK		-	-	-	-	-	
227.00	-	-46° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.10	«OB»					
6.10 TO 15.05	ANDESITE TUFF «AND TUFF»	Colour: streak dark green Grain Size: f.gr. Well foliated, moderate-strongly calcareous giving whitish streaky appearance 6.1-6.7 -<1%, 3-4 mm round epidote balls 9.8-11.05 -Felsic Tuff; well foliated, possible fragments, flattened 2 mm x 4 cm, <1-1% qtz eyes, gradational upper contact, sharp lower contact Contact @ 11.05 m Foliations 8.2 m 10.4 m Contact @ 15.05 m	 50 70 50 43	Weak chlorite/sericite	Tr py, hematite	
15.05 TO 19.20	«QP TUFF»	Colour: very light grey Grain Size: f.gr. 3-5% rounded qtz eyes decreasing to 1-2% below 17.1 m; well foliated @ 40-50 deg		Strong sericite		Very similar to Randy Zone alteration
19.20 TO 23.45	FELSIC ASH, TUFF «F ASH,TUFF »	Colour: light grey, med. green Grain Size: f.gr. Light grey, fine grained, felsic tuffs with minor qtz eyes intercalated with medium green finer grained ashes; well foliated at 45-50 deg. to c.a. 19.45-19.7 -Andesite ash		Moderate sericite	Overall <1% pyrite 20.2-20.75 21.1-21.5 -2-3% py, diss within <1-1 mm layers parallel to foliation	Epiclastics

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		23.45 -rubbly broken lower contact				
23.45 TO 33.95	«Q(F)P LITH TUFF»	Colour: very light green Grain Size: f. to c.gr. Pervasive fine granular texture, patchy coarse grained zones; up to 10% <1 mm qtz eyes, occasionally to 2 mm; patchy 1-2 mm, chalky fsp crystals, abundant indistinct lithic grains; moderately foliated at 45-50 deg to c.a. 27.3 -1 mm x 3 cm siliceous dark patch, fragment or boundined layer 28.95-29.7 -rare, fine grained fragments of light grey ash or possible thin ash beds parallel to foliation Lower contact	60	Moderate - strongly sericite	Local traces of diss. py/cp	
33.95 TO 41.95	INTERMED. TO AND TUFF «I-AND TUFF »	Colour: dark green Grain Size: f.gr. Well foliated, aphyric to weakly granular with rare qtz eyes; minor felsic QP screens with gradational contacts; weakly calcareous 38.8-39.25 -finer grained ash and grey chert zone; rare dark grey argillite frags 41.95 -irregular lower contact - soft sed distortion, tops uphole		Weak to moderately sericitic	Overall trace pyrite 38.8-39.25 -5% pyrite as distorted and boundined, ,1-1 mm very fine grained laminations 38.9-39.15 -zones of coarser grained, 2-3% arseno-pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
41.95 TO 66.90	«QP TUFF»	Colour: light grey green Grain Size: f. to c.gr.				
		41.95-50.8 -finer foliated appearance, patchy coarse foliated zones; up to 7% <1-1 mm rounded qtz eyes, 1-2 mm qtz eyes in coarser foliated zones; occasional light grey and tan flattened wispy fragments		-weak to mod. sericite	42.7-42.76 -<1-2 mm pyritic layers	Coarse foliated, fragmental zones similar in appearance to Randy zone; QP lapilli tuff
		43.2-43.4 -fine grained greenish grey ash, 1-2% fine diss. and wispy py				
		45.25-46.3 -strongly iron stained				
		47.85-49.9 -Mafic dyke; dark green, fine grained, weakly folitaed but more massive appearance, then host rock				
		49.9 sharp lower contact	20	49.9 -strong patchy, moderate sericite		
		50.8-66.9 -coarser foliated texture; qtz eyes 1-2 mm rare to 3 mm, rare light grey felsic frags, tan sericitic wispy fragment and grey black argillite fragments			53.7 -py wisps	
		Foliations				
		43.5 m	55			
		46.8 m	40			
		50.7 m	25			
		53.5 m	35			
		62.6 m	55			
		54.4-55.1 -moderate iron staining				
		59.6-60.7 -distorted foliations, very shallow to c.a.		56.4-59.3 -barren, white qtz sericite veining		
		61.4-61.9 -unit also contains 5%, 1 mm white fsp crystals				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		65.5-66.9 -color change from light grey green to medium green; interval very wispy - flattened fragmental texture, rare distinct black argillite fragments; gradational contact				
66.90 TO 76.40	ANDESITIC TUFF, SEDS «AND TUFF,S EDS»	Colour: streaky medium green, grey green Grain Size: f.gr. 66.9-69.35 -streaky green, moderate to strongly calcareous; rare distinct argillite fragment, probable green flattened fragments adding to the streaky texture of the rock Foliation 69.35-70.85 -less streaky, light grey green, fine grained, felsic ash (mud), cherty and cherty ash(seds) Possible bedding at 35-40 deg to c.a. 70.85-75.3 -dark green, foliated ash tuff, minor darker green mm wisps; not as streaky as from 66.9-69.35 Foliation varies from 40 - 10 deg 75.3-75.67 -black, massive, cherty, graphitic argillite, minor calcite gashes 76.3-76.4 -grey chert	35	-rock is soft reflecting probable primary composition and shearing; weak sericite/chlorite alteration	69.35-70.85 -occasional <1-1 mm, fine pyrite beds, minor disseminations 71.2 -1-2 mmm wide fine, discontinuous py lamination	
76.40 TO 84.90	INTERMED. TUFF «INT TUFF»	Colour: streaky medium, tan white green Grain Size: f.gr. Strong, streaky foliated appearance from fine green mm wisps and pervasive calcite 76.4-80.3			77.7-77.8	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-1-3%, <1-2 cm dark grey black strongly calcareous siliceous fragments; foliation very variable from <5 to 60 deg			-fine, diss py, po within fragments 82.25-83.45 -3-5% py as occasional <1-2 cm siliceous py veinlets, trace cp	
84.90 TO 97.90	ANDESITE TUFF, EPI-CLASTICS «AND TUFF,S EDS»	Colour: streaky, medium and dark green Grain Size: f.gr. Pervasive, streaky appearance accenting foliation, streaking from abundant calcite +/- hematite wispy veining and streaky medium and dark green wisps 84.9-86.4 -light beige, fine grained, ash-seds (mudstone) Foliation 45-50 deg to c.a.		Sericite/clay probably a functionn of primary composition and not hydro-thermal	Trace py-cp within calc-hematite veining	
97.90 TO 148.20	INTERMED. TO AND TUFF «I-AND TUFF »	Colour: medium green Grain Size: f. to m.gr. Well foliated, weak, streaky calcite veining 97.9-108.8 -finer grained, intercalated; medium green intermediate and light grey green felsic tuff 98.65-98.9 -green fault, gouge, minor qtz veining Below 108.8 -unit becomes carser grained, with a weak granular texture from <1-1 mm grey siliceous grains; weak to moderate streaky appearance from wispy calcite 127.1-127.65 -med. grey felsic ash; strongly foliated laminations/foliations Below 128			180.85 -10 cm with 10% disseminated magnetics	Streaky appearance characteristic of top of hole is gradually disappearing, calcite content decreasing

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-much stronger andesite appearance, weak granular texture 139.6-140.45 -very fine grained, med. grey, sericitic, pyritic mud Bedding 143.8 -3 cm siliceous hematitic zone (Jasper? horizon) 144.15-148.2 -rubbly core, numerous gougy slips aed gouge zones	 72	143.3-143.7 -calcite veining	139.6-140.45 -5-10% very fine grained, diss pyrite	IP/VLF anomaly
148.20 TO 227.69	QP LITHIC TUFF «QP LITH TU FF»	Colour: light grey green Grain Size: f. to m.gr. <1-3%, <1-1 mm, rounded qtz eyes and light grey siliceous felsic grains, some possibly fsp crystals; weak layered appearance with <0.5 cm wide light grey aphyric fine grainad layers-possible flattened felsic lithic fragments?; pervasive moderate to foliated granular texture 148.2-150.7 -milled texture with strongest milling and fault gouge development from 150.0-150.7 150.1 m Fault gouge 150.7 m Fault gouge 160.75-161.6 181.55-182.2 -Mafic dyke; dark green, fine grained, abundant white calcite, wispy veining; sharp upper contact and lower contact @ 160.75 m 183.7-227.69 -unit becoming greener in color; strong granular texture from qtz eyes and grey siliceous grains up to 1.5 mm	 70 80 75	Weak sericite 157.35-158.75 -moderately abundant qtz-chlorite veining	198.7-199.2 -1-2% py as mm wide wispy veinlets	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		202.7-213.5 -coarser foliated texture; streaky grey, tan, green; tan streaking possible sericitized wispy fragments 214.25-216.1 -Andesite tuff; or dyke?; dark green, fine grained abundant wispy calcite Gradational upper contact Sharp lower contact 216.1-227.69 -strong coarse grained, granular texture up to 2 mm grains Foliations 156.5 m 160.5 m 174.0 m 180.0 m 188.5 m 198.9 m 208.5 m	 55 70 55 63 65 60 48	202.7-213.5 -moderately sericitic		

				ESTIMA	ASSAYS										GEOCHEMICAL							COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %		
14710	38.80	39.25	0.45	64	70	94	0	0														
14711	69.35	70.85	1.50	54	6	134	0	0	1000													
14712	75.30	76.40	1.10	77	10	94	0	0	1920													
14713	139.60	140.45	0.85	54	4	52	0	0	760													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16556	6.70	9.70	3.00	15.28	0.015	5.73	9.31	0.12	7.53	0.35	2.41	0.02	52.12		0.52		1.51	94.92	2.3	1	43	742	3	1	176	10
16557	15.40	18.40	3.00	13.1	0.11	4.98	2.14	2.29	1.12	0.09	1.2	0.01	70.1		0.16		0.04	95.32	0.7	50	116	11	26	1	39	5
16558	51.20	54.20	3.00	13.91	0.1	3.66	2.02	1.46	1.54	0.07	2.03	0.01	70.14		0.2		0.09	95.22	0.8	61	97	15	20	1	34	5
16559	67.00	69.00	2.00	14.88	0.07	12.96	9.33	1.44	2.8	0.18	0.93	0.21	45.05		0.8		0.21	88.86	1.6	13	74	68	34	1	85	5
16560	77.00	80.00	3.00	12.73	0.225	15.15	7.77	1.6	3.37	0.31	0.33	0.17	43.88		0.6		0.4	86.54	2.3	128	205	135	21	2	81	5
16561	86.90	89.60	2.70	14.46	0.045	15.4	8.8	1.36	1.99	0.2	1.67	0.22	42.52		0.91		0.3	87.86	1.6	24	62	44	45	1	113	10
16562	110.20	113.20	3.00	14.42	0.045	8.18	5.76	1.15	2.92	0.13	2.65	0.01	56.77		0.44		0.07	92.54	1.2	20	108	65	34	1	73	5
16563	131.40	134.40	3.00	15.4	0.04	10.17	6.84	1.38	2.45	0.14	2.83	0.07	51.38		0.64		0.06	91.41	1.3	8	52	56	25	1	80	5
16564	154.20	157.20	3.00	13.81	0.085	1.66	1.63	2.84	0.89	0.05	2.59	0.01	72.22		0.15		0.01	95.93	0.6	38	137	5	22	1	37	5
16565	184.10	187.10	3.00	15.85	0.09	3.21	2.81	2.5	1.27	0.05	3.73	0.01	65.76		0.26		0.2	95.72	0.7	12	89	4	12	1	40	5
16566	205.90	208.90	3.00	13.28	0.08	5.4	2.29	2.7	0.81	0.06	1.27	0.01	67.86		0.22		0.01	93.99	0.7	56	77	14	23	1	36	5
16567	224.60	227.60	3.00	14.47	0.095	2.63	2.83	2.69	1.28	0.05	3.43	0.01	67.84		0.23		0.02	95.57	0.9	39	135	4	14	1	38	10

HOLE NUMBER: 90-318

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: LARA PROJECT
PROJECT NUMBER: 242
CLAIM NUMBER:
LOCATION: NTS 92 B/13W

PLOTTING COORDS GRID: MINE
NORTH: 10510.00N
EAST: 11200.00W
ELEV: 743.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -80° 0' 0"
LENGTH OF THE HOLE: 267.28m
START DEPTH: 0.00m
FINAL DEPTH: 267.28m

COLLAR GRID AZIMUTH: 180° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 208° 0' 0"

DATE STARTED: November 10, 1990
DATE COMPLETED: November 13, 1990
DATE LOGGED: 0, 0

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

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

CONTRACTOR: FRONTIER DRILLING
CASING: 3.04 m
CORE STORAGE: ON SITE

PURPOSE: To test the 262 Felsic package.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
53.34	-	-80° 0'	ACID	OK		-	-	-	-	-	
111.86	-	-81° 0'	ACID	OK		-	-	-	-	-	
160.02	-	-79° 0'	ACID	OK		-	-	-	-	-	
214.58	-	-79° 0'	ACID	OK		-	-	-	-	-	
267.00	-	-77° 0'	ACID	OK		-	-	-	-	-	
137.16	209° 0'	-82° 0'	SING.SHOT	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.04	«OB»					
3.04 TO 7.55	QTZ PORPH «QP»	Colour: light to medium grey Grain Size: medium grained Thick bedded; massive, moderate to strongly foliated; 5% qtz eyes to 4 mm; weak granular appearance; locally strongly weathered		Moderate to well developed sericite on foliation surfaces	Trace pyrite	
7.55 TO 30.80	FELSIC LITH TO LAP TUFF «F LITH,LAP TUFF»	Colour: light to medium grey Grain Size: m. to c.gr. Thick bedded; massive, weakly folited, massive 3-5% light green epidote alteredd lithic frags to 3 mm; 5% bleached white and silicified felsic fragments to 2 cm; locally to 5 cm CAF @ 24.40 m	16	Poor to moderate sericite development on foliation surfaces	Trace pyrite	Foliation appears sub parallel to c.a.
30.80 TO 51.81	FELSIC LITH TUFF «F LITH TUF F»	Colour: medium grey green Grain Size: m. to c.gr. Thick bedded; massive, weakly foliated, massive, 5-10% white, bleached silicified felsic frags to 5 mm, <1%, 5 mm to 4 cm; 3% light green epidote altered lithic fragments to 3 mm, matrix is a medium greyish green colour 44.20-51.80 «FLT-LaT» -up to 5% white felsic frags to 5 cm; dark grey colour, weak reddish brown tinge		Poor sericite development -weak biotite alteration; intensely silicified	Trace disseminated pyrite	
51.81 TO 67.25	«DIORITE»	Colour: medium to dark green Grain Size: m. to c.gr. Massive, Karmutsen fsp porphyritic				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
67.25 TO 82.87	FELSIC LITH TUFF «F LITH TUF F»	Colour: medium to dark grey Grain Size: m. to c.gr. Thick bedded; massive, weakly foliated massive, 2-3% epidote alteredd lithic frags to 3 mm;; <5% white, bleached and silicified felsic frags to 5 mm; very granular in appearance CAF @ 75.10 m 81.74-82.87 -Diorite	 07	Poor sericite development on foliation surfaces; intensely silicified; weak biotite development	Trace pyrite	
82.87 TO 107.76	FELSIC LITH TO LAP TUFF «F LITH,LAP TUFF»	Colour: medium to dark grey green Grain Size; m. to c.gr. Thick bedded, massive, moderately foliated, massive, 3% bleached white and silicified felsic fragments to 3 mm; 1% 3 mm to 4 cm; 2-3% epidote altered frags to 7 cm; groundmass very granular and gritty CAF @ 90.45 m 95.90-107.76 -felsic tuff with rare fragments to 4 cm CAF @ 102.51 m	 30 40	Poor sericite development; intensely silicified; weak biotite development	Trace pyrite	
107.76 TO 113.54	QUARTZ PORPHYRY «QP»	Colour: light to medium grey; v. weak green cast Grain Size: medium grained Thick bedded; massive, weak to moderately foliated massive, 5-15% qtz eyes to 5 mm, common to 8 mm; 2-3% light green epidote altered lithic fragments to 2 mm; a small percentage may be fsp xls CAF @ 112.65 m	 40	Moderate sericite development on foliation surfaces	Trace pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
113.54 TO 150.31	FELSIC ASH «F ASH»	Colour: light grey Grain Size: f.gr. Thick bedded; moderately foliated		Moderate to well developed sericite on foliation surfaces; moderately silicified	Trace pyrite	262 Horizon
		CAF @ 114.00 m, bedding?	32			
		117.80-120.24 -Fault, abundant gouge; 50% core loss	40			
		127.89-128.40 -moderately to strongly sheared; local gouge seams	35			
		129.30-129.66 -strongly sheared, abundant gouge	45			
		132.96-133.17 -strongly sheared, abundant gouge	35			
				143.86-149.05 -intensely silicified		
		CAF @ 145.80 m, bedding?	22			
		146.60-149.05 -40% bull qtz veins				
		148.70-148.77 -strongly sheared	40			
		149.05-149.20 -weakly sheared		-intensely sheared and bleached	-1% pyrrhotite, patchy	
		149.20-150.31 -QP Tuff; medium to dark grey; 5-10% white felsic fragments to 4 mm; possible small % of fsp xls to 1 mm				
150.31 TO 154.25	FELSIC TUFF «F TUFF»	Colour: medium grey Grain Size: f. to m.gr. Thick bedded, moderately foliated, minor qtz eyes to 1 mm, 1-2% white felsic frags to 4 mm, rare to 1 cm		Moderately silicified, poor sericite development	Minor pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		CAF @ 152.69 m, bedding?	29			
154.25 TO 163.77	FELSIC LITH LAP TUFF «F LITH,LAP TUFF»	Colour: light greyish green Grain Size: m. to c.gr. Thick bedded; massive, weakly foliated; massive, matrix is a QFP; 5% qtz eyes to 2 mm, up to 5% white to epidote altered fsp xls to 1 mmm; 5% bleached white and silicified fragments to 5 cm; <5% epidote altered lithic frags to 3 mm		Weak sericite development, intensely silicified and locally strongly bleached; local	Trace pyrite	
163.77 TO 167.12	FELSIC ASH TO LITHIC TUFF «F ASH,LITH TUFF»	Colour: light to medium greyish green Grain Size: v.f. to c.gr. Very thin to thickly bedded; weak to moderately foliated; from 163.77-165.06 the interval is sequence of bedded ash to lithic tuff		Poor sericite development, local very weak biotite development	Trace pyrite	
		CAB @ 164.67 m	30			
		165.06-166.81 -coarse grained, lithic to lapilli tuff, contains one fragment to 6 cm; very granular in appearance				
		166.81-167.12 -finely interbedded felsic ash to fine grained lithic tuff				
		CAB @ 167.00 m	39			
167.12 TO 174.15	FELSIC LITH TO LAP TUFF «F LITH,LAP TUFF»	Colour: light greyish green Grain Size: c.gr. Thick bedded; massive, weakly foliated, massive, possibly 5% fragments up to 4 cm; generally indistinct due to alteration		Poor sericite development, bleached silicified	Trace pyrite and pyrrhotite	
		172.05-173.00 -fine grained lithic tuff to ash sequence		-strongly altered; patchy silicification	-3-5% pyrrhotite, minor chalcopyrite, patchy, diss and stringers	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		173.43-173.45 -Fault, gouge	50		173.64 -chalcopyrite stringer to 2 mm	
174.15 TO 204.28	«DIORITE»	Colour: medium to dark green Grain Size: m. to c.gr. Massive, Karmutsen 184.95 -a 8 mm qtz vein, containing minor pyrrhotite				
204.28 TO 218.40	FELSIC TUFF «F TUFF»	Colour: very light greenish grey Grain Size: m.gr. Thick bedded; massive, weakly foliated; massive very granular, textures obscured by alteration; 5-10% white felsic fragments to 4 mm; locally to 2 cm 217.03-218.04 -Diorite		Strongly altered; cooked; very weak pervasive epidote alteration	Trace pyrite, minor pyrrhotite, diss patchy and stringers	Possible intermediate in composition
218.40 TO 234.42	ANDESITE XTL LITHIC TUFF «AND XLT LI TH TUFF»	Colour: medium green Grain Size: m.gr. Thick bedded, massive, weakly foliated, massive 5% ghostly to predominantly epidote altered fsp xls to 1 mm; 5 to locally 10% epidote alt. lithic frags to 5 mm; <5% dark green lithic frags and/or xls to 3 mm; very granular in appearance 5% siliceous granules to 2 mm 229.22-229.77: 90% qtz vein 230.67-230.90: 100% qtz vein		Weak pervasive, epidote alteration; weak chlorite development on foliation surfaces; weak pervasive and biotite alteration	Trace pyrite, pyrrhotite	
234.42 TO 267.28	ANDESITE LITHIC TO LAP TUFF «AND LITH,L AP TUFF»	Colour: dark to medium green Grain Size: m. to c.gr. Thick bedded; massive, weakly foliated, massive 5-10% siliceous granules to 2 mm; <5% white to		Weak pervasive epidote alteration	Minor pyr, pyrrhotite, trace chalco-pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	E.O.H.	ghostly to epidote altered fsp xls to 1 mm; 3-5% light green epidote altered lithic fragments to 4 mm; 1-2% dark green to black lithic fragments and or xls to 3 mm; 5% light green epidote alt. lithic frags to 5 cm; local white felsic frags to 5 cm				

				ESTIMA	ASSAYS										GEOCHEMICAL						COMMENTS
Sample	From (m)	To (m)	Length (m)	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	Ba ppm	Cu %	Pb %	Zn %	Ag oz/t	Ag g/t	Au oz/t	Au g/t	Ba %	SG SG	NSR NSR	SUL %	
14672	172.05	173.00	0.95	292	54	86	0	80													

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Ba %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	Sr %	TiO2 %	Zr %	S %	Tot %	Ag ppm	As ppm	Ba-ppm ppm	Cu ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb
16576	11.27	14.27	3.00	14.95	0.11	4.12	2.8	3.85	1.95	0.08	1.87	0.01	65.32		0.32		0.02	95.39	1.2	19	155	14	51	3	48	5
16577	44.80	47.80	3.00	14.15	0.125	1.2	2.26	3	0.73	0.08	5.85	0.01	70.9		0.3		0.28	98.87	0.7	13	86	38	30	1	73	5
16578	75.28	78.20	2.92	14.29	0.11	2.7	2.32	3.7	1.1	0.07	2.32	0.01	70.21		0.28		0.06	97.15	0.7	26	155	14	11	1	20	5
16579	108.80	111.80	3.00	13.17	0.08	0.61	2.33	2.79	2.52	0.05	1.81	0.01	72.71		0.21		0.01	96.28	0.3	1	110	3	13	1	56	5
16580	137.16	140.16	3.00	13.12	0.07	0.01	2.32	2.25	2.21	0.05	3.14	0.01	73.88		0.14		0.15	97.35	0.4	30	85	6	31	1	47	5
16581	158.49	161.49	3.00	13.76	0.055	3.06	2.56	1.67	1.75	0.06	3.71	0.01	70.4		0.24		0.04	97.3	0.7	13	100	63	17	1	37	5
16582	208.18	211.18	3.00	15.11	0.06	7.34	6.08	1.26	2.47	0.08	3.51	0.01	60.23		0.45		1.04	97.64	1.2	1	67	89	10	1	32	5
16583	231.18	234.18	3.00	17.34	0.035	5.81	8.98	0.87	6.39	0.16	4.76	0.01	51.08		0.65		0.05	96.12	2.4	1	110	124	10	1	68	5
16584	261.00	264.00	3.00	17.07	0.025	6.15	8.71	0.5	5.51	0.19	5.9	0.01	51.38		0.66		0.18	96.27	1.9	1	88	126	13	1	79	10

DRILL HOLE RECORD

PROJECT NAME :	LARA PROJECT	DATE STARTED (M/D/Y):	11/13/90
HOLE NUMBER :	90-319	DATE COMPLETED (M/D/Y):	11/15/90
LOCATION :	NTS 92 B/13 W	DATE LOGGED (M/D/Y):	
PROJECT NUMBER :	242	UNITS (F/M) :	M
CLAIM NUMBER :			

PLOTTING COORDS		ALTERNATE COORDS	
GRID :	MINE	GRID :	
NORTH :	9300 N	NORTH :	
EAST :	9600 W	EAST :	
ELEV :	579 m	ELEV :	

COLLAR BRNG			
GRID :	° ' "	COLLAR SURVEY (Y/N) :	N
ASTRONOMIC :	208 ° ' "	RQD LOG (Y/N) :	N
COLLAR DIP :	-48 ° ' "	PULSE EM SURVEY (Y/N):	N

CONTRACTOR :	FRONTIER DRILLING	LOGGED BY :	Paul Baxter
CORE STORAGE :	ON SITE	START DEPTH:	0.0
CASING :	6.09	FINAL DEPTH:	137.46
PLUGGED (Y/N) :			
HOLE SIZE :	NQ		

PURPOSE/COMMENTS : TEST strong IP anomaly in the Cameron River sediments.

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
64	A		-48	OK	
131	A		-47	OK	

HOLE NO. 90-319

LOGGED BY PTB

LITHOGEOCHEMISTRY

			MAJOR OXIDES										TRACE ELEMENTS									
SAMPLE NUMBER	FROM ( )	TO ( )	SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	FeO	MnO	TiO_2	P_2O_5	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au	Rock Type	Alt	Min	Grid	
16568	13.2	15.8																				
16569	44.6	47.8																				
16570	81.1	84.1																				
16571	108.5	111.3																				

Hole No. 90-319 Entered by ____________ Logged by ____________ Page No. 8

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0.0 - 6.1	<OB>							
6.1 - 25.95	volcanic sediments, Siltstone <VOLC SEDS>	medium greenish grey	Silt to fine sand.	silt to fine sand sized granular texture with a volcanically derived appearance. Occassional zones looking more andesitic in composition. Massive unit, no bedding developed.		weak patchy silicification	Rare py coated fractures. 11.9 - 12.8, and 15.7 - 16.1 2-4% diss py.	
25.95 78.7	Argillite + siltstone <ARG, SltSt>	Black, med grey	V.f - f. gr.	Thin to thickly inter-bedded black - darkgrey argillite and dark grey siltstone with occassional beds of medium grained sandstone with argillite clasts. Bedding contacts often folded & distorted. Some bedding to core axis angles as follows 30.8 / 44.1 / 47.0 / 48.0	20 / 15 / 30 / 30.		occassional py coated fractures. Locally 2-4% diss py within coarser grained sediments. 40.2 5cm quartz vein with semi massive py along margin.	

HOLE NO 90-319

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Progressing down hole greater percentage of silt-fine sand with argillite interbeds. Bedding contacts more uniform with very little distortion.				
				Bedding contacts				
				53.8	50			
				57.2	50			
				60.2	30			
				63.5	40			
				67.3	45			
				72.3	50			
				60.8 – 62.0 minor 5cm fault gouge + crushed zones.				
				75.2 – 78.5 Fault zone. rubly core, fault gouge, graphitic fracture coatings.				

HOLE NO 90-319.

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
78.7 89.2	Siltstone sandstone <Slt, SS>	medium grey	silt to medium sand.	Dirty siltstone to dirty sandstone with grains up to 1.5mm. Larger grains light grey lithic felsic grains, quartz and possible feldspar grains & rare argillite lithic grains. Clay rich strongly calcareous matrix. minor calcite veining. massive, no bedding planes.				
78.7 119.4	Siltstone, Argillite <Slt, ARG>	med-dark grey black	vf gr to coarse silt/fine sand.	Interbedded grey siltstone to fine sandstone and black-dark grey argillite. Coarser seds weakly calcareous. Flame structures indicate tops uphole.			Pyrite fracture coatings. and rare x-cutting <1mm veinlets.	

HOLE NO 90-319

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
				Bedding contacts often distorted, Rare reliable bedding measurements.				
				98.0	50			
				Gradational lower contact.				
119.4 137.46 E.O.H	LITHIC Sandstone <LITH SS>	med grey	medium grained sand,	very strong granular texture 90-95% grey siliceous grains of feldspars + felsic liths, 5-7% quartz grains and locally 1-2% argillite grains + flattened fragments		—	—	
			Dirty	clay/sericitic calcareous matrix.				
				Massive, no bedding				

HOLE NO 319

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